Automation and control

Control and signalling components

Catalogue
February

05

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Telemecanique

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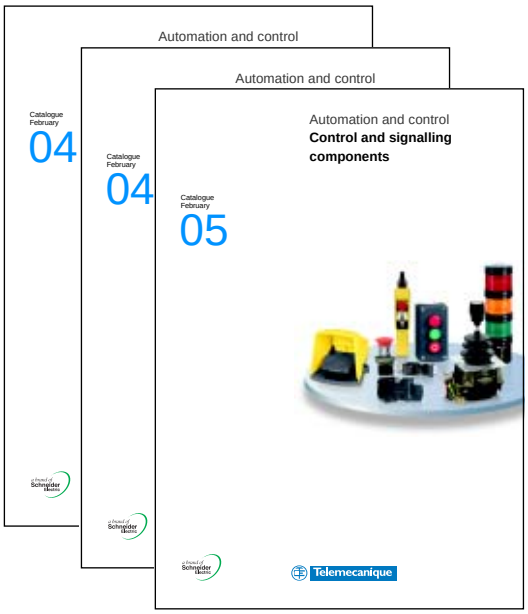
catalogues for .....



Operator dialog

N° 805911
MKTED205021EN

Detection

Global Detection Electronic and electromechanical sensors
N° 54752 - MKTED203031EN

Limit switches
Proximity sensors
Photo-electric and ultrasonic sensors
Pressure switches
Rotary encoders

Software
Safety mat configuration software

Automation

Modicon Momentum automation platform
AUTC201104124EN

Automation platform Modicon Quantum and Unity - Concept Proworx software
N° 802621 - MKTED204071EN

Automation platform Modicon Premium and Unity - PL7 software
N° 802625 - MKTED204072EN

Automation platform Modicon TSX Micro and PL7 software
N° 70984 - MKTED204012EN

PLCs, PC based control
Distributed I/O
Communication

Automation and relay functions
N° 70455 - MKTED204011EN

Plug-in relays
Electronic timers
Control relays
Counters
Smart relays

Software
PLCs and safety controllers programming software

Operator dialog

Control and signalling components
N° 805911 - MKTED205021EN

Control and signalling units
Cam switches
Beacons and indicator banks
Control and pendant stations
Controllers
Front panels, mounting kits
Emergency stops
Foot switches

Human/Machine interfaces
N° 96949 - MKTED2040401EN

Operator interface terminals, industrial PCs, Web servers, HMI and SCADA PC-based software

Software
Operator terminal software

Motor control

Motor starter solutions Control and protection components
N° 27501 - MKTED201001EN

Contactors
Circuit-breakers, fuse carriers
Thermal relays
Combinations, motor controllers

Mounting solutions
Motor starter mounting kits

Soft starters and variable speed drives
N° 802660- MKTED204091EN

Software,
Variable speed drives

Software
Motor control programming software

Not all products shown in this catalogue are available in every country.
Check individual country's web site or Sales Office for product availability.
See on: www.schneider-electric.com

..... all Automation & Control functions

Motion control

Motion control Lexium
N° 66692 - DIA7ED20310006EN

Twin Line Motion control
N° 61233 - DIA7ED2030902EN

Drives
Brushless motors

Software
Software for drives and motors

Power supplies

Interfaces, I/O splitter boxes and power supplies
N° 70263 - MKTED203113EN

Switch mode power supplies

Filtered rectified power supplies and transformers

Machine safety

This catalogue contains Automation and Control function products relating to Safety

Safety solutions using Preventa
N° 67341 - MKTED203111EN

Safety monitors and controllers on AS-Interface

Switches, light curtains, mats

Emergency stops, control stations, enabling switches, foot switches, beacons & indicator banks

Optimum and universal controllers

Switch disconnectors, thermal-magnetic motor circuit breakers, enclosed D.O.L. starters

Interfaces & I/O

Interfaces, I/O splitter boxes and power supplies
N° 70263 - MKTED203113EN

Plug-in relays
Analog converters
Discrete interfaces
Pre-wired interfaces
IP67 Splitter boxes

Connectors
Cable ends, terminal blocks

Software
Software to design and install AS-Interface system, safety monitors and controllers on AS-Interface programming software

AS-Interface

This catalogue contains Automation and Control function products relating to the AS-Interface cabling system

AS-Interface cabling system
N° 804961 - MKTED204121EN

IP20/IP67 interfaces, cables, repeaters, addressing and adjustment terminals

Control stations, keypads, beacons & indicator banks

Master modules for PLCs

AS-Interface power supplies

Motor controllers, enclosures, variable speed drives

Networks & communication

Ethernet TCP/IP Transparent Ready
N° 802731 - MKTED204073EN

Connecting Ethernet devices

Web-enabling PLCs on Ethernet

Application protocols and field buses

Control and signalling components

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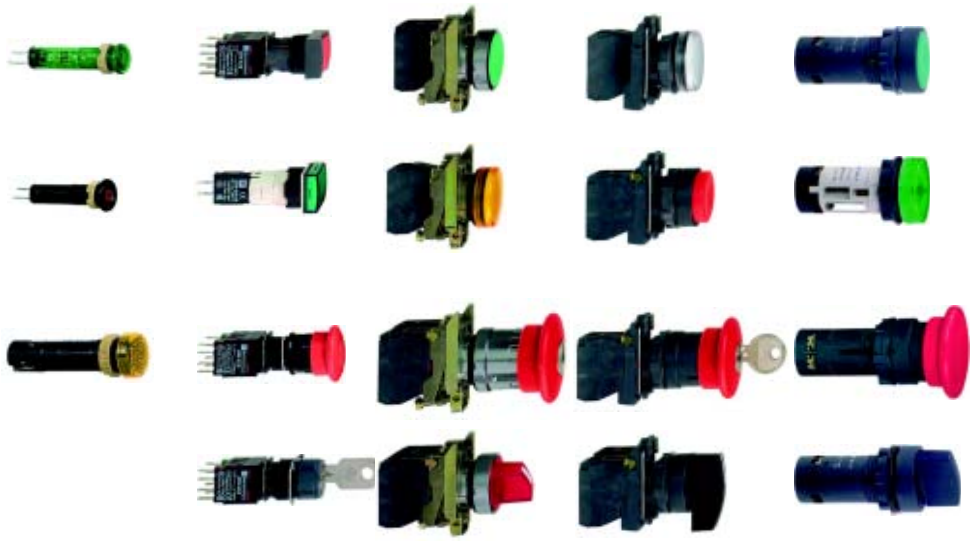
Control and signalling units

Applications		Pilot lights	Pushbuttons, selector switches and pilot lights			
						
Description of the range		■ LED pilot lights	■ Pushbuttons ■ Mushroom head Emergency Stop buttons ■ Selector switches and key switches ■ Illuminated pushbuttons ■ Pilot lights			
Features	Products	Monolithic, compact, low consumption	Complete units or sub-assemblies (body + head)	Complete units or sub-assemblies (body + head)	Complete units or sub-assemblies (body + head)	Monolithic
	Bezel	Double insulated	Double insulated	Metal, chromium plated or black	Double insulated	Double insulated
	Shape of head	Circular	Circular, square or rectangular	Circular	Circular or square	Circular
Drilling or cut-out for fixing		Ø 8 and Ø 12	Ø 16	Ø 22	Ø 22	Ø 22 and Ø 25
Degree of protection	Conforming to IEC 60529 and NF C 20-010	IP 40 IP 65 with seal	IP 65	IP 66	IP 66	IP 54
Cabling		Tags for 2.8 x 0.5 mm connectors, or threaded connector	Faston connectors Solder pins for printed circuit boards	Screw clamp terminal connections Connector With adaptor for printed circuit board	Screw clamp terminal connections Connector With adaptor for printed circuit board	Screw clamp terminal connections
Mounting	Panel thickness	1…8 mm	1…6 mm	1…6 mm	1…6 mm	1…6 mm
	On Profil KT● front panels	–	–	Yes	Yes	Yes, depending on model
Type references		**XVL A**	**XB6**	**XB4**	**XB5**	**XB7 E**
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Digital display units	Pushbuttons, selector switches and pilot lights	Joystick controllers	Cam switches	Profil front panel
■ LED display (7 segment + decimal point)	■ Pushbuttons ■ Mushroom head Emergency Stop buttons ■ Selector switches and key switches ■ Illuminated pushbuttons ■ Pilot lights	■ 2 or 4 direction ■ Stay put or spring return	■ Switches ■ Stepping switches ■ Reversing and changeover switches ■ Ammeter switches ■ Voltmeter switches ■ Reversing switches ■ Star-delta and reversing star-delta switches ■ Pole change switches	■ 3 sizes of front panel for mounting 4, 8 or 12 Ø 22 mm control and signalling units ■ With/without location for Emergency Stop pushbutton ■ With/without printed circuit
Sub-assemblies (body + single-digit head)	Complete units or sub-assemblies (body + head)	Complete units or sub-assemblies (body + head with lever)	Complete units or sub-assemblies (body + front panel + head)	Aluminium front panels for mounting Ø 22 mm control and signalling units, double insulated and metal
Double insulated	Chromium plated metal or double insulated	Chromium plated metal / Double insulated, black	Metal, chromium plated or black Double insulated	–
Circular	Hexagonal	Circular	Square	–
Ø 22	Ø 30	Ø 22	Ø 16 or Ø 22: series K10 Ø 22 and multifixing: series K1/K2 4 holes, 48 or 68 centres: series K30…K150	–
IP 65		IP 65 / IP 66 / IP 65	IP 65: series K10 IP 40, IP 65 with seal: series K1/K2 IP 40: series K30…K150	IP 65
Connector	Screw and captive cable clamp connections	Screw and captive cable clamp connections	Screw and captive cable clamp connections	–
1…5 mm	1…6 mm		0.5…6 mm (depending on model)	–
Yes	–	Yes	–	–
ZA2 VA	**9001 K, 9001 SK**	**XD4 PA / XD2 GA / XD5 PA**	**K10, K1, K2, K30, K50, K63, K115, K150**	**KT●**
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Control and signalling units Ø 8 and 12
LED pilot lights

Presentation

This range of LED pilot lights meets the latest requirements in signalling techniques.

Due to their small size, Ø 8 and Ø 12 fixing pilot lights are particularly suitable for the following applications:
- Mounting on small control panels.
- Shallow depth mounting.
- Where a large number of signalling units are required on a control panel (low power dissipation).

Small diameter LED pilot lights also have sealed front faces (IP 65 option available). An unsealed Ø 8 mm fixing model with protruding LED and black bezel is however also available.

Advantages:
LED pilot lights have many advantages:
- Very long life and low maintenance costs (bulb test procedure no longer required),
- Highly resistant to shocks, vibrations, and overvoltage.
- Low power consumption which, for example, allows direct compatibility with programmable controller outputs.
- No sudden failures.

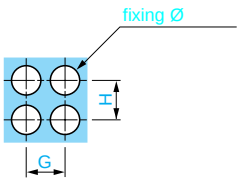
Quick installation assisted by tag connectors suitable for soldered connections on Ø 8 mm pilot lights, or by threaded connectors on Ø 12 mm pilot lights.
Safe connection due to integral ballast resistor and reverse polarity protection device.

Characteristics

Product certifications			UL (Recognized), CSA
Protective treatment	Standard version		"TC"
Ambient air temperature	Operation	**°C**	- 25…+ 70
	Storage	**°C**	- 40…+ 70
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class III
Degree of protection	Conforming to IEC 529 and NF C 20-010		IP 40 (IP 65 with seal)
Current consumption		**mA**	5 V: 25 12 V: 18 24 V: 18 48 V: 10
Rated insulation voltage	Conforming to IEC 947-1		Ui: 50 V
Service life			⩾ 100 000 hours
Voltage limits including ripple (on ⎓)			0.8 Un ⩽ U ⩽ 1.1 Un
Terminal referencing			Polarity marked +/–, for Ø 8 pilot lights, the "+ "corresponds to the longer tag
Cabling	**XVL A1●●, XVL A2●●**		Tags for 2.8 x 0.5 Faston connectors, or for soldered connections (dual purpose)
	XVL A3●●		Threaded connectors, capacity: min. 1 x 0.2 mm², max. 1 x 1.5 mm²

Dimensions

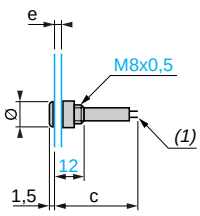
Panel drilling



(mm)	Ø min	G min	H min
XVL A1●●	8.2	12.5	12.5
XVL A2●●	8.2	10.5	10.5
XVL A3●●	12.2	16.5	16.5

LED pilot lights

XVL A1●●, A2●●

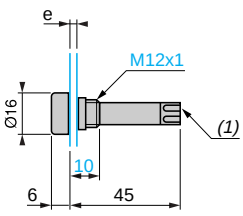


(mm)	c	Ø
XVL A1●●	32	12
XVL A2●●	34	10

e = panel thickness: 1 to 8 mm

(1) Tags for Faston connectors or soldered connections

XVL A3●●



e = panel thickness: 1 to 8 mm

(1) Threaded connector

References:
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Control and signalling units Ø 8 and 12
LED pilot lights

XVL A1●●

References

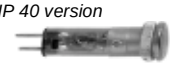
Pilot lights with black bezel, protruding LED

Description	Supply voltage ⎓	Colour	Reference	Weight kg
Ø 8 mm **Degree of protection:** □ IP 40 (with integral ballast resistor and reverse polarity protection diode)	5 V	Green	**XVL A113**	0.003
		Red	**XVL A114**	0.003
		Yellow	**XVL A115**	0.003
	12 V	Green	**XVL A123**	0.003
		Red	**XVL A124**	0.003
		Yellow	**XVL A125**	0.003
	24 V	Green	**XVL A133**	0.003
		Red	**XVL A134**	0.003
		Yellow	**XVL A135**	0.003
	48 V	Green	**XVL A143**	0.003
		Red	**XVL A144**	0.003
		Yellow	**XVL A145**	0.003

Pilot lights with integral lens cap, covered LED

Description	Supply voltage ⎓	Colour	Reference	Weight kg
Ø 8 mm **Degree of protection:** □ IP 40 □ IP 65 with seal XVL Z911 *(1)* (with integral ballast resistor and reverse polarity protection diode)	5 V	Green	**XVL A213**	0.003
		Red	**XVL A214**	0.003
		Yellow	**XVL A215**	0.003
	12 V	Green	**XVL A223**	0.003
		Red	**XVL A224**	0.003
		Yellow	**XVL A225**	0.003
	24 V	Green	**XVL A233**	0.003
		Red	**XVL A234**	0.003
		Yellow	**XVL A235**	0.003
	48 V	Green	**XVL A243**	0.003
		Red	**XVL A244**	0.003
		Yellow	**XVL A245**	0.003
Ø 12 mm **Degree of protection:** □ IP 40 □ IP 65 with seal XVL Z912 *(1)* (with integral ballast resistor and reverse polarity protection diode)	5 V	Green	**XVL A313**	0.007
		Red	**XVL A314**	0.007
		Yellow	**XVL A315**	0.007
	12 V	Green	**XVL A323**	0.007
		Red	**XVL A324**	0.007
		Yellow	**XVL A325**	0.007
	24 V	Green	**XVL A333**	0.007
		Red	**XVL A334**	0.007
		Yellow	**XVL A335**	0.007
	48 V	Green	**XVL A343**	0.007
		Red	**XVL A344**	0.007
		Yellow	**XVL A345**	0.007

IP 40 version


XVL A2●●

IP 65 version

XVL A2●● + XVL Z911 (1)

IP 40 version

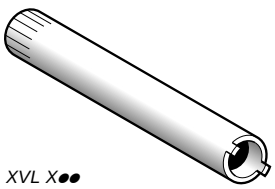
XVL A3●●

IP 65 version

XVL A3●● + XVL Z912 (1)

Separate components

Description	For use with	Sold in lots of	Unit reference	Weight kg
Tightening tools (sold singly)	Ø 8 mm pilot lights	1	**XVL X08**	0.015
	Ø 12 mm pilot lights	1	**XVL X12**	0.030
Seals (IP 65)	Ø 8 mm pilot lights	10	**XVL Z911**	0.001
	Ø 12 mm pilot lights	10	**XVL Z912**	0.001
Other versions	Ø 8 and Ø 12 mm LED pilot lights, without resistor, without reverse polarity protection diode (max. direct current: 30 mA ⎓). Please consult your Regional Sales Office.			


XVL X●●

XVL Z91●

(1) To be ordered separately.

Presentation:
page 1/4

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Description

Complete units
XB6 pushbuttons, switches and pilot lights

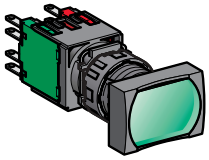
Sub-assemblies for user assembly
ZB6 pushbuttons, switches and pilot lights
Body + head sub-assemblies

ZB component parts and accessories
Any of the pushbuttons, switches or pilot lights in the range may be adapted by replacing certain component parts, such as:

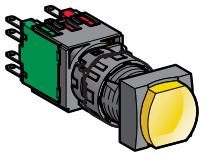
For heads
- Caps or lenses
- Legends
  - Pre-printed legends
  - Special legends produced using labelling software
- Link enabling operation of the 3rd contact (cannot be fitted on illuminated pushbuttons)

For bodies
- LED, incandescent and neon bulbs
- N/C or N/O contact blocks, max. 3 contacts per block, with Faston connector or for printed circuit board
- Silver or gold flashed N/C or N/O contact blocks

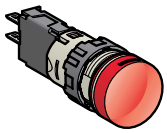
The Ø 16 range of double insulated control and signalling units comprises:



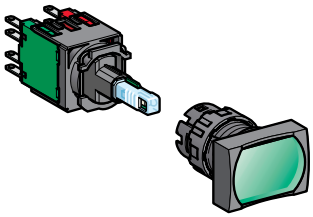
XB6 D with rectangular head



XB6 C with square head



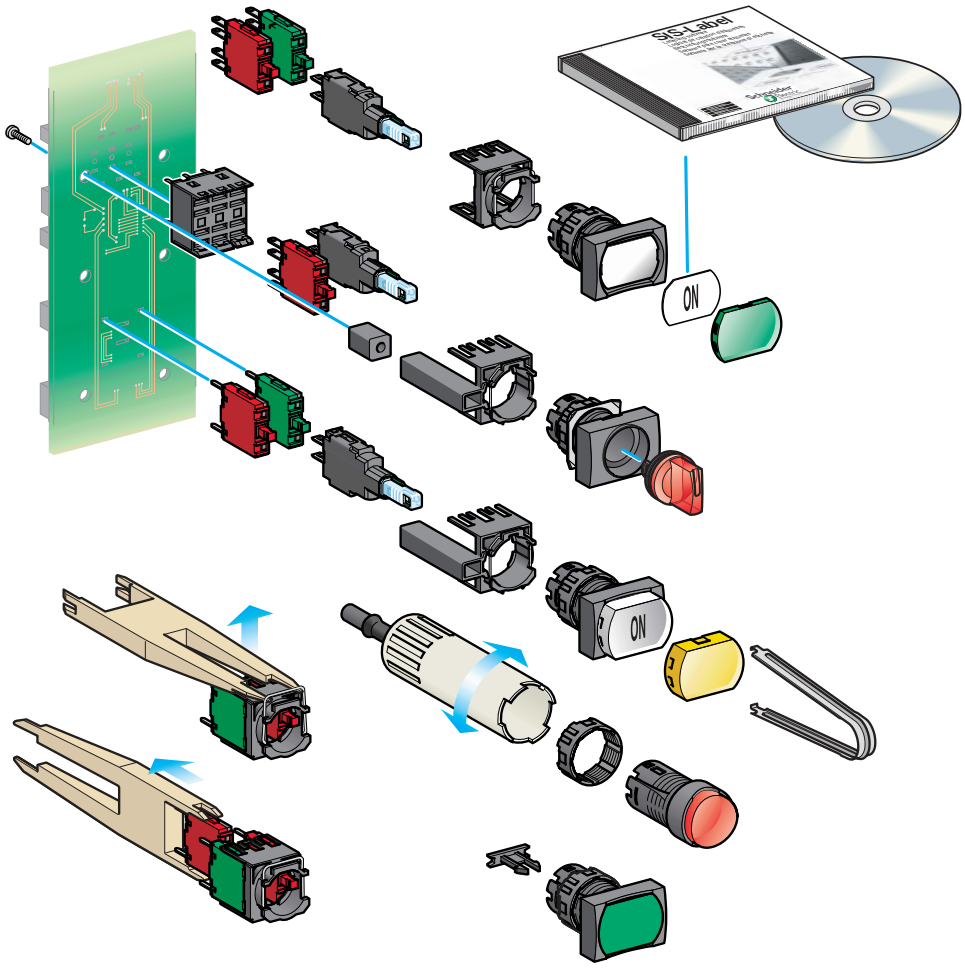
XB6 A with circular head



ZB6 D with rectangular head

ZB6 C with square head

ZB6 A with circular head



Characteristics: pages 1/12 and 1/13
References: pages 1/14 to 1/33
Dimensions: pages 1/34 to 1/39

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Schematic library

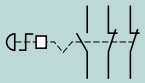
Contact functions (pushbuttons and Emergency stop pushbuttons)

Pushbutton
N/O contact

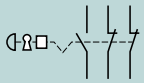
Latching pushbutton
N/O contact

Pushbutton
N/C contact

Mushroom head spring return
N/O contact



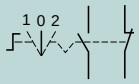
Mushroom head Emergency stop
Turn to release, trigger action
N/O + 2 N/C contacts



Mushroom head Emergency stop
Turn to release, trigger action key release
N/O + 2 N/C contacts

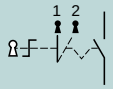
Contact functions (selector switches)

Selector switch
2-position stay put
N/O contact

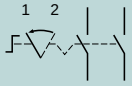


Selector switch
3-position stay put
N/O + N/C contacts

Selector switch
3-position
2 spring return to centre



Selector switch
2-position stay put,
key withdrawal from both positions
N/O contact



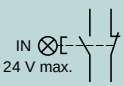
Selector switch
2-position stay put
N/O + N/O contacts

Signalling functions

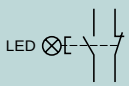
Incandescent or neon pilot light

230 V neon pilot light

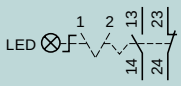
Combined functions, contact + signalling (pushbuttons and selector switches)



Illuminated pushbutton
BA 9s incandescent bulb
N/O + N/C contacts



Illuminated pushbutton with LED
N/O + N/C contacts



Illuminated selector switch
2-position stay put with LED
N/O + N/C contacts

Characteristics::
pages 1/12 and 1/13

References:
pages 1/14 to 1/33

Dimensions:
pages 1/34 to 1/39

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

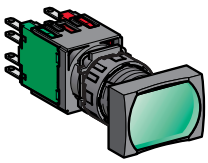
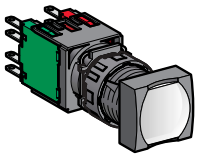
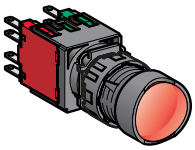
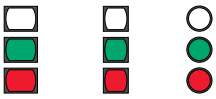
Complete units

Combined functions (contact + signalling)

Illuminated pushbuttons with rectangular, square or circular head

Head colours

Illuminated pushbuttons

Protected LED

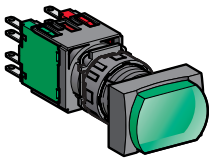
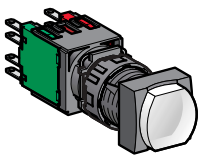
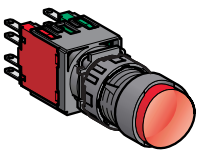
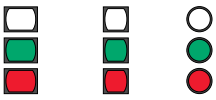
Flush push with integral LED, spring return

XB6 DW●●●● see page 1/14	XB6 CW●●●● see page 1/14	XB6 AW●●●● see page 1/15

Protected LED

Flush push with integral LED, latching

XB6 DF●●●● see page 1/14	XB6 CF●●●● see page 1/14	XB6 AF●●●● see page 1/15

Protected LED

Projecting push with integral LED, spring return

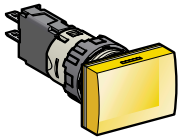
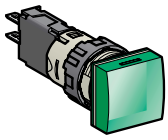
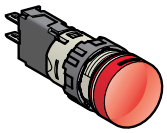
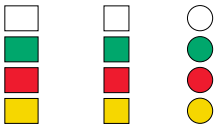
XB6 DE●●●● see page 1/14	XB6 CE●●●● see page 1/14	XB6 AE●●●● see page 1/15

Signalling functions

Pilot lights with rectangular, square or circular head

Head colours

Pilot lights

Protected LED

With integral LED

XB6 DV●●● see page 1/15	XB6 CV●●● see page 1/15	XB6 AV●●● see page 1/15

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

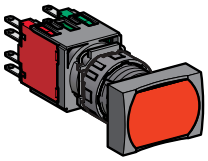
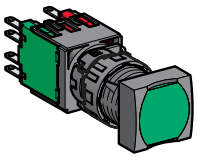
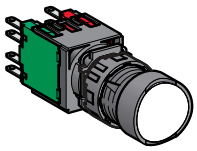
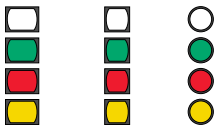
Complete units *(continued)*

Contact functions

Pushbuttons with rectangular, square or circular head

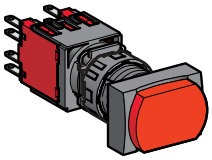
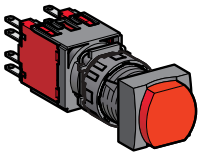
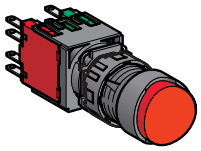
Head colours

Pushbuttons, spring return

Flush push

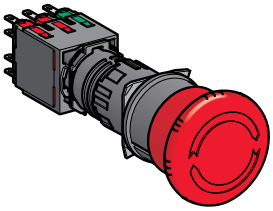
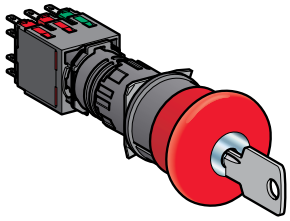
XB6 DA●●●● see page 1/16 | XB6 CA●●●● see page 1/16 | XB6 AA●●●● see page 1/16

Projecting push

XB6 DL42B see page 1/16 | XB6 CL42B see page 1/16 | XB6 AL42B see page 1/16

Mushroom head, Emergency stop, Ø 30 pushbuttons, trigger action

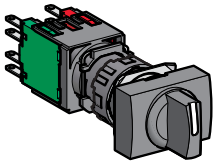
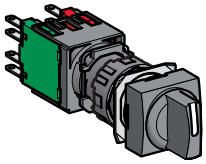
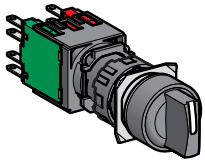
Turn to release

XB6 AS8349B see page 1/16

Key release

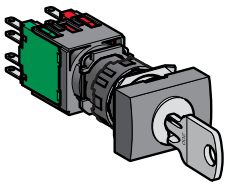
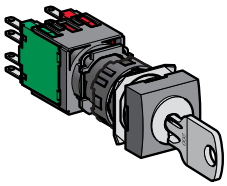
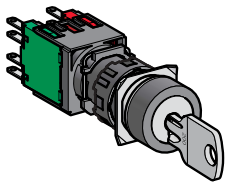
XB6 AS9349B see page 1/16

Selector switches and key switches

Standard handle operator

XB6 DD●●● see page 1/17 | XB6 CD●●● see page 1/17 | XB6 AD●●● see page 1/17

Key switches

XB6 DG●●● see page 1/17 | XB6 CG●●● see page 1/17 | XB6 AG●●● see page 1/17

Control and signalling units Ø 16

Harmony® style 6

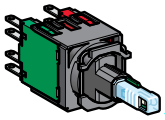
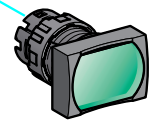
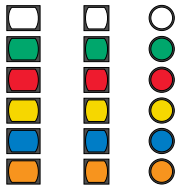
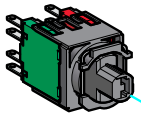
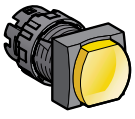
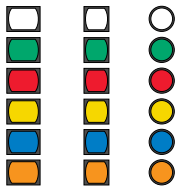
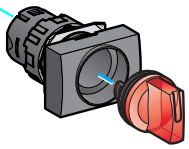
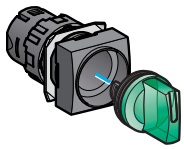
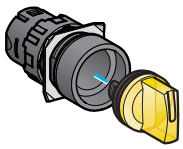
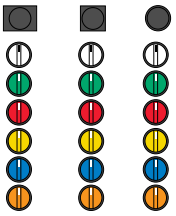
Pushbuttons, switches and pilot lights with double insulated bezel

Illuminated units for user assembly

Combined functions (contact + signalling)

For illuminated pushbuttons

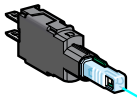
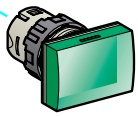
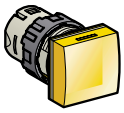
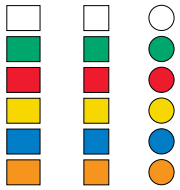
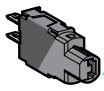
Protected LED

Body sub-assemblies	Head sub-assemblies, rectangular, square or circular			Head colours
With integral LED				
				
Faston ZB6 ZB●●B see page 1/18	Flush push, spring return ZB6 DW● see page 1/20		ZB6 CW● see page 1/20	ZB6 AW● see page 1/20	
Direct supply for incandescent bulb	Flush push, latching ZB6 DF● see page 1/20		ZB6 CF● see page 1/20	ZB6 AF● see page 1/20	
				
Faston ZB6 ZH●●B see page 1/18	Projecting push, spring return ZB6 DE● see page 1/20		ZB6 CE● see page 1/20	ZB6 AE● see page 1/20	
				
	Without handle ZB6 DD●●● see page 1/23		ZB6 CD●●● see page 1/23	ZB6 AD●●● see page 1/23	

Signalling functions

For pilot lights

Protected LED

Body sub-assemblies	Head sub-assemblies, rectangular, square or circular			Head colours
With integral LED				
				
Faston ZB6 EB●B see page 1/19		ZB6 DV● see page 1/21	ZB6 CV● see page 1/21	ZB6 AV● see page 1/21	
					
Faston ZB6 E●0B see page 1/19					

Characteristics: pages 1/12 and 1/13

References: pages 1/14 to 1/33

Dimensions: pages 1/34 to 1/39

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

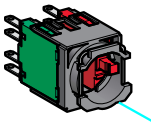
Non illuminated units for user assembly

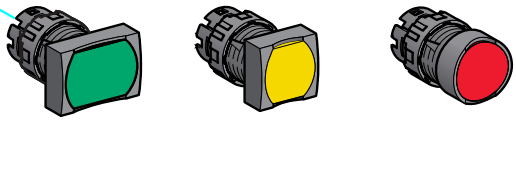
Contact functions

Body sub-assemblies	Head sub-assemblies, rectangular, square or circular	Head colours

For pushbuttons

Direct supply for incandescent bulb





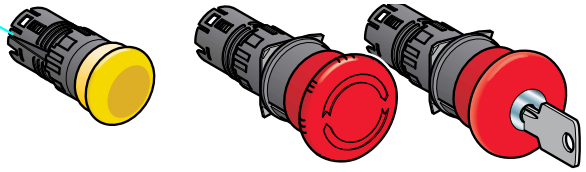
Faston

ZB6 ZB●B
see page 1/18

Flush push, spring return

ZB6 DA●	ZB6 CA●	ZB6 AA●
see page 1/21	see page 1/21	see page 1/21

For mushroom head pushbuttons



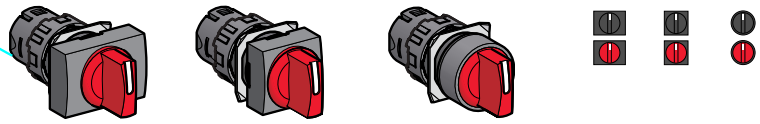
Spring return Ø 24

ZB6 AC●
see page 1/21

Latching, trigger action Ø 30

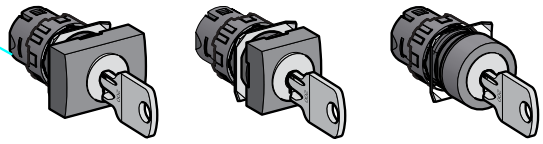
Turn to release	Key release
ZB6 A5834 see page 1/21	ZB6 A5934 see page 1/21

For selector switches and key switches



Standard handle operator

ZB6 DD●●	ZB6 CD●●	ZB6 AD●●
see page 1/22	see page 1/22	see page 1/22



Key switches

ZB6 DG●●	ZB6 CG●●	ZB6 AG●●
see page 1/22	see page 1/22	see page 1/22

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Environment

Conforming to standards			IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-4, JIS C 4520 and 852 UL 508, CSA C22-2 n° 14
Product certifications			UL, CSA ASE, BV, JIS, RINA, LROS, DNV, GL: pending
Protective treatment standard version			"TC"
Ambient air temperature around the device	Storage	**°C**	- 40…+ 70
	Operation	**°C**	- 25…+ 70
Vibration resistance	Conforming to IEC 68-2-6		(2…500 Hz) 3 mm peak to peak or 5 gn
Electric shock resistance	Conforming to IEC 68-2-27		Half sine wave 11 ms, 50 gn Half sine wave 18 ms, 30 gn
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class II
Degree of protection	Conforming to IEC 529 and NF C 20-010 Conforming to UL 50 and CSA C22-2		IP 65 NEMA type 4, 4X and 13 (except key switches)
Mechanical life (in operating cycles)	Spring return pushbuttons		2 million
	Latching pushbuttons		300 000
	Key switches		200 000
	Selector switches, standard handle		500 000
	Emergency stop mushroom head pushbuttons		100 000
Mounting positions			All positions

Electrical characteristics of LED pilot lights

Voltage limits			⎓ 12…24 V : 6…30 V ∿ 48…120 V : 40…132 V ∿ 230-240 V : 195…264 V
Current consumption	⎓ 24 V	**mA**	15
Surge withstand	Conforming to IEC 61000-4-5	**kV**	2 (in free air / 1 (direct contact)
Resistance to fast transients	Conforming to IEC 61000-4-4	**kV**	2
Resistance to electromagnetic fields	Conforming to IEC 61000-4-3	**V/m**	10
Resistance to electrostatic discharges	Conforming to IEC 61000-2-6	**kV**	8/6
Electromagnetic emission	Conforming to IEC 55011		Class B

Electrical characteristics of contacts

Rated operational characteristics	∿ AC-15		B300 or Ue = 240 V and Ie = 1.5 A or Ue 120 V and Ie = 3 A
	⎓ DC-13		R300 or Ue = 250 V and Ie = 0.1 A or Ue = 125 V and Ie = 0.22 A
Rated insulation voltage	Conforming to IEC 60947-1		Ui = 250 degree of pollution 3 (Except pilot lights with incandescent or neon bulb: degree of pollution 2)

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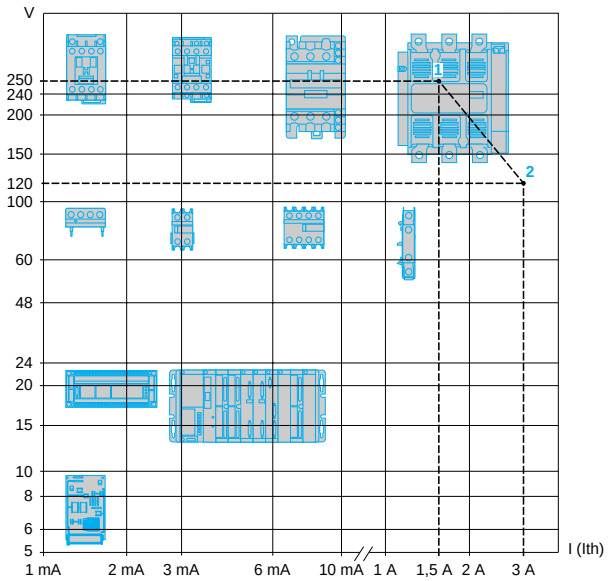
Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Electrical characteristics of contacts (continued)

Rated impulse withstand voltage	Conforming to IEC 60947-1	**kV**	Uimp = 4
Contact material	Normal environment and usage		Silver alloy
	Chemically corrosive environment or infrequent operation		Gold flashed
Contact operation	N/C or N/O		Slow break, with indication of change of state by the tactile feedback on push and audible signal
Differential travel of contacts	With pushbutton head	**mm**	Changing N/C state: 1 Changing N/O state: 2 Total travel: 3.5
Operating force	N/C contact	**N**	2.5
	N/O contact	**N**	1.6
	Pushbutton head + N/O contact	**N**	3.5
	Pushbutton head + N/C contact	**N**	4.5
Positive operation	Conforming to IEC/EN 60947-5-1 appendix K	**N**	Contact with positive opening operation Positive opening force: 20
Terminal referencing	Conforming to EN 50005 and EN 50013		
Short-circuit protection	Cartridge fuse mounted upstream		6A gG
Electrical reliability	Failure rate Conforming to IEC/EN 60947-5-4		With confidence level of 90 %: $\lambda_{90} = 10^{-8}$ 5 V - 1 mA, defect contact voltage drop = 0.5 V
Cabling		**mm**	By Faston connectors 2.8 x 0.5 By pins for printed circuit board connection 1 x 0.5
Electrical durability	Conforming to IEC/EN 60947-5-1 Appendix C Utilisation category AC-15 & DC-13 Operating rate 3600 operating cycles/hour. Load factor 0.5		1 million operating cycles - 200 VA-230 V



1 Switching capacity conforming to IEC/EN 60947-5-1, utilisation category AC-15, DC-13

B300	240 V	1.5 A
R300	250 V	0.1 A

2 Switching capacity conforming to IEC/EN 60947-5-1, utilisation category AC-15, DC-13

B300	120 V	3 A
R300	125 V	0.22 A

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Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units XB6, with Faston connectors

Illuminated pushbuttons (with 12…24 V LED included)

Shape of head	Type of push	Type of contacts N/O	Type of contacts N/C	Colour	Reference	Weight kg
813746	**Flush, spring return**	1	–	White	**XB6 DW1B1B**	0.022
				Green	**XB6 DW3B1B**	0.022
		–	1	Red	**XB6 DW4B2B**	0.022
		1	1	White	**XB6 DW1B5B**	0.025
				Green	**XB6 DW3B5B**	0.025
				Red	**XB6 DW4B5B**	0.025
	Flush, latching	1	–	Green	**XB6 DF3B1B**	0.022
		–	1	Red	**XB6 DF4B2B**	0.022
		1	1	White	**XB6 DF1B5B**	0.025
				Green	**XB6 DF3B5B**	0.025
				Red	**XB6 DF4B5B**	0.025
XB6 DW●●●B						
813747	**Projecting, spring return**	1	–	Green	**XB6 DE3B1B**	0.022
		–	1	Red	**XB6 DE4B2B**	0.022
		1	1	White	**XB6 DE1B5B**	0.025
				Green	**XB6 DE3B5B**	0.025
				Red	**XB6 DE4B5B**	0.025
XB6 DE●●●B						
	Flush, spring return	1	–	White	**XB6 CW1B1B**	0.022
				Green	**XB6 CW3B1B**	0.022
		–	1	Red	**XB6 CW4B2B**	0.022
		1	1	White	**XB6 CW1B5B**	0.025
				Green	**XB6 CW3B5B**	0.025
				Red	**XB6 CW4B5B**	0.025
	Flush, latching	1	–	Green	**XB6 CF3B1B**	0.022
		–	1	Red	**XB6 CF4B2B**	0.022
		1	1	White	**XB6 CF1B5B**	0.025
				Green	**XB6 CF3B5B**	0.025
				Red	**XB6 CF4B5B**	0.025
813748	**Projecting, spring return**	1	–	Green	**XB6 CE3B1B**	0.022
		–	1	Red	**XB6 CE4B2B**	0.022
		1	1	White	**XB6 CE1B5B**	0.025
				Green	**XB6 CE3B5B**	0.025
				Red	**XB6 CE4B5B**	0.025
XB6 CW●●●B						
813745						
XB6 CE●●●B						

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Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units XB6, with Faston connectors

Illuminated pushbuttons (with 12…24 V LED included) (continued)

Shape of head	Type of push	Type of contacts N/O	Type of contacts N/C	Colour	Reference	Weight kg
XB6 A●●●●B	Flush, spring return	1	–	White	**XB6 AW1B1B**	0.022
				Green	**XB6 AW3B1B**	0.022
		–	1	Red	**XB6 AW4B2B**	0.022
		1	1	White	**XB6 AW1B5B**	0.025
				Green	**XB6 AW3B5B**	0.025
				Red	**XB6 AW4B5B**	0.025
	Flush, latching	1	–	Green	**XB6 AF3B1B**	0.022
		–	1	Red	**XB6 AF4B2B**	0.022
		1	1	White	**XB6 AF1B5B**	0.025
				Green	**XB6 AF3B5B**	0.025
				Red	**XB6 AF4B5B**	0.025
XB6 AE●●●B	Projecting, spring return	1	–	Green	**XB6 AE3B1B**	0.022
		–	1	Red	**XB6 AE4B2B**	0.022
		1	1	White	**XB6 AE1B5B**	0.025
				Green	**XB6 AE3B5B**	0.025
				Red	**XB6 AE4B5B**	0.025

Pilot lights (with 12…24 V LED included)

Shape of head	Colour	Reference	Weight kg
XB6 DV●BB	White	**XB6 DV1BB**	0.015
	Green	**XB6 DV3BB**	0.015
	Red	**XB6 DV4BB**	0.015
	Yellow	**XB6 DV5BB**	0.015
XB6 CV●BB	White	**XB6 CV1BB**	0.015
	Green	**XB6 CV3BB**	0.015
	Red	**XB6 CV4BB**	0.015
	Yellow	**XB6 CV5BB**	0.015
XB6 AV●BB	White	**XB6 AV1BB**	0.015
	Green	**XB6 AV3BB**	0.015
	Red	**XB6 AV4BB**	0.015
	Yellow	**XB6 AV5BB**	0.015

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units XB6, with Faston connectors

XB6 DA●●B

XB6 CA●●B

XB6 AA●●B

Pushbuttons

Shape of head	Type of push	Type of contacts N/O	Type of contacts N/C	Colour	Reference	Weight kg
	Flush, spring return	1	–	White	**XB6 DA11B**	0.019
				Green	**XB6 DA31B**	0.019
		–	1	Black	**XB6 DA22B**	0.019
				Red	**XB6 DA42B**	0.019
		1	1	White	**XB6 DA15B**	0.022
				Black	**XB6 DA25B**	0.022
				Green	**XB6 DA35B**	0.022
				Red	**XB6 DA45B**	0.022
	Projecting, spring return	–	1	Red	**XB6 DL42B**	0.020
	Flush, spring return	1	–	White	**XB6 CA11B**	0.019
				Green	**XB6 CA31B**	0.019
		–	1	Black	**XB6 CA22B**	0.019
				Red	**XB6 CA42B**	0.019
		1	1	White	**XB6 CA15B**	0.022
				Black	**XB6 CA25B**	0.022
				Green	**XB6 CA35B**	0.022
				Red	**XB6 CA45B**	0.022
	Projecting, spring return	–	1	Red	**XB6 CL42B**	0.020
	Flush, spring return	1	–	White	**XB6 AA11B**	0.019
				Green	**XB6 AA31B**	0.019
		–	1	Black	**XB6 AA22B**	0.019
				Red	**XB6 AA42B**	0.019
		1	1	White	**XB6 AA15B**	0.022
				Black	**XB6 AA25B**	0.022
				Green	**XB6 AA35B**	0.022
				Red	**XB6 AA45B**	0.022
	Projecting, spring return	–	1	Red	**XB6 AL42B**	0.020

XB6 AS8349B

XB6 AS9349B

Trigger action Emergency stop mushroom head pushbuttons (red)

Shape of head	Type of push	Type of contacts N/O	Type of contacts N/C	Diameter of push	Reference	Weight kg
	Turn to release	1	2	30	**XB6 AS8349B**	0.041
	Key release (key n° 200)	1	2	30	**XB6 AS9349B**	0.056

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Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units XB6, with Faston connectors

Selector switches and key switches (switching angle: handle: 60°, key: 70°)

Shape of head	Type of push	Type of contacts N/O	Type of contacts N/C	Number and type of positions	Reference	Weight kg
XB6 DD●●●B	Standard handle, black	1	–	2 - stay put	XB6 DD221B	0.021
		1	1	2 - stay put	XB6 DD225B	0.024
				3 - stay put	XB6 DD235B	0.024
XB6 DG●●B	Key (1)	1	1	2 - stay put	XB6 DGC5B	0.036
				3 - stay put	XB6 DGH5B	0.036
XB6 CD●●●B	Standard handle, black	1	–	2 - stay put	XB6 CD221B	0.021
		1	1	2 - stay put	XB6 CD225B	0.024
				3 - stay put	XB6 CD235B	0.024
XB6 CG●●B	Key (1)	1	1	2 - stay put	XB6 CGC5B	0.036
				3 - stay put	XB6 CGH5B	0.036
XB6 AD●●●B	Standard handle, black	1	–	2 - stay put	XB6 AD221B	0.021
		1	1	2 - stay put	XB6 AD225B	0.024
				3 - stay put	XB6 AD235B	0.024
XB6 AG●●B	Key (1)	1	1	2 - stay put	XB6 AGC5B	0.036
				3 - stay put	XB6 AGH5B	0.036

(1) Key n° 200, withdrawal from all positions,

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Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: bodies

To combine with heads:
see pages 1/20 to 1/25

ZB6 ZB●●B

Complete bodies for illuminated pushbuttons (contact block + light source) *(1)*

Description	Supply voltage	Type of contacts		Colour of light source	Reference	Weight
	V	N/O	N/C			kg
Faston connectors						
Integral LED *(2)*	≂ 12…24	1	–	White	**ZB6 ZB11B**	0.006
				Green	**ZB6 ZB31B**	0.006
				Yellow	**ZB6 ZB51B**	0.006
		–	1	Red	**ZB6 ZB42B**	0.006
				Yellow	**ZB6 ZB52B**	0.006
		1	1	White	**ZB6 ZB15B**	0.009
				Green	**ZB6 ZB35B**	0.009
				Red	**ZB6 ZB45B**	0.009
				Yellow	**ZB6 ZB55B**	0.009
				Blue	**ZB6 ZB65B**	0.009
Direct for incandescent bulb (not included) T1 1/4 *(3)*	3…24	1	–	–	**ZB6 ZH01B**	0.006
		–	1	–	**ZB6 ZH02B**	0.006
		1	1	–	**ZB6 ZH05B**	0.009

ZB6 ZH●●B

Complete bodies for pushbuttons, selector switches and key switches (contact block)

Description	Supply voltage	Type of contacts		Reference	Weight
	V	N/O	N/C		kg
Faston connectors					
Direct	⩽ 250	1	–	**ZB6 Z1B**	0.004
		–	1	**ZB6 Z2B**	0.004
		2	–	**ZB6 Z3B**	0.006
		–	2	**ZB6 Z4B**	0.006
		1	1	**ZB6 Z5B**	0.006

ZB6 Z●B

(1) It is possible to assemble illuminated selector switches by using an illuminated pushbutton body sub-assembly in conjunction with a selector switch head supplied without handle (see page 1/23), and a transparent handle (see page 1/30).
(2) The colour of the LED must be the same as that of the pushbutton cap.
(3) Bulb to be ordered separately (see page 1/33).

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pages 1/6 to 1/11

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Dimensions:
pages 1/34 to 1/39

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: bodies

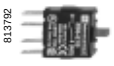
To combine with heads:
see pages 1/20 to 1/25

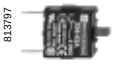
ZB6 EB●B

ZB6 E0●B

ZB6 EB●A

ZB6 E●0A


ZB6 E●B


ZB6 E●A

Complete bodies for pilot lights (light source)

Description	Supply voltage V	Sold in lots of	Colour of light source	Reference	Weight kg
Faston connectors (direct mounting by the head)					
Integral LED *(1)*	⎓ 12…24	5	White	**ZB6 EB1B**	0.003
		5	Green	**ZB6 EB3B**	0.003
		5	Red	**ZB6 EB4B**	0.003
		5	Yellow	**ZB6 EB5B**	0.003
		5	Blue	**ZB6 EB6B**	0.003
		5	Orange	**ZB6 EB8B**	0.003
	∿ 48…120	5	White	**ZB6 EG1B**	0.003
		5	Green	**ZB6 EG3B**	0.003
		5	Red	**ZB6 EG4B**	0.003
		5	Yellow	**ZB6 EG5B**	0.003
		5	Blue	**ZB6 EG6B**	0.003
		5	Orange	**ZB6 EG8B**	0.003
	∿ 230…240	5	White	**ZB6 EM1B**	0.003
		5	Green	**ZB6 EM3B**	0.003
		5	Red	**ZB6 EM4B**	0.003
		5	Yellow	**ZB6 EM5B**	0.003
		5	Blue	**ZB6 EM6B**	0.003
		5	Orange	**ZB6 EM8B**	0.003
With resistor for 95 V neon bulb (not included) T1 1/4 *(2) (3)*	∿ 120	5	–	**ZB6 EG0B**	0.003
	∿ 230	5	–	**ZB6 EM0B**	0.003
Direct supply for 0.6 W max. incandescent bulb (not included) T1 1/4 *(2)*	⎓ ⩽ 24	5	–	**ZB6 EH0B**	0.003
Pins for printed circuit board connection (mounting by the body, see page 1/32)					
Integral LED *(1)*	⎓ 12…24	5	White	**ZB6 EB1A**	0.003
		5	Green	**ZB6 EB3A**	0.003
		5	Red	**ZB6 EB4A**	0.003
		5	Yellow	**ZB6 EB5A**	0.003
		5	Blue	**ZB6 EB6A**	0.003
		5	Orange	**ZB6 EB8A**	0.003
Direct supply for 0.6 W max. incandescent bulb (not included) T1 1/4 *(2)*	⎓ 3…24	5	–	**ZB6 EH0A**	0.003

Separate contact blocks

Type of contacts	For use with bodies	Type of contacts N/O	Type of contacts N/C	Sold in lots of	Reference	Weight kg
Silver alloy	Faston	1	–	10	**ZB6 E1B**	0.004
		–	1	10	**ZB6 E2B**	0.004
	Printed circuit ZB6 Y011	1	–	10	**ZB6 E1A**	0.004
		–	1	10	**ZB6 E2A**	0.004
Gold flashed	Faston	1	–	10	**ZB6 E1E**	0.004
		–	1	10	**ZB6 E2E**	0.004
	Printed circuit ZB6 Y011	1	–	10	**ZB6 E1D**	0.004
		–	1	10	**ZB6 E2D**	0.004

(1) The colour of the LED must be the same as that of the lens mounted on the head.
(2) Bulb to be ordered separately (see page 1/33).
(3) Neon bulbs must only be used with red, yellow or white lenses.

General:
pages 1/6 to 1/11

Characteristics:
pages 1/12 and 1/13

Dimensions:
pages 1/34 to 1/39

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: heads

To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

Heads for illuminated pushbuttons

813801

ZB6 DW●

813804

ZB6 DE●

813803

ZB6 CW●

813805

ZB6 CE●

813806

ZB6 AW●

813802

ZB6 AE●

Shape of head	Type of push	Colour of cap	Reference	Weight kg
	Flush, spring return	White	**ZB6 DW1**	0.016
		Green	**ZB6 DW3**	0.016
		Red	**ZB6 DW4**	0.016
		Yellow	**ZB6 DW5**	0.016
		Blue	**ZB6 DW6**	0.016
		Orange	**ZB6 DW8**	0.016
		6 colours *(1)*	**ZB6 DW9**	0.016
		Without cap *(2)*	**ZB6 DW0**	0.016
	Flush, latching	White	**ZB6 DF1**	0.016
		Green	**ZB6 DF3**	0.016
		Red	**ZB6 DF4**	0.016
		Yellow	**ZB6 DF5**	0.016
		Blue	**ZB6 DF6**	0.016
		Orange	**ZB6 DF8**	0.016
		6 colours *(1)*	**ZB6 DF9**	0.016
		Without cap *(2)*	**ZB6 DF0**	0.016
	Projecting, spring return	White	**ZB6 DE1**	0.016
		Green	**ZB6 DE3**	0.016
		Red	**ZB6 DE4**	0.016
		Yellow	**ZB6 DE5**	0.016
		Blue	**ZB6 DE6**	0.016
		Orange	**ZB6 DE8**	0.016
		6 colours *(1)*	**ZB6 DE9**	0.016
		Without cap *(2)*	**ZB6 DW0**	0.016
	Flush, spring return	White	**ZB6 CW1**	0.016
		Green	**ZB6 CW3**	0.016
		Red	**ZB6 CW4**	0.016
		Yellow	**ZB6 CW5**	0.016
		Blue	**ZB6 CW6**	0.016
		Orange	**ZB6 CW8**	0.016
		6 colours *(1)*	**ZB6 CW9**	0.016
		Without cap *(2)*	**ZB6 CW0**	0.016
	Flush, latching	White	**ZB6 CF1**	0.016
		Green	**ZB6 CF3**	0.016
		Red	**ZB6 CF4**	0.016
		Yellow	**ZB6 CF5**	0.016
		Blue	**ZB6 CF6**	0.016
		Orange	**ZB6 CF8**	0.016
		6 colours *(1)*	**ZB6 CF9**	0.016
		Without cap *(2)*	**ZB6 CF0**	0.016
	Projecting, spring return	White	**ZB6 CE1**	0.016
		Green	**ZB6 CE3**	0.016
		Red	**ZB6 CE4**	0.016
		Yellow	**ZB6 CE5**	0.016
		Blue	**ZB6 CE6**	0.016
		Orange	**ZB6 CE8**	0.016
		6 colours *(1)*	**ZB6 CE9**	0.016
		Without cap *(2)*	**ZB6 CW0**	0.016
	Flush, spring return	White	**ZB6 AW1**	0.016
		Green	**ZB6 AW3**	0.016
		Red	**ZB6 AW4**	0.016
		Yellow	**ZB6 AW5**	0.016
		Blue	**ZB6 AW6**	0.016
		Orange	**ZB6 AW8**	0.016
		6 colours *(1)*	**ZB6 AW9**	0.016
		Without cap *(2)*	**ZB6 AW0**	0.016
	Flush, latching	White	**ZB6 AF1**	0.016
		Green	**ZB6 AF3**	0.016
		Red	**ZB6 AF4**	0.016
		Yellow	**ZB6 AF5**	0.016
		Blue	**ZB6 AF6**	0.016
		Orange	**ZB6 AF8**	0.016
		6 colours *(1)*	**ZB6 AF9**	0.016
		Without cap *(2)*	**ZB6 AF0**	0.016
	Projecting, spring return	White	**ZB6 AE1**	0.016
		Green	**ZB6 AE3**	0.016
		Red	**ZB6 AE4**	0.016
		Yellow	**ZB6 AE5**	0.016
		Blue	**ZB6 AE6**	0.016
		Orange	**ZB6 AE8**	0.016
		6 colours *(1)*	**ZB6 AE9**	0.016
		Without cap *(2)*	**ZB6 AW0**	0.016

(1) 6 different coloured caps included with head (white, green, red, yellow, blue and orange) not fitted.

(2) To order caps separately, see page 1/26.

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Characteristics: pages 1/12 and 1/13

Dimensions: pages 1/34 to 1/39

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: heads

To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

813823

ZB6 DV●

813822

ZB6 CV●

813821

ZB6 AV●

813820

ZB6 DA●

813819

ZB6 CA●

813818

ZB6 AA●

813824

ZB6 AC●

813817

ZB6 AS834

813816

ZB6 AS934

Heads for pilot lights

Shape of head	Colour of lens	Reference	Weight kg
	White	**ZB6 DV1**	0,015
	Green	**ZB6 DV3**	0.015
	Red	**ZB6 DV4**	0.015
	Yellow	**ZB6 DV5**	0.015
	Blue	**ZB6 DV6**	0.015
	Orange	**ZB6 DV8**	0.015
	6 colours *(1)*	**ZB6 DV9**	0.015
	Without lens *(2)*	**ZB6 DV0**	0.015
	White	**ZB6 CV1**	0.015
	Green	**ZB6 CV3**	0.015
	Red	**ZB6 CV4**	0.015
	Yellow	**ZB6 CV5**	0.015
	Blue	**ZB6 CV6**	0.015
	Orange	**ZB6 CV8**	0.015
	6 colours *(1)*	**ZB6 CV9**	0.015
	Without lens *(2)*	**ZB6 CV0**	0.015
	White	**ZB6 AV1**	0.015
	Green	**ZB6 AV3**	0.015
	Red	**ZB6 AV4**	0.015
	Yellow	**ZB6 AV5**	0.015
	Blue	**ZB6 AV6**	0.015
	Orange	**ZB6 AV8**	0.015
	6 colours *(1)*	**ZB6 AV9**	0.015
	Without lens *(2)*	**ZB6 AV0**	0.015

Heads for pushbuttons

Shape of head	Type of push	Colour of cap	Reference	Weight kg
	Flush, spring return	White	**ZB6 DA1**	0.016
		Black	**ZB6 DA2**	0.016
		Green	**ZB6 DA3**	0.016
		Red	**ZB6 DA4**	0.016
		Yellow	**ZB6 DA5**	0.016
		Blue	**ZB6 DA6**	0.016
		6 colours *(3)*	**ZB6 DA9**	0.016
		Without cap *(2)*	**ZB6 DW0**	0.016
	Flush, spring return	White	**ZB6 CA1**	0.016
		Black	**ZB6 CA2**	0.016
		Green	**ZB6 CA3**	0.016
		Red	**ZB6 CA4**	0.016
		Yellow	**ZB6 CA5**	0.016
		Blue	**ZB6 CA6**	0.016
		6 colours *(3)*	**ZB6 CA9**	0.016
		Without cap *(2)*	**ZB6 CW0**	0.016
	Flush, spring return	White	**ZB6 AA1**	0.016
		Black	**ZB6 AA2**	0.016
		Green	**ZB6 AA3**	0.016
		Red	**ZB6 AA4**	0.016
		Yellow	**ZB6 AA5**	0.016
		Blue	**ZB6 AA6**	0.016
		6 colours *(3)*	**ZB6 AA9**	0.016
		Without cap *(2)*	**ZB6 AW0**	0.016

Ø 24 mushroom heads for pushbuttons

	Spring return	White	**ZB6 AC1**	0.020
		Black	**ZB6 AC2**	0.020
		Green	**ZB6 AC3**	0.020
		Yellow	**ZB6 AC5**	0.020
		Blue	**ZB6 AC6**	0.020

Ø 30 mushroom heads for trigger action Emergency stop pushbuttons

	Turn to release	Red	**ZB6 AS834**	0.035
	Key release (n° 200)	Red	**ZB6 AS934**	0.050

(1) 6 different coloured lenses included with head (white, green, red, yellow, blue and orange) not fitted.

(2) To order caps or lenses separately, see pages 1/26 to 1/29.

(3) 6 different coloured caps included with head (white, black, green, yellow, red and blue) not fitted.

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: heads

To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

813837

ZB6 DD●●

813836

ZB6 DD●●

813835

ZB6 AD●●

Heads for selector switches with standard handle

Shape of head	Number and type of positions		Colour of handle	Reference	Weight kg
Switching angle: stay put positions 60°, spring return positions 45°					
	2 - stay put		Black	**ZB6 DD22**	0.018
			Red	**ZB6 DD42**	0.018
	3 - stay put		Black	**ZB6 DD23**	0.018
			Red	**ZB6 DD43**	0.018
	2 spring return to centre		Black	**ZB6 DD24**	0.018
			Red	**ZB6 DD44**	0.018
	3 spring return to centre		Black	**ZB6 DD25**	0.018
			Red	**ZB6 DD45**	0.018
	3 spring return from right to centre		Black	**ZB6 DD26**	0.018
			Red	**ZB6 DD46**	0.018
	3 spring return from left to centre		Black	**ZB6 DD27**	0.018
			Red	**ZB6 DD47**	0.018
	2 - stay put		Black	**ZB6 CD22**	0.018
			Red	**ZB6 CD42**	0.018
	3 - stay put		Black	**ZB6 CD23**	0.018
			Red	**ZB6 CD43**	0.018
	2 spring return to centre		Black	**ZB6 CD24**	0.018
			Red	**ZB6 CD44**	0.018
	3 spring return to centre		Black	**ZB6 CD25**	0.018
			Red	**ZB6 CD45**	0.018
	3 spring return from right to centre		Black	**ZB6 CD26**	0.018
			Red	**ZB6 CD46**	0.018
	3 spring return from left to centre		Black	**ZB6 CD27**	0.018
			Red	**ZB6 CD47**	0.018
	2 - stay put		Black	**ZB6 AD22**	0.018
			Red	**ZB6 AD42**	0.018
	3 - stay put		Black	**ZB6 AD23**	0.018
			Red	**ZB6 AD43**	0.018
	2 spring return to centre		Black	**ZB6 AD24**	0.018
			Red	**ZB6 AD44**	0.018
	3 spring return to centre		Black	**ZB6 AD25**	0.018
			Red	**ZB6 AD45**	0.018
	3 spring return from right to centre		Black	**ZB6 AD26**	0.018
			Red	**ZB6 AD46**	0.018
	3 spring return from left to centre		Black	**ZB6 AD27**	0.018
			Red	**ZB6 AD47**	0.018
Switching angle: stay put positions 90°					
	2 - stay put		Black	**ZB6 DD28**	0.018
			Red	**ZB6 DD48**	0.018
	2 - stay put		Black	**ZB6 CD28**	0.018
			Red	**ZB6 CD48**	0.018
	2 - stay put		Black	**ZB6 AD28**	0.018
			Red	**ZB6 AD48**	0.018

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Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: heads

To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

ZB6 DD0●

ZB6 CD0●

ZB6 AD0●

Heads for illuminated selector switches, without handle *(1)*

Shape of head	Number and type of positions	Reference	Weight kg
Switching angle: stay put positions 60°, spring return positions 45°			
	2 - stay put	**ZB6 DD02**	0.016
	3 - stay put	**ZB6 DD03**	0.016
	2 spring return to centre	**ZB6 DD04**	0.016
	3 spring return to centre	**ZB6 DD05**	0.016
	3 spring return from right to centre	**ZB6 DD06**	0.016
	3 spring return from left to centre	**ZB6 DD07**	0.016
	2 - stay put	**ZB6 CD02**	0.016
	3 - stay put	**ZB6 CD03**	0.016
	2 spring return to centre	**ZB6 CD04**	0.016
	3 spring return to centre	**ZB6 CD05**	0.016
	3 spring return from right to centre	**ZB6 CD06**	0.016
	3 spring return from left to centre	**ZB6 CD07**	0.016
	2 - stay put	**ZB6 AD02**	0.016
	3 - stay put	**ZB6 AD03**	0.016
	2 spring return to centre	**ZB6 AD04**	0.016
	3 spring return to centre	**ZB6 AD05**	0.016
	3 spring return from right to centre	**ZB6 AD06**	0.016
	3 spring return from left to centre	**ZB6 AD07**	0.016
Switching angle: stay put positions 90°			
	2 - stay put	**ZB6 DD08**	0.016
	2 - stay put	**ZB6 CD08**	0.016
	2 - stay put	**ZB6 AD08**	0.016

(1) Handle to be ordered separately (see page 1/30) for bodies with 2 contact blocks maximum.

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: heads

To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

ZB6 DG●

Heads for key switches (Ronis key n° 200) (1)

Shape of head	Number and type of positions		Key withdrawal	Reference	Weight kg
Switching angle: stay put positions 70°, spring return positions 45°					
	2 - stay put		RH position	**ZB6 DGA**	0.030
			Centre position	**ZB6 DGB** *(2)*	0.030
			All positions	**ZB6 DGC** *(2)*	0.030
	2 - spring return		Centre position	**ZB6 DGL**	0.030
	3 - stay put		LH position	**ZB6 DGD**	0.030
			Centre position	**ZB6 DGE** *(2)*	0.030
			LH and Centre positions	**ZB6 DGF**	0.030
			RH position	**ZB6 DGG**	0.030
			All positions	**ZB6 DGH** *(2)*	0.030
			RH and LH positions	**ZB6 DGJ**	0.030
			RH and Centre positions	**ZB6 DGK**	0.030
	3 spring return from left to centre		RH position	**ZB6 DGM**	0.030
			Centre position	**ZB6 DGN**	0.030
			RH and Centre positions	**ZB6 DGP**	0.030
	3 spring return from right to centre		LH position	**ZB6 DGQ**	0.030
			Centre position	**ZB6 DGR**	0.030
			LH and Centre positions	**ZB6 DGS**	0.030
	3 spring return to centre		Centre position	**ZB6 DGT**	0.030
	2 - stay put		RH position	**ZB6 CGA**	0.030
			Centre position	**ZB6 CGB** *(2)*	0.030
			All positions	**ZB6 CGC** *(2)*	0.030
	2 - spring return		Centre position	**ZB6 CGL**	0.030
	3 - stay put		LH position	**ZB6 CGD**	0.030
			Centre position	**ZB6 CGE** *(2)*	0.030
			LH and Centre positions	**ZB6 CGF**	0.030
			RH position	**ZB6 CGG**	0.030
			All positions	**ZB6 CGH** *(2)*	0.030
			RH and LH positions	**ZB6 CGJ**	0.030
			RH and Centre positions	**ZB6 CGK**	0.030

ZB6 CG●

*(1) To order a key switch with DOM 311 key, add the suffix **1** to the references selected above. Example: **ZB6 DGA1**.*

*(2) Also available with Ronis key numbers: 201, 202 and 203. To order, add the key number to the end of the reference. Example: for key switch **ZB6 DGB** with Ronis key n° 201, the reference becomes: **ZB6 DGB201**.*

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Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: heads

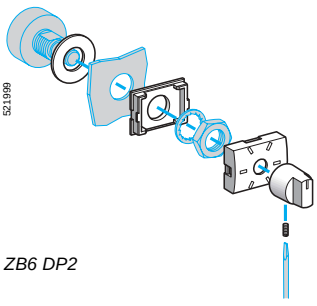
To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

813891

ZB6 AG●

Heads for key switches (Ronis key n° 200) (1) (continued)

Shape of head	Number and type of positions		Key withdrawal	Reference	Weight kg
Switching angle: stay put positions 70°, spring return positions 45°					
	3 spring return from left to centre		RH position	**ZB6 CGM**	0.030
			Centre position	**ZB6 CGN**	0.030
			RH and Centre positions	**ZB6 CGP**	0.030
	3 spring return from right to centre		Left-hand position	**ZB6 CGQ**	0.030
			Centre position	**ZB6 CGR**	0.030
			LH and Centre positions	**ZB6 CGS**	0.030
	3 spring return to centre		Centre position	**ZB6 CGT**	0.030
	2 - stay put		RH position	**ZB6 AGA**	0.030
			Centre position	**ZB6 AGB** *(2)*	0.030
			All positions	**ZB6 AGC** *(2)*	0.030
	2 spring return from right to centre		Centre position	**ZB6 AGL**	0.030
	3 - stay put		Left-hand position	**ZB6 AGD**	0.030
			Centre position	**ZB6 AGE** ***(2)***	0.030
			LH and Centre positions	**ZB6 AGF**	0.030
			RH position	**ZB6 AGG**	0.030
			All positions	**ZB6 AGH** *(2)*	0.030
			RH and LH positions	**ZB6 AGJ**	0.030
			RH and Centre positions	**ZB6 AGK**	0.030
	3 spring return from left to centre		RH position	**ZB6 AGM**	0.030
			Centre position	**ZB6 AGN**	0.030
			RH and Centre positions	**ZB6 AGP**	0.030
	3 spring return from right to centre		Left-hand position	**ZB6 AGQ**	0.030
			Centre position	**ZB6 AGR**	0.030
			LH and Centre positions	**ZB6 AGS**	0.030
	3 spring return to centre		Centre position	**ZB6 AGT**	0.030



521999

ZB6 DP2

Heads + mounting base for potentiometer

Shape of head	Description	For use with	Reference	Weight kg
	For potentiometer with shaft length 5…8 mm (potentiometer not included)	Ø 6.35 mm shaft	**ZB6 DP2**	0.032

*(1) To order a key switch with DOM 311 key, add the suffix **1** to the references selected above. Example: **ZB6 CGM1**.*

*(2) Also available with Ronis key numbers: 201, 202 and 203. To order, add the key number to the end of the reference. Example: for key switch **ZB6 AGB** with Ronis key n° 201, the reference becomes: **ZB6 AGB201**.*

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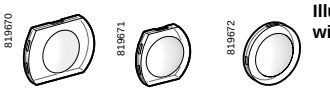
Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Component parts, ZB6

Pushbutton caps - unmarked



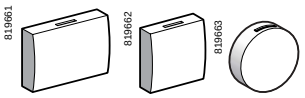
ZB6 YDW● ZB6 YCW● ZB6 YAW●

ZB6 YDE● ZB6 YCE● ZB6 YAE●

ZB6 YDA● ZB6 YCA● ZB6 YAA●

For use with	Colour	Sold in lots of	Unit reference Head	Head	Head	Weight kg
Illuminated pushbuttons, with flush push	White	10	**ZB6 YDW1**	**ZB6 YCW1**	**ZB6 YAW1**	0.001
	Green	10	**ZB6 YDW3**	**ZB6 YCW3**	**ZB6 YAW3**	0.001
	Red	10	**ZB6 YDW4**	**ZB6 YCW4**	**ZB6 YAW4**	0.001
	Yellow	10	**ZB6 YDW5**	**ZB6 YCW5**	**ZB6 YAW5**	0.001
	Blue	10	**ZB6 YDW6**	**ZB6 YCW6**	**ZB6 YAW6**	0.001
	Orange	10	**ZB6 YDW8**	**ZB6 YCW8**	**ZB6 YAW8**	0.001
Illuminated pushbuttons, with projecting push	White	10	**ZB6 YDE1**	**ZB6 YCE1**	**ZB6 YAE1**	0.001
	Green	10	**ZB6 YDE3**	**ZB6 YCE3**	**ZB6 YAE3**	0.001
	Red	10	**ZB6 YDE4**	**ZB6 YCE4**	**ZB6 YAE4**	0.001
	Yellow	10	**ZB6 YDE5**	**ZB6 YCE5**	**ZB6 YAE5**	0.001
	Blue	10	**ZB6 YDE6**	**ZB6 YCE6**	**ZB6 YAE6**	0.001
	Orange	10	**ZB6 YDE8**	**ZB6 YCE8**	**ZB6 YAE8**	0.001
Non illuminated pushbuttons	White	10	**ZB6 YDA1**	**ZB6 YCA1**	**ZB6 YAA1**	0.001
	Black	10	**ZB6 YDA2**	**ZB6 YCA2**	**ZB6 YAA2**	0.001
	Green	10	**ZB6 YDA3**	**ZB6 YCA3**	**ZB6 YAA3**	0.001
	Red	10	**ZB6 YDA4**	**ZB6 YCA4**	**ZB6 YAA4**	0.001
	Yellow	10	**ZB6 YDA5**	**ZB6 YCA5**	**ZB6 YAA5**	0.001
	Blue	10	**ZB6 YDA6**	**ZB6 YCA6**	**ZB6 YAA6**	0.001

Lens caps - unmarked



ZB6 YDV● ZB6 YCV● ZB6 YAV●

For use with	Colour	Sold in lots of	Unit reference Head	Head	Head	Weight kg
Pilot lights	White	10	**ZB6 YDV1**	**ZB6 YCV1**	**ZB6 YAV1**	0.001
	Green	10	**ZB6 YDV3**	**ZB6 YCV3**	**ZB6 YAV3**	0.001
	Red	10	**ZB6 YDV4**	**ZB6 YCV4**	**ZB6 YAV4**	0.001
	Yellow	10	**ZB6 YDV5**	**ZB6 YCV5**	**ZB6 YAV5**	0.001
	Blue	10	**ZB6 YDV6**	**ZB6 YCV6**	**ZB6 YAV6**	0.001
	Orange	10	**ZB6 YDV8**	**ZB6 YCV8**	**ZB6 YAV8**	0.001

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Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Component parts, ZB6

ZB6 YD●10

ZB6 YC●10

ZB6 YA●10

Pushbutton caps - marked

Marking	Colour	Sold in lots of	Unit reference			Weight kg
White on coloured cap Black on white cap			Head	Head	Head	
For non illuminated pushbuttons						
0	White	10	**ZB6 YD100**	**ZB6 YC100**	**ZB6 YA100**	0.001
	Black	10	**ZB6 YD200**	**ZB6 YC200**	**ZB6 YA200**	0.001
1	White	10	**ZB6 YD101**	**ZB6 YC101**	**ZB6 YA101**	0.001
	Black	10	**ZB6 YD201**	**ZB6 YC201**	**ZB6 YA201**	0.001
2	White	10	**ZB6 YD102**	**ZB6 YC102**	**ZB6 YA102**	0.001
	Black	10	**ZB6 YD202**	**ZB6 YC202**	**ZB6 YA202**	0.001
3	White	10	**ZB6 YD103**	**ZB6 YC103**	**ZB6 YA103**	0.001
	Black	10	**ZB6 YD203**	**ZB6 YC203**	**ZB6 YA203**	0.001
4	White	10	**ZB6 YD104**	**ZB6 YC104**	**ZB6 YA104**	0.001
	Black	10	**ZB6 YD204**	**ZB6 YC204**	**ZB6 YA204**	0.001
5	White	10	**ZB6 YD105**	**ZB6 YC105**	**ZB6 YA105**	0.001
	Black	10	**ZB6 YD205**	**ZB6 YC205**	**ZB6 YA205**	0.001
6	White	10	**ZB6 YD106**	**ZB6 YC106**	**ZB6 YA106**	0.001
	Black	10	**ZB6 YD206**	**ZB6 YC206**	**ZB6 YA206**	0.001
7	White	10	**ZB6 YD107**	**ZB6 YC107**	**ZB6 YA107**	0.001
	Black	10	**ZB6 YD207**	**ZB6 YC207**	**ZB6 YA207**	0.001
8	White	10	**ZB6 YD108**	**ZB6 YC108**	**ZB6 YA108**	0.001
	Black	10	**ZB6 YD208**	**ZB6 YC208**	**ZB6 YA208**	0.001
9	White	10	**ZB6 YD109**	**ZB6 YC109**	**ZB6 YA109**	0.001
	Black	10	**ZB6 YD209**	**ZB6 YC209**	**ZB6 YA209**	0.001
I	White	10	**ZB6 YD111**	**ZB6 YC111**	**ZB6 YA111**	0.001
	Green	10	**ZB6 YD311**	**ZB6 YC311**	**ZB6 YA311**	0.001
O	Black	10	**ZB6 YD210**	**ZB6 YC210**	**ZB6 YA210**	0.001
	Red	10	**ZB6 YD410**	**ZB6 YC410**	**ZB6 YA410**	0.001

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Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Component parts, ZB6

ZB6 YD●16

ZB6 YC●17

ZB6 YA●18

Pushbutton caps - marked (continued)

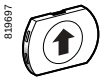
Marking	Colour	Sold in lots of	Unit reference			Weight kg
White on coloured cap Black on white cap			Head	Head	Head	
For non illuminated pushbuttons						
II	White	5	**ZB6 YD112**	**ZB6 YC112**	**ZB6 YA112**	0.001
	Black	5	**ZB6 YD212**	**ZB6 YC212**	**ZB6 YA212**	0.001
III	White	5	**ZB6 YD113**	**ZB6 YC113**	**ZB6 YA113**	0.001
	Black	5	**ZB6 YD213**	**ZB6 YC213**	**ZB6 YA213**	0.001
+	White	5	**ZB6 YD114**	**ZB6 YC114**	**ZB6 YA114**	0.001
	Black	5	**ZB6 YD214**	**ZB6 YC214**	**ZB6 YA214**	0.001
-	White	5	**ZB6 YD115**	**ZB6 YC115**	**ZB6 YA115**	0.001
	Black	5	**ZB6 YD215**	**ZB6 YC215**	**ZB6 YA215**	0.001
MARCHE	White	5	**ZB6 YD116**	**ZB6 YC116**	**ZB6 YA116**	0.001
	Green	5	**ZB6 YD316**	**ZB6 YC316**	**ZB6 YA316**	0.001
ON	White	5	**ZB6 YD117**	**ZB6 YC117**	**ZB6 YA117**	0.001
	Green	5	**ZB6 YD317**	**ZB6 YC317**	**ZB6 YA317**	0.001
START	Green	5	**ZB6 YD340**	**ZB6 YC340**	**ZB6 YA340**	0.001
EIN	White	5	**ZB6 YD118**	**ZB6 YC118**	**ZB6 YA118**	0.001
	Green	5	**ZB6 YD318**	**ZB6 YC318**	**ZB6 YA318**	0.001
ARRET	Black	5	**ZB6 YD223**	**ZB6 YC223**	**ZB6 YA223**	0.001
	Red	5	**ZB6 YD423**	**ZB6 YC423**	**ZB6 YA423**	0.001
STOP	Red	5	**ZB6 YD441**	**ZB6 YC441**	**ZB6 YA441**	0.001
OFF	Black	5	**ZB6 YD224**	**ZB6 YC224**	**ZB6 YA224**	0.001
	Red	5	**ZB6 YD424**	**ZB6 YC424**	**ZB6 YA424**	0.001
AUS	Black	5	**ZB6 YD225**	**ZB6 YC225**	**ZB6 YA225**	0.001
	Red	5	**ZB6 YD425**	**ZB6 YC425**	**ZB6 YA425**	0.001
R	Blue	5	**ZB6 YD626**	**ZB6 YC626**	**ZB6 YA626**	0.001
MONTEE	White	5	**ZB6 YD129**	**ZB6 YC129**	**ZB6 YA129**	0.001
	Black	5	**ZB6 YD229**	**ZB6 YC229**	**ZB6 YA229**	0.001

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Component parts, ZB6



ZB6 YD●19

ZB6 YC●19

ZB6 YA●19

Pushbutton caps - marked (continued)

Marking	Colour	Sold in lots of	Unit reference			Weight kg
White on coloured cap Black on white cap			Head	Head	Head	
For non illuminated pushbuttons						
UP	White	5	**ZB6 YD127**	**ZB6 YC127**	**ZB6 YA127**	0.001
	Black	5	**ZB6 YD227**	**ZB6 YC227**	**ZB6 YA227**	0.001
DESCENTE	White	5	**ZB6 YD130**	**ZB6 YC130**	**ZB6 YA130**	0.001
	Black	5	**ZB6 YD230**	**ZB6 YC230**	**ZB6 YA230**	0.001
DOWN	White	5	**ZB6 YD128**	**ZB6 YC128**	**ZB6 YA128**	0.001
	Black	5	**ZB6 YD228**	**ZB6 YC228**	**ZB6 YA228**	0.001
AB	White	5	**ZB6 YD134**	**ZB6 YC134**	**ZB6 YA134**	0.001
	Black	5	**ZB6 YD234**	**ZB6 YC234**	**ZB6 YA234**	0.001
FERME	White	5	**ZB6 YD133**	**ZB6 YC133**	**ZB6 YA133**	0.001
	Black	5	**ZB6 YD233**	**ZB6 YC233**	**ZB6 YA233**	0.001
CLOSE	White	5	**ZB6 YD132**	**ZB6 YC132**	**ZB6 YA132**	0.001
	Black	5	**ZB6 YD232**	**ZB6 YC232**	**ZB6 YA232**	0.001
ZU	White	5	**ZB6 YD131**	**ZB6 YC131**	**ZB6 YA131**	0.001
	Black	5	**ZB6 YD231**	**ZB6 YC231**	**ZB6 YA231**	0.001
↑	White	5	**ZB6 YD119**	**ZB6 YC119**	**ZB6 YA119**	0.001
	Black	5	**ZB6 YD219**	**ZB6 YC219**	**ZB6 YA219**	0.001
↓	White	5	**ZB6 YD120**	**ZB6 YC120**	**ZB6 YA120**	0.001
	Black	5	**ZB6 YD220**	**ZB6 YC220**	**ZB6 YA220**	0.001
→	White	5	**ZB6 YD121**	**ZB6 YC121**	**ZB6 YA121**	0.001
	Black	5	**ZB6 YD221**	**ZB6 YC221**	**ZB6 YA221**	0.001
←	White	5	**ZB6 YD122**	**ZB6 YC122**	**ZB6 YA122**	0.001
	Black	5	**ZB6 YD222**	**ZB6 YC222**	**ZB6 YA222**	0.001

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Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Component parts, spare parts and accessories, ZB6

819702

ZB6 YK●

Handles

Description	Colour	Sold in lots of	Unit reference	Weight kg
Component parts				
Handles for illuminated selector switches *(1)*	White	5	**ZB6 YK1**	0.002
	Green	5	**ZB6 YK3**	0.002
	Red	5	**ZB6 YK4**	0.002
	Yellow	5	**ZB6 YK5**	0.002
	Blue	5	**ZB6 YK6**	0.002
	Orange	5	**ZB6 YK8**	0.002
Replacement parts				
Handles for non illuminated selector switches	Black	1	**ZB6 YD2**	0.002
	Red	1	**ZB6 YD4**	0.002

819698

ZB6 YD20

Legend holder 24 x 48 mm (size 1) for 8 x 21 mm legend *(2)*

Description	Legend plate colour	Sold in lots of	Unit reference	Weight kg
Without legend	–	10	**ZB6 YD20**	0.001
With blank legend	White or yellow background	10	**ZB6 YD21**	0.001
	Black or red background	10	**ZB6 YD22**	0.001

819699

ZB6 YD3●

Legend holder 24 x 36 mm (size 2) for 16 x 21 mm legend *(2)*

Description	Legend plate colour	Sold in lots of	Unit reference	Weight kg
Without legend	–	10	**ZB6 YD30**	0.001
With blank legend	White or yellow background	10	**ZB6 YD31**	0.001
	Black or red background	10	**ZB6 YD32**	0.001

819700

ZB6 Y1001

Blank legends

Dimensions	For use with	Colour	Sold in lots of	Unit reference	Weight kg
8 x 21 mm	Size 1 legend holder ZB6 YD20	Yellow or white background	20	**ZB6 Y1001**	0.001
		Black or red background	20	**ZB6 Y2001**	0.001
16 x 21 mm	Size 2 legend holder ZB6 YD30	Yellow or white background	20	**ZB6 Y4001**	0.001
		Black or red background	20	**ZB6 Y3001**	0.001

819701

ZB6 Y3001

Legends for engraving *(3)*

Dimensions	For use with	Colour	Sold in lots of	Unit reference	Weight kg
8 x 21 mm	Size 1 legend holder ZB6 YD20	Yellow or white background	10	**ZB6 Y1900**	0.001
		Black or red background	10	**ZB6 Y2900**	0.001
16 x 21 mm	Size 2 legend holder ZB6 YD30	Yellow or white background	10	**ZB6 Y4900**	0.001
		Black or red background	10	**ZB6 Y3900**	0.001

(1) Handle for use in conjunction with a head without a handle (see page 1/23) and a body sub-assembly for illuminated pushbuttons (see page 1/18).

(2) For legends, see below and also following page.

(3) Pre-engraved legends. When ordering, clearly state the background colour, text to be engraved (either 1 line for 8 x 21 mm or 2 lines for 16 x 21 mm legends - in both cases, 10 characters max. per line) and the quantity. Minimum quantity: 25 identical legends.

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Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Accessories, ZB6

8 x 21 mm marked legends (for "size 1" 24 x 28 mm legend holders ZB6 YD20)

Colour	Marking		Sold in lots of	Unit reference	Weight kg
Black or red background *(1)*	International	O-I	5	**ZB6 Y2178**	0.001
		I-II	5	**ZB6 Y2179**	0.001
		I-O-II	5	**ZB6 Y2186**	0.001
		← O →	5	**ZB6 Y2190**	0.001
	French	ARRET	5	**ZB6 Y2104**	0.001
		ARRIERE	5	**ZB6 Y2106**	0.001
		AVANT	5	**ZB6 Y2105**	0.001
		DEFAUT	5	**ZB6 Y2134**	0.001
		DESCENTE	5	**ZB6 Y2108**	0.001
		DROITE	5	**ZB6 Y2109**	0.001
		EN SERVICE	5	**ZB6 Y2111**	0.001
		FERME	5	**ZB6 Y2114**	0.001
		GAUCHE	5	**ZB6 Y2110**	0.001
		HORS SERVICE	5	**ZB6 Y2112**	0.001
		OUVERT	5	**ZB6 Y2113**	0.001
		MAIN-O-AUTO	5	**ZB6 Y2187**	0.001
		MARCHE	5	**ZB6 Y2103**	0.001
		MONTEE	5	**ZB6 Y2107**	0.001
		REARMEMENT	5	**ZB6 Y2123**	0.001
	English	HAND-O-AUTO	5	**ZB6 Y2387**	0.001
		CLOSE	5	**ZB6 Y2314**	0.001
		DOWN	5	**ZB6 Y2308**	0.001
		FORWARD	5	**ZB6 Y2305**	0.001
		FAULT	5	**ZB6 Y2334**	0.001
		LEFT	5	**ZB6 Y2310**	0.001
		OFF	5	**ZB6 Y2312**	0.001
		ON	5	**ZB6 Y2303**	0.001
		OPEN	5	**ZB6 Y2313**	0.001
		RESET	5	**ZB6 Y2323**	0.001
		REVERSE	5	**ZB6 Y2306**	0.001
		RIGHT	5	**ZB6 Y2309**	0.001
		RUN	5	**ZB6 Y2311**	0.001
		STOP	5	**ZB6 Y2304**	0.001
		UP	5	**ZB6 Y2307**	0.001
	German	AB	5	**ZB6 Y2208**	0.001
		AUF	5	**ZB6 Y2207**	0.001
		AUS	5	**ZB6 Y2212**	0.001
		BETRIEB	5	**ZB6 Y2211**	0.001
		EIN	5	**ZB6 Y2203**	0.001
		HALT	5	**ZB6 Y2204**	0.001
		HAND-O-AUTO	5	**ZB6 Y2287**	0.001
		LINKS	5	**ZB6 Y2210**	0.001
		ÖFFNEN	5	**ZB6 Y2213**	0.001
		RECHTS	5	**ZB6 Y2209**	0.001
		RÜCKSTELLUNG	5	**ZB6 Y2223**	0.001
		SCHLIESSEN	5	**ZB6 Y2214**	0.001
		STÖRUNG	5	**ZB6 Y2234**	0.001
		VOR	5	**ZB6 Y2205**	0.001
		ZURÜCK	5	**ZB6 Y2206**	0.001
	Spanish	ADELANTE	5	**ZB6 Y2405**	0.001
		APERTURA	5	**ZB6 Y2413**	0.001
		ATRAS	5	**ZB6 Y2406**	0.001
		BAJADA	5	**ZB6 Y2408**	0.001
		CIERRE	5	**ZB6 Y2414**	0.001
		DEFECTO	5	**ZB6 Y2434**	0.001
		DERECHA	5	**ZB6 Y2409**	0.001
		EN SERVICIO	5	**ZB6 Y2411**	0.001
		FUERA SERV.	5	**ZB6 Y2412**	0.001
		IZQUIERDA	5	**ZB6 Y2410**	0.001
		MARCHA	5	**ZB6 Y2403**	0.001
		PARADA	5	**ZB6 Y2404**	0.001
		REARME	5	**ZB6 Y2423**	0.001
		SUBIDA	5	**ZB6 Y2405**	0.001

819707 O I

ZB6 Y2178

819703 ARRET

ZB6 Y2104

819704 STOP

ZB6 Y2304

819706 HALT

ZB6 Y2204

819705 PARADA

ZB6 Y2404

(1) "Start" functions: white letters on black background. "Stop" and "Fault" functions: white letters on red background.

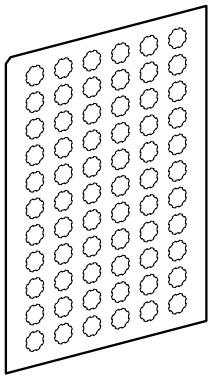
Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Accessories, ZB6

819709



ZB6 YA003

563527

XBY 2U

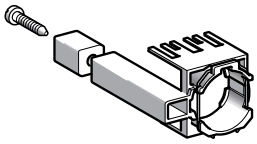
819708

ZB6 Y7330

819715

ZB6 Y009

819714

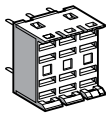


ZB6 Y011

819716

ZB6 Y003

819711

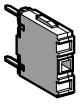


ZB6 Y010

819713

ZB6 Y006

819712



ZB6 Y006A

Sheets of peel-off legends

Description	For use with	Sold in lots of	Unit reference	Weight kg
Sheets of 66 circular peel-off transparent self-adhesive legends	Rectangular pilot lights	10	**ZB6 YD003**	0.030
	Square pilot lights	10	**ZB6 YC003**	0.030
	Circular pilot lights	10	**ZB6 YA003**	0.030
	Rectangular illuminated pushbuttons	10	**ZB6 YD013**	0.030
	Square illuminated pushbuttons	10	**ZB6 YC013**	0.030
	Circular illuminated pushbuttons	10	**ZB6 YA013**	0.030

"SIS Label" labelling software

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	**XBY 2U**	0.100

Circular legends for Emergency stop mushroom head pushbuttons (yellow)

Diameter mm	Marking on yellow background	Reference	Weight kg
45	Without	**ZB6 Y7001**	0.001
	ARRET D'URGENCE	**ZB6 Y7130**	0.001
	EMERGENCY STOP	**ZB6 Y7330**	0.001
	PARADA EMERGENCIA	**ZB6 Y7430**	0.001
	ARRESTO EMERGENZA	**ZB6 Y7630**	0.001
	NOT-AUS	**ZB6 Y7230**	0.001

Accessories

Description	Application		Sold in lots of	Unit reference	Weight kg
Body/fixing collar	For mounting contact blocks		10	**ZB6 Y009**	0.002
Body bracket (fixing screws included)	Printed circuit board mounting		4	**ZB6 Y011**	0.010
Anti-rotation plate	Selector switches		10	**ZB6 Y003**	0.001
Nut	Securing head on support		10	**ZB6 Y002**	0.001
Plug-in socket adaptor	Printed circuit board mounting		10	**ZB6 Y010**	0.004
Dummy contact block housing (without contacts)	Printed circuit board mounting	Without pins for printed circuit	10	**ZB6 Y006**	0.001
		With pins for printed circuit	10	**ZB6 Y006A**	0.001

General:
pages 1/6 to 1/11

Characteristics:
pages 1/12 and 1/13

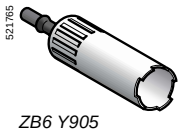
Dimensions:
pages 1/34 to 1/39

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

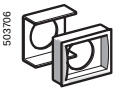
Accessories, ZB6



ZB6 Y905

ZB6 Y906

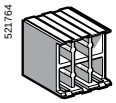
ZB6 YC002



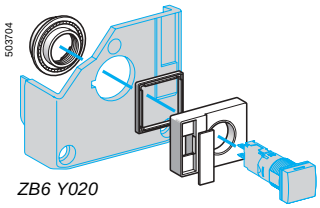
ZB6 YD002

ZB6 YA001

ZB6 YD001

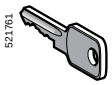


ZB6 Y001

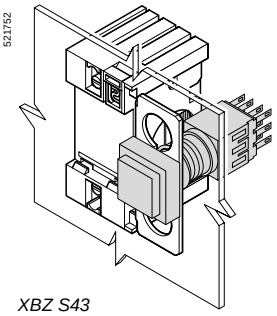


ZB6 Y020

ZB6 Y005



ZB6 Y007



XBZ S43

Accessories (continued)

Description	Application	Sold in lots of	Unit reference	Weight kg
Dismantling tool	Removal of contact blocks from body/fixing collar	5	**ZB6 Y018**	0.005
Extractor	Removal of pushbutton caps	5	**ZB6 Y016**	0.010
Bezel tightening tool + bulb extractor	Tightening and slackening the bezel and changing bulbs	2	**ZB6 Y905**	0.006
Metal assembly tool	Tightening of fixing nut	1	**ZB6 Y906**	0.022
Dismantling tool kit, comprising 3 tools	Removal of contacts, fixing nuts and pushbutton caps	1	**ZB6 Y019**	0.030
Connecting cable with 2 pin connector (5 mm pitch) and 2 pin Faston connector Length: 50 mm Wire c.s.a.: 0.75 mm²	Ø 16 units	8	**APE 1C1250**	0.130
Adaptors for flush mounting	For flush mounting a circular pushbutton, switch or pilot light in a Ø 22 hole	10	**ZB6 YA002**	0.030
	For flush mounting a square pushbutton, switch or pilot light in a 21 x 21 square hole	5	**ZB6 YC002**	0.032
	For flush mounting a rectangular pushbutton, switch or pilot light in a 21 x 27 rectangular hole	5	**ZB6 YD002**	0.032
Protective cover	Protection of contacts against direct finger contact	10	**ZB6 Y001**	0.005
Protective shutters	Circular and square pushbuttons and switches	1	**ZB6 YA001**	0.003
	Rectangular pushbuttons and switches	1	**ZB6 YD001**	0.003
Adaptor for XAL control station (Ø 22 to Ø 16 reducer)	Ø 16 circular, square or rectangular units	5	**ZB6 Y020**	0.038
Female Faston connector	–	100	**ZB6 Y004**	0.002
Blanking plug	–	10	**ZB6 Y005**	0.001
Ronis key	Key switches	2	**ZB6 Y007**	0.006
DOM 311 key	Key switches	2	**ZB6 Y008**	0.006
Incandescent bulbs, bayonet T1 1/4	6 V	6	**ZB6 YA006**	0.002
	12 V	10	**ZB6 YJ012**	0.002
	24 V *(1)*	20	**ZB6 YB028**	0.002
Neon bulbs	110/230V *(2)*	5	**ZB6 YG095**	0.002
Link	Operation of 3rd contact	10	**ZB6 Y017**	0.002

AS-Interface module S7.F profile

Description	Indicator "on" signalling mode	Reference	Weight kg
Panel fixing, in conjunction with a Harmony pushbutton or switch			
Interface 4 inputs/ 4 outputs Inputs for digital contacts Outputs for indicators	Steady	**XBZ S43**	0.185
	Steady or flashing depending on parameter settings	**XBZ S44**	0.185
Bracket for use when mounting on DIN rail	–	**ZBZ S6**	0.085

(1) 28 V bulb supplied for use on 24 V.
(2) 95 V bulb supplied for use on 110/230 V.

General: pages 1/6 to 1/11
Characteristics: pages 1/12 and 1/13
Dimensions: pages 1/34 to 1/39

Control and signalling units Ø 16

Harmony® style 6

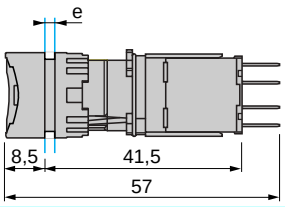
Pushbuttons, switches and pilot lights with double insulated bezel

Complete units, XB6

Pushbuttons (illuminated and non illuminated)

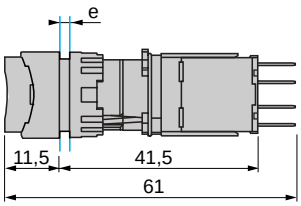
Rectangular head

XB6 DW●●●●, DF●●●●, DA●●●●

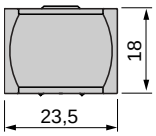


e: panel thickness 1 to 6 mm

XB6 DE●●●●

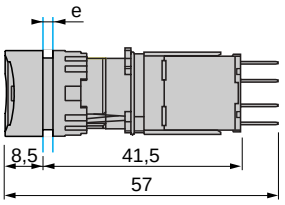


Common face view



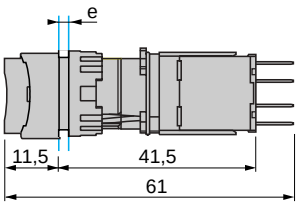
Square head

XB6 CW●●●●, CF●●●●, CA●●●●

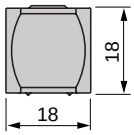


e: panel thickness 1 to 6 mm

XB6 CE●●●●

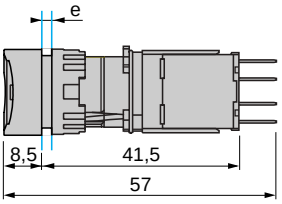


Common face view



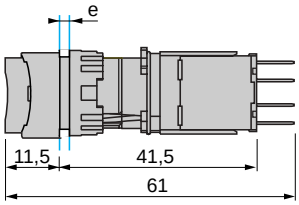
Circular head

XB6 AW●●●●, AF●●●●, AA●●●●

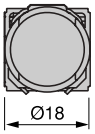


e: panel thickness 1 to 6 mm

XB6 AE●●●●

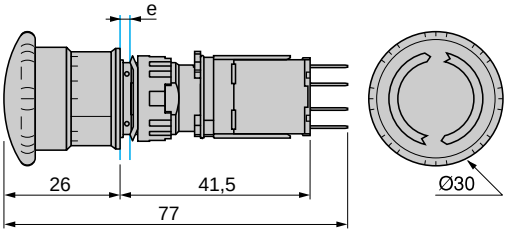


Common face view

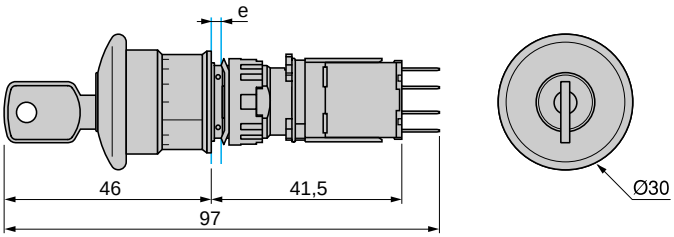


Mushroom head pushbuttons

XB6 AS8349B



XB6 AS9349B

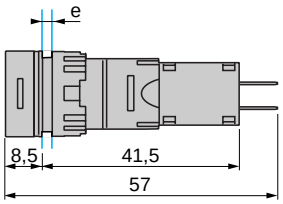


e: panel thickness 1 to 6 mm

Pilot lights

Common side view

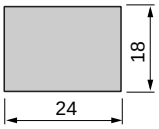
XB6 DV●●●, XB6 CV●●●



e: panel thickness 1 to 6 mm

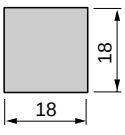
Rectangular head

XB6 DV●●●



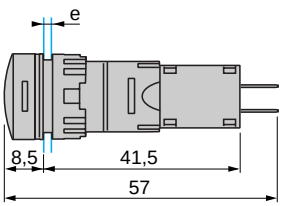
Square head

XB6 CV●●●

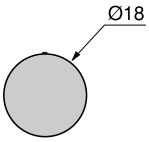


Circular head

XB6 AV●●●



e: panel thickness 1 to 6 mm



Control and signalling units Ø 16

Harmony® style 6

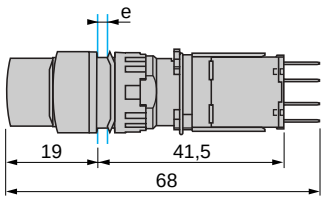
Pushbuttons, switches and pilot lights with double insulated bezel

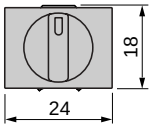
Complete units, XB6

Selector switches, standard handle

Rectangular head

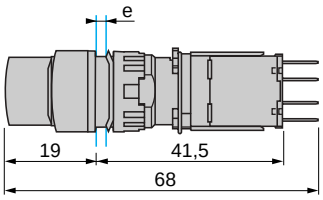
XB6 DD●●●●

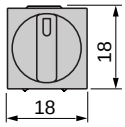




Square head

XB6 CD●●●●

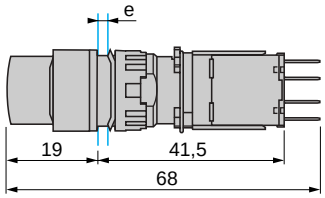




e: panel thickness 1 to 6 mm

Circular head

XB6 AD●●●●

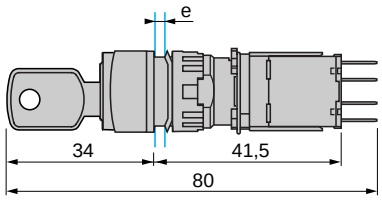


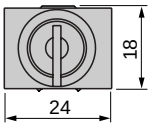
e: panel thickness 1 to 6 mm

Key switches

Rectangular head

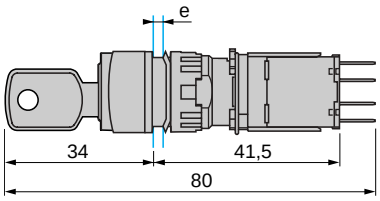
XB6 DG●●●

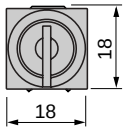




Square head

XB6 CG●●●

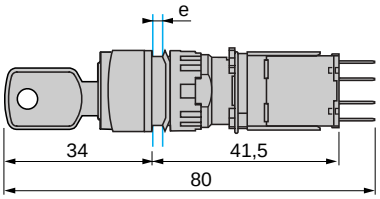




e: panel thickness 1 to 6 mm

Circular head

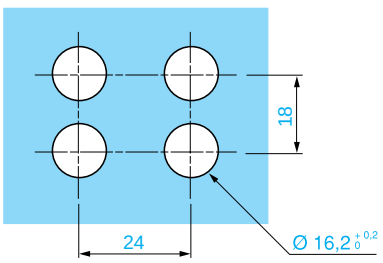
XB6 AG●●●



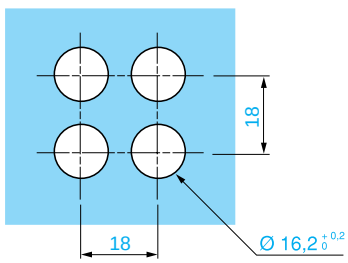
e: panel thickness 1 to 6 mm

Panel cut-out and mounting

For rectangular head



For square or circular head



Control and signalling units Ø 16

Harmony® style 6

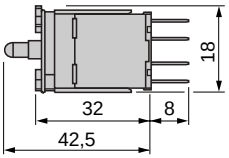
Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6

Pushbuttons

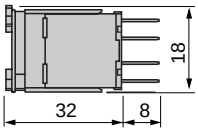
Bodies for illuminated pushbuttons

ZB6 Z●●●B



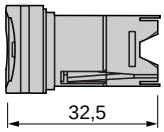
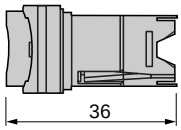
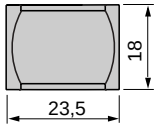
Bodies for non illuminated pushbuttons

ZB6 Z●B

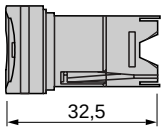
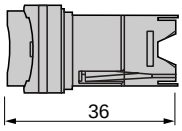
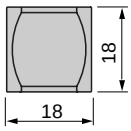


Heads for illuminated and non illuminated pushbuttons

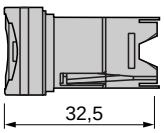
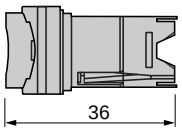
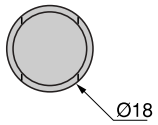
Rectangular

ZB6 DW●●, DF●, DA●	ZB6 DE●	Common face view
		

Square

ZB6 CW●●, CF●, CA●	ZB6 CE●	Common face view
		

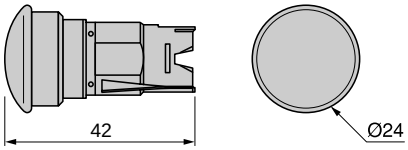
Circular

ZB6 AW●●, AF●, AA●	ZB6 AE●	Common face view
		

Heads for mushroom head pushbuttons

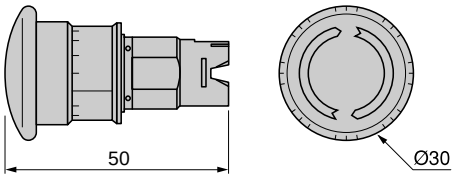
Spring return

ZB6 AC●

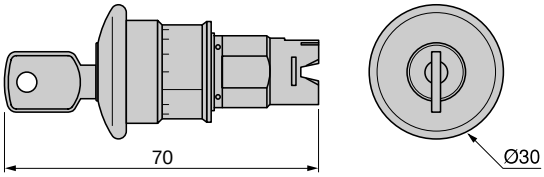


Trigger action

ZB6 AS834

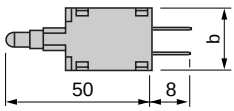


ZB6 AS934



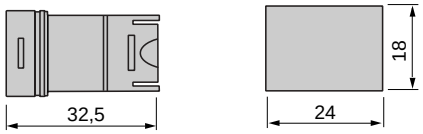
Pilot lights

Bodies
ZB6 EB●●

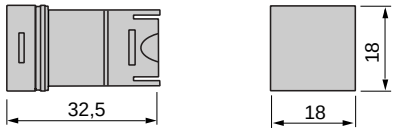


	b
ZB6 EB●B	13.5
ZB6 EB●A	15.5

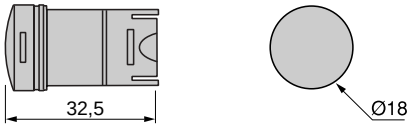
Rectangular head
ZB6 DV●



Square head
ZB6 CV●

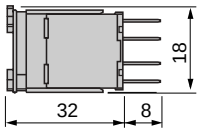


Circular head
ZB6 AV●

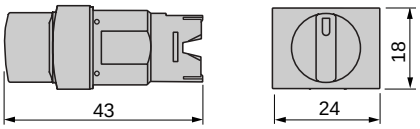


Selector switches, standard handle

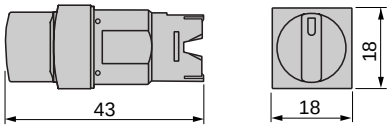
Bodies
ZB6 Z●B



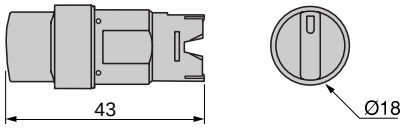
Rectangular head
ZB6 DD●●



Square head
ZB6 CD●●

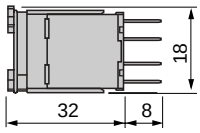


Circular head
ZB6 AD●●

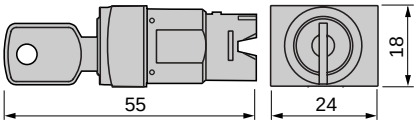


Key switches

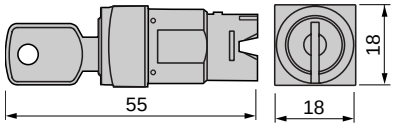
Bodies
ZB6 Z●B



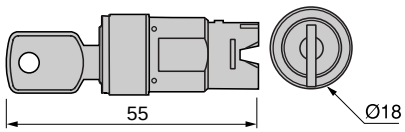
Rectangular head
ZB6 DG●



Square head
ZB6 CG●



Circular head
ZB6 AG●



Control and signalling units Ø 16

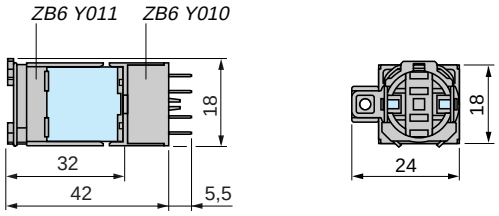
Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Accessories, ZB6

Plug-in socket adaptor for printed circuit board mounting and body bracket

ZB6 Y010 + ZB6 Y011



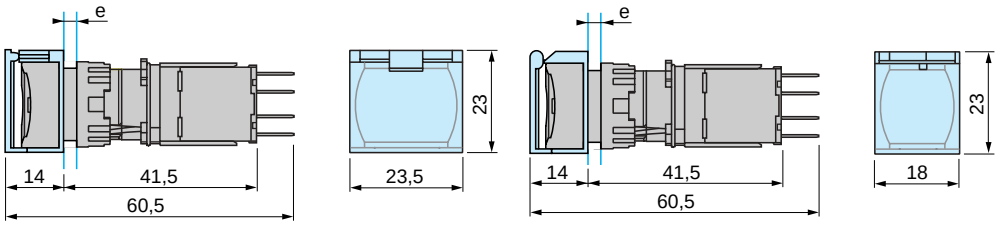
Protective shutter

For rectangular head

ZB6 YD001

For square or circular head

ZB6 YA001

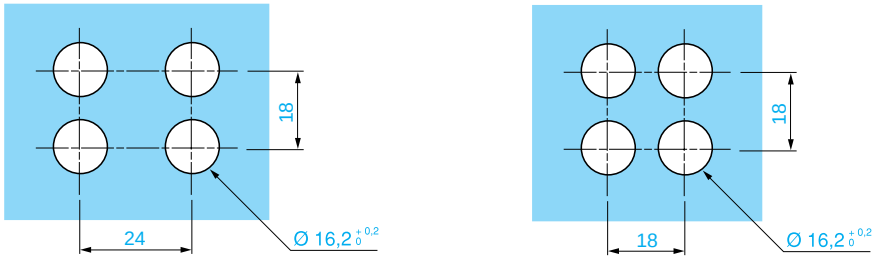


e: panel thickness 1 to 6 mm

Panel cut-out and mounting

Rectangular head

Square or circular head



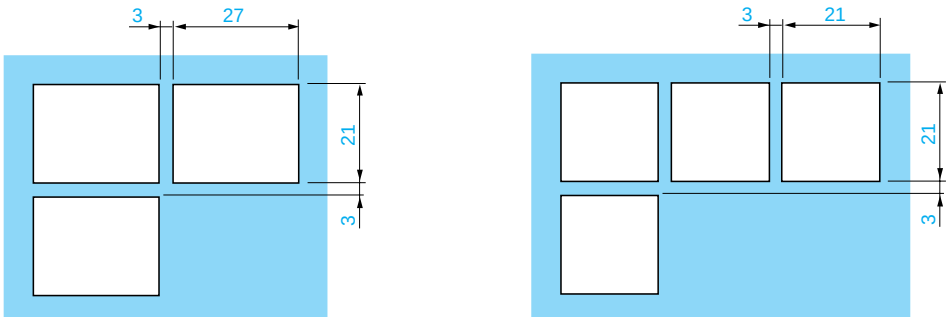
With flush mounting kit

For rectangular head

ZB6 YD002

For square head

ZB6 YC002



Control and signalling units Ø 16

Harmony® style 6

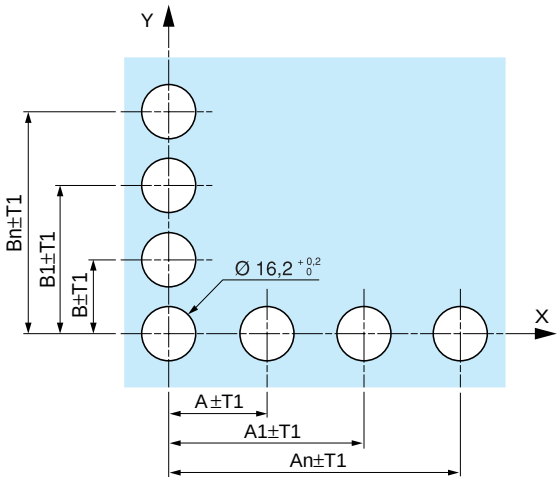
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Sub-assemblies, ZB6

Pushbuttons, switches and pilot lights for printed circuit board connection

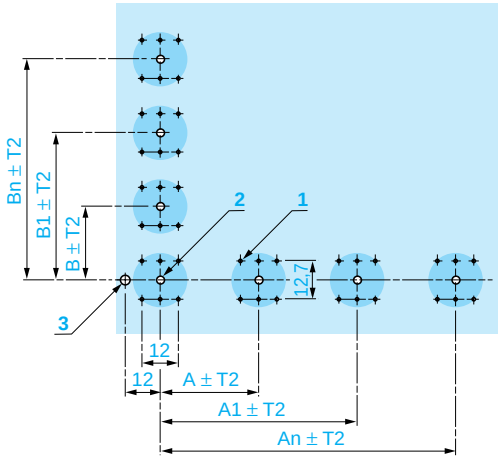
Front panel cut-out (viewed from installer's side)

Dimensions in mm



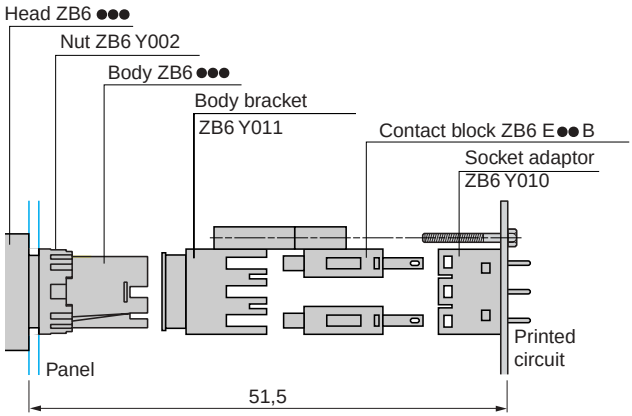
Printed circuit board drillings (viewed from electrical block side) *(1)*

Dimensions in mm

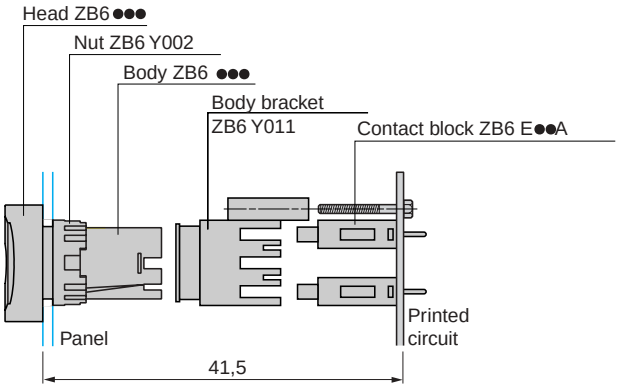


Mounting with body bracket

With socket adaptor ZB6 Y010



Direct mounting without socket adaptor ZB6 Y010



A: 24 minimum for rectangular heads
18 minimum for square or circular heads

B:: 18 minimum

1 6 x Ø 1.1 mm holes.

2 1 x Ø 2.6 $^{0}_{0.2}$ hole for locating pin, only when using socket adaptor ZB6 Y010.

3 1 x Ø 3.2 $^{0}_{0.2}$ hole for fixing of printed circuit board onto the front panel using body bracket ZB6 Y011.
This hole must be drilled on the left-hand side, when heads are positioned at the normal angle.
Fit a body bracket ZB6 Y011 every 72 mm maximum for cut-outs on 24 mm centres (rectangular heads) and 54 mm maximum for cut-outs on 18 mm centres (square or circular heads).

General tolerances of the panel and printed circuit board: T1, T2

The cumulative tolerance must not exceed 0.3 mm: **T1 + T2 = 0.3 mm maximum.**

Installation precautions:

Thickness of printed circuit board: 1.6 mm minimum.

(1) The cut-out dimensions are the same for direct mounting and for mounting using socket adaptor ZB6 Y010.

Order form

(specimen suitable for photocopying)

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Legends with special markings, ZB6 **(sold in lots of 10)**

1

Customer			Schneider Electric	
Company	Order N°	Delivery	Sales Office - Subsidiary Company	Order N°

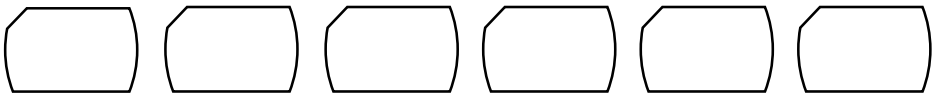
Lot reference of legends with special marking	Total number of legends	Total price
ZB6 ACD3S		

1.2

Legends for illuminated pushbuttons

Rectangular shape

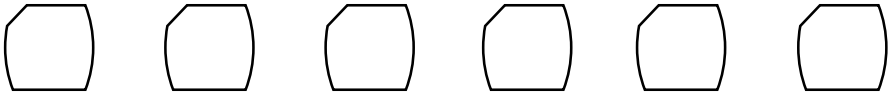
TOTAL



Number of lots: ☐ ☐ ☐ ☐ ☐ ☐ ☐

Square shape

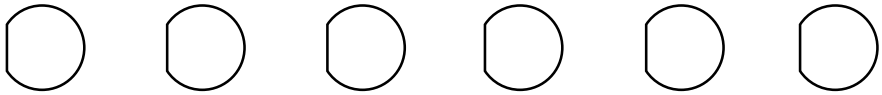
TOTAL



Number of lots: ☐ ☐ ☐ ☐ ☐ ☐ ☐

Circular shape

TOTAL

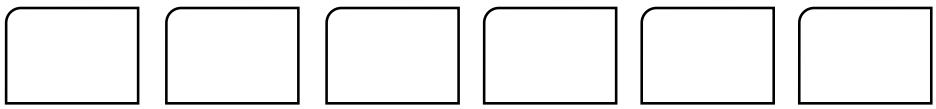


Number of lots: ☐ ☐ ☐ ☐ ☐ ☐ ☐

Legends for pilot lights

Rectangular shape

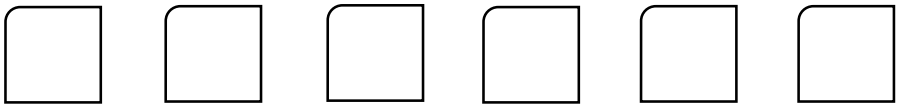
TOTAL



Number of lots: ☐ ☐ ☐ ☐ ☐ ☐ ☐

Square shape

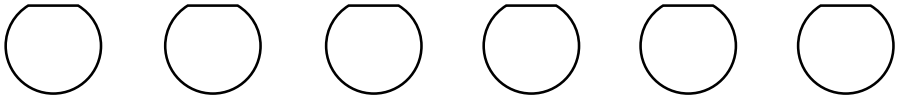
TOTAL



Number of lots: ☐ ☐ ☐ ☐ ☐ ☐ ☐

Circular shape

TOTAL



Number of lots: ☐ ☐ ☐ ☐ ☐ ☐ ☐

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Legends with special markings, ZB6 **(sold in lots of 10)**

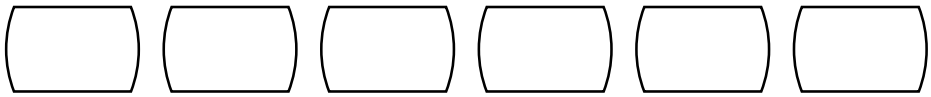
Customer			**Schneider Electric**	
Company	Order N°	Delivery	Sales Office - Subsidiary Company	Order N°

Lot reference of pushbutton caps with special marking	**Total no. of pushbutton caps**	**Total price**
ZB6 YACDS		

Pushbutton caps

Rectangular shape

TOTAL

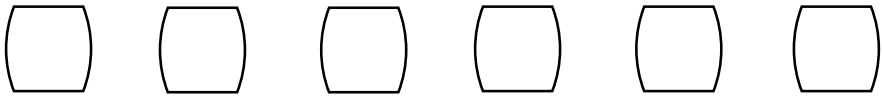


Colour *(1)* ☐ ☐ ☐ ☐ ☐ ☐

Number of lots: ☐ ☐ ☐ ☐ ☐ ☐ ☐

Square shape

TOTAL

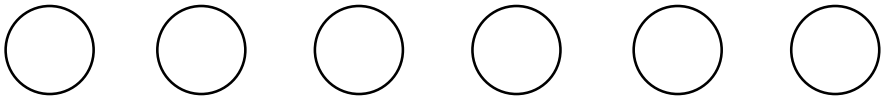


Colour *(1)* ☐ ☐ ☐ ☐ ☐ ☐

Number of lots: ☐ ☐ ☐ ☐ ☐ ☐ ☐

Circular shape

TOTAL



Colour *(1)* ☐ ☐ ☐ ☐ ☐ ☐

Number of lots: ☐ ☐ ☐ ☐ ☐ ☐ ☐

(1) Indicate, in each box, the number corresponding to the colour of the required pushbutton cap:

White: 1 **Black: 2** **Green: 3** **Red: 4** **Yellow: 5** **Blue: 6**

Control and signalling units Ø 22

Harmony® style 4

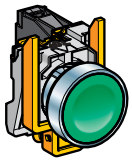
Pushbuttons, switches and pilot lights with chromium plated metal bezel

1

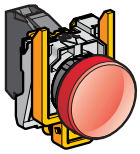
Description

The Ø 22 range of metal control and signalling units comprises:

Complete units XB4 B



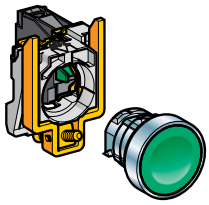
Pushbuttons and switches



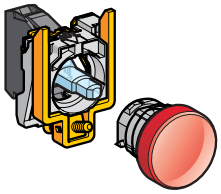
Pilot lights

1.3

Sub-assemblies ZB4 B

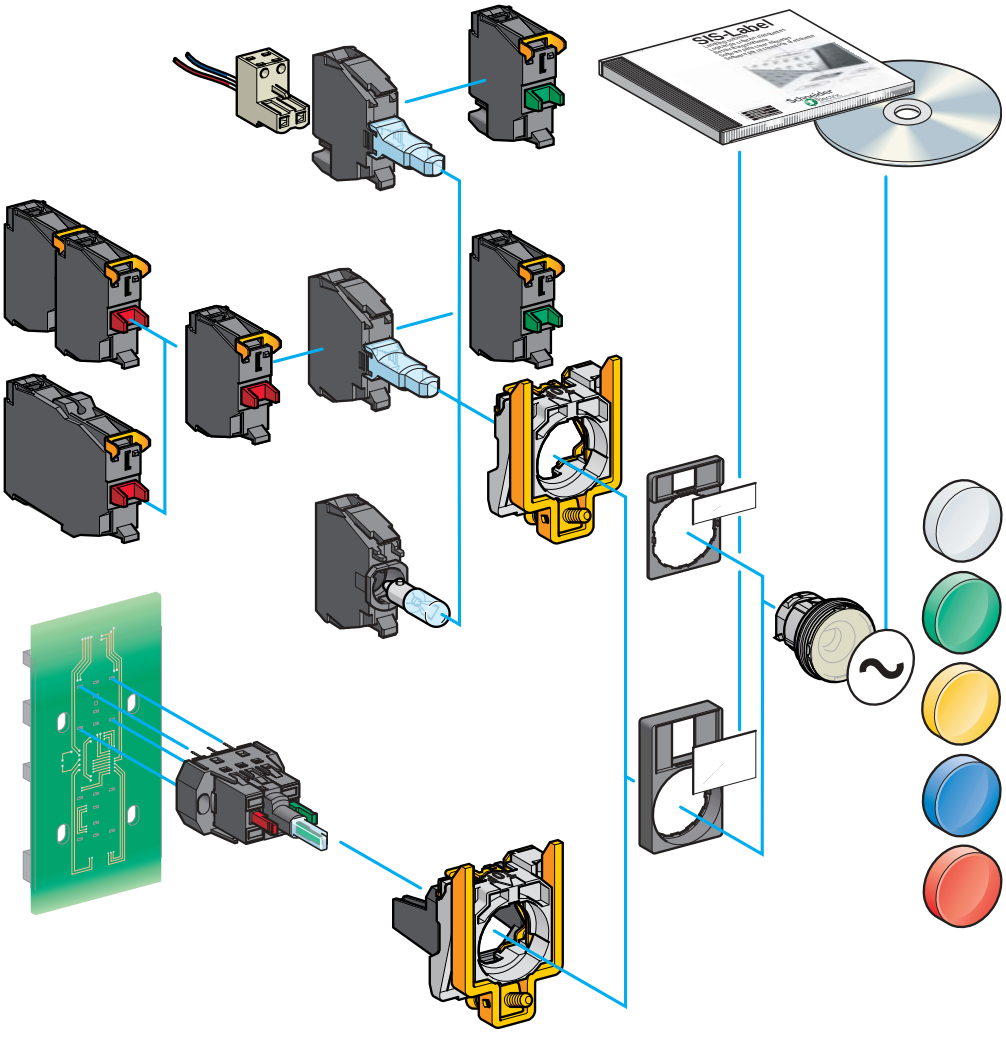


Pushbuttons and switches: body + head sub-assemblies



Pilot lights: body + head sub-assemblies

ZB component parts and accessories



Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Schematic library

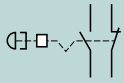
Contact functions (pushbuttons and Emergency stop pushbuttons)

Pushbutton
N/O contact

Pushbutton
N/C contact

Mushroom head
spring return
N/O contact

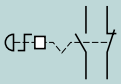
Emergency stop
mushroom head - Push-pull
N/C contact



Emergency stop trigger
action mushroom head
Push-pull
N/O + N/C contacts

Emergency stop
mushroom head
Turn to release
N/C contact

Emergency stop
mushroom head
Turn to release, with key
N/C contact



Emergency stop trigger
action mushroom head
Turn to release
N/O + N/C contacts

Emergency stop
mushroom head
Trigger action
Turn to release, with key
N/O+ N/C contacts

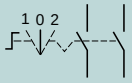
Double-headed pushbutton
N/O+ N/C contacts

Early make contact block
N/O contact

Late break contact block
N/C contact

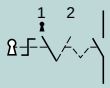
Contact functions (selector switches)

Selector switch
2-position stay put
N/O contact

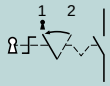


Selector switch
3-position stay put
N/O + N/O contacts

Selector switch
3-position,
2 spring return to centre
N/O + N/O contacts



Selector switch
2-position stay put,
key withdrawal from LH position - N/O contact

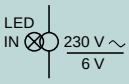


Selector switch
2-position spring return from right to left, key withdrawal from LH position - N/O contact

Signalling functions

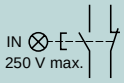
Pilot light with BA 9s
incandescent bulb

LED pilot light

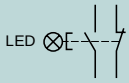


Pilot light with integral transformer
~ 230 V primary, 6 V secondary
BA 9s incandescent bulb or LED

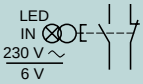
Combined functions, contact + signalling (pushbuttons and selector switches)



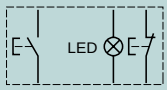
Illuminated pushbutton
BA 9s incandescent
bulb N/O + N/C contacts



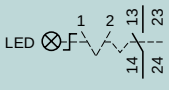
Illuminated pushbutton
with LED
N/O + N/C contacts



Illuminated pushbutton with integral transformer,
~ 230 V 50/60 Hz primary, 6 V secondary
BA 9s incandescent bulb or LED
N/O + N/C contacts



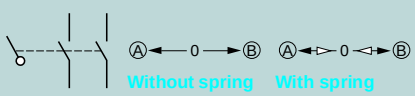
Double-headed
pushbutton
with LED pilot light



Illuminated selector switch
with LED - 2-position stay put
N/O + N/C contacts

Joystick controller functions

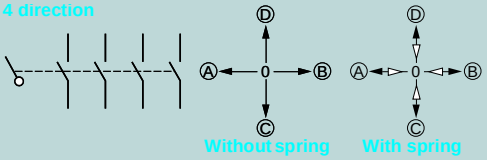
2 direction



Without spring return

With spring return

4 direction



Without spring return

With spring return

Characteristics::
pages 1/50 to 1/53

References:
pages 1/54 to 1/97

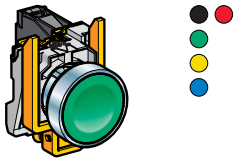
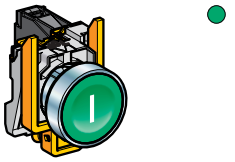
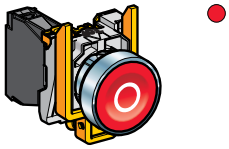
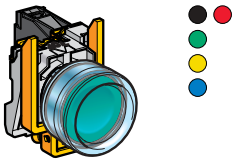
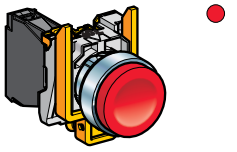
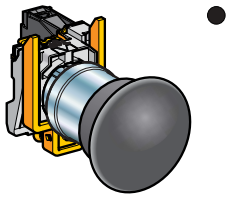
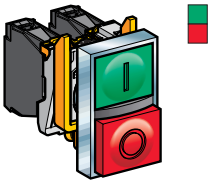
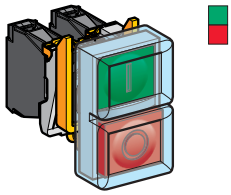
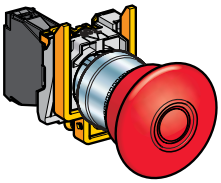
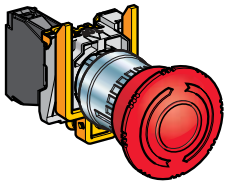
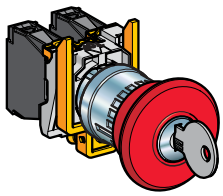
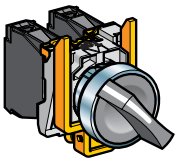
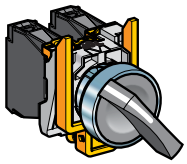
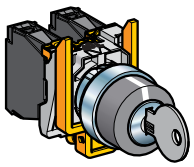
Dimensions:
pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Complete units, XB4 B

Complete units	Contact functions		
Pushbuttons, spring return			
	Flush push XB4 BA●1/BA42 see page 1/54		
	XB4 BA3311 see page 1/54		
	XB4 BA4322 see page 1/54		
			
	Booted flush push XB4 BP●1/BP42 see page 1/54		
	Projecting push XB4 BL42 see page 1/54		
	Mushroom head XB4 BC21 see page 1/54		
Double-headed pushbuttons, spring return			
	Flush push + projecting push XB4 BL845 see page 1/54		
	Booted flush push + projecting push XB4 BL945 see page 1/54		
Ø 40 Emergency stop mushroom head pushbuttons with or without trigger action			
	Push-pull XB4 BT42/BT845 see page 1/55		
	Turn to release XB4 BS542/BS8445 see page 1/55		
	Key release XB4 BS142/BS9445 see page 1/55		
Selector switches and key switches			
	Standard black handle XB4 BD see page 1/55		
	Long black handle XB4 BJ see page 1/55		
	Key switches XB4 BG see page 1/55		

Control and signalling units Ø 22

Harmony® style 4

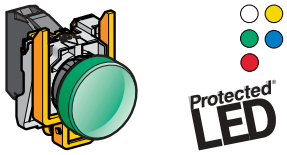
Pushbuttons, switches and pilot lights with chromium plated metal bezel

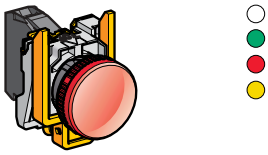
Complete units, XB4 B

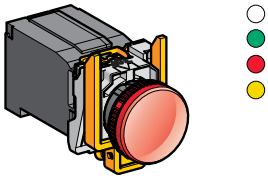
Complete units

Signalling functions

Pilot lights



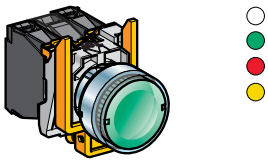


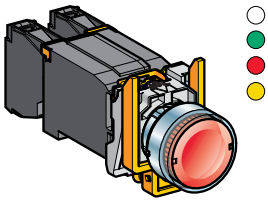


With integral LED	For BA 9s bulb Direct supply	Via integral transformer
XB4 BVB/BVG/BVM see page 1/56	XB4 BV6 see page 1/57	XB4 BV3/BV4 see page 1/57

Combined functions (contact + signalling)

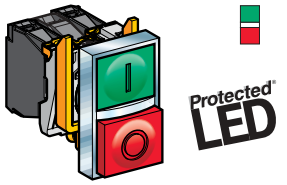
Illuminated pushbuttons, spring return, flush push





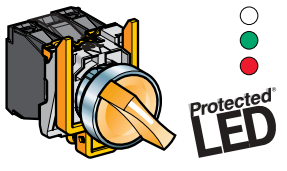
With integral LED	For BA 9s bulb Direct supply	Via integral transformer
XB4 BW3●B5/BW3●G5/BW3●M5 see page 1/58	XB4 BW3●65 see page 1/58	XB4 BW3●35/BW3●45 see page 1/59

Double-headed pushbuttons, spring return, with pilot light



With integral LED
XB4 BW84●5 see page 1/59

Illuminated selector switches, standard handle



With integral LED
XB4 BK12●B5/BK12●G5/BK12●M5 see page 1/59

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Sub-assemblies, ZB4 B

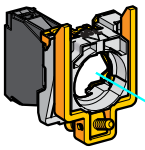
Non illuminated units for user assembly

Contact functions

Body sub-assemblies

Head sub-assemblies

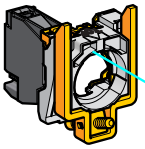
For pushbuttons, spring return, without marking



Screw clamp terminals

ZB4 BZ10●/BZ141

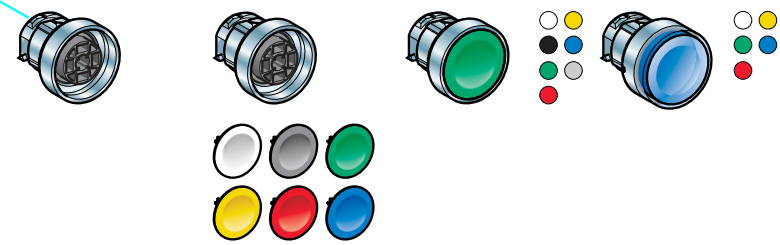
see page 1/60



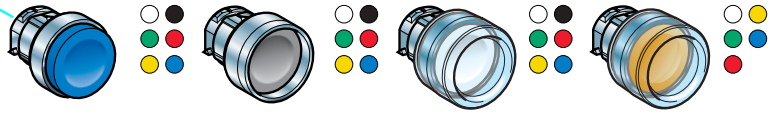
Plug-in connector

ZB4 BZ10●4/BZ1414

see page 1/60

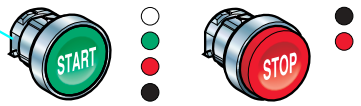


Flush push without cap	Flush push with set of 6 caps	Flush push	Flush push for insertion of legend
ZB4 BA0 see page 1/61	ZB4 BA9 see page 1/61	ZB4 BA● see page 1/61	ZB4 BA●8 see page 1/61



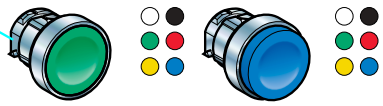
Projecting push	Recessed push	Booted flush push	Booted flush push for insertion of legend
ZB4 BL● see page 1/61	ZB4 BA●6 see page 1/61	ZB4 BP● see page 1/61	ZB4 BP●8 see page 1/61

For pushbuttons, spring return, with marking



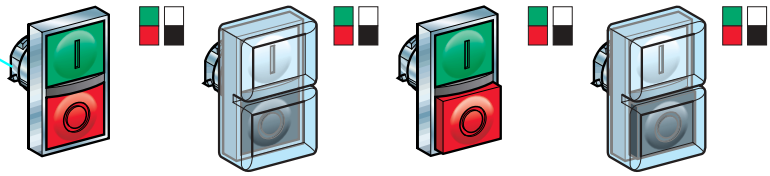
Flush push	Projecting push
ZB4 BA●3●/●4● ZB4 BA334/335 see page 1/62	ZB4 BL●3● see page 1/62

For "push-push to release" pushbuttons



Flush push	Projecting push
ZB4 BH0● see page 1/62	ZB4 BH● see page 1/62

For double-headed pushbuttons, spring return



Flush pushes (IP 40/IP 66) Without/with marking		Flush push + projecting push (IP 40/IP 66) Without/with marking	
ZB4 BA81 ZB4 BA82 see page 1/63	ZB4 BA91 ZB4 BA92 see page 1/63	ZB4 BL83 ZB4 BL84 see page 1/63	ZB4 BL93 ZB4 BL94 see page 1/63

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Sub-assemblies, ZB4 B

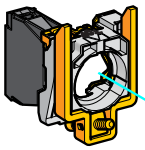
Non illuminated units for user assembly *(continued)*

Contact functions

Body sub-assemblies

Head sub-assemblies

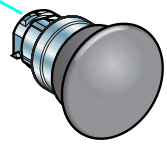
For mushroom head pushbuttons, spring return



Screw clamp terminals

ZB4 BZ10●/BZ141

see page 1/60



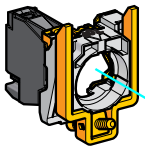
Ø 30
Ø 40
Ø 60

Spring return

ZB4 BC/BR

see page 1/64

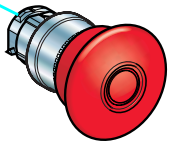
For mushroom head pushbuttons, latching, with or without trigger action



Plug-in connector

ZB4 BZ10●4/BZ1414

see page 1/60

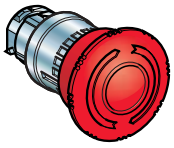


Ø 40
Ø 60

Push-pull

ZB4 BT84, ZB4 BT●/BX●

see page 1/65

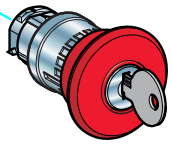


Ø 30
Ø 40
Ø 60

Turn to release

ZB4 BS8●4, ZB4 BS4●/BS5● BS6●

see page 1/65



Ø 30
Ø 40
Ø 60

Key release

ZB4 BS9●4/BS7●/BS1●/BS2●

see page 1/65

For selector switches and key switches

Standard black handle *(1)*

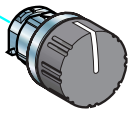
ZB4 BD

see page 1/66

Long black handle *(1)*

ZB4 BJ

see page 1/66



Knurled black knob *(1)*

ZB4 BD●9

see page 1/66

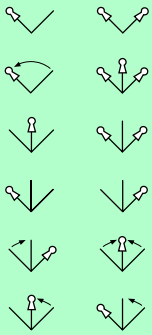
Key switch *(2)*

ZB4 BG

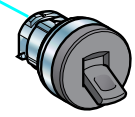
see page 1/67

(1) Switch handle and knob positions

(2) Key switch positions
Key withdrawal positions



For toggle switches



2-position

ZB4 BD●8

see page 1/96

Control and signalling units Ø 22

Harmony® style 4

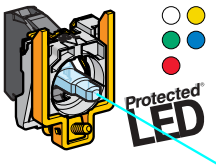
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Sub-assemblies, ZB4 B

Pilot lights for user assembly

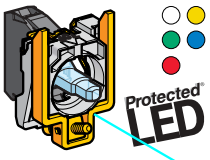
Signalling functions

Body sub-assemblies with integral LED



Screw clamp terminals

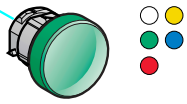
ZB4 BVB/BVG/BVM
see page 1/68



Plug-in connector

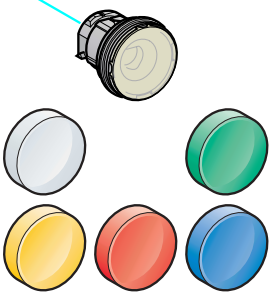
ZB4 BVB●4/BVG●4/ BVM●4
see page 1/68

Head sub-assemblies



With lens mounted

ZB4 BV0●3
see page 1/69

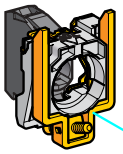


With 5 separate lenses not mounted

ZB4 BV003

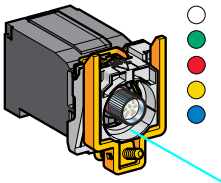
see page 1/69

Body sub-assemblies for BA 9s bulb



Direct supply
Screw clamp terminals

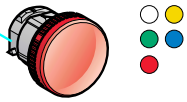
ZB4 BV6
see page 1/69



Via integral transformer
Screw clamp terminals

ZB4 BV●/BV3D●/ BV5D● see page 1/69

Head sub-assemblies



With lens mounted

ZB4 BV0●Z
see page 1/69

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Sub-assemblies, ZB4 B

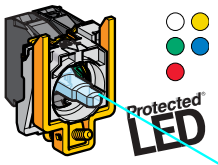
Illuminated pushbuttons for user assembly

Combined functions (contact + signalling)

Body sub-assemblies with integral LED

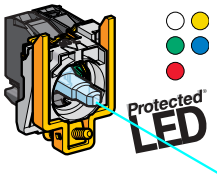
Head sub-assemblies

For illuminated pushbuttons, spring return



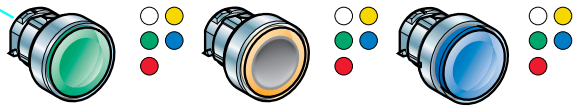
Screw clamp terminals

ZB4 BW0B/BW0G/ BW0M see pages 1/72 and 1/43



Plug-in connector

ZB4 BW0B●●4/ BW0G●●4/BW0M●●4 see pages 1/74 and 1/43



Flush push

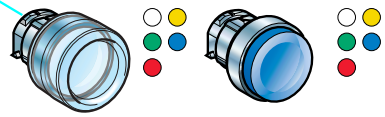
ZB4 BW3p3 see page 1/77

Flush push with illuminated ring

ZB4 BW9●3 see page 1/77

Flush push for insertion of legend

ZB4 BA●8 see page 1/77



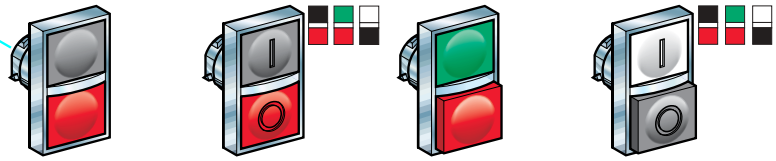
Booted flush push

ZB4 BW5●3 see page 1/77

Projecting push

ZB4 BW1●3 see page 1/77

For double-headed pushbuttons, spring return, with pilot light



Flush push Without/with marking

ZB4 BW81●●●3 see page 1/78

ZB4 BW82●●●3 see page 1/78

Flush push + projecting push Without/with marking

ZB4 BW83●●●3 see page 1/78

ZB4 BW84●●●3 see page 1/78

For illuminated, "push-push to release" push-buttons and illuminated selector switches with standard handle

Flush or projecting "push-push to release"

ZB4 BH0●3/BH●3 see page 1/78

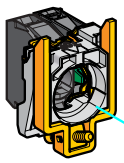
Selector switches with standard handle

ZB4 BK1●●3 see page 1/79

Body sub-assemblies for BA9s bulb

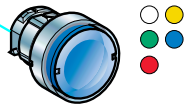
Head sub-assemblies

For illuminated pushbuttons, spring return



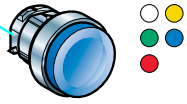
Direct supply Screw clamp terminals

ZB4 BW06 see page 1/76



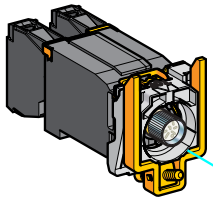
Flush push

ZB4 BW3 see page 1/77



Projecting push

ZB4 BW1 see page 1/77



Via integral transformer Screw clamp terminals

ZB4 BW03/4/5/3D/5D see page 1/76

Characteristics: pages 1/50 to 1/53

References: pages 1/54 to 1/97

Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Environment

Protective treatment standard version			"TH" treatment
Ambient air temperature around the device	Storage	**°C**	- 40…+ 70
	Operation	**°C**	- 25…+ 70: LED and neon bulb versions - 25…+ 55: incandescent bulb version
Electric shock protection	Conforming to IEC 60536		Class I
Degree of protection	Conforming to IEC 60529		IP 66
	Conforming to NEMA		NEMA type 4X and 13, unless otherwise stated
Resistance to high pressure washer		**Pa**	70 x 10^5 (70 bar); distance: 0.1 m Temperature: 55 °C
Mechanical shock protection	Conforming to IEC 50102		Non illuminated heads: IK 03
			Illuminated heads: IK 05
Conforming to standards			IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-4, IEC/EN 60947-5-5, EN 418 (trigger action Emergency stop, see pages 1/55 and 1/65) JIS C 4520, UL 508, CSA C22-2 n° 14
Product certifications	UL Listed, CSA		Standard single contacts with screw clamp terminals: A600; Q600 Double contacts with screw clamp terminals: A600; Q600 Light blocks with screw clamp terminals Joystick controllers XD4 PA/ZD4 PA: A600; R300 Special contact blocks: □ ZBE 201: A300; Q300 □ ZBE 202: A600; Q600
	UL Recognized, CSA		Standard single contacts for plug-in connector: A300; R300 Standard contacts for printed circuit board: B300; R300
	BV, RINA, LROS, DNV, GL		Standard single contacts and double contacts with screw clamp terminals:
Terminal referencing	Conforming to EN 50005 and EN 50013		

Characteristics of contact or combined contact and light functions

Mechanical characteristics

Contact operation	N/C or N/O		Slow break
Positive operation	Conforming to IEC/EN 60947-5-1 appendix K		All functions incorporating an N/C contact are positive opening operation
Operating travel (to change the electrical state)	Pushbutton	**mm**	Changing N/C state: 1.5 Changing N/O state: 2.6 Total travel: 4.3
Operating force	Pushbutton	**N**	Changing N/C state: 3.5 Changing N/O state: 3.8
	Additional contact only (extra to change state)	**N**	Single N/C contact: 2 Single N/O contact: 2.3
		N	Double N/C contact: 3.4 Double N/O contact: 5 Double contact N/C + N/O: 4.6
	Emergency stop with N/C + N/O	**N**	Standard push-pull: 45 Trigger action push-pull: 50
		N	Standard turn to release and key release: 40 Standard turn to release and key release, trigger action: 44

General:
pages 1/42 to 1/49

References:
pages 1/54 to 1/97

Dimensions:
pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Characteristics of contact or combined contact and light functions (continued)

Mechanical characteristics (continued)

Operating torque (to change the electrical state)	Selector switches		**N.m**	N/O contact: 0.14
	Additional contact only		**N.m**	N/O contact: 0.05
Mechanical durability (in millions of operating cycles)	Pushbutton	Spring		5
		Double-headed		1
		Push-push to release		0.5
	Selector switch	Non illuminated		3
		Illuminated		1
	Toggle switches			0.5
	Emergency stop pushbuttons			0.3 with 3 contacts
	Joystick controllers			1
	Standard contact block only			5
	Low power switching contact block only (dust protected)			0.5
Vibration resistance	Conforming to IEC 60068-2-6			Frequency: 2 to 500 Hz: 5 gn
Electric shock resistance	Conforming to IEC 60068-2-27			All functions except mushroom head pushbuttons, spring return: □ half sine wave acceleration 11 ms: 50 gn □ half sine wave acceleration 18 ms: 30 gn
				Mushroom head pushbutton, spring return: □ half sine wave acceleration 11 ms: 10 gn

Electrical characteristics

Cabling capacity	Conforming to IEC 60947-1	**mm²**	Screw clamp terminals Min: 1 x 0.22 without cable end Max: 2 x 1.5 with cable end Cross headed screw (Pozidrive or Philips type 1), slotted for flat 4 and 5.5 mm screwdriver Tightening torque: 0.8 N.m (max. 1.2 N.m)
Contact material	Silver alloy (Ag / Ni)		Standard single and double blocks with screw clamp terminals Blocks for plug-in connector Standard blocks for printed circuit board connection
	Gold flashed (Ag / Ni / Au)		Low power switching contact blocks with screw clamp terminals Low power switching contact blocks for printed circuit board connection
Short-circuit protection	Conforming to IEC/EN 60947-5-1	**A**	Standard single and double blocks with screw clamp terminals: 10 (gG cartridge fuse conforming to IEC 60269-1) Blocks for plug-in connector: 4 (gG cartridge fuse conforming to IEC 60269-1) Standard blocks for printed circuit board connection: 4 (gG cartridge fuse conforming to IEC 60269-1)
Rated thermal current	Conforming to IEC/EN 60947-5-1	**A**	Standard single and double blocks with screw clamp terminals: 10 Blocks for plug-in connector: 10 Standard blocks for printed circuit board connection: 6
Rated insulation voltage	Conforming to IEC 60947-1	**V**	Standard single and double blocks with screw clamp terminals: Ui = 600, degree of pollution 3 Blocks for plug-in connector or Faston connectors: Ui = 250, degree of pollution 3 Standard blocks for printed circuit board connection: Ui = 250, degree of pollution 3
Rated impulse withstand voltage	Conforming to IEC 60947-1	**kV**	Standard single and double blocks with screw clamp terminals: Uimp = 6 Blocks for plug-in connector: Uimp = 4 Standard blocks for printed circuit board connection: Uimp = 4

General:
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pages 1/54 to 1/97

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pages 1/98 to 1/105

1

1.3

Characteristics of contact or combined contact and light functions (continued)

Electrical characteristics (continued)

Rated operational characteristics Conforming to IEC/EN 60947-5-1	a.c. supply: utilisation category AC-15		Standard single and double blocks with screw clamp terminals: A600: Ue = 600 V and Ie = 1.2 A or Ue = 240 V and Ie = 3 A or Ue = 120 V and Ie = 6 A Blocks for plug-in connector: A300: Ue = 120 V and Ie = 6 A or Ue = 240 V and Ie = 3 A Standard blocks for printed circuit board connection: B300: Ue = 120 V and Ie = 3 A or Ue = 240 V and Ie = 1.5 A Special contact blocks: □ ZBE 201: A300: Ue = 240 V and Ie = 3 A or Ue = 120 V and Ie = 6 A (with insulation voltage Ui = 500 V) □ ZBE 202: A600: Ue = 600 V and Ie = 1.2 A or Ue = 240 V and Ie = 3 A or Ue = 120 V and Ie = 6 A
	d.c. supply: utilisation category DC-13		Standard single and double blocks with screw clamp terminals: Q600: Ue = 600 V and Ie = 0.1 A or Ue = 250 V and Ie = 0.27 A or Ue = 125 V and Ie = 0.55 A Joystick controllers XD4 PA/ZD4 PA: R300: Ue = 125 V and Ie = 0.22 A or Ue = 250 V and Ie = 0.1 A Blocks for plug-in connector: R300: Ue = 125 V and Ie = 0.22 A or Ue = 250 V and Ie = 0.1 A Standard blocks for printed circuit board connection: R300: Ue = 125 V and Ie = 0.22 A or Ue = 250 V and Ie = 0.1 A Special contact blocks: □ ZBE 201: Q300: Ue = 125 V and Ie = 0.55 A or Ue = 250 V and Ie = 0.27 A □ ZBE 202: Q600: Ue = 600 V and Ie = 0.1 A or Ue = 250 V and Ie = 0.27 A or Ue = 125 V and Ie = 0.55 A
Characteristics of special contact blocks for low power switching		**VA** **A** **V**	P max: 12 I max: 0.1 U max: 24
Electrical durability Conforming to IEC/EN 60947-5-1 appendix C Operating rate 3600 operating cycles/hour Load factor: 0.5	a.c. supply for 1 million operating cycles utilisation category AC-15		Standard single blocks with screw clamp terminals:
		V **A**	24 4 — 120 3 — 230 2
			Standard double blocks with screw clamp terminals and blocks for plug-in connector:
		V **A**	24 3 — 120 1.5 — 230 1
	d.c. supply for 1 million operating cycles utilisation category DC-13		Standard single blocks with screw clamp terminals:
		V **A**	24 0.5 — 110 0.2
			Standard double blocks with screw clamp terminals and blocks for plug-in connector:
		V **A**	24 0.4 — 110 0.15
Electrical reliability Failure rate Conforming to IEC/EN 60947-5-4	In clean environment		Standard blocks: - at 17 V and 5 mA, $\lambda < 10^{-8}$ - at 5 V and 1 mA, $\lambda < 10^{-6}$ Special blocks with gold flashed contacts, for low power switching: - at 5 V and 1 mA, $\lambda < 10^{-7}$
	In dusty environment		Special blocks with gold flashed contacts and dust protection for low power switching only: - at 5 V and 1 mA, $\lambda < 10^{-7}$

General:
pages 1/42 to 1/49

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pages 1/98 to 1/105

Characteristics of illuminated units (pilot lights)

Mechanical characteristics

Vibration resistance	Conforming to IEC 60068-2-6		Frequency: 12 to 500 Hz: 5 gn
Electric shock resistance	Conforming to IEC 60068-2-27		Half sine wave acceleration 11 ms: 50 gn Half sine wave acceleration 18 ms: 30 gn

Electrical characteristics

Cabling capacity	Conforming to IEC 60947-1	**mm²**	Screw clamp terminals Min: 1 x 0.22 without cable end (1 x 0.34 for linking) Max: 2 x 1.5 with cable end
Rated insulation voltage	Conforming to IEC 60947-1	**V**	Direct supply pilot light blocks (BA 9s bulb): Ui = 250 degree of pollution 3 Pilot light blocks with integral LED: Ui = 250 degree of pollution 3 Pilot light blocks with transformer: Ui = 600 degree of pollution 3
Rated impulse withstand voltage	Conforming to IEC 60947-1	**kV**	Direct supply pilot light blocks (BA 9s bulb): Uimp = 4 Pilot light blocks with integral LED: Uimp = 4 Pilot light blocks with transformer: Uimp = 6

Specific characteristics of single light blocks with integral LED

Voltage limits	For rated voltage	**V**	12 V: 10 to 15 ⎓; 10.2 to 13.8 ∿ 24 V: 19.2 to 30 ⎓; 21.6 to 26.4 ∿ 24 to 120 V: 20 to 132 ≂ 48 to 120 V: 40 to 132 ∿ 240 V: 195 to 264 ∿
Current consumption	Applicable to all colours	**mA**	Blocks with ≂ 12 V supply: 18 Blocks with ≂ 24 V supply: 18 Blocks with ∿ 120 V supply: 14 Blocks with ∿ 240 V supply: 14
Service life	At rated voltage and at an ambient temperature of 25 °C	**H**	100 000
Surge withstand	Conforming to IEC 61000-4-5	**kV**	1
Resistance to fast transients	Conforming to IEC 61000-4-4	**kV**	2
Resistance to electromagnetic fields	Conforming to IEC 61000-4-3	**V/m**	10
Resistance to electrostatic discharges	Conforming to IEC 61000-4-2	**kV**	8: in free air, on insulating parts 6: on contact, on metal parts
Direct parallel connection across inductive load E.g. contactor coil or solenoid	Maximum power of load	**VA**	For high power applications (≥ 30 VA), a **ZBZ V●** LED suppressor must be connected across the light block terminals (see page 1/83)
Electromagnetic emission	Conforming to EN 55011		Class B

Specific characteristics

Body/fixing collar

Tightening torque of fixing screw		**N.m**	0.8 (max. 1.2)

Hour counters and annunciators

Voltage limits	Hour counter and annunciator		± 10% of the nominal voltage
Current consumption	Hour counter	**mA**	XB5 DSB: 7 to 15 XB5 DSG: 8 XB5 DSM: 8
	Annunciator	**mA**	5

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Control and signalling units Ø 22

Harmony® style 4
Pushbuttons and switches with chromium plated metal bezel
Complete units, XB4 B

User assembly of other units using body + head sub-assemblies: see pages 1/60 to 1/64

814084
XB4 BA31

814085
XB4 BA4322

814086
XB4 BP51

814087
XB4 BL42

814088
XB4 BC21

814089
XB4 BL845

Pushbuttons, spring return (screw clamp terminal connections)

Shape of head	Type of push	Type of contact N/O	Type of contact N/C	Marking	Colour of push	Reference	Weight kg
	Flush	1	–	–	Black	**XB4 BA21** (ZB4 BZ101 + ZB4 BA2)	0.080
					Green	**XB4 BA31** (ZB4 BZ101 + ZB4 BA3)	0.080
					Yellow	**XB4 BA51** (ZB4 BZ101 + ZB4 BA5)	0.080
					Blue	**XB4 BA61** (ZB4 BZ101 + ZB4 BA6)	0.080
		–	1	–	Red	**XB4 BA42** (ZB4 BZ102 + ZB4 BA4)	0.080
	Flush	1	–	"I" (white)	Green	**XB4 BA3311** (ZB4 BZ101 + ZB4 BA331)	0.080
	Flush	–	1	"O" (white)	Red	**XB4 BA4322** (ZB4 BZ102 + ZB4 BA432)	0.080
	Flush *(1)*	1	–	↑ (black)	White	**XB4 BA3341** (ZB4 BZ101 + ZB4 BA334)	0.080
	Flush *(1)*	1	–	↑ (white)	Black	**XB4 BA3351** (ZB4 BZ101 + ZB4 BA335)	0.080
	Booted, clear silicone (colour of push unobscured)	1	–	–	Black	**XB4 BP21** (ZB4 BZ101 + ZB4 BP2)	0.082
					Green	**XB4 BP31** (ZB4 BZ101 + ZB4 BP3)	0.082
					Yellow	**XB4 BP51** (ZB4 BZ101 + ZB4 BP5)	0.082
					Blue	**XB4 BP61** (ZB4 BZ101 + ZB4 BP6)	0.082
		–	1	–	Red	**XB4 BP42** (ZB4 BZ102 + ZB4 BP4)	0.082
	Projecting	–	1	–	Red	**XB4 BL42** (ZB4 BZ102 + ZB4 BL4)	0.081
	Mushroom head Ø 40	1	–	–	Black	**XB4 BC21** (ZB4 BZ101 + ZB4 BC2)	0.122

Double-headed pushbuttons, spring return (screw clamp terminal connections)

Shape of head	Description	Type of contact N/O	Type of contact N/C	Degree of protection	Reference	Weight kg
	1 green flush push (marked "I") **1 red projecting push** (marked "O")	1	1	IP 40	**XB4 BL845** (ZB4 BZ105 + ZB4 BL8434)	0.106
				IP 66	**XB4 BL945** (ZB4 BZ105 + ZB4 BL9434)	0.111

(1) Product supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

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Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4
Pushbuttons and switches with chromium plated metal bezel
Complete units, XB4 B

User assembly of other units using body + head assemblies: see pages 1/65 to 1/67

Emergency stop and mushroom head pushbuttons, Ø 40 (red) (screw clamp terminal connections)

XB4 BT845

XB4 BS9445

XB4 BS542

Shape of head	Type of push	Type of contact N/O	Type of contact N/C	Reference	Weight kg
	Trigger action Push-pull *(2)*	1	1	**XB4 BT845** *(1)* (ZB4 BZ105 + ZB4 BT84)	0.136
	Trigger action Turn to release *(2)*	1	1	**XB4 BS8445** *(1)* (ZB4 BZ105 + ZB4 BS844)	0.130
		–	2	**XB4 BS8444** *(1)* (ZB4 BZ104 + ZB4 BS844)	0.130
		1	2	**XB4 BS84441** *(1)* (ZB4 BZ141 + ZB4 BS844)	0.140
	Trigger action Key release (key n° 455) *(2)*	1	1	**XB4 BS9445** *(1)* (ZB4 BZ105 + ZB4 BS944)	0.170
	Push-pull	–	1	**XB4 BT42** *(1)* (ZB4 BZ102 + ZB4 BT4)	0.125
	Turn to release	–	1	**XB4 BS542** *(1)* (ZB4 BZ102 + ZB4 BS54)	0.118
	Key release (key n° 455)	–	1	**XB4 BS142** *(1)* (ZB4 BZ102 + ZB4 BS14)	0.133

Selector switches and key switches (screw clamp terminal connections)

XB4 BD33

XB4 BJ33

XB4 BG33

Shape of head	Type of operator	Type of contact N/O	Type of contact N/C	Number and type of positions *(3)*	Reference	Weight kg
	Standard handle, black	1	–	2 - stay put	**XB4 BD21** (ZB4 BZ101 + ZB4 BD2)	0.095
		1	–	2 - spring return from right to left	**XB4 BD41** (ZB4 BZ101 + ZB4 BD4)	0.105
		1	1	2 - stay put	**XB4 BD25** (ZB4 BZ105 + ZB4 BD2)	0.105
		2	–	3 - stay put	**XB4 BD33** (ZB4 BZ103 + ZB4 BD3)	0.105
				3 - spring return to centre	**XB4 BD53** (ZB4 BZ103 + ZB4 BD5)	0.105
	Long handle, black	1	–	2 - stay put	**XB4 BJ21** (ZB4 BZ101 + ZB4 BJ2)	0.096
		2	–	3 - stay put	**XB4 BJ33** (ZB4 BZ103 + ZB4 BJ3)	0.105
				3 - spring return to centre	**XB4 BJ53** (ZB4 BZ103 + ZB4 BJ5)	0.105
	Key switches (key n° 455)	1	–	2 - stay put	**XB4 BG21** (ZB4 BZ101 + ZB4 BG2)	0.117
					XB4 BG41 (ZB4 BZ101 + ZB4 BG4)	0.117
				2 - spring return to left	**XB4 BG61** (ZB4 BZ101 + ZB4 BG6)	0.117
		2	–	3 - stay put	**XB4 BG03** (ZB4 BZ103 + ZB4 BG0)	0.127
					XB4 BG33 (ZB4 BZ103 + ZB4 BG3)	0.127

(1) Mushroom for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and to Machinery Directive 98/37/EC.
Mushroom for trigger action Emergency stop pushbuttons conform to standard EN 418.
Please consult your Regional Sales Office for full details of these standards and directives.
(2) Maximum number of additional contacts: 2.
(3) The symbol ⚷ indicates key withdrawal position(s).

General: pages 1/42 to 1/49
Characteristics: pages 1/50 to 1/53
Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pilot lights with metal bezel

Complete units, XB4 B

User assembly of other units using body + head sub-assemblies: see pages 1/68 and 1/69

XB4 BVB5

Pilot lights with integral LED (screw clamp terminal connections)

Shape of head	Supply voltage (V)	Colour	Reference	Weight kg
	⎓ 24	White	**XB4 BVB1** (ZB4 BVB1 + ZB4 BV013)	0.080
		Green	**XB4 BVB3** (ZB4 BVB3 + ZB4 BV033)	0.080
		Red	**XB4 BVB4** (ZB4 BVB4 + ZB4 BV043)	0.080
		Yellow	**XB4 BVB5** (ZB4 BVB5 + ZB4 BV053)	0.080
		Blue	**XB4 BVB6** (ZB4 BVB6 + ZB4 BV063)	0.080
	∿ 48...120	White	**XB4 BVG1** (ZB4 BVG1 + ZB4 BV013)	0.080
		Green	**XB4 BVG3** (ZB4 BVG3 + ZB4 BV033)	0.080
		Red	**XB4 BVG4** (ZB4 BVG4 + ZB4 BV043)	0.080
		Yellow	**XB4 BVG5** (ZB4 BVG5 + ZB4 BV053)	0.080
		Blue	**XB4 BVG6** (ZB4 BVG6 + ZB4 BV063)	0.080
	∿ 230...240	White	**XB4 BVM1** (ZB4 BVM1 + ZB4 BV013)	0.080
		Green	**XB4 BVM3** (ZB4 BVM3 + ZB4 BV033)	0.080
		Red	**XB4 BVM4** (ZB4 BVM4 + ZB4 BV043)	0.080
		Yellow	**XB4 BVM5** (ZB4 BVM5 + ZB4 BV053)	0.080
		Blue	**XB4 BVM6** (ZB4 BVM6 + ZB4 BV063)	0.080

General: pages 1/42 to 1/49
Characteristics: pages 1/50 to 1/53
Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pilot lights with metal bezel

Complete units, XB4 B

User assembly of other units using body + head sub-assemblies: see pages 1/68 and 1/69

XB4 BV64

XB4 BV33

Pilot lights for BA 9s bulb (screw clamp terminal connections)

Shape of head	Supply voltage (V)	Colour	Reference	Weight kg
Direct supply, for BA 9s U ⩽ 250 V, 2.4 W bulb (bulb not included)				
	≤ 250	White	**XB4 BV61** (ZB4 BV6 + ZB4 BV01)	0.075
		Green	**XB4 BV63** (ZB4 BV6 + ZB4 BV03)	0.075
		Red	**XB4 BV64** (ZB4 BV6 + ZB4 BV04)	0.075
		Yellow	**XB4 BV65** (ZB4 BV6 + ZB4 BV05)	0.075
Via integral transformer 1.2 VA, 6 V secondary, BA 9s incandescent bulb (bulb included)				
	∿ 110...120 50/60 Hz	White	**XB4 BV31** (ZB4 BV3 + ZB4 BV01)	0.152
		Green	**XB4 BV33** (ZB4 BV3 + ZB4 BV03)	0.152
		Red	**XB4 BV34** (ZB4 BV3 + ZB4 BV04)	0.152
		Yellow	**XB4 BV35** (ZB4 BV3 + ZB4 BV05)	0.152
	∿ 230 - 50 Hz ∿ 220...240 - 60 Hz	White	**XB4 BV41** (ZB4 BV4 + ZB4 BV01)	0.152
		Green	**XB4 BV43** (ZB4 BV4 + ZB4 BV03)	0.152
		Red	**XB4 BV44** (ZB4 BV4 + ZB4 BV04)	0.152
		Yellow	**XB4 BV45** (ZB4 BV4 + ZB4 BV05)	0.152

General: pages 1/42 to 1/49

Characteristics: pages 1/50 to 1/53

Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Complete units, XB4 B

User assembly of other units using body + head sub-assemblies: see pages 1/72 to 1/77

Illuminated pushbuttons, spring return, flush push

Shape of head	Description	Type of contact N/O	Type of contact N/C	Supply voltage V	Colour of push	Reference	Weight kg
Screw clamp terminal connections							
XB4 BW33B5	**Integral LED** Protected LED	1	1	⎓ 24	White	**XB4 BW31B5** (ZB4 BW0B15 + ZB4 BW313)	0.097
					Green	**XB4 BW33B5** (ZB4 BW0B35 + ZB4 BW333)	0.097
					Red	**XB4 BW34B5** (ZB4 BW0B45 + ZB4 BW343)	0.097
					Yellow	**XB4 BW35B5** (ZB4 BW0B55 + ZB4 BW353)	0.097
					Blue	**XB4 BW36B5** (ZB4 BW0B65 + ZB4 BW363)	0.097
XB4 BW34G5				~ 48...120	White	**XB4 BW31G5** (ZB4 BW0G15 + ZB4 BW313)	0.097
					Green	**XB4 BW33G5** (ZB4 BW0G35 + ZB4 BW333)	0.097
					Red	**XB4 BW34G5** (ZB4 BW0G45 + ZB4 BW343)	0.097
					Yellow	**XB4 BW35G5** (ZB4 BW0G55 + ZB4 BW353)	0.097
					Blue	**XB4 BW36G5** (ZB4 BW0G65 + ZB4 BW363)	0.097
				~ 230...240	White	**XB4 BW31M5** (ZB4 BW0M15 + ZB4 BW313)	0.097
					Green	**XB4 BW33M5** (ZB4 BW0M35 + ZB4 BW333)	0.097
					Red	**XB4 BW34M5** (ZB4 BW0M45 + ZB4 BW343)	0.097
					Yellow	**XB4 BW35M5** (ZB4 BW0M55 + ZB4 BW353)	0.097
					Blue	**XB4 BW36M5** (ZB4 BW0M65 + ZB4 BW363)	0.097
	Direct supply, for BA 9s 2.4 W max bulb **not included**	1	1	≤ 250	White	**XB4 BW3165** (ZB4 BW065 + ZB4 BW31)	0.097
					Green	**XB4 BW3365** (ZB4 BW065 + ZB4 BW33)	0.097
					Red	**XB4 BW3465** (ZB4 BW065 + ZB4 BW34)	0.097
					Yellow	**XB4 BW3565** (ZB4 BW065 + ZB4 BW35)	0.097

General: pages 1/42 to 1/49

Characteristics: pages 1/50 to 1/53

Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Complete units, XB4 B

User assembly of other units using body + head sub-assemblies: see pages 1/72 to 1/79

Illuminated pushbuttons, spring return, flush push (continued)

Shape of head	Description	Type of contact N/O	Type of contact N/C	Supply voltage V	Colour of push	Reference	Weight kg
Screw clamp terminal connections							
	Via integral transformer 1.2 VA 6 V secondary, BA 9s incandescent bulb **included**	1	1	∼ 110…120 50/60 Hz	White	**XB4 BW3135** (ZB4 BW035 + ZB4 BW31)	0.169
					Green	**XB4 BW3335** (ZB4 BW035 + ZB4 BW33)	0.169
					Red	**XB4 BW3435** (ZB4 BW035 + ZB4 BW34)	0.169
					Yellow	**XB4 BW3535** (ZB4 BW035 + ZB4 BW35)	0.169
				∼ 230 50 Hz ∼ 220…240 60 Hz	White	**XB4 BW3145** (ZB4 BW045 + ZB4 BW31)	0.170
					Green	**XB4 BW3345** (ZB4 BW045 + ZB4 BW33)	0.170
					Red	**XB4 BW34M5** (ZB4 BW045 + ZB4 BW34)	0.170
					Yellow	**XB4 BW3545** (ZB4 BW045 + ZB4 BW35)	0.170

XB4 BW3545

Double-headed pushbuttons, spring return, with integral LED pilot light (IP 40) (1)

Screw clamp terminal connections							
	1 flush green push (marked “I”) **1 yellow pilot light 1 projecting red push** (marked “O”)	1	1	⎓ 24	–	**XB4 BW84B5** (ZB4 BW0B55 + ZB4 BW843743)	0.116
				∼ 48...120	–	**XB4 BW84G5** (ZB4 BW0G55 + ZB4 BW843743)	0.116
				∼ 230...240	–	**XB4 BW84M5** (ZB4 BW0M55 + ZB4 BW843743)	0.116

XB4 BW84B5

Illuminated selector switches with integral LED (2-position stay put)

Shape of head	Type of operator	Type of contact N/O	Type of contact N/C	Supply voltage V	Colour of handle	Reference	Weight kg
Screw clamp terminal connections							
	Standard handle	1	1	⎓ 24	Green	**XB4 BK123B5** (ZB4 BW0B35 + ZB4 BK1233)	0.111
					Red	**XB4 BK124B5** (ZB4 BW0B45 + ZB4 BK1243)	0.111
					Yellow	**XB4 BK125B5** (ZB4 BW0B55 + ZB4 BK1253)	0.111
				∼ 48...120	Green	**XB4 BK123G5** (ZB4 BW0G35 + ZB4 BK1233)	0.111
					Red	**XB4 BK124G5** (ZB4 BW0G45 + ZB4 BK1243)	0.111
					Yellow	**XB4 BK125G5** (ZB4 BW0G55 + ZB4 BK1253)	0.111
				∼ 230...240	Green	**XB4 BK123M5** (ZB4 BW0M35 + ZB4 BK1233)	0.111
					Red	**XB4 BK124M5** (ZB4 BW0M45 + ZB4 BK1243)	0.111
					Yellow	**XB4 BK125M5** (ZB4 BW0M55 + ZB4 BK1253)	0.111

XB4 BK124B5

*(1) For IP 66 degree of protection, fit a clear sealing boot: **ZBW 008** or **ZBW 008A**. See page 1/95.*

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads:
see pages 1/61 to 1/67

Complete bodies with screw clamp terminal connections

Description	Type of contact N/O	Type of contact N/C	Reference	Weight kg
Fixing collar + single contact block	1	–	ZB4 BZ101	0.053
	–	1	ZB4 BZ102	0.053
	2	–	ZB4 BZ103	0.062
	–	2	ZB4 BZ104	0.062
	1	1	ZB4 BZ105	0.062
	1	2	ZB4 BZ141	0.072

814133

ZB4 BZ101

814134

ZB4 BZ102

Description	Type of contact N/O+N/C	Type of contact N/O+N/O	Reference	Weight kg
Fixing collar + specific contact block for overlapping contacts function	1	–	ZB4 BZ106	0.062
Fixing collar + specific contact block for sequencing contacts function	–	1	ZB4 BZ107	0.062

814346

ZB4 BZ106

814346

ZB4 BZ107

Complete bodies for plug-in connector *(1)*

Description	Type of contact N/O	Type of contact N/C	Reference	Weight kg
Fixing collar + single contact block	1	–	ZB4 BZ1014	0.050
	–	1	ZB4 BZ1024	0.050
	2	–	ZB4 BZ1034	0.058
	–	2	ZB4 BZ1044	0.058
	1	1	ZB4 BZ1054	0.058
	1	2	ZB4 BZ1414	0.064

814135

ZB4 BZ1014

814136

ZB4 BZ1024

Contact blocks

Description	Reference
Separate contact blocks	See page 1/82

(1) Connecting cables and connector for plug-in connector contact blocks: see page 1/84.

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies:
see page 1/60

814141

ZB4 BA0

814142

ZB4 BA4

814143

ZB4 BA38

103542

ZB4 BP2S

814144

ZB4 BP18

814144

ZB4 BP183

103541

ZB4 BL1

XXXXXX

ZB4 BA34

814146

ZB4 BA36

Heads for spring return pushbuttons - unmarked

Shape of head	Type of push	Colour	Reference	Weight kg
	Without cap *(1)*	–	**ZB4 BA0**	0.028
	Flush, with set of 6 coloured caps	6 colours *(2)*	**ZB4 BA9**	0.038
	Flush	White	**ZB4 BA1**	0.029
		Black	**ZB4 BA2**	0.029
		Green	**ZB4 BA3**	0.029
		Red	**ZB4 BA4**	0.029
		Yellow	**ZB4 BA5**	0.029
		Blue	**ZB4 BA6**	0.029
		Grey	**ZB4 BA8**	0.029
	Flush with transparent cap, for insertion of legend *(3)*	White	**ZB4 BA18**	0.028
		Green	**ZB4 BA38**	0.028
		Red	**ZB4 BA48**	0.028
		Yellow	**ZB4 BA58**	0.028
		Blue	**ZB4 BA68**	0.028
	Booted (clear silicone) (colour of push unobscured)	White	**ZB4 BP1**	0.031
		Black	**ZB4 BP2**	0.031
		Green	**ZB4 BP3**	0.031
		Red	**ZB4 BP4**	0.031
		Yellow	**ZB4 BP5**	0.031
		Blue	**ZB4 BP6**	0.031
	Booted (coloured silicone) can be replaced without dismantling the head, compatible with legend holder	White	**ZB4 BP1S**	0.034
		Black	**ZB4 BP2S**	0.034
		Green	**ZB4 BP3S**	0.034
		Red	**ZB4 BP4S**	0.034
		Yellow	**ZB4 BP5S**	0.034
		Blue	**ZB4 BP6S**	0.034
	Booted (clear silicone) for insertion of legend (colour of push unobscured)	White	**ZB4 BP18**	0.034
		Green	**ZB4 BP38**	0.034
		Red	**ZB4 BP48**	0.034
		Yellow	**ZB4 BP58**	0.034
		Blue	**ZB4 BP68**	0.034
	Booted (clear), integral boot (colour of push unobscured)	White	**ZB4 BP183**	0.026
		Green	**ZB4 BP383**	0.026
		Red	**ZB4 BP483**	0.026
		Yellow	**ZB4 BP583**	0.026
		Blue	**ZB4 BP683**	0.026
	Projecting	White	**ZB4 BL1**	0.030
		Black	**ZB4 BL2**	0.030
		Green	**ZB4 BL3**	0.030
		Red	**ZB4 BL4**	0.030
		Yellow	**ZB4 BL5**	0.030
		Blue	**ZB4 BL6**	0.030
	Flush (high guard)	White	**ZB4 BA14**	0.034
		Black	**ZB4 BA24**	0.034
		Green	**ZB4 BA34**	0.034
		Red	**ZB4 BA44**	0.034
		Yellow	**ZB4 BA54**	0.034
		Blue	**ZB4 BA64**	0.034
	Recessed (high guard)	White	**ZB4 BA16**	0.034
		Black	**ZB4 BA26**	0.034
		Green	**ZB4 BA36**	0.034
		Red	**ZB4 BA46**	0.034
		Yellow	**ZB4 BA56**	0.034
		Blue	**ZB4 BA66**	0.034

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BA0** becomes **ZB4 BA07**.

(1) Coloured cap to be ordered separately: see page 1/86.
(2) Head supplied with 6 different coloured caps (white, black, green, red, yellow, blue).
(3) For legend ordering information, see page 1/92.

Other versions For booted heads with flush push, please consult your Regional Sales Office.

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Characteristics:
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Dimensions:
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Control and signalling units Ø 22

Harmony® style 4

Pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies:
see page 1/60

814151

ZB4 BA331

814152

ZB4 BA334

814153

ZB4 BL432

814154

ZB4 BH02

Heads for spring return pushbuttons - marked

Shape of head	Type of push	Marking		Colour of push	Reference	Weight kg
		Text	Colour			
	Flush	I	White	Green	**ZB4 BA331**	0.029
			Black	White	**ZB4 BA131**	0.029
		II	White	Green	**ZB4 BA336**	0.029
			Black	White	**ZB4 BA136**	0.029
		START	White	Green	**ZB4 BA333**	0.029
			Black	White	**ZB4 BA133**	0.029
		ON	White	Green	**ZB4 BA341**	0.029
			Black	White	**ZB4 BA141**	0.029
		MARCHE	White	Green	**ZB4 BA342**	0.029
			Black	White	**ZB4 BA142**	0.029
			White	Black	**ZB4 BA245**	0.029
			Black	White	**ZB4 BA145**	0.029
		O	White	Red	**ZB4 BA432**	0.029
				Black	**ZB4 BA232**	0.029
		ARRET	White	Red	**ZB4 BA433**	0.029
				Black	**ZB4 BA233**	0.029
		STOP	White	Red	**ZB4 BA434**	0.029
				Black	**ZB4 BA234**	0.029
		OFF	White	Red	**ZB4 BA435**	0.029
				Black	**ZB4 BA235**	0.029
		(1)	White	Black	**ZB4 BA335**	0.029
			Black	White	**ZB4 BA334**	0.029
	Projecting	O	White	Red	**ZB4 BL432**	0.030
				Black	**ZB4 BL232**	0.030
		ARRET	White	Red	**ZB4 BL433**	0.030
				Black	**ZB4 BL233**	0.030
		STOP	White	Red	**ZB4 BL434**	0.030
				Black	**ZB4 BL234**	0.030
		OFF	White	Red	**ZB4 BL435**	0.030
				Black	**ZB4 BL235**	0.030

Heads for "push-push to releas" pushbuttons *(2)*

Shape of head	Type of push	Colour of push	Reference	Weight kg
	Flush	White	**ZB4 BH01**	0.029
		Black	**ZB4 BH02**	0.029
		Green	**ZB4 BH03**	0.029
		Red	**ZB4 BH04**	0.029
		Yellow	**ZB4 BH05**	0.029
		Blue	**ZB4 BH06**	0.029
	Projecting	White	**ZB4 BH1**	0.029
		Black	**ZB4 BH2**	0.029
		Green	**ZB4 BH3**	0.029
		Red	**ZB4 BH4**	0.029
		Yellow	**ZB4 BH5**	0.029
		Blue	**ZB4 BH6**	0.029

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BA331** becomes **ZB4 BA3317**.

(1) Head supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.
(2) Maximum of 1 row of 3 contact blocks on associated body/fixing collar sub-assembly.

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Characteristics:
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Dimensions:
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Control and signalling units Ø 22

Harmony® style 4

Pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies:
see page 1/60

Heads for double-headed, spring return pushbuttons

Shape of head	Description	Colour of pushes	Degree of protection	Reference	Weight kg
Without function marking on pushes					
	2 flush pushes	Green Red	IP 40 *(1)*	**ZB4 BA8134**	0.047
			IP 66	**ZB4 BA9134**	0.052
		White Black	IP 40 *(1)*	**ZB4 BA8112**	0.047
			IP 66	**ZB4 BA9112**	0.052
	1 flush push **1 projecting push**	Green Red	IP 40 *(1)*	**ZB4 BL8334**	0.046
			IP 66	**ZB4 BL9334**	0.051
		White Black	IP 40 *(1)*	**ZB4 BL8312**	0.046
			IP 66	**ZB4 BL9312**	0.051
With function marking on pushes					
	2 flush pushes (marked “I”) (marked “O”)	Green Red	IP 40 *(1)*	**ZB4 BA8234**	0.047
			IP 66	**ZB4 BA9234**	0.052
		White Black	IP 40 *(1)*	**ZB4 BA8212**	0.047
			IP 66	**ZB4 BA9212**	0.052
	1 flush push (marked “I”) **1 projecting push** (marked “O”)	Green Red	IP 40 *(1)*	**ZB4 BL8434**	0.046
			IP 66	**ZB4 BL9434**	0.051
		White Black	IP 40 *(1)*	**ZB4 BL8412**	0.046
			IP 66	**ZB4 BL9412**	0.051

814160

ZB4 BA8134

814161

ZB4 BL8312

814162

ZB4 BL9312

814164

ZB4 BL8434

814163

ZB4 BL8412

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BA8134** becomes **ZB4 BA81347**.

(1) NEMA type 1

General:
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Characteristics:
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Dimensions:
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Control and signalling units Ø 22

Harmony® style 4

Pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies: see page 1/60

Mushroom heads for spring return pushbuttons

Shape of head	Diameter of push mm	Colour of push	Reference	Weight kg
	30	Black	**ZB4 BC24**	0.075
		Green	**ZB4 BC34**	0.075
		Red	**ZB4 BC44**	0.075
		Yellow	**ZB4 BC54**	0.075
		Blue	**ZB4 BC64**	0.075
	40	Black	**ZB4 BC2**	0.074
		Green	**ZB4 BC3**	0.074
		Red	**ZB4 BC4**	0.074
		Yellow	**ZB4 BC5**	0.074
		Blue	**ZB4 BC6**	0.074
	60	Black	**ZB4 BR2**	0.093
		Green	**ZB4 BR3**	0.093
		Red	**ZB4 BR4**	0.093
		Yellow	**ZB4 BR5**	0.093
		Blue	**ZB4 BR6**	0.093
	60 Hemispherical	Black	**ZB4 BR216**	0.054
		Green	**ZB4 BR316**	0.054
		Red	**ZB4 BR416**	0.054
		Yellow	**ZB4 BR516**	0.054
		Blue	**ZB4 BR616**	0.054

814166

ZB4 BC24

814167

ZB4 BC2

814168

ZB4 BR2

103543

ZB4 BR216

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BC24** becomes **ZB4 BC247**.

General: pages 1/42 to 1/49

Characteristics: pages 1/50 to 1/53

Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies:
see page 1/60

Mushroom heads for latching pushbuttons (Emergency stop: colour red)

Shape of head	Type of push	Push Ø (mm)	Push Colour	Reference	Weight kg
	Trigger action Push-pull *(2)*	40	Red	**ZB4 BT84** *(1)*	0.078
	Trigger action Turn to release *(2)*	30	Red	**ZB4 BS834** *(1)*	0.068
		40	Red	**ZB4 BS844** *(1)*	0.073
		60	Red	**ZB4 BS864** *(1)*	0.093
	Trigger action Key release (key n° 455) (2 keys included with head) *(2) (4)*	30	Red	**ZB4 BS934** *(1)*	0.094
		40	Red	**ZB4 BS944** *(1) (3)*	0.098
		60	Red	**ZB4 BS964** *(1)*	0.118
	Push-pull	40	Black	**ZB4 BT2**	0.077
			Red	**ZB4 BT4** *(1)*	0.077
		60	Black	**ZB4 BX2**	0.095
			Red	**ZB4 BX4** *(1)*	0.095
	Turn to release	30	Black	**ZB4 BS42**	0.066
			Red	**ZB4 BS44** *(1)*	0.066
		40	Black	**ZB4 BS52**	0.070
			Red	**ZB4 BS54** *(1)*	0.070
			Yellow	**ZB4 BS55**	0.070
		60	Black	**ZB4 BS62**	0.090
			Red	**ZB4 BS64** *(1)*	0.090
	Key release (key n° 455) (2 keys included with head) *(4)*	30	Black	**ZB4 BS72**	0.066
			Red	**ZB4 BS74** *(1)*	0.066
		40	Black	**ZB4 BS12**	0.070
			Red	**ZB4 BS14** *(1) (3)*	0.070
		60	Black	**ZB4 BS22**	0.090
			Red	**ZB4 BS24** *(1)*	0.090

550278

ZB4 BS834

550279

ZB4 BT4

550280

ZB4 BS64

550281

ZB4 BS74

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BT84** becomes **ZB4 BT847**.

(1) Mushroom heads for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and to Machinery Directive 98/37/EC.
Mushroom heads for trigger action Emergency stop pushbuttons conform to standard EN 418.
Please consult your Regional Sales Office for full details of these standards and directives.

(2) Maximum number of contacts fitted to the associated body: 4.
Example: 4 single contact blocks, 2 double contact blocks, or 2 single contact blocks + 1 double contact block. See page 1/82.

(3) Other key numbers:
*- key n° 421E: add suffix **12** to the reference.*
*- key n° 458A: add suffix **10** to the reference.*
*- key n° 520E: add suffix **14** to the reference.*
*- key n° 3131A: add suffix **20** to the reference.*
*Example: To order a Ø 40 red mushroom head for a trigger action, latching pushbutton, with release by key n° 421E, the reference becomes: **ZB4 BS94412**.*

(4) For specific keys with other numbers, please consult your Regional Sales Office.

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies:
see page 1/60

1

1.3

814186

ZB4 BD4

814187

ZB4 BJ3

DF521767

ZB4 BJ491

Heads for selector switches (1)

Shape of head	Type of operator	Number and type of positions (2)	Reference	Weight kg
	Standard handle, black (3)	2 - stay put	**ZB4 BD2**	0.044
		2 - stay put with actuation of the centre contact	**ZB4 BD2M**	0.044
		2 - spring return from right to left	**ZB4 BD4**	0.044
		2 - spring return from right to left with actuation of centre contact	**ZB4 BD4M**	0.044
		3 - stay put	**ZB4 BD3**	0.044
		3 - spring return to centre	**ZB4 BD5**	0.044
		3 - spring return from left to centre	**ZB4 BD7**	0.044
		3 - spring return from right to centre	**ZB4 BD8**	0.044
	Long handle, black	2 - stay put	**ZB4 BJ2**	0.044
		2 - stay put with actuation of the centre contact	**ZB4 BJ2M**	0.044
		2 - spring return from right to left	**ZB4 BJ4**	0.044
		2 - spring return from right to left with actuation of centre contact	**ZB4 BJ4M**	0.044
		3 - stay put	**ZB4 BJ3**	0.044
		3 - spring return to centre	**ZB4 BJ5**	0.044
		3 - spring return from left to centre	**ZB4 BJ7**	0.044
		3 - spring return from right to centre	**ZB4 BJ8**	0.044
	Long handle, padlockable	2 - stay put	**ZB4 BJ291**	0.044
			ZB4 BJ292	0.044
			ZB4 BJ294	0.044
		2 - spring return from right to left	**ZB4 BJ491**	0.044
		3 - stay put	**ZB4 BJ391**	0.044
			ZB4 BJ392	0.044
			ZB4 BJ393	0.044
			ZB4 BJ394	0.044
			ZB4 BJ395	0.044
			ZB4 BJ396	0.044
			ZB4 BJ397	0.044
		3 - spring return to centre	**ZB4 BJ593**	0.044
		3 - spring return from right to centre	**ZB4 BJ891**	0.044
			ZB4 BJ893	0.044
			ZB4 BJ895	0.044
		3 - spring return from left to centre	**ZB4 BJ792**	0.044
			ZB4 BJ793	0.044
			ZB4 BJ796	0.044

Heads with black metal bezel

To order, add the suffix **7** to the references selected above. Example: **ZB4 BD2** becomes **ZB4 BD27**.

(1) Can only be used for actuation of end row (side) mounted contacts.
(2) The symbol o indicates the padklocking positions.
(3) For handles in other colours, please consult your Regional Sales Office

General:
pages 1/42 to 1/49

Characteristics:
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Dimensions:
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Control and signalling units Ø 22

Harmony® style 4

Pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies:
see page 1/60

814188

ZB4 BD29

814204

ZB4 BG8

814205

ZB4 BD28

Heads for selector switches (continued) *(1)*

Shape of head	Type of operator	Number and type of positions *(2)*		Reference *(3)*	Weight kg
	Knurled knob, black	2 - stay put		**ZB4 BD29**	0.046
		2 - spring return from right to left		**ZB4 BD49**	0.046
		3 - stay put		**ZB4 BD39**	0.046
		3 - spring return to centre		**ZB4 BD59**	0.046
		3 - spring return from left to centre		**ZB4 BD79**	0.046
		3 - spring return from right to centre		**ZB4 BD89**	0.046
	Key (n° 455) *(4)*	2 - stay put		**ZB4 BG2**	0.069
				ZB4 BG4	0.069
		2 - stay put with actuation of the centre contact		**ZB4 BG2M**	0.069
				ZB4 BG4M	0.069
		2 - spring return from right to left		**ZB4 BG6**	0.069
		2 - spring return from right to left with actuation of centre contact		**ZB4 BG6M**	0.069
		3 - stay put		**ZB4 BG0**	0.069
				ZB4 BG3	0.069
				ZB4 BG5	0.069
				ZB4 BG9	0.069
				ZB4 BG09	0.069
		3 - spring return from left to centre		**ZB4 BG1**	0.069
		3 - spring return to centre		**ZB4 BG7**	0.069
		3 - spring return from right to centre		**ZB4 BG8**	0.069
				ZB4 BG08	0.069

Heads for toggle switches (black lever)

Shape of head	Description	Type of position	Reference	Weight kg
	2-position	Stay put	**ZB4 BD28**	0.026
		Spring return	**ZB4 BD48**	0.026

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BG2** becomes **ZB4 BG27**.

(1) Can only be used for actuation of end row (side) mounted contacts.
(2) The symbol ⚷ indicates key withdrawal position(s).
(3) Other key numbers:
- *key n° 421E: add suffix **12** to the reference.*
- *key n° 458A: add suffix **10** to the reference.*
- *key n° 520E: add suffix **14** to the reference.*
- *key n° 3131A: add suffix **20** to the reference.*

Example:
*For a switch head with key n° 421E, 2-position stay put with key withdrawal from the left-hand position, the reference becomes: **ZB4 BG212**.*

(4) For specific keys with other numbers, please consult your Regional Sales Office.

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pages 1/42 to 1/49

Characteristics:
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Dimensions:
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Control and signalling units Ø 22

Harmony® style 4

Pilot lights with metal bezel

Sub-assemblies, ZB4: bodies

To combine with heads for integral LED:
see page 1/71

814207

ZB4 BV●●

Complete bodies (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED Protected LED	⎓ 12	White	**ZB4 BVJ1**	0,054
		Green	**ZB4 BVJ3**	0.054
		Red	**ZB4 BVJ4**	0.054
		Yellow	**ZB4 BVJ5**	0.054
		Blue	**ZB4 BVJ6**	0.054
	⎓ 24 *(1)*	White	**ZB4 BVB1**	0.054
		Green	**ZB4 BVB3**	0.054
		Red	**ZB4 BVB4**	0.054
		Yellow	**ZB4 BVB5**	0.054
		Blue	**ZB4 BVB6**	0.054
	⎓ 24…120	White	**ZB4 BVBG1**	0.054
		Green	**ZB4 BVBG3**	0.054
		Red	**ZB4 BVBG4**	0.054
		Yellow	**ZB4 BVBG5**	0.054
		Blue	**ZB4 BVBG6**	0.054
	∿ 48...120 *(1)*	White	**ZB4 BVG1**	0.054
		Green	**ZB4 BVG3**	0.054
		Red	**ZB4 BVG4**	0.054
		Yellow	**ZB4 BVG5**	0.054
		Blue	**ZB4 BVG6**	0.054
	∿ 230…240 *(1)*	White	**ZB4 BVM1**	0.054
		Green	**ZB4 BVM3**	0.054
		Red	**ZB4 BVM4**	0.054
		Yellow	**ZB4 BVM5**	0.054
		Blue	**ZB4 BVM6**	0.054

Complete bodies with 3-terminal "test" function (fixing collar + light block with integral LED + block for "test light" function)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED Protected LED	⎓ 24 *(2)*	White	**ZB4 BVB1156**	0.054
		Green	**ZB4 BVB3156**	0.054
		Red	**ZB4 BVB4156**	0.054
		Yellow	**ZB4 BVB5156**	0.054
		Blue	**ZB4 BVB6156**	0.054

522069

ZB4 BVB●156

Complete bodies with flashing pilot light (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED Protected LED	⎓ 24	White	**ZB4 BV18B1**	0.054
		Green	**ZB4 BV18B3**	0.054
		Red	**ZB4 BV18B4**	0.054
		Yellow	**ZB4 BV18B5**	0.054
		Blue	**ZB4 BV18B6**	0.054
	∿ 48…120	White	**ZB4 BV18G1**	0.054
		Green	**ZB4 BV18G3**	0.054
		Red	**ZB4 BV18G4**	0.054
		Yellow	**ZB4 BV18G5**	0.054
		Blue	**ZB4 BV18G6**	0.054
	∿ 230…240	White	**ZB4 BV18M1**	0.054
		Green	**ZB4 BV18M3**	0.054
		Red	**ZB4 BV18M4**	0.054
		Yellow	**ZB4 BV18M5**	0.054
		Blue	**ZB4 BV18M6**	0.054

(1) Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.
(2) For a 120 or 230 V ∿ supply, use complete body ZB4 BVG● or ZB4 BVM● with block for test function type ZBZ M156, see page 1/83.

General:
pages 1/42 to 1/49

Characteristics:
pages 1/50 to 1/53

Dimensions:
pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pilot lights with metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for integral LED:
see page 1/71

814209

ZB4 BV●●4

Complete bodies (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Plug-in connector *(1)*				
Integral LED Protected LED	⎓ 24	White	**ZB4 BVB14**	0.053
		Green	**ZB4 BVB34**	0.053
		Red	**ZB4 BVB44**	0.053
		Yellow	**ZB4 BVB54**	0.053
		Blue	**ZB4 BVB64**	0.053
	~ 48...120	White	**ZB4 BVG14**	0.053
		Green	**ZB4 BVG34**	0.053
		Red	**ZB4 BVG44**	0.053
		Yellow	**ZB4 BVG54**	0.053
		Blue	**ZB4 BVG64**	0.053
	~ 230...240	White	**ZB4 BVM14**	0.053
		Green	**ZB4 BVM34**	0.053
		Red	**ZB4 BVM44**	0.053
		Yellow	**ZB4 BVM54**	0.053
		Blue	**ZB4 BVM64**	0.053

(1) Connecting cables and connector for plug-in connector light blocks: see page 1/84.

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

Control and signalling units Ø 22

Harmony® style 4

Pilot lights with metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for BA 9s bulb:
see page 1/71

814210

ZB4 BV6

522070

ZB4 BV156

814211

ZB4 BV●

Complete bodies (fixing collar + light block for BA 9s bulb, incandescent, neon or LED)

Screw clamp terminal connections

Description	Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Direct supply	BA 9s bulb, 2.4 W max Not included *(1)*	≤ 250	–	**ZB4 BV6**	0.052
Direct supply “Test” function (3 terminals)	BA 9s bulb, 2.4 W max Not included *(1)*	≤ 250	–	**ZB4 BV156**	0.062
Via integral transformer 1.2 VA 6 V secondary	BA9s incandescent bulb, included	∿ 110…120 50/60 Hz	–	**ZB4 BV3**	0.130
		∿ 230 50 Hz ∿ 220…240 60 Hz	–	**ZB4 BV4**	0.130
		∿ 400 50 Hz	–	**ZB4 BV5**	0.131
		∿ 440…480 60 Hz	–	**ZB4 BV8**	0.128
		∿ 550…600 60 Hz	–	**ZB4 BV9**	0.131
	BA9s base fitting LED included	∿ 110…120 50/60 Hz	White	**ZB4 BV3D1**	0.134
			Green	**ZB4 BV3D3**	0.134
			Red	**ZB4 BV3D4**	0.134
			Yellow	**ZB4 BV3D5**	0.134
			Blue	**ZB4 BV3D6**	0.134
		∿ 230 50 Hz ∿ 220…240 60 Hz	White	**ZB4 BV4D1**	0.134
			Green	**ZB4 BV4D3**	0.134
			Red	**ZB4 BV4D4**	0.134
			Yellow	**ZB4 BV4D5**	0.134
			Blue	**ZB4 BV4D6**	0.134
		∿ 400 50/60 Hz	White	**ZB4 BV5D1**	0.134
			Green	**ZB4 BV5D3**	0.134
			Red	**ZB4 BV5D4**	0.134
			Yellow	**ZB4 BV5D5**	0.134
			Blue	**ZB4 BV5D6**	0.134

(1) Bulbs to be ordered separately.

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

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pages 1/42 to 1/49

Characteristics:
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Dimensions:
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Control and signalling units Ø 22
Harmony® style 4
Pilot lights with metal bezel
Sub-assemblies, ZB4 B: heads

814213

ZB4 BV063

814214

ZB4 BV04

Heads

Shape of head	For use with body comprising light source type	Colour of lens	Reference	Weight kg
With plain lens				
	Integral LED only	White	**ZB4 BV013**	0.026
		Green	**ZB4 BV033**	0.026
		Red	**ZB4 BV043**	0.026
		Yellow	**ZB4 BV053**	0.026
		Blue	**ZB4 BV063**	0.026
	BA 9s bulb (incandescent, neon or LED only)	White	**ZB4 BV01**	0.027
		Green	**ZB4 BV03**	0.027
		Red	**ZB4 BV04**	0.027
		Yellow	**ZB4 BV05**	0.027
		Blue	**ZB4 BV06**	0.027
		Clear	**ZB4 BV07**	0.027
With plain lens, for insertion of legend *(1)*				
	Integral LED only	White	**ZB4 BV013E**	0.026
		Green	**ZB4 BV033E**	0.026
		Red	**ZB4 BV043E**	0.026
		Yellow	**ZB4 BV053E**	0.026
		Blue	**ZB4 BV063E**	0.026
With grooved lens *(2)*				
	Integral LED only	White	**ZB4 BV013S**	0.026
		Green	**ZB4 BV033S**	0.026
		Red	**ZB4 BV043S**	0.026
		Yellow	**ZB4 BV053S**	0.026
		Blue	**ZB4 BV063S**	0.026
	BA 9s bulb (neon or LED only)	White	**ZB4 BV01S**	0.027
		Green	**ZB4 BV03S**	0.027
		Red	**ZB4 BV04S**	0.027
		Yellow	**ZB4 BV05S**	0.027
		Blue	**ZB4 BV06S**	0.027
		Clear	**ZB4 BV07S**	0.027

(1) For legend ordering information, see page 1/92.
(2) For use in bright ambient light conditions (outdoors in sunlight, for example). For heads with grooved lens, the use of "high luminosity" LEDs is recommended, see page 1/83.

General: pages 1/42 to 1/49
Characteristics: pages 1/50 to 1/53
Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for integral LED:
see pages 1/77 to 1/79

ZB4 BW0●●3

Complete bodies (fixing collar + single contact block + light block with integral LED)

Light source	Supply voltage	Type of contact (1) N/O	Type of contact (1) N/C	Colour of light source	Reference	Weight
	V					kg
Screw clamp terminal connections						
Integral LED Protected LED	≂ 24	1	–	White	**ZB4 BW0B11**	0.064
				Green	**ZB4 BW0B31**	0.064
				Red	**ZB4 BW0B41**	0.064
				Yellow	**ZB4 BW0B51**	0.064
				Blue	**ZB4 BW0B61**	0.064
		–	1	White	**ZB4 BW0B12**	0.064
				Green	**ZB4 BW0B32**	0.064
				Red	**ZB4 BW0B42**	0.064
				Yellow	**ZB4 BW0B52**	0.064
				Blue	**ZB4 BW0B62**	0.064
		2	–	White	**ZB4 BW0B13**	0.074
				Green	**ZB4 BW0B33**	0.074
				Red	**ZB4 BW0B43**	0.074
				Yellow	**ZB4 BW0B53**	0.074
				Blue	**ZB4 BW0B63**	0.074
		1	1	White	**ZB4 BW0B15**	0.074
				Green	**ZB4 BW0B35**	0.074
				Red	**ZB4 BW0B45**	0.074
				Yellow	**ZB4 BW0B55**	0.074
				Blue	**ZB4 BW0B65**	0.074
	≂ 48...120	1	–	White	**ZB4 BW0G11**	0.064
				Green	**ZB4 BW0G31**	0.064
				Red	**ZB4 BW0G41**	0.064
				Yellow	**ZB4 BW0G51**	0.064
				Blue	**ZB4 BW0G61**	0.064
		–	1	White	**ZB4 BW0G12**	0.064
				Green	**ZB4 BW0G32**	0.064
				Red	**ZB4 BW0G42**	0.064
				Yellow	**ZB4 BW0G52**	0.064
				Blue	**ZB4 BW0G62**	0.064

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/82.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for integral LED: see pages 1/77 to 1/79

ZB4 BW0●●3

Complete bodies (fixing collar + single contact block + light block with integral LED) *(continued)*

Light source	Supply voltage V	Type of contact (1) N/O	Type of contact (1) N/C	Colour of light source	Reference	Weight kg
Screw clamp terminal connections *(continued)*						
Integral LED Protected LED	∿ 48...120	2	–	White	**ZB4 BW0G13**	0.074
				Green	**ZB4 BW0G33**	0.074
				Red	**ZB4 BW0G43**	0.074
				Yellow	**ZB4 BW0G53**	0.074
				Blue	**ZB4 BW0G63**	0.074
		1	1	White	**ZB4 BW0G15**	0.074
				Green	**ZB4 BW0G35**	0.074
				Red	**ZB4 BW0G45**	0.074
				Yellow	**ZB4 BW0G55**	0.074
				Blue	**ZB4 BW0G65**	0.074
	∿ 230...240	1	–	White	**ZB4 BW0M11**	0.064
				Green	**ZB4 BW0M31**	0.064
				Red	**ZB4 BW0M41**	0.064
				Yellow	**ZB4 BW0M51**	0.064
				Blue	**ZB4 BW0M61**	0.064
		–	1	White	**ZB4 BW0M12**	0.064
				Green	**ZB4 BW0M32**	0.064
				Red	**ZB4 BW0M42**	0.064
				Yellow	**ZB4 BW0M52**	0.064
				Blue	**ZB4 BW0M62**	0.064
		2	–	White	**ZB4 BW0M13**	0.074
				Green	**ZB4 BW0M33**	0.074
				Red	**ZB4 BW0M43**	0.074
				Yellow	**ZB4 BW0M53**	0.074
				Blue	**ZB4 BW0M63**	0.074
		1	1	White	**ZB4 BW0M15**	0.074
				Green	**ZB4 BW0M35**	0.074
				Red	**ZB4 BW0M45**	0.074
				Yellow	**ZB4 BW0M55**	0.074
				Blue	**ZB4 BW0M65**	0.074
	400 V, 50 Hz	1	1	White	**ZB4 BW05B15**	0.168
				Green	**ZB4 BW05B35**	0.168
				Red	**ZB4 BW05B45**	0.168
				Yellow	**ZB4 BW05B55**	0.168
				Blue	**ZB4 BW05B65**	0.168
	400/460 V, 60 Hz	1	1	White	**ZB4 BW08B15**	0.168
				Green	**ZB4 BW08B35**	0.168
				Red	**ZB4 BW08B45**	0.168
				Yellow	**ZB4 BW08B55**	0.168
				Blue	**ZB4 BW08B65**	0.168
	550/600 V, 60 Hz	1	1	White	**ZB4 BW09B15**	0.168
				Green	**ZB4 BW09B35**	0.168
				Red	**ZB4 BW09B45**	0.168
				Yellow	**ZB4 BW09B55**	0.168
				Blue	**ZB4 BW09B65**	0.168

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/82.

General: pages 1/42 to 1/49 | Characteristics: pages 1/50 to 1/53 | Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for integral LED: see pages 1/77 to 1/79

ZB4 BW0●●14

Complete bodies (fixing collar + single contact block + light block with integral LED) *(continued)*

Light source	Supply voltage V	Type of contact (1) N/O	Type of contact (1) N/C	Colour of light source	Reference	Weight kg
Plug-in connector *(2)*						
Integral LED Protected LED	⎓ 24	1	–	White	**ZB4 BW0B114**	0.060
				Green	**ZB4 BW0B314**	0.060
				Red	**ZB4 BW0B414**	0.060
				Yellow	**ZB4 BW0B514**	0.060
				Blue	**ZB4 BW0B614**	0.060
		–	1	White	**ZB4 BW0B124**	0.060
				Green	**ZB4 BW0B324**	0.060
				Red	**ZB4 BW0B424**	0.060
				Yellow	**ZB4 BW0B524**	0.060
				Blue	**ZB4 BW0B624**	0.060
		2	–	White	**ZB4 BW0B134**	0.067
				Green	**ZB4 BW0B334**	0.067
				Red	**ZB4 BW0B434**	0.067
				Yellow	**ZB4 BW0B534**	0.067
				Blue	**ZB4 BW0B634**	0.067
		1	1	White	**ZB4 BW0B154**	0.067
				Green	**ZB4 BW0B354**	0.067
				Red	**ZB4 BW0B454**	0.067
				Yellow	**ZB4 BW0B554**	0.067
				Blue	**ZB4 BW0B654**	0.067
	∿ 48...120	1	–	White	**ZB4 BW0G114**	0.060
				Green	**ZB4 BW0G314**	0.060
				Red	**ZB4 BW0G414**	0.060
				Yellow	**ZB4 BW0G514**	0.060
				Blue	**ZB4 BW0G614**	0.060
		–	1	White	**ZB4 BW0G124**	0.060
				Green	**ZB4 BW0G324**	0.060
				Red	**ZB4 BW0G424**	0.060
				Yellow	**ZB4 BW0G524**	0.060
				Blue	**ZB4 BW0G624**	0.060

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/84.
(2) Connecting cables and connector for plug-in connector electrical blocks: see page 1/84.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for integral LED: see pages 1/77 to 1/79

ZB4 BW0●●34

Complete bodies (fixing collar + single contact block + light block with integral LED) *(continued)*

Light source	Supply voltage V	Type of contact (1) N/O	Type of contact (1) N/C	Colour of light source	Reference	Weight kg
Screw clamp terminal connections *(2) (continued)*						
Integral LED Protected LED	∿ 48...120	2	–	White	**ZB4 BW0G134**	0.067
				Green	**ZB4 BW0G334**	0.067
				Red	**ZB4 BW0G434**	0.067
				Yellow	**ZB4 BW0G534**	0.067
				Blue	**ZB4 BW0G634**	0.067
		1	1	White	**ZB4 BW0G154**	0.067
				Green	**ZB4 BW0G354**	0.067
				Red	**ZB4 BW0G454**	0.067
				Yellow	**ZB4 BW0G554**	0.067
				Blue	**ZB4 BW0G654**	0.067
	∿ 230...240	1	–	White	**ZB4 BW0M114**	0.060
				Green	**ZB4 BW0M314**	0.060
				Red	**ZB4 BW0M414**	0.060
				Yellow	**ZB4 BW0M514**	0.060
				Blue	**ZB4 BW0M614**	0.060
		–	1	White	**ZB4 BW0M124**	0.060
				Green	**ZB4 BW0M324**	0.060
				Red	**ZB4 BW0M424**	0.060
				Yellow	**ZB4 BW0M524**	0.060
				Blue	**ZB4 BW0M624**	0.060
		2	–	White	**ZB4 BW0M134**	0.067
				Green	**ZB4 BW0M334**	0.067
				Red	**ZB4 BW0M434**	0.067
				Yellow	**ZB4 BW0M534**	0.067
				Blue	**ZB4 BW0M634**	0.067
		1	1	White	**ZB4 BW0M154**	0.067
				Green	**ZB4 BW0M354**	0.067
				Red	**ZB4 BW0M454**	0.067
				Yellow	**ZB4 BW0M554**	0.067
				Blue	**ZB4 BW0M654**	0.067

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/84.
(2) Connecting cables and connector for plug-in connector electrical blocks: see page 1/84.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for BA9s bulbs: see pages 1/77 to 1/79

ZB4 BW06●

ZB4 BW0●5

Complete bodies (fixing collar + single contact block + light block for BA 9s bulb, incandescent, neon or LED)

Description	Light source	Supply voltage V	Type of contact (1) N/O	Type of contact (1) N/C	Colour of light source	Reference	Weight kg
Screw clamp terminal connections							
Direct supply	BA 9s 2.4 W max. bulb Not included (2)	≤ 250	1	–	–	**ZB4 BW061**	0.063
			–	1	–	**ZB4 BW062**	0.063
			2	–	–	**ZB4 BW063**	0.073
			1	1	–	**ZB4 BW065**	0.073
Via integral transformer 1.2 VA, 6 V secondary	BA9s incandescent bulb, included	∿ 110…120 50/60 Hz	1	–	–	**ZB4 BW031**	0.141
			1	1	–	**ZB4 BW035**	0.151
		∿ 230 50 Hz ∿ 220…240 60 Hz	1	–	–	**ZB4 BW041**	0.141
			1	1	–	**ZB4 BW045**	0.151
		∿ 400 50 Hz	1	–	–	**ZB4 BW051**	0.141
			1	1	–	**ZB4 BW055**	0.151
	BA9s base fitting LED included	∿ 110…120 50/60 Hz	1	1	White	**ZB4 BW03D15**	0.151
					Green	**ZB4 BW03D35**	0.151
					Red	**ZB4 BW03D45**	0.151
					Yellow	**ZB4 BW03D55**	0.151
					Blue	**ZB4 BW03D65**	0.151
		∿ 230 50 Hz ∿ 220…240 60 Hz	1	1	White	**ZB4 BW04D15**	0.151
					Green	**ZB4 BW04D35**	0.151
					Red	**ZB4 BW04D45**	0.151
					Yellow	**ZB4 BW04D55**	0.151
					Blue	**ZB4 BW04D65**	0.151
		∿ 400 50/60 Hz	1	1	White	**ZB4 BW05D15**	0.152
					Green	**ZB4 BW05D35**	0.152
					Red	**ZB4 BW05D45**	0.152
					Yellow	**ZB4 BW05D55**	0.152
					Blue	**ZB4 BW05D65**	0.152
Other versions	Complete bodies with integral transformer incorporating Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.						

(1) Can be fitted with additional contact blocks: see page 1/82.
(2) Bulb to be ordered separately: see page 1/94.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies:
see pages 1/72 to 1/76

ZB4 BW333

ZB4 BW563

ZB4 BW113

ZB4 BW33

ZB4 BW14

Heads for spring return illuminated pushbuttons

Shape of head	Type of push	Colour	Reference	Weight kg
With plain lens				
Only for use with bodies comprising a light source with integral LED				
Protected LED	**Flush**	White	**ZB4 BW313**	0.026
		Green	**ZB4 BW333**	0.026
		Red	**ZB4 BW343**	0.026
		Yellow	**ZB4 BW353**	0.026
		Blue	**ZB4 BW363**	0.026
Protected LED	**Flush with illuminated ring**	White	**ZB4 BW913**	0.026
		Green	**ZB4 BW933**	0.026
		Red	**ZB4 BW943**	0.026
		Yellow	**ZB4 BW953**	0.026
		Blue	**ZB4 BW963**	0.026
Protected LED	**Flush with clear boot**	White	**ZB4 BW513**	0.031
		Green	**ZB4 BW533**	0.031
		Red	**ZB4 BW543**	0.031
		Yellow	**ZB4 BW553**	0.031
		Blue	**ZB4 BW563**	0.031
Protected LED	**Flush for insertion of legend**	White	**ZB4 BA18**	0.028
		Green	**ZB4 BA38**	0.028
		Red	**ZB4 BA48**	0.028
		Yellow	**ZB4 BA58**	0.028
		Blue	**ZB4 BA68**	0.028
Protected LED	**Projecting**	White	**ZB4 BW113**	0.029
		Green	**ZB4 BW133**	0.029
		Red	**ZB4 BW143**	0.029
		Yellow	**ZB4 BW153**	0.029
		Blue	**ZB4 BW163**	0.029
Only for use with bodies comprising a light source with BA 9s bulb (incandescent, neon or LED)				
	Flush	White	**ZB4 BW31**	0.027
		Green	**ZB4 BW33**	0.027
		Red	**ZB4 BW34**	0.027
		Yellow	**ZB4 BW35**	0.027
		Blue	**ZB4 BW36**	0.027
		Clear	**ZB4 BW37**	0.027
	Projecting	White	**ZB4 BW11**	0.028
		Green	**ZB4 BW13**	0.028
		Red	**ZB4 BW14**	0.028
		Yellow	**ZB4 BW15**	0.028
		Blue	**ZB4 BW16**	0.028
		Clear	**ZB4 BW17**	0.028

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BW313** becomes **ZB4 BW3137**.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies:
see pages 1/72 to 1/76

Heads for spring return illuminated pushbuttons *(continued)*

Shape of head	Type of push	Colour	Reference	Weight kg
With grooved lens *(1)* **Only for use with bodies comprising a light source with integral LED**				
	Flush	White	**ZB4 BW313S**	0.026
		Green	**ZB4 BW333S**	0.026
		Red	**ZB4 BW343S**	0.026
		Yellow	**ZB4 BW353S**	0.026
		Blue	**ZB4 BW363S**	0.026
	Projecting	White	**ZB4 BW113S**	0.026
		Green	**ZB4 BW133S**	0.026
		Red	**ZB4 BW143S**	0.026
		Yellow	**ZB4 BW153S**	0.026
		Blue	**ZB4 BW163S**	0.026
Only for use with bodies comprising a light source with BA 9s bulb (incandescent, neon or LED)				
	Flush	White	**ZB4 BW31S**	0.027
		Green	**ZB4 BW33S**	0.027
		Red	**ZB4 BW34S**	0.027
		Yellow	**ZB4 BW35S**	0.027
		Blue	**ZB4 BW36S**	0.027
		Clear	**ZB4 BW37S**	0.027
	Projecting	White	**ZB4 BW11S**	0.027
		Green	**ZB4 BW13S**	0.027
		Red	**ZB4 BW14S**	0.027
		Yellow	**ZB4 BW15S**	0.027
		Blue	**ZB4 BW16S**	0.027
		Clear	**ZB4 BW17S**	0.027

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BW313S** becomes **ZB4 BW3137S**.

(1) For use in bright ambient light conditions (outdoors in sunlight, for example). For heads with grooved lens, the use of "high luminosity" LEDs is recommended, see page 1/83.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies:
see pages 1/72 to 1/76

ZB4 BH033

ZB4 BH63

Heads for illuminated "push-push to release" pushbuttons *(1)*

Shape of head	Type of push	Colour of lens	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED				
Protected LED	**Flush**	White	**ZB4 BH013**	0.026
		Green	**ZB4 BH033**	0.026
		Red	**ZB4 BH043**	0.026
		Yellow	**ZB4 BH053**	0.026
		Blue	**ZB4 BH063**	0.026
	Projecting	White	**ZB4 BH13**	0.026
		Green	**ZB4 BH33**	0.026
		Red	**ZB4 BH43**	0.026
		Yellow	**ZB4 BH53**	0.026
		Blue	**ZB4 BH63**	0.026

ZB4 BW812743

Heads with pilot light for double-headed, spring return pushbuttons (IP 40) *(2)*

Shape of head	Description	Colour of pushes	Colour of pilot light	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED "high luminosity" *(3)*					
■ Without function marking on push					
Protected LED	**1 flush push** **1 central pilot light** **1 flush push**	Black Red	Clear *(4)*	**ZB4 BW812743**	0.047
		Green Red	Clear *(4)*	**ZB4 BW813743**	0.047
		White Black	Clear *(4)*	**ZB4 BW811723**	0.047
Protected LED	**1 flush push** **1 central pilot light** **1 projecting push**	Black Red	Clear *(4)*	**ZB4 BW832743**	0.046
		Green Red	Clear *(4)*	**ZB4 BW833743**	0.046
		White Black	Clear *(4)*	**ZB4 BW831723**	0.046
■ With function marking on push					
Protected LED	**1 flush push** (marked “I”) **1 central pilot light** **1 flush push** (marked “O”)	Black Red	Clear *(4)*	**ZB4 BW822743**	0.047
		Green Red	Clear *(4)*	**ZB4 BW823743**	0.047
		White Black	Clear *(4)*	**ZB4 BW821723**	0.047
Protected LED	**1 flush push** (marked “I”) **1 central pilot light** **1 projecting push** (marked “O”)	Black Red	Clear *(4)*	**ZB4 BW842743**	0.046
		Green Red	Clear *(4)*	**ZB4 BW843743**	0.046
		White Black	Clear *(4)*	**ZB4 BW841723**	0.046

ZB4 BW823743

ZB4 BW841723

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BW812743** becomes **ZB4 BW8127437**.

(1) Maximum of 1 row of 2 contact blocks on associated body/ fixing collar sub-assembly.
*(2) NEMA type 1. For head with IP 66 degree of protection (NEMA type 4X), fit a clear sealing boot **ZBW 008**: see page 1/95.*
(3) "High luminosity" LED, see page 1/83.
(4) Colour of centrally positioned pilot light determined by the colour of the LED incorporated in the body assembly.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies: see pages 1/72 to 1/76

ZB4 BW413

Heads for spring return Ø40 mushroom head illuminated pushbuttons

Shape of head	Colour of push	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED "high luminosity" *(1)*			
	White	**ZB4 BW413**	0.051
	Green	**ZB4 BW433**	0.051
	Red	**ZB4 BW443**	0.051
	Yellow	**ZB4 BW453**	0.051
	Blue	**ZB4 BW463**	0.051

Heads for latching Ø 40 mushroom head illuminated pushbuttons

Shape of head	Type of push	Colour of push	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED "high luminosity" *(1)*				
	Push-pull	White	**ZB4 BW613**	0.051
		Green	**ZB4 BW633**	0.051
		Red	**ZB4 BW643**	0.051
		Yellow	**ZB4 BW653**	0.051
		Blue	**ZB4 BW663**	0.051

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BK1213** becomes **ZB4 BK12137**.

(1) "High luminosity" LED, see page 1/83.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: heads

To combine with bodies:
see pages 1/72 to 1/76

ZB4 BK1343

Heads for illuminated selector switches, standard handle *(1)*

Shape of head	Number and type of positions	Colour of handle	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED				
Protected LED	2 - stay put	White	**ZB4 BK1213**	0.040
		Green	**ZB4 BK1233**	0.040
		Red	**ZB4 BK1243**	0.040
		Yellow	**ZB4 BK1253**	0.040
		Blue	**ZB4 BK1263**	0.040
	2 - spring return from right to left	White	**ZB4 BK1413**	0.040
		Green	**ZB4 BK1433**	0.040
		Red	**ZB4 BK1443**	0.040
		Yellow	**ZB4 BK1453**	0.040
		Blue	**ZB4 BK1463**	0.040
	3 - stay put	White	**ZB4 BK1313**	0.040
		Green	**ZB4 BK1333**	0.040
		Red	**ZB4 BK1343**	0.040
		Yellow	**ZB4 BK1353**	0.040
		Blue	**ZB4 BK1363**	0.040
	3 - spring return to centre	White	**ZB4 BK1513**	0.040
		Green	**ZB4 BK1533**	0.040
		Red	**ZB4 BK1543**	0.040
		Yellow	**ZB4 BK1553**	0.040
		Blue	**ZB4 BK1563**	0.040
	3 - spring return from right to centre	White	**ZB4 BK1813**	0.040
		Green	**ZB4 BK1833**	0.040
		Red	**ZB4 BK1843**	0.040
		Yellow	**ZB4 BK1853**	0.040
		Blue	**ZB4 BK1863**	0.040
	3 - spring return from left to centre	White	**ZB4 BK1713**	0.040
		Green	**ZB4 BK1733**	0.040
		Red	**ZB4 BK1743**	0.040
		Yellow	**ZB4 BK1753**	0.040
		Blue	**ZB4 BK1763**	0.040

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BK1213** becomes **ZB4 BK12137**.

(1) NEMA type 13.

General:
pages 1/42 to 1/49

Characteristics:
pages 1/50 to 1/53

Dimensions:
pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: electrical blocks

814265

ZBE 101

814266

ZBE 102

814267

ZBE 203

814268

ZBE 204

814265

ZBE 201

814266

ZBE 202

Contact blocks with screw clamp terminal connections *(1)*

Description	Type of contact N/O	Type of contact N/C	Sold in lots of	Unit reference	Weight kg
Standard single contact blocks	1	–	5	**ZBE 101**	0.011
	–	1	5	**ZBE 102**	0.011
Standard double contact blocks	2	–	5	**ZBE 203**	0.020
	–	2	5	**ZBE 204**	0.020
	1	1	5	**ZBE 205**	0.020
Special contact blocks for low power switching with gold flashed contacts	1	–	5	**ZBE 1016**	0.012
	–	1	5	**ZBE 1026**	0.012
Special contact blocks for low power switching with gold flashed contacts and dust protection *(2)*	1	–	5	**ZBE 1016P**	0.012
	–	1	5	**ZBE 1026P**	0.012

Description	Type of contact N/O	Type of contact N/C	Sold in lots of	Unit reference	Weight kg
Specific contact block for early make contact function	1	–	5	**ZBE 201**	0.011
Specific contact block for late break contact function	–	1	5	**ZBE 202**	0.011

Body/fixing collar

For use on	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	**ZB4 BZ009**	0.038

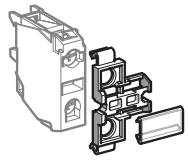
814264

ZB4 BZ009

Clip-on legend holders for electrical blocks with screw clamp terminal connections

Application	Sold in lots of	Unit reference	Weight kg
Identification of an XB4 B control or signalling unit	10	**ZBZ 001**	0.001

814262



ZBZ 001

Sheet of 50 blank legends

For use on	Sold in lots of	Unit reference	Weight kg
Legend holder ZBZ 001	10	**ZBY 001**	0.023

"SIS Label" labelling software (for legends **ZBY 001**)

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	**XBY 2U**	0.100

563527

XBY 2U

(1) The contact blocks enable variable composition of body sub-assemblies. Maximum number of rows possible: 3. Either 3 rows of 3 single contacts or 1 row of 3 double contacts + 1 row of 3 single contacts (double contact blocks occupy 2 rows).

(2) It is not possible to fit an additional contact block on the back of these blocks.

Other versions Contact blocks with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

General: pages 1/42 to 1/49

Characteristics: pages 1/50 to 1/53

Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: electrical blocks

814273

ZBV B●

522067

ZBZ G156

522068

ZBZ M156

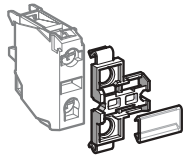
814274

ZBZ V●

814272

ZB4 BZ009

814269



ZBZ 001

563527

XBY 2U

Light blocks with screw clamp terminals

Description	Supply voltage V	Colour of light source	Sold in lots of	Unit reference	Weight kg
Integral LED (to combine with heads for integral LED) Protected LED	⎓ 12	White	5	**ZBV J1** *(1)*	0.017
		Green	5	**ZBV J3** *(1)*	0.017
		Red	5	**ZBV J4** *(1)*	0.017
		Yellow	5	**ZBV J5** *(1)*	0.017
		Blue	5	**ZBV J6** *(1)*	0.017
	⎓ 24	White	5	**ZBV B1** *(1)*	0.017
		Green	5	**ZBV B3** *(1)*	0.017
		Red	5	**ZBV B4** *(1)*	0.017
		Yellow	5	**ZBV B5** *(1)*	0.017
		Blue	5	**ZBV B6** *(1)*	0.017
	⎓ 24…120	White	5	**ZBV BG1**	0.017
		Green	5	**ZBV BG3**	0.017
		Red	5	**ZBV BG4**	0.017
		Yellow	5	**ZBV BG5**	0.017
		Blue	5	**ZBV BG6**	0.017
	∿ 48...120	White	5	**ZBV G1** *(1)*	0.017
		Green	5	**ZBV G3** *(1)*	0.017
		Red	5	**ZBV G4** *(1)*	0.017
		Yellow	5	**ZBV G5** *(1)*	0.017
		Blue	5	**ZBV G6** *(1)*	0.017
	∿ 230...240	White	5	**ZBV M1** *(1)*	0.017
		Green	5	**ZBV M3** *(1)*	0.017
		Red	5	**ZBV M4** *(1)*	0.017
		Yellow	5	**ZBV M5** *(1)*	0.017
		Blue	5	**ZBV M6** *(1)*	0.017
Direct supply for BA 9s 2.4 W max. bulb **Not included** *(2)*	⩽ 250	–	5	**ZBV 6**	0.016

Blocks for “test light” function

For use with	Supply voltage V	Description	Reference	Weight kg
Light blocks	⎓ 12 and 24 ⎓ 24…120	Single module, 1 connecting wire	**ZBZ G156** *(3)*	0,010
Light blocks with integral LED	∿ 48…230	Double module, with connecting wires	**ZBZ M156** *(4)*	0,010

LED suppressors

For use with	Supply voltage V	Reference	Weight kg
Light blocks with integral LED fitted with screw clamp terminal connections	∿ 120	**ZBZ VG**	0.010
	∿ 230	**ZBZ VM**	0.010

Body/fixing collar

For use with	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	**ZB4 BZ009**	0.038

Clip-on legend holders for electrical blocks with screw clamp terminal connections

Identification of an XB4 B control or signalling unit	10	**ZBZ 001**	0.001

Sheet of 50 blank legends

Legend holder ZBZ 001	10	**ZBY 001**	0.023

“SIS Label” labelling software (for legends **ZBY 001**)

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	**XBY 2U**	0.100

*(1) To order a “high luminosity” version, add the suffix **S** to the reference (example: **ZBV B5S** for a yellow, 24 V, high luminosity light block).*

(2) Bulb to be ordered separately, see page 1/94.

*(3) Block for use with ⎓ light blocks with integral LED types **ZBV J●**, **ZBV B●**, **ZBV BG●** or with direct supply light block for BA 9s bulb, **ZBV 6**.*

*(4) Block for use with ∿ light blocks with integral LED types **ZBV G●**, **ZBV M●**, see connections on page 1/102.*

Other versions Light blocks with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

General:: pages 1/42 to 1/49

Characteristics: pages 1/50 to 1/53

Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

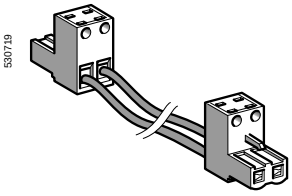
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: electrical blocks

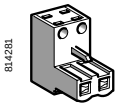
ZBE 1014

ZBE 1024

ZBV B●4



APE 1C2250



APE 1PAD21

ZB4 BZ009

Contact blocks for plug-in connector

Description	Type of contact N/O	Type of contact N/C	Sold in lots of	Unit reference	Weight kg
Standard contact blocks	1	–	5	**ZBE 1014**	0.009
	–	1	5	**ZBE 1024**	0.009

Light blocks for plug-in connector

Description	Supply voltage V	Colour of light source	Sold in lots of	Unit reference	Weight kg
Integral LED (to combine with heads for integral LED) Protected LED	⎓ 24	White	5	**ZBV B14**	0,016
		Green	5	**ZBV B34**	0,016
		Red	5	**ZBV B44**	0.016
		Yellow	5	**ZBV B54**	0.016
		Blue	5	**ZBV B64**	0.016
	~ 48…120	White	5	**ZBV G14**	0.016
		Green	5	**ZBV G34**	0.016
		Red	5	**ZBV G44**	0.016
		Yellow	5	**ZBV G54**	0.016
		Blue	5	**ZBV G64**	0.016
	~ 230…240	White	5	**ZBV M14**	0.016
		Green	5	**ZBV M34**	0.016
		Red	5	**ZBV M44**	0.016
		Yellow	5	**ZBV M54**	0.016
		Blue	5	**ZBV M64**	0.016

Connecting cables and connector

Description	Number of connectors	Wire c.s.a. mm^2	Length mm	Sold in lots of	Unit reference	Weight kg
Cables with connectors 2-pin, 5.08 mm pitch	1	0.75	500	8	**APE 1C2150**	0,120
	2	0.75	500	8	**APE 1C2250**	0.180
Self-stripping connector 2-pin, 5.08 mm pitch	–	0.75	–	16	**APE 1PAD21**	0.080
Spring terminal connector 2-pin, 5.08 mm pitch	–	0.2 to 2.5	–	10	**APE 1PRE21**	0.003

Body/fixing collar

For use with	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	**ZB4 BZ009**	0.038

General: pages 1/42 to 1/49
Characteristics: pages 1/50 to 1/53
Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: electrical blocks

814287

ZBE 701

814288

ZBE 702

814289

ZBV B●7

814277

ZB4 BZ009

540159

ZBZ 01●

814286

ZB4 BZ079 + ZB4 BZ009

Contact blocks for printed circuit board connection *(1)*

Description	Type of contact N/O	Type of contact N/C	Sold in lots of	Unit reference	Weight kg
Standard contact blocks	1	–	10	**ZBE 701**	0.002
	–	1	10	**ZBE 702**	0.002
Special contact blocks for low power switching with gold flashed contacts	1	–	10	**ZBE 7016** ▲	0.003
	–	1	10	**ZBE 7026** ▲	0.003

Light blocks for printed circuit board connection *(1)*

Description	Supply voltage V	Colour of LED	Sold in lots of	Unit reference	Weight kg
Integral LED (to combine with heads for integral LED) Protected LED	≂ 24	White	5	**ZBV B17**	0,004
		Green	5	**ZBV B37**	0.004
		Red	5	**ZBV B47**	0.004
		Yellow	5	**ZBV B57**	0.004
		Blue	5	**ZBV B67**	0.004

Adaptor (socket) for printed circuit board connection

For use with	Thickness of printed circuit board mm	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	1.6 ± 0.2	10	**ZBZ 010**	0.008
	2.2 ± 0.2	10	**ZBZ 011**	0.008
	3.2 ± 0.2	10	**ZBZ 012**	0.008

Body/fixing collar

For use with	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	**ZB4 BZ009**	0.038

Accessories specifically for printed circuit board mounting *(1)*

Description	Application	Sold in lots of	Unit reference	Weight kg
Fixing collar/pillar	Printed circuit board support	10	**ZB4 BZ079**	0.003
Fixing screw for printed circuit board	Fixing collar/pillar ZB4 BZ079	10	**ZBZ 006**	0.011

(1) For details of support drilling and of printed circuit board: see page 1/105.
Must be used in conjunction with adaptor (socket) ZBZ 010.

▲ Available: 4th quarter 2005.

General: pages 1/42 to 1/49
Characteristics: pages 1/50 to 1/53
Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

814292

ZBA ●

814293

ZBL ●

814294

ZBA ●33

Pushbutton caps - unmarked

For use with	Type of push	Colour	Sold in lots of	Unit reference	Weight kg
ZB4 BA0 circular pushbutton heads supplied without cap	Flush	White	10	**ZBA 1**	0.001
		Black	10	**ZBA 2**	0.001
		Green	10	**ZBA 3**	0.001
		Red	10	**ZBA 4**	0.001
		Yellow	10	**ZBA 5**	0.001
		Blue	10	**ZBA 6**	0.001
		6 colours *(1)*	1	**ZBA 9**	0.006
	Projecting	White	10	**ZBL 1**	0.001
		Black	10	**ZBL 2**	0.001
		Green	10	**ZBL 3**	0.001
		Red	10	**ZBL 4**	0.001
		Yellow	10	**ZBL 5**	0.001
		Blue	10	**ZBL 6**	0.001
		6 colours *(1)*	1	**ZBL 9**	0.006

Pushbutton caps - marked

For use with	Type of push	Marking Text	Marking Colour	Colour of cap	Unit reference	Weight kg
ZB4 BA0 circular pushbutton heads supplied without cap (sold in lots of 10)	Flush	I *(2)*	White	Green	**ZBA 331**	0,001
			Black	White	**ZBA 131**	0.001
		II	White	Green	**ZBA 336**	0.001
			Black	White	**ZBA 136**	0.001
		III	White	Green	**ZBA 337**	0.001
			Black	White	**ZBA 137**	0.001
		IV	White	Green	**ZBA 338**	0.001
			Black	White	**ZBA 138**	0.001
		START *(2)*	White	Green	**ZBA 333**	0.001
			Black	White	**ZBA 133**	0.001
		ON	White	Green	**ZBA 341**	0.001
			Black	White	**ZBA 141**	0.001
		MARCHE	White	Green	**ZBA 342**	0.001
			Black	White	**ZBA 142**	0.001
		UP *(2)*	Black	White	**ZBA 343**	0.001
		DOWN *(2)*	White	Black	**ZBA 344**	0.001
		⏉ *(2)*	White	Black	**ZBA 245**	0.001
			Black	White	**ZBA 145**	0.001
		↑ *(3)*	White	Black	**ZBA 335**	0.001
			Black	White	**ZBA 334**	0.001
		O *(2)*	White	Red	**ZBA 432**	0.001
				Black	**ZBA 232**	0.001
		ARRET	White	Red	**ZBA 433**	0.001
				Black	**ZBA 233**	0.001
		STOP *(2)*	White	Red	**ZBA 434**	0.001
				Black	**ZBA 234**	0.001
		OFF	White	Red	**ZBA 435**	0.001
				Black	**ZBA 235**	0.001
		◇	White	Green	**ZBA 346**	0.001
		R (2)	White	Blue	**ZBA 639**	0.001
		+	White	Black	**ZBA 2934**	0.001
		–	White	Black	**ZBA 2935**	0.001

(1) Set of 6 different coloured caps: white, black, green, red, yellow, blue.
(2) Double injection moulded marking.
(3) Can be clipped-in at 90° steps, through 360°.

Control and signalling units Ø 22

Harmony® style 4

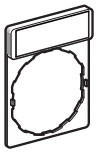
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

814295

ZBZ 32

814296



ZBY ●101

814297

ZBY 2107

Standard (30 x 40 mm) legend holders for 8 x 27 mm legends *(1)*

Description	Legend		Sold in lots of	Unit reference	Weight kg
	Colour	Marking			
Without legend	–	–	10	**ZBZ 32**	0.001
With blank legend (for engraving)	Black or red background	–	10	**ZBY 2101**	0.002
	White or yellow background	–	10	**ZBY 4101**	0.002
With 8 x 27 mm legend (with International marking)	Black or red background	O (black background)	1	**ZBY 2146**	0.002
		O (red background)	1	**ZBY 2931**	0.002
		I	1	**ZBY 2147**	0.002
		II	1	**ZBY 2148**	0.002
		O-I	1	**ZBY 2178**	0.002
		I-II	1	**ZBY 2179**	0.002
		I-O-II	1	**ZBY 2186**	0.002
		AUTO	1	**ZBY 2115**	0.002
		STOP	1	**ZBY 2304**	0.002
With 8 x 27 mm legend (with French language marking)	Black or red background *(2)*	ARRET (red background)	1	**ZBY 2104**	0.002
		ARRET (black background)	1	**ZBY 0104**	0.002
		ARRET GENERAL	1	**ZBY 2129**	0.002
		ARRET REARMEMENT	1	**ZBY 2133**	0.002
		ARRET D'URGENCE	1	**ZBY 2130**	0.002
		ARRET-MARCHE	1	**ZBY 2166**	0.002
		ARRIERE	1	**ZBY 2106**	0.002
		AUTO CYCLE-CYCLE	1	**ZBY 2198**	0.002
		AUTO CYCLE-MAIN	1	**ZBY 2199**	0.002
		AUTO-MAIN	1	**ZBY 2164**	0.002
		AUTO-O-MAIN	1	**ZBY 2185**	0.002
		AVANT	1	**ZBY 2105**	0.002
		AVANT-O-ARRIERE	1	**ZBY 2184**	0.002
		C-P-C-NORMAL	1	**ZBY 2165**	0.002
		CYCLE-MAIN	1	**ZBY 2197**	0.002
		DECLENCHEMENT	1	**ZBY 2132**	0.002
		DEFAUT (black background)	1	**ZBY 2134**	0.002
		DEFAUT (red background)	1	**ZBY 2135**	0.002
		DEPART CYCLE	1	**ZBY 2195**	0.002
		DESCENTE	1	**ZBY 2108**	0.002
		DROITE	1	**ZBY 2109**	0.002
		ENCLENCHEMENT	1	**ZBY 2131**	0.002
		EN SERVICE	1	**ZBY 2111**	0.002
		FERMETURE	1	**ZBY 2114**	0.002
		GAUCHE	1	**ZBY 2110**	0.002
		HORS SERVICE	1	**ZBY 2112**	0.002
		HORS-EN	1	**ZBY 2167**	0.002
		LENT	1	**ZBY 2127**	0.002
		MAIN	1	**ZBY 2116**	0.002
		MARCHE	1	**ZBY 2103**	0.002
		MONTEE	1	**ZBY 2107**	0.002
		OUVERTURE	1	**ZBY 2113**	0.002
		PHASE / PHASE	1	**ZBY 2196**	0.002
		REARMEMENT (red bk.grnd)	1	**ZBY 2123**	0.002
		REARMEMENT (black bk.grnd)	1	**ZBY 0123**	0.002
		SOUS TENSION	1	**ZBY 2126**	0.002
		VITE	1	**ZBY 2128**	0.002

(1) For legends, see pages 1/89 to 1/91.

(2) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

General: pages 1/42 to 1/49

Characteristics: pages 1/50 to 1/53

Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

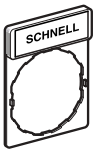
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

814300

ZBY 2303

814299



ZBY 2228

Standard (30 x 40 mm) legend holders for 8 x 27 mm legends (continued)

Description	Legend		Reference	Weight kg
	Colour	Marking		
With legend (with English language marking)	Black or red background *(1)*	AUTO-HAND	**ZBY 2364**	0.002
		AUTO-O-HAND	**ZBY 2385**	0.002
		CLOSE	**ZBY 2314**	0.002
		DOWN	**ZBY 2308**	0.002
		EMERGENCY STOP	**ZBY 2330**	0.002
		FAST	**ZBY 2328**	0.002
		FORWARD	**ZBY 2305**	0.002
		HAND	**ZBY 2316**	0.002
		HAND-OFF-AUTO	**ZBY 2387**	0.002
		INCH	**ZBY 2321**	0.002
		LEFT	**ZBY 2310**	0.002
		OFF	**ZBY 2312**	0.002
		OFF-ON	**ZBY 2367**	0.002
		ON	**ZBY 2311**	0.002
		OPEN	**ZBY 2313**	0.002
		POWER ON	**ZBY 2326**	0.002
		RESET (red background)	**ZBY 2323**	0.002
		RESET (black background)	**ZBY 2322**	0.002
		REVERSE	**ZBY 2306**	0.002
		RIGHT	**ZBY 2309**	0.002
		RUN	**ZBY 2334**	0.002
		SLOW	**ZBY 2327**	0.002
		START	**ZBY 2303**	0.002
		STOP-START	**ZBY 2366**	0.002
		UP	**ZBY 2307**	0.002
With legend (with German language marking)	Black or red background *(1)*	AB	**ZBY 2208**	0.002
		AUF	**ZBY 2207**	0.002
		AUS	**ZBY 2204**	0.002
		AUS-EIN	**ZBY 2266**	0.002
		AUS-IN BETRIEB	**ZBY 2267**	0.002
		AUS-RÜCKSTELLUNG	**ZBY 2233**	0.002
		AUSSCHALTEN	**ZBY 2232**	0.002
		AUTO-HAND	**ZBY 2364**	0.002
		AUTO-O-HAND	**ZBY 2385**	0.002
		AUTOZYKL-HAND	**ZBY 2299**	0.002
		AUTOZYKL- 1 ZYKL	**ZBY 2298**	0.002
		C-P-C-NORMAL	**ZBY 2265**	0.002
		EIN	**ZBY 2203**	0.002
		EINSCHALTEN	**ZBY 2231**	0.002
		HAND	**ZBY 2316**	0.002
		LANGSAM	**ZBY 2227**	0.002
		LINKS	**ZBY 2210**	0.002
		NOT-AUS (red background)	**ZBY 2230**	0.002
		NOT-AUS (yellow background)	**ZBY 22420001**	0.002
		NOT-HALT	**ZBY 2229**	0.002
		ÖFFNEN	**ZBY 2213**	0.002
		RECHTS	**ZBY 2209**	0.002
		RÜCKSTELLUNG	**ZBY 2223**	0.002
		SCHLIESSEN	**ZBY 2214**	0.002
		SCHNELL	**ZBY 2228**	0.002
		SPANNUNG EIN	**ZBY 2226**	0.002
		STEUERUNG AUS	**ZBY 2212**	0.002
		STEUERUNG EIN	**ZBY 2211**	0.002
		STÖRUNG (black background)	**ZBY 2234**	0.002
		STÖRUNG (red background)	**ZBY 2235**	0.002
		VOR	**ZBY 2205**	0.002
		VOR-O-ZURÜCK	**ZBY 2284**	0.002
		ZURÜCK	**ZBY 2206**	0.002
		ZYKLUS-HAND	**ZBY 2297**	0.002
		ZYKLUSSTART	**ZBY 2295**	0.002

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

General: pages 1/42 to 1/49
Characteristics: pages 1/50 to 1/53
Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

814302 814303

ZBZ 34 ZBY ●H101

30 x 40 mm legend holders (flush mounting with bezel) for 8 x 27 mm legends

Description	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	–	10	**ZBZ 34**	0.003
With blank legend	Black or red background	10	**ZBY 2H101**	0.004
	White or yellow background	10	**ZBY 4H101**	0.004

814304 814305

ZBZ 33 ZBY 610●

Standard (30 x 50 mm) legend holders for 18 x 27 mm legends

Description	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	–	10	**ZBZ 33**	0.001
With blank legend	Black or red background	10	**ZBY 6101**	0.002
	White or yellow background	10	**ZBY 6102**	0.002

814306 814307

ZBZ 35 ZBY 6H10●

30 x 50 mm legend holders (flush mounting with bezel) for 18 x 27 mm legends

Description	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	–	10	**ZBZ 35**	0.003
With blank legend	Black or red background	10	**ZBY 6H101**	0.004
	White or yellow background	10	**ZBY 6H102**	0.004

814309

ZBY 4100

Legends for engraving

Description	For use with	Colour	Sold in lots of	Unit reference	Weight kg
8 x 27 mm	30 x 40 mm legend holder	Black or red background	10	**ZBY 0101**	0.001
		White or yellow background	10	**ZBY 0102**	0.001
18 x 27 mm	30 x 50 mm legend holder	Black or red background	10	**ZBY 5101**	0.001
		White or yellow background	10	**ZBY 5102**	0.001

Sheets of peel-off legends (with backing board and protective transparent cover)

Description	For use with	Sold in lots of	Unit reference	Weight kg
Sheet of 76 legends 8 x 27 mm	30 x 40 mm legend holders ZBZ 32 and ZBZ 34	10	**ZBY 4100**	0.043
Sheet of 40 legends 18 x 27 mm	30 x 50 mm legend holders ZBZ 33 and ZBZ 35	10	**ZBY 5100**	0.044

563527

XBY 2U

"SIS Label" labelling software

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	**XBY 2U**	0.100

General: pages 1/42 to 1/49
Characteristics: pages 1/50 to 1/53
Dimensions: pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

1

814310

ZBY 02178

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34)

Colour	Marking		Reference	Weight kg
Black or red background *(1)*	International	O (black background)	**ZBY 02146**	0.001
		O (red background)	**ZBY 02931**	0.001
		I	**ZBY 02147**	0.001
		II	**ZBY 02148**	0.001
		O-I	**ZBY 02178**	0.001
		I-II	**ZBY 02179**	0.001
		I-O-II	**ZBY 02186**	0.001
		AUTO	**ZBY 02115**	0.001
		STOP	**ZBY 02304**	0.001

1.3

814311

ZBY 0●104

Colour	Marking		Reference	Weight kg
	French	ARRET (red background)	**ZBY 02104**	0.001
		ARRET (black background)	**ZBY 00104**	0.001
		ARRET GENERAL	**ZBY 02129**	0.001
		ARRET REARMEMENT	**ZBY 02133**	0.001
		ARRET D'URGENCE	**ZBY 02130**	0.001
		ARRET-MARCHE	**ZBY 02166**	0.001
		ARRIERE	**ZBY 02106**	0.001
		AUTO CYCLE-CYCLE	**ZBY 02198**	0.001
		AUTO CYCLE-MAIN	**ZBY 02199**	0.001
		AUTO-MAIN	**ZBY 02164**	0.001
		AUTO-O-MAIN	**ZBY 02185**	0.001
		AVANT	**ZBY 02105**	0.001
		AVANT-O-ARRIERE	**ZBY 02184**	0.001
		C-P-C-NORMAL	**ZBY 02165**	0.001
		CYCLE-MAIN	**ZBY 02197**	0.001
		DECLENCHEMENT	**ZBY 02132**	0.001
		DEFAUT (black background)	**ZBY 02134**	0.001
		DEFAUT (red background)	**ZBY 02135**	0.001
		DEPART CYCLE	**ZBY 02195**	0.001
		DESCENTE	**ZBY 02108**	0.001
		DROITE	**ZBY 02109**	0.001
		ENCLENCHEMENT	**ZBY 02131**	0.001
		EN SERVICE	**ZBY 02111**	0.001
		FERMETURE	**ZBY 02114**	0.001
		GAUCHE	**ZBY 02110**	0.001
		HORS SERVICE	**ZBY 02112**	0.001
		HORS-EN	**ZBY 02167**	0.001
		LENT	**ZBY 02127**	0.001
		MAIN	**ZBY 02116**	0.001
		MARCHE	**ZBY 02103**	0.001
		MONTEE	**ZBY 02107**	0.001
		OUVERTURE	**ZBY 02113**	0.001
		PHASE / PHASE	**ZBY 02196**	0.001
		REARMEMENT (red background)	**ZBY 02123**	0.001
		REARMEMENT (black background)	**ZBY 00123**	0.001
		SOUS TENSION	**ZBY 02126**	0.001
		VITE	**ZBY 02128**	0.001

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

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Dimensions: pages 1/98 to 1/105

Telemecanique

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34) (continued)

814313

ZBY 02303

814314

ZBY 02228

Colour	Marking		Reference	Weight kg
Black or red background *(1)*	English	AUTO-HAND	**ZBY 02364**	0.001
		AUTO-O-HAND	**ZBY 02385**	0.001
		CLOSE	**ZBY 02314**	0.001
		DOWN	**ZBY 02308**	0.001
		EMERGENCY STOP	**ZBY 02330**	0.001
		FAST	**ZBY 02328**	0.001
		FORWARD	**ZBY 02305**	0.001
		HAND	**ZBY 02316**	0.001
		HAND-OFF-AUTO	**ZBY 02387**	0.001
		INCH	**ZBY 02321**	0.001
		LEFT	**ZBY 02310**	0.001
		OFF	**ZBY 02312**	0.001
		OFF-ON	**ZBY 02367**	0.001
		ON	**ZBY 02311**	0.001
		OPEN	**ZBY 02313**	0.001
		POWER ON	**ZBY 02326**	0.001
		RESET (red background)	**ZBY 02323**	0.001
		RESET (black background)	**ZBY 02322**	0.001
		REVERSE	**ZBY 02306**	0.001
		RIGHT	**ZBY 02309**	0.001
		RUN	**ZBY 02334**	0.001
		SLOW	**ZBY 02327**	0.001
		START	**ZBY 02303**	0.001
		STOP-START	**ZBY 02366**	0.001
		UP	**ZBY 02307**	0.001
	German	AB	**ZBY 02208**	0.001
		AUF	**ZBY 02207**	0.001
		AUS	**ZBY 02204**	0.001
		AUS-EIN	**ZBY 02266**	0.001
		AUS-IN BETRIEB	**ZBY 02267**	0.001
		AUS-RÜCKSTELLUNG	**ZBY 02233**	0.001
		AUSSCHALTEN	**ZBY 02232**	0.001
		AUTO-HAND	**ZBY 02364**	0.001
		AUTO-O-HAND	**ZBY 02385**	0.001
		AUTOZYKL-HAND	**ZBY 02299**	0.001
		AUTOZYKL- 1 ZYKL	**ZBY 02298**	0.001
		C-P-C-NORMAL	**ZBY 02265**	0.001
		EIN	**ZBY 02203**	0.001
		EINSCHALTEN	**ZBY 02231**	0.001
		HAND	**ZBY 02316**	0.001
		LANGSAM	**ZBY 02227**	0.001
		LINKS	**ZBY 02210**	0.001
		NOT-AUS (red background)	**ZBY 02230**	0.001
		NOT-AUS (yellow background)	**ZBY 022420001**	0.001
		NOT-HALT	**ZBY 02229**	0.001
		ÖFFNEN	**ZBY 02213**	0.001
		RECHTS	**ZBY 02209**	0.001
		RÜCKSTELLUNG	**ZBY 02223**	0.001
		SCHLIESSEN	**ZBY 02214**	0.001
		SCHNELL	**ZBY 02228**	0.001
		SPANNUNG EIN	**ZBY 02226**	0.001
		STEUERUNG AUS	**ZBY 02212**	0.001
		STEUERUNG EIN	**ZBY 02211**	0.001
		STÖRUNG (black background)	**ZBY 02234**	0.001
		STÖRUNG (red background)	**ZBY 02235**	0.001
		VOR	**ZBY 02205**	0.001
		VOR-O-ZURÜCK	**ZBY 02284**	0.001
		ZURÜCK	**ZBY 02206**	0.001
		ZYKLUS-HAND	**ZBY 02297**	0.001
		ZYKLUSSTART	**ZBY 02295**	0.001

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

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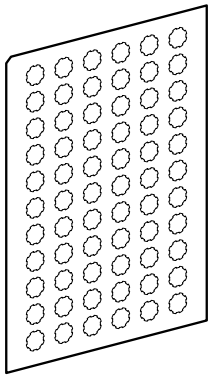
Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

814316



ZBY 1101

Legends for pushbuttons, switches and pilot lights XB4 B

Description	Marking		Sold in lots of	Unit reference	Weight kg
Sheets of 66 circular peel-off transparent self-adhesive legends	Without		10	**ZBY 1101**	0.017
Strips of 66 circular peel-off transparent self-adhesive legends	International	O	10	**ZBY 1146**	0.017
		I	10	**ZBY 1147**	0.017
		II	10	**ZBY 1148**	0.017
		III	10	**ZBY 1149**	0.017
		STOP	10	**ZBY 1304**	0.017
		↟	10	**ZBY 1912**	0.017
	French	ARRET	10	**ZBY 1104**	0.017
		ARRIERE	10	**ZBY 1106**	0.017
		AUTO	10	**ZBY 1115**	0.017
		AVANT	10	**ZBY 1105**	0.017
		DESCENTE	10	**ZBY 1108**	0.017
		MAIN	10	**ZBY 1116**	0.017
		MARCHE	10	**ZBY 1103**	0.017
		MONTEE	10	**ZBY 1107**	0.017
	English	HAND	10	**ZBY 1316**	0.017
		OFF	10	**ZBY 1312**	0.017
		ON	10	**ZBY 1311**	0.017
		START	10	**ZBY 1303**	0.017
	German	AB	10	**ZBY 1208**	0.017
		AUF	10	**ZBY 1207**	0.017
		AUS	10	**ZBY 1204**	0.017
		EIN	10	**ZBY 1203**	0.017
		ZU	10	**ZBY 1214**	0.017

563527

XBY 2U

"SIS Label" labelling software

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	**XBY 2U**	0.100

Circular legends for Emergency stop mushroom head pushbuttons (yellow)

Diameter mm	Marking on yellow background	Reference	Weight kg
60	Without	**ZBY 9101**	0.004
	ARRET D'URGENCE	**ZBY 9130**	0.004
	EMERGENCY STOP	**ZBY 9330**	0.004
	NOT-AUS	**ZBY 9230**	0.004
90	Without	**ZBY 8101**	0.008
	ARRET D'URGENCE	**ZBY 8130**	0.008
	EMERGENCY STOP	**ZBY 8330**	0.008
	NOT-AUS	**ZBY 8230**	0.008

814318

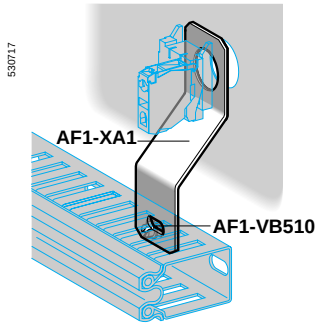
ZBY 9130

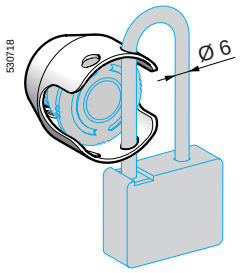
Control and signalling units Ø 22

Harmony® style 4

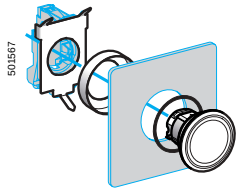
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories

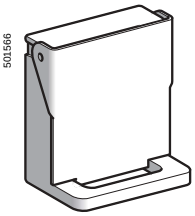




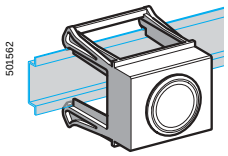
ZBZ 160●



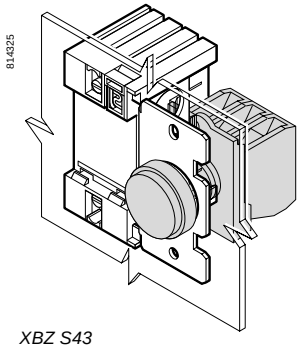
ZB4 BZ011



ZB4 BZ64



15151



XBZ S43

Accessories

Description	Application	Colour	Sold in lots of	Unit reference	Weight kg
Cable ducting support	Fixing beneath head		10	**AF1 XA1**	0.030
M5 x 10 screw, with hexagonal slotted head	For fixing cable ducting		100	**AF1 VB510**	0.003
Support	For pushbuttons, switches and pilot lights XB4 B		1	**DX1 AP52**	0.160
Metal guards Padlockable *(1)*	For Emergency stop function only with the following Ø 40 trigger action pushbuttons: XB4 BT8●, XB4 BS8●, XB4 BS9●, ZB4 BT8●, ZB4 BS8●, ZB4 BS9●.	Chromium plated	1	**ZBZ 1600**	0.046
		Black	1	**ZBZ 1602**	0.046
		Red	1	**ZBZ 1604**	0.046
		Yellow	1	**ZBZ 1605**	0.046
		Blue	1	**ZBZ 1606**	0.046
Plastic guard	For selector switches with standard handle or key switches	Black	1	**ZBZ 2102**	0.005
Metal blanking plug, round, chromium plated *(2)*	For Ø 22 control and signalling units		10	**ZB4 SZ3**	0.023
Plastic blanking plug, round, black *(3)*	For Ø 22 control and signalling units		10	**ZB5 SZ3**	0.009
Mounting kit	For pushbuttons ZB4 B● with head mounted flush with bezel		1	**ZB4 BZ011**	0.007
Padlockable flaps	For pushbuttons	Black	1	**ZB4 BZ62**	0.076
		Red	1	**ZB4 BZ64**	0.076
		Yellow	1	**ZB4 BZ65**	0.076
		Blue	1	**ZB4 BZ66**	0.076
Pushbutton support	For 35 mm DIN rail, for use in modular enclosure *(4)*		1	**15151**	0.040

AS-Interface module for Ø 22 control and signalling units

Panel fixing, in conjunction with a Harmony pushbutton or switch

Description	Application	Reference	Weight kg
S7.F profile	4 inputs and 4 outputs direct supply from the bus	**XBZ S43**	0.100

(1) No isolation function is possible when this guard is fitted.
*(2) Requires a **ZB4 BZ009** body/fixing collar for mounting, see page 1/82.*
(3) Supplied complete with fixing nut.
(4) Marketed under the Merlin Gerin brand.

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Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components, accessories and replacement parts

814327

DL1 CJ0●●●

814328

DL1 CE●●●

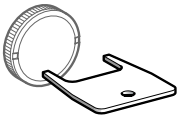
814329

DL1 CF●●●

814332

XBF X13

814330



ZBZ 8

814331

ZBG 455

BA 9s bulbs and associated accessories

Description	Characteristics	Colour	Sold in lots of	Unit reference	Weight kg
LEDs	≂ 24 V	White	1	**DL1 CJ0241**	0.002
		Green	1	**DL1 CJ0243**	0.002
		Red	1	**DL1 CJ0244**	0.002
		Yellow	1	**DL1 CJ0245**	0.002
		Blue	1	**DL1 CJ0246**	0.002
	≂ 48 V	Green	1	**DL1 CJ0483**	0.002
		Red	1	**DL1 CJ0484**	0.002
		Yellow	1	**DL1 CJ0485**	0.002
	6 V - 1.2 W	White	1	**DL1 CD0061**	0.002
		Green	1	**DL1 CD0063**	0.002
		Red	1	**DL1 CD0064**	0.002
		Yellow	1	**DL1 CD0065**	0.002
		Blue	1	**DL1 CD0066**	0.002
Incandescent bulbs	6 V - 1.2 W	–	10	**DL1 CB006**	0.002
	24 V - 2 W	–	10	**DL1 CE024**	0.002
	120…130 V - 2.4 W	–	10	**DL1 CE130**	0.002
Neon bulbs	120…130 V	–	10	**DL1 CF110**	0.002
	230…240 V	–	10	**DL1 CF220**	0.002
Bulb extractor	–	–	1	**XBF X13**	0.005
Lens cap tightening tool	Illuminated pushbuttons, with flush push	–	1	**ZBZ 8**	0.009

Replacement keys for Emergency stop key release heads and key switches

Description	Key number	Reference	Weight kg
Sets of 2 keys	455	**ZBG 455**	0.013
	421E	**ZBG 421E**	0.014
	458A	**ZBG 458A**	0.014
	520E	**ZBG 520E**	0.014
	3131A	**ZBG 3131A**	0.014

General:
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Control and signalling units Ø 22

Harmony® style 4

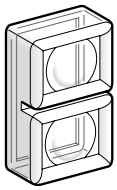
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Replacement parts

814334

ZBP 0

814335



ZBW 008

814336

ZBV 01●3

814337

ZBV 01●

Clear boots

Description	For use with pushbutton types	Sold in lots of	Unit reference	Weight kg
Single boots	Flush with circular head	10	**ZBP A**	0.002
	Projecting with circular head	10	**ZBP 0**	0.002
	Flush or projecting with circular head for food industry applications	10	**ZBP 0A**	0.002
Double boots	Flush or projecting double-headed pushbuttons	10	**ZBW 008**	0.005
	Flush double-headed pushbuttons	10	**ZBW 008F**	0.005
	Double-headed pushbuttons for food industry applications	10	**ZBW 008A**	0.005

Coloured boots

Description	Colour	Sold in lots of	Unit reference	Weight kg
Coloured boots (can be replaced without dismantling the head)	Black	10	**ZB2 BP012**	0.003
	Green	10	**ZB2 BP013**	0.003
	Red	10	**ZB2 BP014**	0.003
	Yellow	10	**ZB2 BP015**	0.003
	Blue	10	**ZB2 BP016**	0.003

Lens caps

For use on	Colour	Sold in lots of	Unit reference	Weight kg
Lens caps for light sources with integral LED				
Pilot lights	White	10	**ZBV 0113**	0,002
	Green	10	**ZBV 0133**	0.002
	Red	10	**ZBV 0143**	0.002
	Yellow	10	**ZBV 0153**	0.002
	Blue	10	**ZBV 0163**	0.002
	5 different coloured grooved lenses *(1)*	5	**ZBV 0103S**	0.010
Illuminated pushbuttons, with flush push	White	10	**ZBW 9113**	0.002
	Green	10	**ZBW 9133**	0.002
	Red	10	**ZBW 9143**	0.002
	Yellow	10	**ZBW 9153**	0.002
	Blue	10	**ZBW 9163**	0.002
Illuminated pushbuttons, with projecting push	White	10	**ZBW 9313**	0.002
	Green	10	**ZBW 9333**	0.002
	Red	10	**ZBW 9343**	0.002
	Yellow	10	**ZBW 9353**	0.002
	Blue	10	**ZBW 9363**	0.002
Lens caps for light sources with BA 9s base fitting				
Pilot lights	White	10	**ZBV 011**	0.002
	Green	10	**ZBV 013**	0.002
	Red	10	**ZBV 014**	0.002
	Yellow	10	**ZBV 015**	0.002
	Blue	10	**ZBV 016**	0.002
	Clear	10	**ZBV 017**	0.002
Illuminated pushbuttons, with flush push	White	10	**ZBW 911**	0.002
	Green	10	**ZBW 913**	0.002
	Red	10	**ZBW 914**	0.002
	Yellow	10	**ZBW 915**	0.002
	Blue	10	**ZBW 916**	0.002
	Clear	10	**ZBW 917**	0.002
Illuminated pushbuttons, with projecting push	White	10	**ZBW 931**	0.002
	Green	10	**ZBW 933**	0.002
	Red	10	**ZBW 934**	0.002
	Yellow	10	**ZBW 935**	0.002
	Blue	10	**ZBW 936**	0.002
	Clear	10	**ZBW 937**	0.002

(1) Clear, green, red, yellow, blue.

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Control and signalling units Ø 22

Harmony® style 4

Specific function units, with chromium plated metal bezel

814340

XB4 BA8●1

Manual overload reset buttons (1)

With flush push

Shape of head	Travel mm	Actuation distance mm	Colour	Reference	Weight kg
	10	6…16	Black	**XB4 BA821**	0.037
			Red	**XB4 BA841**	0.037
			Blue	**XB4 BA861**	0.037
		16…26	Black	**XB4 BA822**	0.038
			Red	**XB4 BA842**	0.038
			Blue	**XB4 BA862**	0.038
	14	30…130	Black	**XB4 BA921**	0.058
			Red	**XB4 BA941**	0.058
			Blue	**XB4 BA961**	0.058
		130…257	Black	**XB4 BA922**	0.071
			Red	**XB4 BA942**	0.071
			Blue	**XB4 BA962**	0.071

814341

ZB4 BD912

Heads + mounting base for potentiometer

Shape of head	Description	Application	Reference	Weight kg
	For potentiometer with shaft length 44 to 50 mm (potentiometer not included)	For shaft Ø 6 mm	**ZB4 BD912**	0.080
		For shaft Ø 6.35 mm	**ZB4 BD922**	0.080

109497

ZB4 BB2

Wobblestick heads

Shape of head	Operation	Colour	Reference	Weight kg
	Omnidirectional, spring return	Black	**ZB4 BB2**	0.058
		Red	**ZB4 BB4**	0.058

(1) NEMA type 13.

(2) Cap to be ordered separately, see page 1/86.

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Control and signalling units Ø 22

Harmony® style 4

Specific function units, with chromium plated metal bezel

814342

XD4 PA12

Joystick controllers (54 mm long operating shaft) *(1)*

Description	Operation	Spring return to zero position	Reference	Weight kg
Complete joystick controllers (screw clamp terminal connections)				
2 direction	1 notch 1 N/O contact per direction	Without	**XD4 PA12**	0.116
		With	**XD4 PA22**	0.116
4 direction	1 notch 1 N/O contact per direction	Without	**XD4 PA14**	0.133
		With	**XD4 PA24**	0.133

814346

ZD4 PA103

814348

ZD4 PA203

814347

ZD4 PA12

Sub-assemblies for joystick controllers

Description	Functions		Reference	Weight kg
Complete body/contact assemblies (screw clamp terminal connections)	2 direction		**ZD4 PA103**	0.049
	4 direction		**ZD4 PA203**	0.058
Complete head assemblies with operating shaft	2 direction, stay put		**ZD4 PA12**	0.022
	2 direction, spring return to zero position		**ZD4 PA22**	0.022
	4 direction, stay put		**ZD4 PA14**	0.022
	4 direction, spring return to zero position		**ZD4 PA24**	0.022
Legends 30 x 48 mm for engraving	2 direction	Black one side Red reverse	**ZBG 2201**	0.001
		White one side Yellow reverse	**ZBG 2401**	0.001
Legends 48 x 48 mm for engraving	4 direction	Black one side Red reverse	**ZBG 4201**	0.002
		White one side Yellow reverse	**ZBG 4401**	0.002

814343

XB5 DS●

Hour counters *(2)*

Characteristics	Supply voltage V	Reference	Weight kg
Indication 0…9999.9	⎓ 12…24 - 50/60 Hz	**XB5 DSB**	0.045
	∿ 120 - 60 Hz	**XB5 DSG**	0.045
	∿ 230…240 - 50 Hz	**XB5 DSM**	0.045

814344

XB5 KS●

Annunciators (IP 40 NEMA 1) *(2)*

85 db buzzer, basic: 4 kHz, with continuous or intermittent operation (connection diagram: see page 1/104)	⎓ 24 - 50/60 Hz	**XB5 KSB**	0.035
	∿ 120 - 50/60 Hz	**XB5 KSG**	0.035
	∿ 230…240 - 50 Hz	**XB5 KSM**	0.035

Fuse carrier *(2)*

Description	For use with	Reference	Weight kg
Fuse carrier	5 x 20 mm fuse 6.3 A - 250 V	**XB5 DT1S**	0.022

814344

XB5 DT1S

(1) Cannot be used with standard contact blocks ZBE 101 (single) or ZBE 20● (double).
(2) Replacement parts: fixing nut ZB5 AZ901, anti-rotation plate: ZB5 AZ902, tightening key: ZB5 AZ905.

Other versions	Joystick controllers and complete body/contact assemblies for joystick controllers with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

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Control and signalling units Ø 22

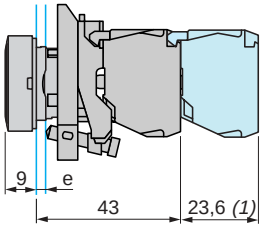
Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

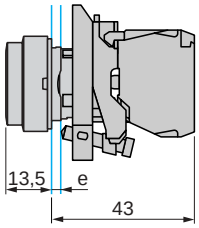
Complete units, XB4 B: contact functions

Pushbuttons, spring return

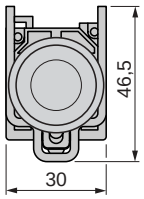
XB4 BA●●



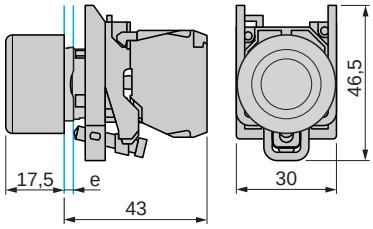
XB4 BL●●



Common face view



XB4 BP●●



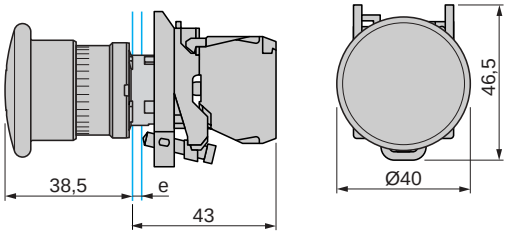
e: panel thickness: 1 to 6 mm

(1) Additional row of contacts or double contact.

e: panel thickness: 1 to 6 mm

Mushroom head

XB4 BC21

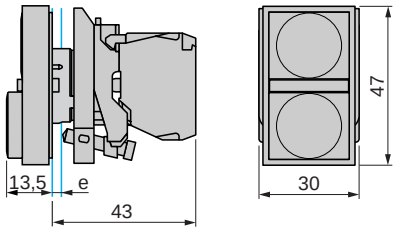


e: panel thickness: 1 to 6 mm

(1) Additional row of contacts or double contact.

Double-headed, spring return

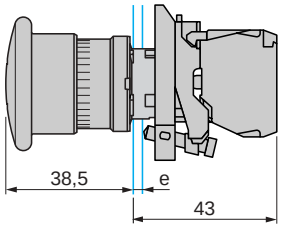
XB4 BL●45, BL●4C5



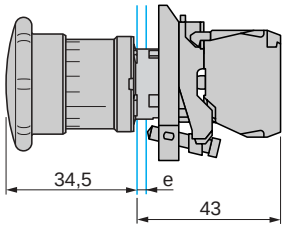
e: panel thickness: 1 to 6 mm

Emergency stop mushroom head pushbuttons

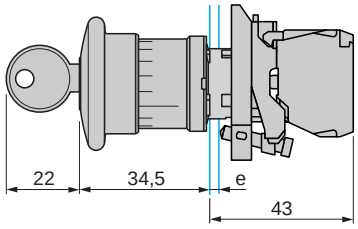
XB4 BT42, BT845



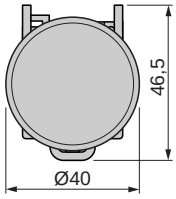
XB4 BS542, BS8441, BS8444, BS8445



XB4 BS142, BS9445



Common face view



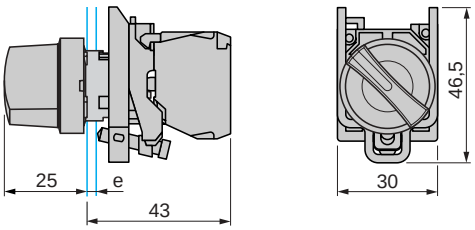
e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Selector switches

Standard handle operator

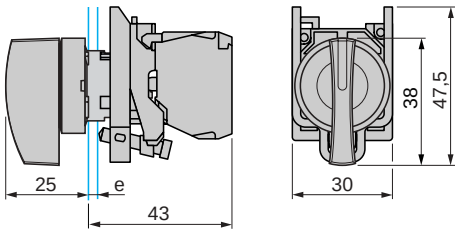
XB4 BD



e: panel thickness: 1 to 6 mm

Long handle operator

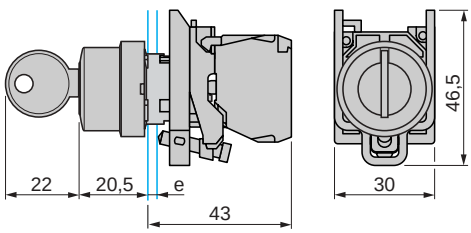
XB4 BJ



e: panel thickness: 1 to 6 mm

Key switches

XB4 BG



e: panel thickness: 1 to 6 mm

Heads for toggle switches

ZB4 BD●8

Control and signalling units Ø 22

Harmony® style 4

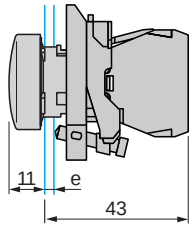
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Complete units, XB4 B: signalling functions with or without contacts

Pilot lights

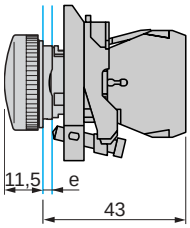
Integral LED

XB4 BVB●, BVG●, BVM●



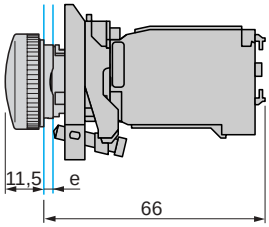
Direct supply

XB4 BV6

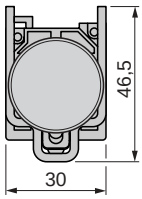


Via integral transformer

XB4 BV3●, BV4●



Common face view



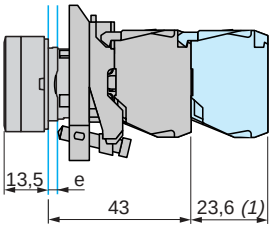
e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Illuminated pushbuttons

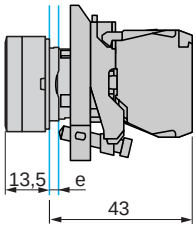
Integral LED

XB4 BWB3●●5



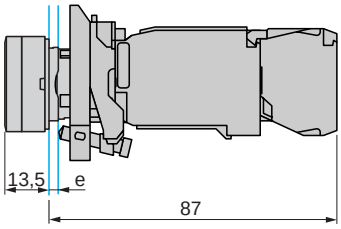
Direct supply

XB4 BW3●65

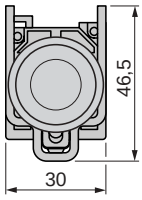


Via integral transformer

XB4 BW3●●5



Common face view



e: panel thickness: 1 to 6 mm

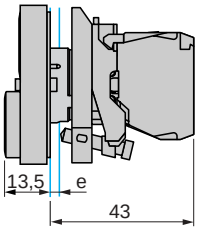
e: panel thickness: 1 to 6 mm

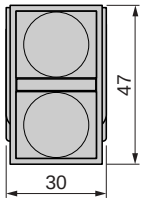
(1) Additional row of contacts or double contact

Double-headed pushbuttons with pilot light

Integral LED

XB4 BW84●5



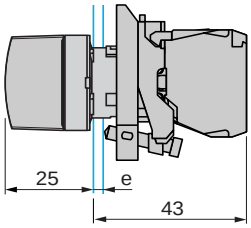


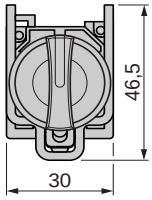
e: panel thickness: 1 to 6 mm

Illuminated selector switches

Integral LED

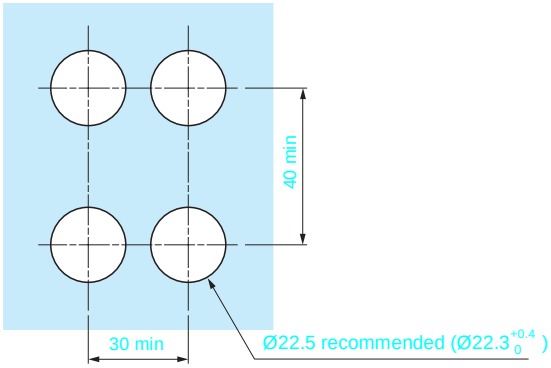
XB4 BK12●●5





e: panel thickness: 1 to 6 mm

Panel cut-out for pushbuttons, switches and pilot lights *(1)*



(1) Fixing centres for pushbuttons, switches and pilot lights fitted with Faston connector terminals 32 x 45 min.

Control and signalling units Ø 22

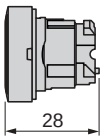
Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

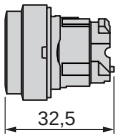
Sub-assemblies, ZB4 B: contact functions

Heads for spring return pushbuttons

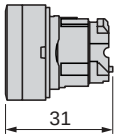
ZB4 BA●, ZB4 BA●●● ZB4 BA●8



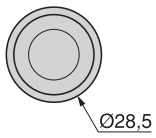
ZB4 BL●, ZB4 BL●●●



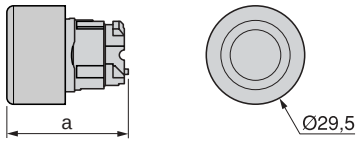
ZB4 BA●4, ZB4 BA●6



Common face view



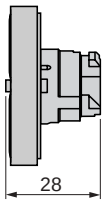
ZB4 BP●●, ZB4 BP●S, ZB4 BP●83, ZB4 BP●



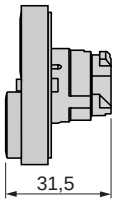
ZB4	a
BP●●	36.5
BP●S	33
BP●83	32
BP●	35

Heads for double-headed, spring return pushbuttons

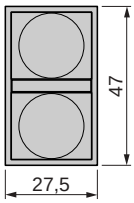
ZB4 BA81●● ZB4 BA82●●



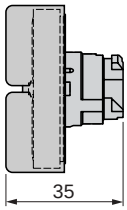
ZB4 BL83●● ZB4 BL84●●



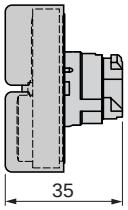
Common face view



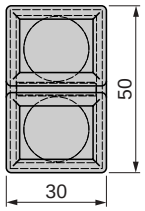
ZB4 BA91●● ZB4 BA92●●



ZB4 BL93●● ZB4 BL94●●



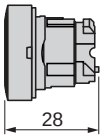
Common face view



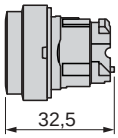
Heads for pushbuttons

Push-push to release

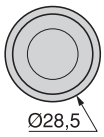
ZB4 BH0●



ZB4 BH●

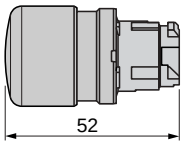


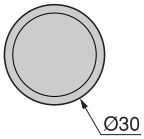
Common face view



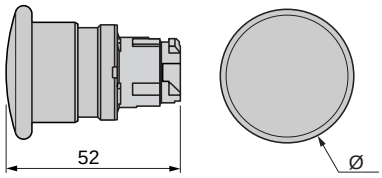
Mushroom head

ZB4 BC●4





ZB4 BC●, ZB4 BR●

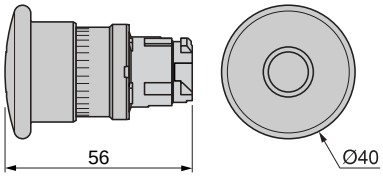


ZB4	Ø
BC●	40
BR●	60

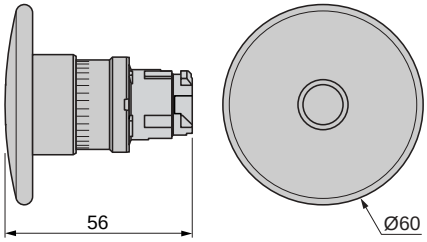
Mushroom heads for latching pushbuttons

Push-pull

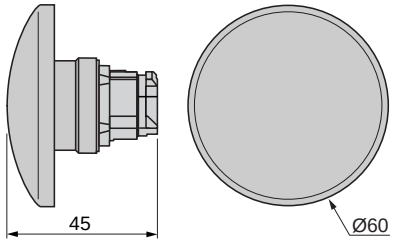
ZB4 BT●, ZB4 BT●4



ZB4 BX2, ZB4 BX4

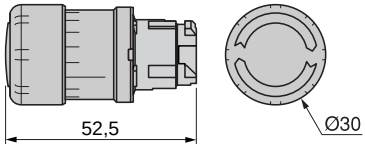


ZB4 BR●16

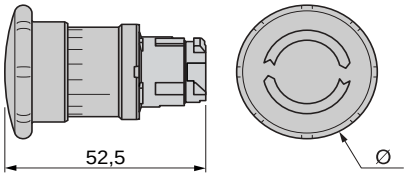


Turn to release

ZB4 BS4●, ZB4 BS834



ZB4 BS5●, ZB4 BS844, ZB4 BS6●

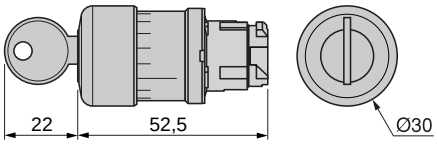


ZB4	Ø
BS5●, BS844	40
BS6●	60

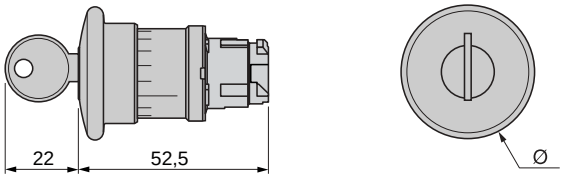
Mushroom heads for latching pushbuttons (continued)

Key release

ZB4 BS7●, ZB4 BS934



ZB4 BS1●, ZB4 BS2●, ZB4 BS944, ZB4 BS964



ZB4	Ø
BS1●, BS944	40
BS2●, BS964	60

Heads for selector switches

Standard handle operator

ZB4 BD●, ZB4 BD0●M

Long handle operator

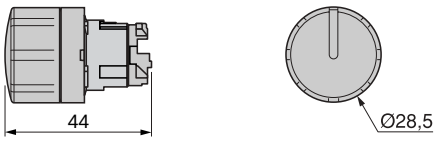
ZB4 BJ●, ZB4 BD0●M

Padlockable long handle operator (6.35 mm shank max.)

ZB4 BJ●9●

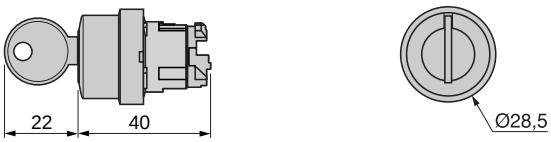
Knurled knob, black

ZB4 BD●9



Key switches

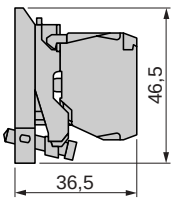
ZB4 BG●, ZB4 BG0●, ZB4 BG0●M



Bodies for pushbuttons and switches

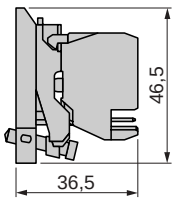
Screw clamp terminal connections

ZB4 BZ10●, ZB4 BZ141



Plug-in connector

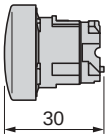
ZB4 BZ10●4, ZB4 BZ1414



Heads for pilot lights, with light source

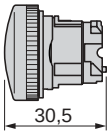
Integral LED

ZB4 BV0●3, ZB4 BV0●3S

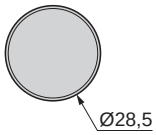


Incandescent, neon or LED

ZB4 BV0●, ZB4 BV0●S



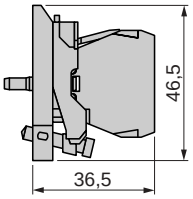
Common face view



Bodies for pilot lights, screw clamp terminal connections

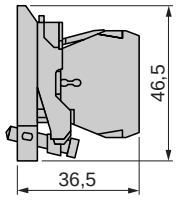
Integral LED

ZB4 BV●●



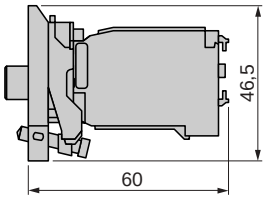
Direct supply, for BA 9s bulb

ZB4 BV6



Via integral transformer for BA 9s bulb

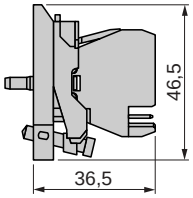
ZB4 BV●, ZB4 BV●D●



Bodies for pilot lights, plug-in connector

Integral LED

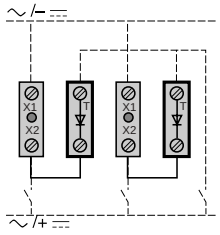
ZB4 BV●●4



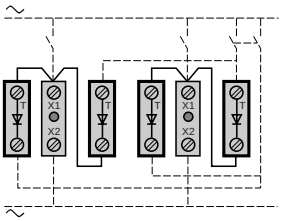
Connections

Blocks for “test light” function

ZBZ G156



ZBZ M156



Control and signalling units Ø 22

Harmony® style 4

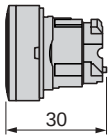
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Sub-assemblies, ZB4 B: signalling functions with or without contacts

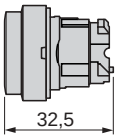
Heads for spring return illuminated pushbuttons, for light sources

LED

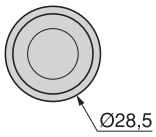
ZB4 BW3●3, ZB4 BW3●3S
ZB4 BW5●3, ZB4 BA●8



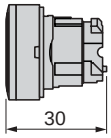
ZB4 BW1●3, ZB4 BL●8

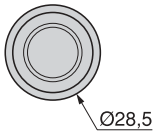


Common face view



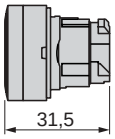
ZB4 BW9●3



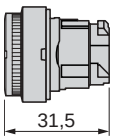


Incandescent or neon

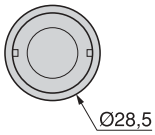
ZB4 BW3●3, ZB4 BW3●S



ZB4 BW1●

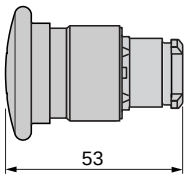


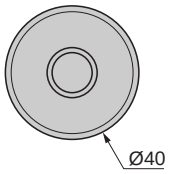
Common face view



Heads for Ø 40 mm mushroom head illuminated pushbuttons with LED

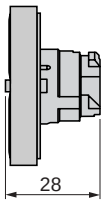
ZB4 BW4●3, ZB4 BW6●3



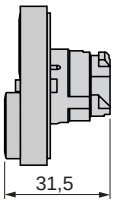


Heads for double-headed pushbuttons with pilot light

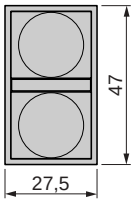
ZB4 BW81●●●3
ZB4 BW82●●●3



ZB4 BW83●●●3
ZB4 BW84●●●3

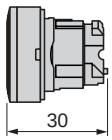


Common face view

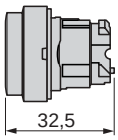


Heads for illuminated "push-push to release" pushbuttons

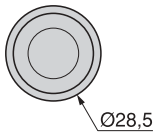
ZB4 BH0●3



ZB4 BH●3

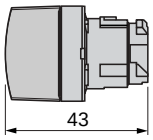


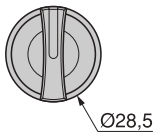
Common face view



Heads for illuminated selector switches with standard handle

ZB4 BK1●●●3



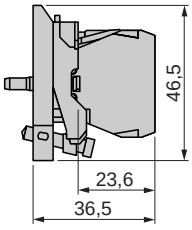


Bodies for illuminated pushbuttons and switches

Screw clamp terminal connections

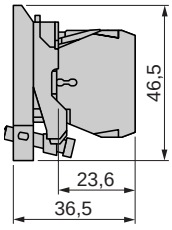
Integral LED

ZB4 BW0●●●



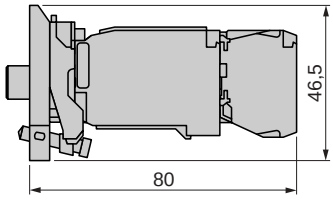
Direct supply, for BA 9s bulb

ZB4 BW06●



Via integral transformer for BA 9s bulb

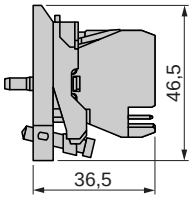
ZB4 BW0●●, BW0●D●●



Plug-in connector

Integral LED

ZB4 BW0●●●4



Control and signalling units Ø 22

Harmony® style 4

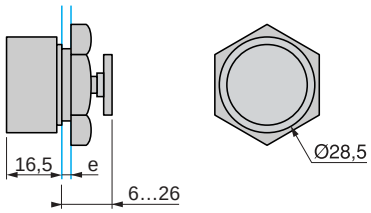
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Specific functions

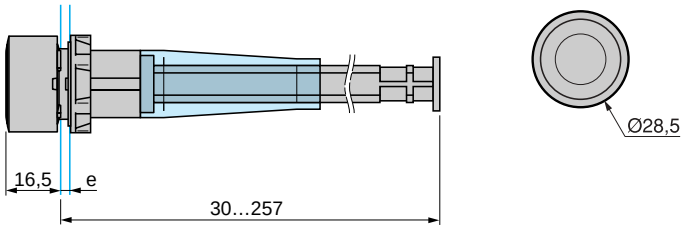
1

Manual overload reset buttons

XB4 BA8●●



XB4 BA9●●

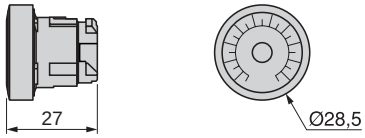


e: panel thickness 1 to 6 mm

1.3

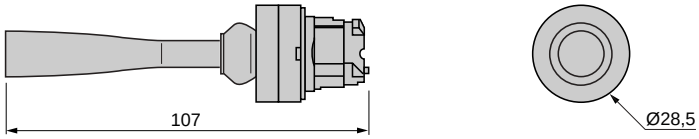
Heads + mounting base for potentiometer

ZB4 BD9●2



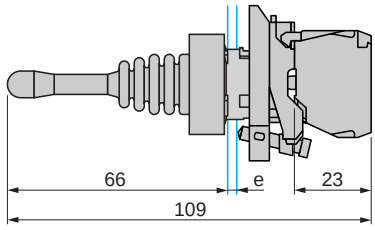
Wobblestick head

ZB4 BB●

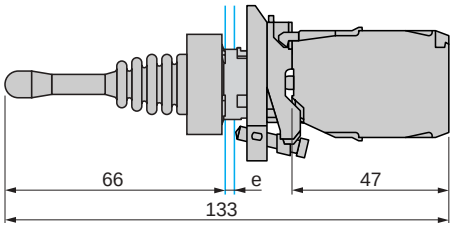


Joystick controllers

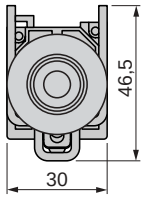
XD4 PA●2



XD4 PA●4



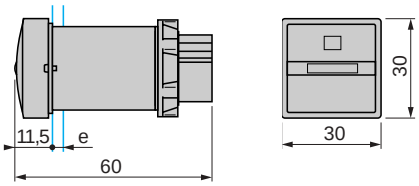
Common face view



e: panel thickness 1 to 6 mm

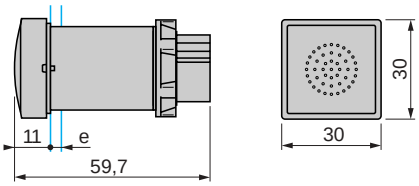
Hour counters

XB5 DS●



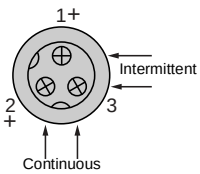
Annunciators

XB5 KS●



Connection diagram

XB5 KS●



e: panel thickness 1 to 6 mm

Control and signalling units Ø 22

Harmony® style 4

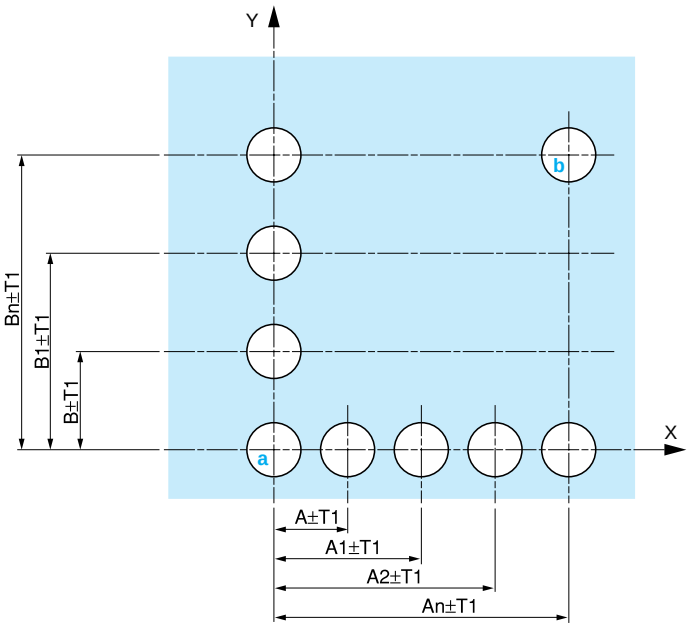
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Sub-assemblies, ZB4 B

Pushbuttons, switches and pilot lights for printed circuit board connection

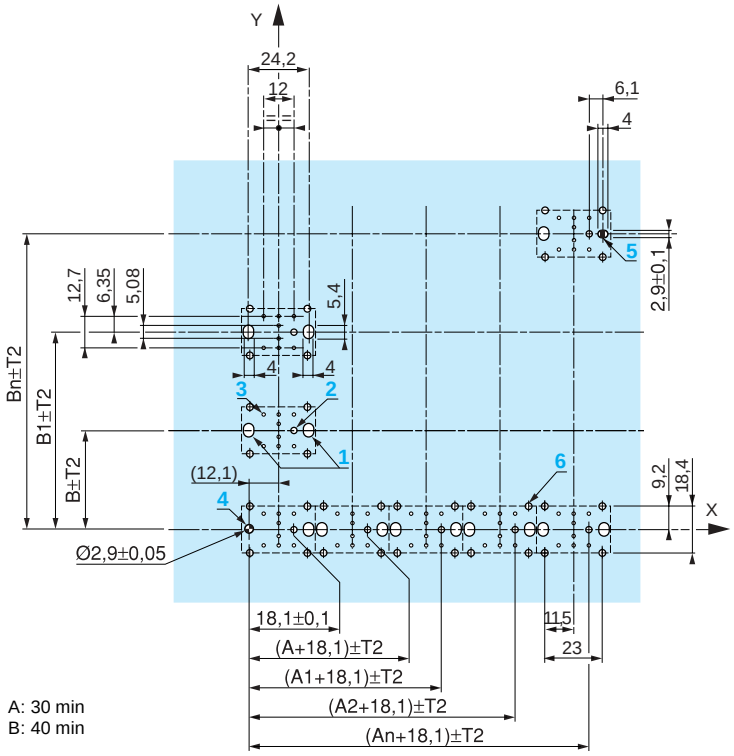
Panel cut-out (viewed from installer's side)

Dimensions in mm



Printed circuit board drillings (viewed from electrical block side)

Dimensions in mm



General tolerances of the panel and printed circuit board

The cumulative tolerance must not exceed 0.3 mm: T1 + T2 = 0.3 mm max.

■ Installation precautions:

□ Minimum thickness of circuit board: 1.6 mm.

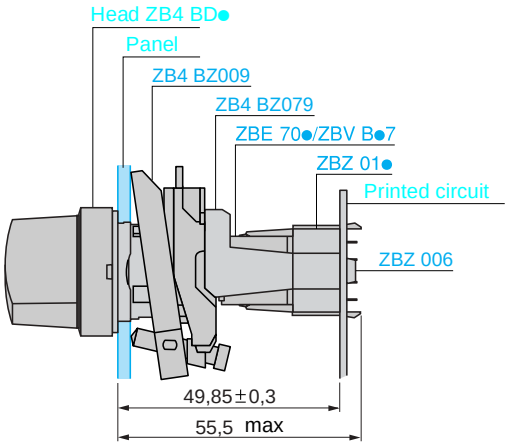
□ Cut-out diameter: 22.4 mm ± 0.1 mm.

□ Orientation of body/fixing collar ZB4 BZ009: ± 2° 30' (excluding cut-outs marked a and b).

□ Tightening torque of screws ZBZ 006: 0.6 N.m. max.

□ Allow for one ZB4 BZ079 pillar and its fixing screws:
- every 90 mm horizontally (X), and 120 mm vertically (Y).
- with each selector switch head (ZB4 BD●, ZB4 BJ●, ZB4 BG●).

The fixing centres marked a and b are diagonally opposed and must align with those marked 4 and 5 on the printed circuit board.



■ **Mounting of adapter (socket) ZBZ 01●**

1 2 elongated holes for ZBZ 006 screw access.

2 1 hole Ø 2.4 mm ± 0.05 for centring adapter ZBZ 01●.

3 8 x Ø 1.2 mm holes.

4 1 hole Ø 2.9 mm ± 0.05, for centring the printed circuit board (with cut-out marked a).

5 1 elongated hole for orientation of the printed circuit board (with cut-out marked b).

6 4 holes Ø 2.4 mm ± 0.05 for clipping in adapter ZBZ 01●.

Dimensions An + 18.1 relate to the Ø 2.4 mm ± 0.05 holes for centring adapter ZBZ 01●.

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

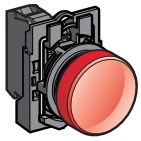
1

Description

The Ø 22 range of double insulated control and signalling units comprises:

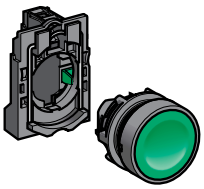
Complete units XB5 A

Pushbuttons and switches



Pilot lights

Sub-assemblies ZB5 A

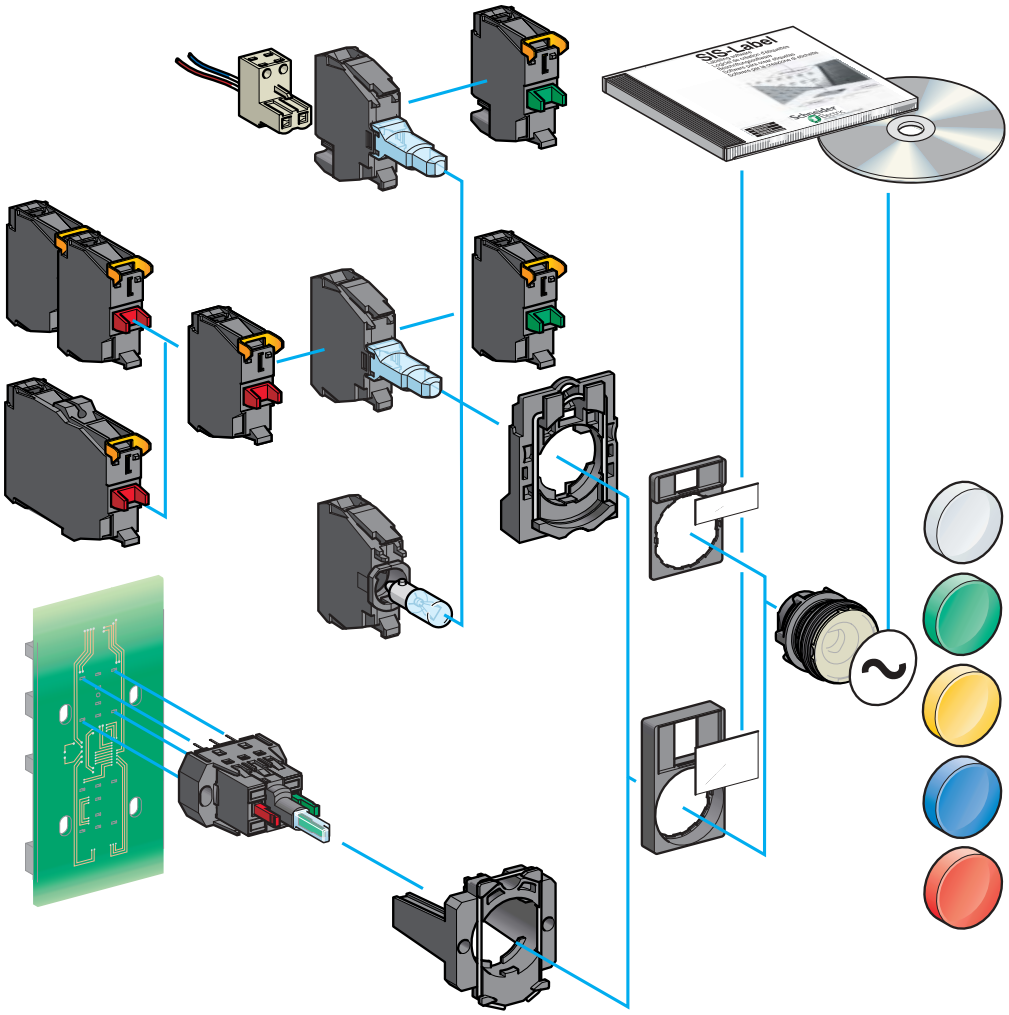


Pushbuttons and switches: body + head sub-assemblies

Pilot lights: body + head sub-assemblies

1.4

ZB component parts and accessories



Characteristics: pages 1/114 to 1/117
References: pages 1/118 to 1/165
Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Schematic library

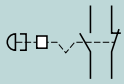
Contact functions (pushbuttons and Emergency stop pushbuttons)

Pushbutton
N/O contact

Pushbutton
N/C contact

Mushroom head
spring return
N/O contact

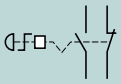
Emergency stop
mushroom head - Push-pull
N/C contact



Emergency stop trigger action mushroom head
Push-pull
N/O + N/C contacts

Emergency stop
mushroom head
Turn to release
N/C contact

Emergency stop
mushroom head
Turn to release, with key
N/C contact



Emergency stop trigger action mushroom head
Turn to release
N/O + N/C contacts

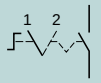
Emergency stop
mushroom head
Trigger action - Turn to release, with key
N/O + N/C contacts

Double-headed
pushbutton
N/O + N/C contacts

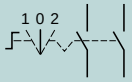
Early make contact block
N/O contact

Late break contact block
N/C contact

Contact functions (selector switches)

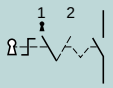


Selector switch
2-position stay put
N/O contact

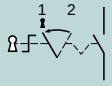


Selector switch
3-position stay put
N/O + N/O contacts

Selector switch
3-position,
2 spring return to centre
N/O + N/O contacts



Selector switch
2-position stay put
key withdrawal from LH position - N/O contact

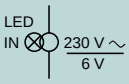


Selector switch
2-position spring return from right to left, key withdrawal from LH position - N/O contact

Signalling functions

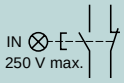
Pilot light with BA 9s
incandescent bulb

LED pilot light

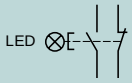


Pilot light with integral transformer
~ 230 V primary, 6 V secondary
BA 9s incandescent bulb or LED

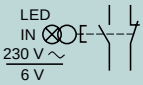
Combined functions, contact + signalling (pushbuttons and selector switches)



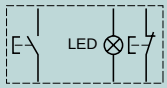
Illuminated
pushbutton
BA 9s incandescent
bulb N/O + N/C contacts



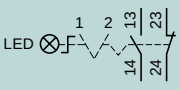
Illuminated pushbutton
with LED
N/O + N/C contacts



Illuminated pushbutton with integral transformer
~ 230 V 50/60 Hz primary, 6 V secondary
BA 9s incandescent bulb or LED
N/O + N/C contacts



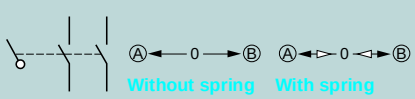
Double-headed
pushbutton with LED
pilot light



Illuminated selector switch
with LED - 2-position stay put
N/O + N/C contacts

Joystick controller functions

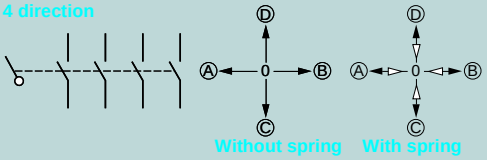
2 direction



Without spring return

With spring return

4 direction



Without spring return

With spring return

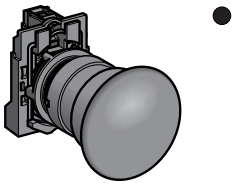
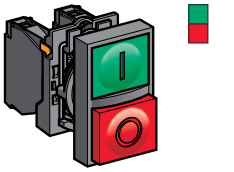
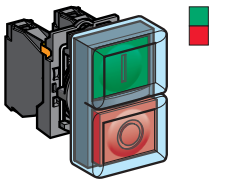
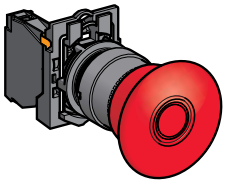
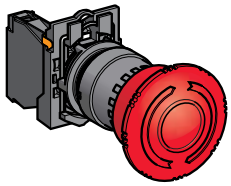
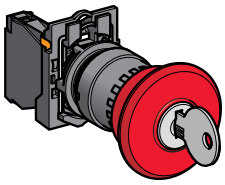
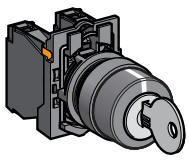
Characteristics:: pages 1/114 to 1/117
References: pages 1/118 to 1/165
Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units, XB5 A

Complete units	Contact functions		
Pushbuttons, spring return			
	Flush push XB5 AA●1/AA42 see page 1/118	Flush push XB5 AA3311/AA33●1 see page 1/118	Flush push XB5 AA4322 see page 1/118
			
	Booted flush push XB5 AP●1/AP42 see page 1/118	Projecting push XB5 AL42 see page 1/118	Mushroom head XB5 AC21 see page 1/118
Double-headed pushbuttons, spring return			
	Flush push + projecting push XB5 AL845 see page 1/118	Booted flush push + projecting push XB5 AL945 see page 1/118	
Ø 40 Emergency stop mushroom head pushbuttons with or without trigger action			
	Push-pull XB5 AT42/AT845 see page 1/119	Turn to release XB5 AS542/AS8445 see page 1/119	Key release XB5 AS142/AS9445 see page 1/119
Selector switches and key switches			
	Standard black handle XB5 AD see page 1/119	Long black handle XB5 AJ see page 1/119	Key switch XB5 AG see page 1/119

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units, XB5 A

Complete units (continued)

Signalling functions

Pilot lights

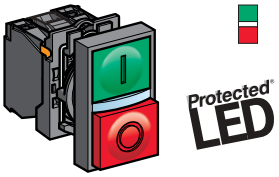
With integral LED	For BA 9s bulb Direct supply	Via integral transformer
XB5 AVB/AVG/AVM see page 1/120	XB5 AV see page 1/121	XB5 AV3/AV4 see page 1/121

Combined functions (contact + signalling)

Illuminated pushbuttons, spring return, flush push

With integral LED	For BA 9s bulb Direct supply	Via integral transformer
XB5 AW3●B6/AW3●G5/AW3●M5 see page 1/122	XB5 AW3●65 see page 1/122	XB5 AW3●35/AW3●45 see page 1/122

Double-headed pushbuttons, spring return, with pilot light



With integral LED
XB5 AW84●5 see page 1/123

Illuminated selector switches, standard handle

With integral LED
XB5 AK12●B5/AK12●G5/AK12●M5 see page 1/123

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB5 A

1

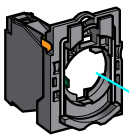
Non illuminated units for user assembly

Contact functions

Body sub-assemblies

Head sub-assemblies

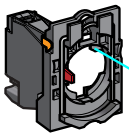
For pushbuttons, spring return, without marking



Screw clamp terminals

ZB5 AZ10●/AZ141

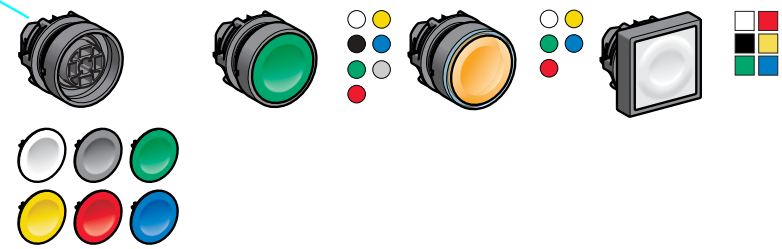
see page 1/124



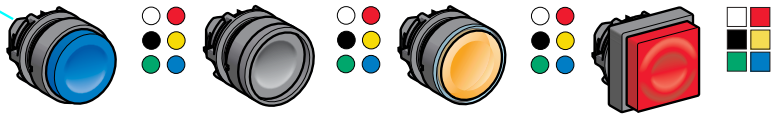
Plug-in connector

ZB5 AZ10●4/AZ1414

see page 1/124



Flush push with cap mounted or not mounted		Flush push for insertion of legend	Flush push
ZB5 AA0/AA9 see page 1/125	ZB5 AA● see page 1/125	ZB5 AA●8 see page 1/125	ZB5 CA● see page 1/127

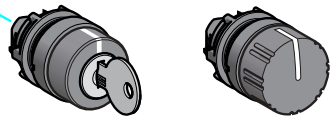


Projecting push	Recessed push	Booted flush push	Projecting push
ZB5 AL● see page 1/125	ZB5 AA● see page 1/125	ZB5 AP●/AP●8 see page 1/125	ZB5 CL● see page 1/125

For pushbuttons, spring return, with marking

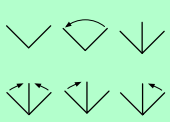
Flush push	Projecting push	Flush push
ZB5 AA●3●/AA●4● see page 1/126	ZB5 AL see page 1/126	ZB5 CA●3/CA●9 see page 1/126

For "push-turn to release" pushbuttons

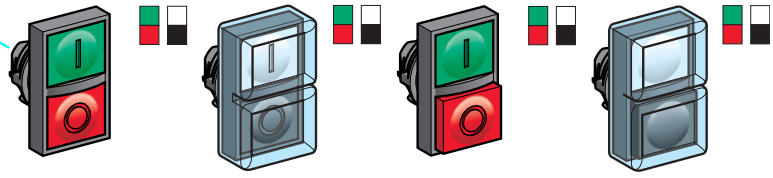


Key switch	Knurled knob *(1)*
ZB5 AFD see page 1/126	ZB5 AF see page 1/126

(1) Knob positions

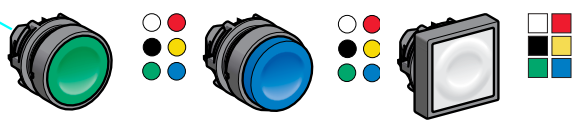


For double-headed pushbuttons, spring return



Flush pushes (IP 40/IP 66) Without/with marking		Flush push + projecting push (IP 40/IP 66) Without/with marking	
ZB5 AA81/AA82 see page 1/127	ZB5 AA91/AA92 see page 1/127	ZB5 AL83/AL84 see page 1/127	ZB5 AL93/AL94 see page 1/127

For "push-push to release" pushbuttons



Flush push	Projecting push	Flush push
ZB5 AH0/CH0 see page 1/127	ZB5 AH● see page 1/127	ZB5 CH0● see page 1/127

1.4

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB5 A

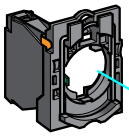
Non illuminated units for user assembly *(continued)*

Contact functions *(continued)*

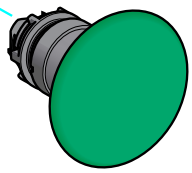
Body sub-assemblies

Head sub-assemblies

For mushroom head pushbuttons, spring return



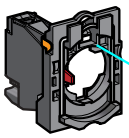
Screw clamp terminals
ZB5 AZ10●/AZ141
see page 1/124



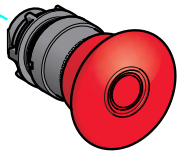
Ø 30
Ø 40
Ø 60

Spring return
ZB5 AC/AR
see page 1/128

For mushroom head pushbuttons, latching, with or without trigger action

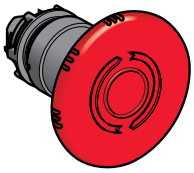


Plug-in connector
ZB5 AZ10●4/AZ1414
see page 1/124



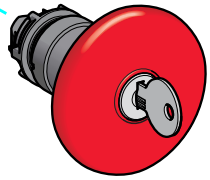
Ø 30
Ø 40
Ø 60

Push-pull
ZB5 AT84/AT●/AX●
see page 1/129



Ø 30
Ø 40
Ø 60

Turn to release
ZB5 AS8●4/AS4●/ AS5●/AS6●
see page 1/129



Ø 30
Ø 40
Ø 60

Key release
ZB5 AS9●4/AS7●/AS1●/AS2●
see page 1/129

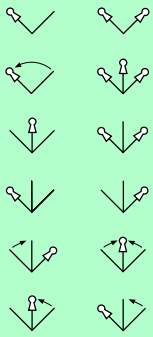
For selector switches and key switches

Standard handle *(1)*
ZB5 AD●
see page 1/130

Long black handle *(1)*
ZB5 AJ●
see page 1/131

(1) Switch handle and knob positions

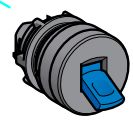
(2) Key switch positions
Key withdrawal positions



Knurled black knob *(1)*
ZB5 AD●9
see page 1/132

Key switch *(2)*
ZB5 AG●/AG0●
see page 1/133

For toggle switches



2-position
ZB5 AD●8
see page 1/133

Characteristics:: pages 1/114 to 1/117
References: pages 1/118 to 1/165
Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

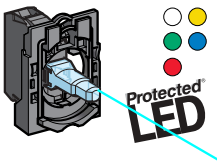
Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB5 A

Pilot lights for user assembly

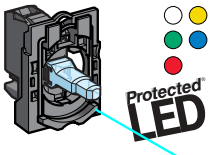
Signalling functions

Body sub-assemblies with integral LED



Screw clamp terminals

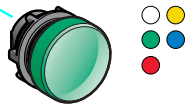
ZB5 AVB/AVG/AVM
see page 1/136

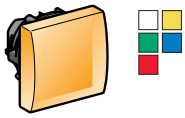


Plug-in connector

ZB5 AVB●4/AVG●4/AVM●4
see page 1/136

Head sub-assemblies

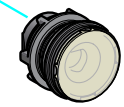


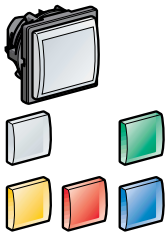


With lens mounted

ZB5 AV0●3
see page 1/137

ZB5 CV0●3
see page 1/137



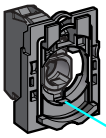


With 5 separate lenses not mounted

ZB5 AV003
see page 1/137

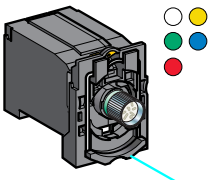
ZB5 CV003
see page 1/137

Body sub-assemblies for BA 9s bulb



Direct supply
Screw clamp terminals

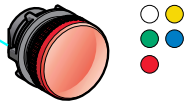
ZB5 AV6
see page 1/137



Via integral transformer
Screw clamp terminals

ZB5 AV●/AV3D●/AV5D●
see page 1/137

Head sub-assemblies



With lens mounted

ZB5 AV0●
see page 1/137

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB5 A

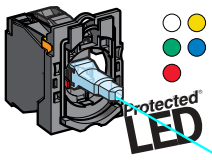
Illuminated pushbuttons for user assembly

Combined functions (contact + signalling)

Body sub-assemblies with integral LED

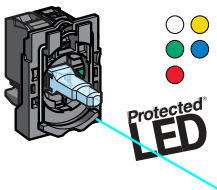
Head sub-assemblies

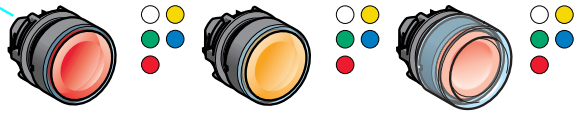
For illuminated push-buttons, spring return



Screw clamp terminals

ZB5 AW0B/AW0G/AW0M see pages 1/142 and 1/107





Flush push with cap mounted/not mounted

ZB5 AW3●3/AW9●3 see page 1/145

Flush push for insertion of legend

ZB5 AA●8 see page 1/145

Booted flush push

ZB5 AW5●3 see page 1/145

Projecting push

ZB5 AW1●3/AL●8 see page 1/145

Flush or projecting push

ZB5 CW3●3/CW1●3 see page 1/145

For double-headed pushbuttons, spring return, with pilot light

Plug-in connector

ZB5 AW0B●●4/AW0G●●4/AW0M●●4 see pages 1/142 and 1/107

Flush push
Without/with markings

ZB5 AW81●●●3 see page 1/146

ZB5 AW82●●●3 see page 1/146

Flush push + projecting push
Without/with markings

ZB5 AW83●●●3 see page 1/146

ZB5 AW84●●●3 see page 1/146

For illuminated "push-push to release" push-buttons and illuminated selector switches with standard handle

Flush or projecting "push-push to release"

ZB5 AH0●3/AH●3 see page 1/146

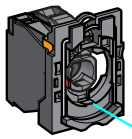
Standard handle operator

ZB5 AK1●●3 see page 1/147

Body sub-assemblies for BA9s bulb

Head sub-assemblies

For illuminated push-buttons, spring return

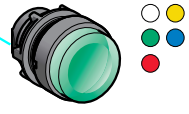


Direct supply
Screw clamp terminals

ZB5 AW06● see page 1/144

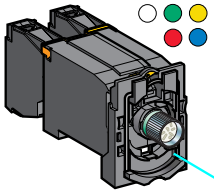
Flush push

ZB5 AW3● see page 1/145



Projecting push

ZB5 AW1● see page 1/145



Via integral transformer
Screw clamp terminals

ZB5 AW03/4/5/3D/5D see page 1/144

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Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Environment

Protective treatment standard version			"TH" treatment
Ambient air temperature around the device	Storage	**°C**	- 40…+ 70
	Operation	**°C**	- 25…+ 70: LED and neon bulb versions - 25…+ 55: incandescent bulb version
Electric shock protection	Conforming to IEC 60536		Class II
Degree of protection	Conforming to IEC 60529		IP 66
	Conforming to NEMA		NEMA type 4X and 13, unless otherwise stated
Resistance to high pressure washer		**Pa**	70×10^5 (70 bar); distance: 0.1 m Temperature: 55 °C
Mechanical shock protection	Conforming to IEC 50102		Non illuminated heads: IK 03
			Illuminated heads: IK 05
Conforming to standards			IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-4, IEC/EN 60947-5-5, EN 418 (trigger action Emergency Stop, see pages 1/119 and 1/131) JIS C 4520, UL 508, CSA C22-2 n° 14
Product certifications	UL Listed, CSA		Standard single contacts with screw clamp terminals: A600; Q600 Double contacts with screw clamp terminals: A600; Q600 Light blocks with screw clamp terminals Joystick controllers XD5 PA/ZD5 PA: A600; R300 Special contact blocks: □ ZBE 201: A300; Q300 □ ZBE 202: A600; Q600
	UL Recognized, CSA		Standard single contacts for plug-in connector: A300; R300 Standard contacts for printed circuit board: B300; R300
	BV, RINA, LROS, DNV, GL		Standard single contacts and double contacts with screw clamp terminals:
Terminal referencing	Conforming to EN 50005 and EN 50013		

Characteristics of contact or combined contact and light functions

Mechanical characteristics

Contact operation	N/C or N/O		Slow break
Positive operation	Conforming to IEC/EN 60947-5-1 appendix K		All functions incorporating an N/C contact are positive opening operation
Operating travel (to change the electrical state)	Pushbutton	**mm**	Changing N/C state: 1.5 Changing N/O state: 2.6 Total travel: 4.3
Operating force	Pushbutton	**N**	Changing N/C state: 3.5 Changing N/O state: 3.8
	Additional contact only (extra to change state)	**N**	Single N/C contact: 2 Single N/O contact: 2.3
		N	Double N/C contact: 3.4 Double N/O contact: 5 Double contact N/C + N/O: 4.6
	Emergency stop with N/C + N/O	**N**	Standard push-pull: 45 Trigger action push-pull: 50
		N	Standard turn to release and key release: 40 Trigger action turn to release and key release: 44

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pages 1/106 to 1/113

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Characteristics of contact or combined contact and light functions (continued)

Mechanical characteristics (continued)

Operating torque (to change the electrical state)	Selector switches		**N.m**	N/O contact: 0.14
	Additional contact only		**N.m**	N/O contact: 0.05
Mechanical durability (in millions of operating cycles)	Pushbutton	Spring		5
		Double-headed		1
		Push-push to release		0.5
	Selector switch	Non illuminated		3
		Illuminated		1
	Toggle switches			0.5
	Emergency stop pushbuttons			0.3 with 3 contacts
	Joystick controllers			1
	Standard contact block only			5
	Low power switching contact block only (dust protected)			0.5
Vibration resistance	Conforming to IEC 60068-2-6			Frequency: 2 to 500 Hz: 5 gn
Electric shock resistance	Conforming to IEC 60068-2-27			All functions except mushroom head pushbuttons, spring return: □ half sine wave acceleration 11 ms: 50 gn □ half sine wave acceleration 18 ms: 30 gn
				Mushroom head pushbutton, spring return: □ half sine wave acceleration 11 ms: 15 gn

Electrical characteristics

Cabling capacity	Conforming to IEC 60947-1	**mm²**	Screw clamp terminals Min: 1 x 0.22 without cable end Max: 2 x 1.5 with cable end Cross headed screw (Pozidrive or Philips type 1), slotted for flat 4 and 5.5 mm screwdriver Tightening torque: 0.8 N.m (max. 1.2 N.m)
Contact material	Silver alloy (Ag / Ni)		Standard single and double blocks with screw clamp terminals Blocks for plug-in connector Standard blocks for printed circuit board connection
	Gold flashed (Ag / Ni / Au)		Low power switching contact blocks with screw clamp terminals Low power switching contact blocks for printed circuit board connection
Short-circuit protection	Conforming to IEC/EN 60947-5-1	**A**	Standard single and double blocks with screw clamp terminals: 10 (gG cartridge fuse conforming to IEC 60269-1) Blocks for plug-in connector: 4 (gG cartridge fuse conforming to IEC 60269-1) Standard blocks for printed circuit board connection: 4 (gG cartridge fuse conforming to IEC 60269-1)
Rated thermal current	Conforming to IEC/EN 60947-5-1	**A**	Standard single and double blocks with screw clamp terminals: 10 Blocks for plug-in connector: 10 Standard blocks for printed circuit board connection: 6
Rated insulation voltage	Conforming to IEC 60947-1	**V**	Standard single and double blocks with screw clamp terminals: Ui = 600 degree of pollution 3 Blocks for plug-in connector or Faston connectors: Ui = 250 degree of pollution 3 Standard blocks for printed circuit board connection: Ui = 250 degree of pollution 3
Rated impulse withstand voltage	Conforming to IEC 60947-1	**kV**	Standard single and double blocks with screw clamp terminals: Uimp = 6 Blocks for plug-in connector: Uimp = 4 Standard blocks for printed circuit board connection: Uimp = 4

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Characteristics of contact or combined contact and light functions (continued)

Electrical characteristics (continued)

Rated operational characteristics Conforming to IEC/EN 60947-5-1	a.c. supply: utilisation category AC-15		Standard single and double blocks with screw clamp terminals: A600: Ue = 600 V and Ie = 1.2 A or Ue = 240 V and Ie = 3 A or Ue = 120 V and Ie = 6 A Blocks for plug-in connector: A300: Ue = 120 V and Ie = 6 A or Ue = 240 V and Ie = 3 A Standard blocks for printed circuit board connection: B300: Ue = 120 V and Ie = 3 A or Ue = 240 V and Ie = 1.5 A Special contact blocks: □ ZBE 201: A300: Ue = 240 V and Ie = 3 A or Ue = 120 V and Ie = 6 A (with insulation voltage Ui = 500 V) □ ZBE 202: A600: Ue = 600 V and Ie = 1.2 A or Ue = 240 V and Ie = 3 A or Ue = 120 V and Ie = 6 A
	d.c. supply: utilisation category DC-13		Standard single and double blocks with screw clamp terminals: Q600: Ue = 600 V and Ie = 0.1 A or Ue = 250 V and Ie = 0.27 A or Ue = 125 V and Ie = 0.55 A Joystick controllers XD5 PA/ZD5 PA: R300: Ue = 125 V and Ie = 0.22 A or Ue = 250 V and Ie = 0.1 A Blocks for plug-in connector: R300: Ue = 125 V and Ie = 0.22 A or Ue = 250 V and Ie = 0.1 A Standard blocks for printed circuit board connection: R300: Ue = 125 V and Ie = 0.22 A or Ue = 250 V and Ie = 0.1 A Special contact blocks: □ ZBE 201: Q300: Ue = 125 V and Ie = 0.55 A or Ue = 250 V and Ie = 0.27 A □ ZBE 202: Q600: Ue = 600 V and Ie = 0.1 A or Ue = 250 V and Ie = 0.27 A or Ue = 125 V and Ie = 0.55 A
Characteristics of special contact blocks for low power switching		**VA** **A** **V**	P max: 12 I max: 0.1 U max: 24
Electrical durability Conforming to IEC/EN 60947-5-1 appendix C Operating rate 3600 operating cycles/hour. Load factor: 0.5	a.c. supply for 1 million operating cycles utilisation category AC-15		Standard single blocks with screw clamp terminals:
		V **A**	24 | 120 | 230 4 | 3 | 2
			Standard double blocks with screw clamp terminals and blocks for plug-in connector:
		V **A**	24 | 120 | 230 3 | 1.5 | 1
	d.c. supply for 1 million operating cycles utilisation category DC-13		Standard single blocks with screw clamp terminals:
		V **A**	24 | 110 0.5 | 0.2
			Standard double blocks with screw clamp terminals and blocks for plug-in connector:
		V **A**	24 | 110 0.4 | 0.15
Electrical reliability Failure rate Conforming to IEC/EN 60947-5-4	In clean environment		Standard blocks: - at 17 V and 5 mA, $\lambda < 10^{-8}$ - at 5 V and 1 mA, $\lambda < 10^{-6}$ Special blocks with gold flashed contacts, for low power switching: - at 5 V and 1 mA, $\lambda < 10^{-7}$
	In dusty environment		Special blocks with gold flashed contacts and dust protection for low power switching only: - at 5 V and 1 mA, $\lambda < 10^{-7}$

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Characteristics of illuminated units (pilot lights)

Mechanical characteristics

Vibration resistance	Conforming to IEC 60068-2-6		Frequency: 12 to 500 Hz: 5 gn
Electric shock resistance	Conforming to IEC 60068-2-27		Half sine wave acceleration 11 ms: 50 gn Half sine wave acceleration 18 ms: 30 gn

Electrical characteristics

Cabling capacity	Conforming to IEC 60947-1	**mm²**	Screw clamp terminals Min: 1 x 0.22 without cable end (1 x 0.34 for linking) Max: 2 x 1.5 with cable end
Rated insulation voltage	Conforming to IEC 60947-1	**V**	Direct supply pilot light blocks (BA 9s bulb): Ui = 250 degree of pollution 3 Pilot light blocks with integral LED: Ui = 250 degree of pollution 3 Pilot light blocks with transformer: Ui = 600 degree of pollution 3
Rated impulse withstand voltage	Conforming to IEC 60947-1	**kV**	Direct supply pilot light blocks (BA 9s bulb): Uimp = 4 Pilot light blocks with integral LED: Uimp = 4 Pilot light blocks with transformer: Uimp = 6

Specific characteristics of single light blocks with integral LED

Voltage limits	For rated voltage	**V**	12 V: 10 to 15 ⎓; 10.2 to 13.8 ∿ 24 V: 19.2 to 30 ⎓; 21.6 to 26.4 ∿ 24 to 120 V: 20 to 132 ≂ 48 to 120 V: 40 to 132 ∿ 240 V: 195 to 264 ∿
Current consumption	Applicable to all colours	**mA**	Blocks with ≂ 12 V supply: 18 Blocks with ≂ 24 V supply: 18 Blocks with ∿ 120 V supply: 14 Blocks with ∿ 240 V supply: 14
Service life	At rated voltage and at an ambient temperature of 25 °C	**H**	100 000
Surge withstand	Conforming to IEC 61000-4-5	**kV**	1
Resistance to fast transients	Conforming to IEC 61000-4-4	**kV**	2
Resistance to electromagnetic fields	Conforming to IEC 61000-4-3	**V/m**	10
Resistance to electrostatic discharges	Conforming to IEC 61000-4-2	**kV**	8: in free air, on insulating parts 6: on contact, on metal parts
Direct parallel connection across inductive load E.g.: contactor coil or solenoid	Maximum power of load	**VA**	For high power applications (≥ 30 VA), a **ZBZ V●** LED suppressor must be connected across the light block terminals (see page 1/151)
Electromagnetic emission	Conforming to EN 55011		Class B

Specific characteristics

Fixing nut

Maximum head tightening torque		**N.m**	2

Hour counters and annunciators

Voltage limits	Hour counter and annunciator	**V**	± 10% of the nominal voltage
Current consumption	Hour counter	**mA**	XB5 DSB: 7 to 15 XB5 DSG: 8 XB5 DSM: 8
	Annunciator	**mA**	5

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Complete units, XB5 A

User assembly of other units
using body + head sub-assemblies:
see pages 1/124 to 1/128

563455

XB5 AA31

563456

XB5 AA4322

563457

XB5 AP51

563458

XB5 AL42

563459

XB5 AC21

563560

XB5 AL845

Pushbuttons, spring return (screw clamp terminal connections)

Shape of head	Description	Type of contact N/O	Type of contact N/C	Marking	Colour of push	Reference	Weight kg
	Flush	1	–	–	Black	**XB5 AA21** (ZB5 AZ101 + ZB5 AA2)	0.037
					Green	**XB5 AA31** (ZB5 AZ101 + ZB5 AA3)	0.037
					Yellow	**XB5 AA51** (ZB5 AZ101 + ZB5 AA5)	0.037
					Blue	**XB5 AA61** (ZB5 AZ101 + ZB5 AA6)	0.037
		–	1	–	Red	**XB5 AA42** (ZB5 AZ102 + ZB5 AA4)	0.037
	Flush	1	–	"I" (white)	Green	**XB5 AA3311** (ZB5 AZ101 + ZB5 AA331)	0.037
	Flush	–	1	"O" (white)	Red	**XB5 AA4322** (ZB5 AZ102 + ZB5 AA432)	0.037
	Flush *(1)*	1	–	↑ (black)	White	**XB5 AA3341** (ZB5 AZ101 + ZB5 AA334)	0.037
	Flush *(1)*	1	–	↑ (white)	Black	**XB5 AA3351** (ZB5 AZ101 + ZB5 AA335)	0.037
	Booted, clear silicone (colour of push unobscured)	1	–	–	Black	**XB5 AP21** (ZB5 AZ101 + ZB5 AP2)	0.039
					Green	**XB5 AP31** (ZB5 AZ101 + ZB5 AP3)	0.039
					Yellow	**XB5 AP51** (ZB5 AZ101 + ZB5 AP5)	0.039
					Blue	**XB5 AP61** (ZB5 AZ101 + ZB5 AP6)	0.039
		–	1	–	Red	**XB5 AP42** (ZB5 AZ102 + ZB5 AP4)	0.039
	Projecting	–	1	–	Red	**XB5 AL42** (ZB5 AZ102 + ZB5 AL4)	0.038
	Mushroom head Ø 40	1	–	–	Black	**XB5 AC21** (ZB5 AZ101 + ZB5 AC2)	0.062

Double-headed pushbuttons, spring return (screw clamp terminal connections)

Shape of head	Description	Type of contact N/O	Type of contact N/C	Degree of protection	Reference	Weight kg
	1 flush green push (marked "I") **1 projecting red push** (marked "O")	1	1	IP 40	**XB5 AL845** (ZB5 AZ105 + ZB5 AL8434)	0.049
				IP 66	**XB5 AL945** (ZB5 AZ105 + ZB5 AL9434)	0.054

(1) Product supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Complete units, XB5 A

User assembly of other units using body + head sub-assemblies: see pages 1/124 to 1/128

563449

XB5 AS9445

563450

XB5 AT42

563451

XB5 AS542

563452

XB5 AD33

563453

XB5 AJ33

563454

XB5 AG33

Emergency stop and mushroom head pushbuttons, Ø 40 (red) (screw clamp terminal connections)

Shape of head	Type of push	Type of contact N/O	Type of contact N/C	Reference	Weight kg
	Trigger action Push-pull *(2)*	1	1	**XB5 AT845** *(1)* (ZB5 AZ105 + ZB5 AT84)	0.076
	Trigger action Turn to release *(2)*	1	1	**XB5 AS8445** *(1)* (ZB5 AZ105 + ZB5 AS844)	0.072
	Trigger action Key release (key n° 455) *(2)*	1	1	**XB5 AS9445** *(1)* (ZB5 AZ105 + ZB5 AS944)	0.112
	Push-pull	–	1	**XB5 AT42** *(1)* (ZB5 AZ102 + ZB5 AT4)	0.065
	Turn to release	–	1	**XB5 AS542** *(1)* (ZB5 AZ102 + ZB5 AS54)	0.060
	Key release (key n° 455)	–	1	**XB5 AS142** *(1)* (ZB5 AZ102 + ZB5 AS14)	0.075

Selector switches

Shape of head	Type of operator	Type of contact N/O	Type of contact N/C	Number and type of positions *(3)*		Reference	Weight kg
	Standard handle, black	1	–	2 - stay put		**XB5 AD21** (ZB5 AZ101 + ZB5 AD2)	0.043
		1	–	2 - spring return from right to left		**XB5 AD41** (ZB5 AZ101 + ZB5 AD4)	0.043
		2	–	3 - stay put		**XB5 AD33** (ZB5 AZ103 + ZB5 AD3)	0.052
				3 - spring return to centre		**XB5 AD53** (ZB5 AZ103 + ZB5 AD5)	0.052
	Long handle, black	1	–	2 - stay put		**XB5 AJ21** (ZB5 AZ101 + ZB5 AJ2)	0.043
		2	–	3 - stay put		**XB5 AJ33** (ZB5 AZ103 + ZB5 AJ3)	0.053
				3 - spring return to centre		**XB5 AJ53** (ZB5 AZ103 + ZB5 AJ5)	0.053
	Key switches (key n° 455)	1	–	2 - stay put		**XB5 AG21** (ZB5 AZ101 + ZB5 AG2)	0.066
						XB5 AG41 (ZB5 AZ101 + ZB5 AG4)	0.066
				2 - spring return to left		**XB5 AG61** (ZB5 AZ101 + ZB5 AG6)	0.066
		2	–	3 - stay put		**XB5 AG03** (ZB5 AZ103 + ZB5 AG0)	0.076
						XB5 AG33 (ZB5 AZ103 + ZB5 AG3)	0.076

(1) Mushroom for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and to Machinery Directive 98/37/EC. Mushroom for trigger action Emergency stop pushbuttons conform to standard EN 418. Please consult your Regional Sales Office for full details of these standards and directives.

(2) Maximum number of additional contacts: 2.

(3) The symbol ⚷ indicates key withdrawal position(s).

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Control and signalling units Ø 22

Harmony® style 5

Pilot lights with double insulated bezel

Complete units, XB5 A

User assembly of other units using body + head sub-assemblies: see pages 1/136 and 1/137

814388

XB5 AVB1

Pilot lights with integral LED (screw clamp terminal connections)

Shape of head	Supply voltage V	Colour	Reference	Weight kg
With integral LED				
	≂ 24	White	**XB5 AVB1** (ZB5 AVB1 + ZB5 AV013)	0.038
		Green	**XB5 AVB3** (ZB5 AVB3 + ZB5 AV033)	0.038
		Red	**XB5 AVB4** (ZB5 AVB4 + ZB5 AV043)	0.038
		Yellow	**XB5 AVB5** (ZB5 AVB5 + ZB5 AV053)	0.038
		Blue	**XB5 AVB6** (ZB5 AVB6 + ZB5 AV063)	0.038
	~ 48…120	White	**XB5 AVG1** (ZB5 AVG1 + ZB5 AV013)	0.038
		Green	**XB5 AVG3** (ZB5 AVG3 + ZB5 AV033)	0.038
		Red	**XB5 AVG4** (ZB5 AVG4 + ZB5 AV043)	0.038
		Yellow	**XB5 AVG5** (ZB5 AVG5 + ZB5 AV053)	0.038
		Blue	**XB5 AVG6** (ZB5 AVG6 + ZB5 AV063)	0.038
	~ 230…240	White	**XB5 AVM1** (ZB5 AVM1 + ZB5 AV013)	0.038
		Green	**XB5 AVM3** (ZB5 AVM3 + ZB5 AV033)	0.038
		Red	**XB5 AVM4** (ZB5 AVM4 + ZB5 AV043)	0.038
		Yellow	**XB5 AVM5** (ZB5 AVM5 + ZB5 AV053)	0.038
		Blue	**XB5 AVM6** (ZB5 AVM6 + ZB5 AV063)	0.038

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Control and signalling units Ø 22

Harmony® style 5

Pilot lights with double insulated bezel

Complete units, XB5 A

User assembly of other units using body + head sub-assemblies: see pages 1/136 to 1/137

Pilot lights for BA 9s bulb (screw clamp terminal connections)

Shape of head	Supply voltage V	Colour	Reference	Weight kg
Direct supply, for BA 9s bulb, U ≤ 250 V, 2.4 W (bulb not included)				
	≤ 250	White	**XB5 AV61** (ZB5 AV6 + ZB5 AV01)	0.037
		Green	**XB5 AV63** (ZB5 AV6 + ZB5 AV03)	0.037
		Red	**XB5 AV64** (ZB5 AV6 + ZB5 AV04)	0.037
		Yellow	**XB5 AV65** (ZB5 AV6 + ZB5 AV05)	0.037
Via integral transformer with 1.2 VA, 6 V secondary. BA 9s incandescent bulb (bulb included)				
	∿ 110...120 50/60 Hz	White	**XB5 AV31** (ZB5 AV3 + ZB5 AV01)	0.109
		Green	**XB5 AV33** (ZB5 AV3 + ZB5 AV03)	0.109
		Red	**XB5 AV34** (ZB5 AV3 + ZB5 AV04)	0.109
		Yellow	**XB5 AV35** (ZB5 AV3 + ZB5 AV05)	0.109
	∿ 230 - 50 Hz ∿ 220...240 - 60 Hz	White	**XB5 AV41** (ZB5 AV4 + ZB5 AV01)	0.110
		Green	**XB5 AV43** (ZB5 AV4 + ZB5 AV03)	0.110
		Red	**XB5 AV44** (ZB5 AV4 + ZB5 AV04)	0.110
		Yellow	**XB5 AV45** (ZB5 AV4 + ZB5 AV05)	0.110

814392

XB5 AV63

814391

XB5 AV34

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Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Complete units, XB5 A

User assembly of other units using body + head sub-assemblies: see pages 1/140 to 1/145

Illuminated pushbuttons, spring return, flush push

Shape of head	Description	Type of contact N/O	Type of contact N/C	Supply voltage V	Colour of push	Reference	Weight kg
Screw clamp terminal connections							
	Integral LED Protected LED	1	1	⎓ 24	White	**XB5 AW31B5** (ZB5 AW0B15 + ZB5 AW313)	0.056
					Green	**XB5 AW33B5** (ZB5 AW0B35 + ZB5 AW333)	0.056
					Red	**XB5 AW34B5** (ZB5 AW0B45 + ZB5 AW343)	0.056
					Yellow	**XB5 AW35B5** (ZB5 AW0B55 + ZB5 AW353)	0.056
					Blue	**XB5 AW36B5** (ZB5 AW0B65 + ZB5 AW363)	0.056
				~ 48…120	White	**XB5 AW31G5** (ZB5 AW0G15 + ZB5 AW313)	0.056
					Green	**XB5 AW33G5** (ZB5 AW0G35 + ZB5 AW333)	0.056
					Red	**XB5 AW34G5** (ZB5 AW0G45 + ZB5 AW343)	0.056
					Yellow	**XB5 AW35G5** (ZB5 AW0G55 + ZB5 AW353)	0.056
					Blue	**XB5 AW36G5** (ZB5 AW0G65 + ZB5 AW363)	0.056
				~ 230…240	White	**XB5 AW31M5** (ZB5 AW0M15 + ZB5 AW313)	0.056
					Green	**XB5 AW33M5** (ZB5 AW0M35 + ZB5 AW333)	0.056
					Red	**XB5 AW34M5** (ZB5 AW0M45 + ZB5 AW343)	0.056
					Yellow	**XB5 AW35M5** (ZB5 AW0M55 + ZB5 AW353)	0.056
					Blue	**XB5 AW36M5** (ZB5 AW0M65 + ZB5 AW363)	0.056
	Direct supply for BA 9s bulb, 2.4 W max. **(not included)**	1	1	≤ 250	White	**XB5 AW3165** (ZB5 AW065 + ZB5 AW31)	0.057
					Green	**XB5 AW3365** (ZB5 AW065 + ZB5 AW33)	0.057
					Red	**XB5 AW3465** (ZB5 AW065 + ZB5 AW34)	0.057
					Yellow	**XB5 AW3565** (ZB5 AW065 + ZB5 AW35)	0.057

814396

XB5 AW31B5

814397

XB5 AW3465

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Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Complete units, XB5 A

User assembly of other units using body + head sub-assemblies: see pages 1/140 to 1/147

Illuminated pushbuttons, spring return, flush push (continued)

Shape of head	Description	Type of contact N/O	Type of contact N/C	Supply voltage V	Colour of push	Reference	Weight kg
Screw clamp terminal connections							
	Via integral transformer 6 V secondary, BA 9s incandescent bulb (included)	1	1	∿ 110…120 50/60 Hz	White	**XB5 AW3135** (ZB5 AW035 + ZB5 AW31)	0.128
					Green	**XB5 AW3335** (ZB5 AW035 + ZB5 AW33)	0.128
					Red	**XB5 AW3435** (ZB5 AW035 + ZB5 AW34)	0.128
					Yellow	**XB5 AW3535** (ZB5 AW035 + ZB5 AW35)	0.128
				∿ 230 50 Hz ∿ 220…240 60 Hz	White	**XB5 AW3145** (ZB5 AW045 + ZB5 AW31)	0.129
					Green	**XB5 AW3345** (ZB5 AW045 + ZB5 AW33)	0.129
					Red	**XB5 AW3445** (ZB5 AW045 + ZB5 AW34)	0.129
					Yellow	**XB5 AW3545** (ZB5 AW045 + ZB5 AW35)	0.129

563461

XB5 AW3335

Double-headed pushbuttons, spring return, with integral LED pilot light (IP 40) (1)

Screw clamp terminal connections							
	1 flush green push (marked "I") **1 yellow pilot light** **1 red projecting push** (marked "O")	1	1	⎓ 24	–	**XB5 AW84B5** (ZB5 AW0B55 + ZB5 AW843743)	0.060
				∿ 48…120	–	**XB5 AW84G5** (ZB5 AW0G55 + ZB5 AW843743)	0.060
				∿ 230…240	–	**XB5 AW84M5** (ZB5 AW0M55 + ZB5 AW843743)	0.060

814405

XB5 AW84B5

Illuminated selector switches with integral LED (2-position stay put)

Shape of head	Type of operator	Type of contact N/O	Type of contact N/C	Supply voltage V	Colour of handle	Reference	Weight kg
Screw clamp terminal connections							
	Standard handle	1	1	⎓ 24	Green	**XB5 AK123B5** (ZB5 AW0B35 + ZB5 AK1233)	0.059
					Red	**XB5 AK124B5** (ZB5 AW0B45 + ZB5 AK1243)	0.059
					Yellow	**XB5 AK125B5** (ZB5 AW0B55 + ZB5 AK1253)	0.059
				∿ 48…120	Green	**XB5 AK123G5** (ZB5 AW0G35 + ZB5 AK1233)	0.059
					Red	**XB5 AK124G5** (ZB5 AW0G45 + ZB5 AK1243)	0.059
					Yellow	**XB5 AK125G5** (ZB5 AW0G55 + ZB5 AK1253)	0.059
				∿ 230…240	Green	**XB5 AK123M5** (ZB5 AW0M35 + ZB5 AK1233)	0.059
					Red	**XB5 AK124M5** (ZB5 AW0M45 + ZB5 AK1243)	0.059
					Yellow	**XB5 AK125M5** (ZB5 AW0M55 + ZB5 AK1253)	0.059

814406

XB5 AK124B5

*(1) For IP 66 degree of protection, fit a clear sealing boot: **ZBW 008** or **ZBW 008A**. See page 1/163.*

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads:
see pages 1/125 to 1/131

Complete bodies with screw clamp terminal connections

Description	Type of contact N/O	Type of contact N/C	Reference	Weight kg
Fixing collar + single contact block	1	–	ZB5 AZ101	0.021
	–	1	ZB5 AZ102	0.021
	2	–	ZB5 AZ103	0.030
	–	2	ZB5 AZ104	0.030
	1	1	ZB5 AZ105	0.030
	1	2	ZB5 AZ141	0.040

814411

ZB5 AZ101

814409

ZB5 AZ102

Description	Type of contact N/O+N/C	Type of contact N/O+N/O	Reference	Weight kg
Fixing collar + specific contact block for overlapping contacts function	1	–	ZB5 AZ106	0.030
Fixing collar + specific contact block for sequencing contacts function	–	1	ZB5 AZ107	0.030

814667

ZB5 AZ106

814667

ZB5 AZ107

Complete bodies for plug-in connector *(1)*

Description	Type of contact N/O	Type of contact N/C	Reference	Weight kg
Fixing collar + single contact block	1	–	ZB5 AZ1014	0.018
	–	1	ZB5 AZ1024	0.018
	2	–	ZB5 AZ1034	0.026
	–	2	ZB5 AZ1044	0.026
	1	1	ZB5 AZ1054	0.026
	1	2	ZB5 AZ1414	0.036

814408

ZB5 AZ1014

814410

ZB5 AZ1024

Contact blocks

Description	
Separate contact blocks	See page 1/160

(1) Connecting cables and connector for plug-in connector contact blocks: see page 1/152.

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

Heads for spring return pushbuttons - unmarked

Shape of head	Type of push	Colour of cap	Reference	Weight kg
ZB5 AA0	**Without cap** *(1)*	–	**ZB5 AA0**	0.022
	Flush, with set of 6 coloured caps	6 colours *(2)*	**ZB5 AA9**	0.027
ZB5 AA5	**Flush**	White	**ZB5 AA1**	0.018
		Black	**ZB5 AA2**	0.018
		Green	**ZB5 AA3**	0.018
		Red	**ZB5 AA4**	0.018
		Yellow	**ZB5 AA5**	0.018
		Blue	**ZB5 AA6**	0.018
		Grey	**ZB5 AA8**	0.018
	Flush with transparent cap, for insertion of legend *(3)*	White	**ZB5 AA18**	0.018
		Green	**ZB5 AA38**	0.018
		Red	**ZB5 AA48**	0.018
		Yellow	**ZB5 AA58**	0.018
		Blue	**ZB5 AA68**	0.018
ZB5 AL3	**Projecting**	White	**ZB5 AL1**	0.019
		Black	**ZB5 AL2**	0.019
		Green	**ZB5 AL3**	0.019
		Red	**ZB5 AL4**	0.019
		Yellow	**ZB5 AL5**	0.019
		Blue	**ZB5 AL6**	0.019
ZB5 AP1	**Projecting, booted (clear silicone)** (colour of push unobscured)	White	**ZB5 AP1**	0.021
		Black	**ZB5 AP2**	0.021
		Green	**ZB5 AP3**	0.021
		Red	**ZB5 AP4**	0.021
		Yellow	**ZB5 AP5**	0.021
		Blue	**ZB5 AP6**	0.021
	Projecting, booted (coloured silicone) Can be replaced without dismantling the head. Compatible with legend holder	White	**ZB5 AP1S**	0.014
		Black	**ZB5 AP2S**	0.014
		Green	**ZB5 AP3S**	0.014
		Red	**ZB5 AP4S**	0.014
		Yellow	**ZB5 AP5S**	0.014
		Blue	**ZB5 AP6S**	0.014
ZB5 AP2S	**Flush, booted (clear), for insertion of legend** *(3)* (colour of push unobscured)	White	**ZB5 AP18**	0.023
		Green	**ZB5 AP38**	0.023
		Red	**ZB5 AP48**	0.023
		Yellow	**ZB5 AP58**	0.023
		Blue	**ZB5 AP68**	0.023
ZB5 AP183	**Flush, booted (clear), integral boot** (colour of push unobscured)	White	**ZB5 AP183**	0.010
		Green	**ZB5 AP383**	0.010
		Red	**ZB5 AP483**	0.010
		Yellow	**ZB5 AP583**	0.010
		Blue	**ZB5 AP683**	0.010

(1) Cap to be ordered separately, see page 1/154.
(2) Head supplied with 6 different coloured caps (white, black, green, red, yellow, blue).
(3) For legend ordering information, see page 1/160.

Other versions For booted heads with flush push, please consult your Regional Sales Office.

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

1

1.4

814420

ZB5 CA2

814421

ZB5 CA5

109500

ZB5 CA16

Heads for spring return pushbuttons - unmarked *(continued)*

Shape of head	Type of push	Colour of cap	Reference	Weight kg
	Flush (high bezel)	White	**ZB5 AA14**	0.020
		Black	**ZB5 AA24**	0.020
		Green	**ZB5 AA34**	0.020
		Red	**ZB5 AA44**	0.020
		Yellow	**ZB5 AA54**	0.020
		Blue	**ZB5 AA64**	0.020
	Recessed (high guard)	White	**ZB5 AA16**	0.020
		Black	**ZB5 AA26**	0.020
		Green	**ZB5 AA36**	0.020
		Red	**ZB5 AA46**	0.020
		Yellow	**ZB5 AA56**	0.020
		Blue	**ZB5 AA66**	0.020
	Without cap *(1)*	–	**ZB5 CA0**	0.022
	Flush	White	**ZB5 CA1**	0.019
		Black	**ZB5 CA2**	0.019
		Green	**ZB5 CA3**	0.019
		Red	**ZB5 CA4**	0.019
		Yellow	**ZB5 CA5**	0.019
		Blue	**ZB5 CA6**	0.019
	Projecting	White	**ZB5 CL1**	0.021
		Black	**ZB5 CL2**	0.021
		Green	**ZB5 CL3**	0.021
		Red	**ZB5 CL4**	0.021
		Yellow	**ZB5 CL5**	0.021
		Blue	**ZB5 CL6**	0.021
	Recessed (high guard)	White	**ZB5 CA16**	0.012
		Black	**ZB5 CA26**	0.012
		Green	**ZB5 CA36**	0.012
		Red	**ZB5 CA46**	0.012
		Yellow	**ZB5 CA56**	0.012
		Blue	**ZB5 CA66**	0.012

(1) Cap to be ordered separately, see page 1/154.

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

814428

ZB5 AA331

814429

ZB5 AA432

814430

ZB5 AL232

Heads for spring return pushbuttons - marked

Shape of head	Type of push	Marking		Colour of cap	Reference	Weight kg
		Text	Colour			
	Flush *(1)*	I	White	Green	**ZB5 AA331**	0.018
			Black	White	**ZB5 AA131**	0.018
		II	White	Green	**ZB5 AA336**	0.018
			Black	White	**ZB5 AA136**	0.018
		START	White	Green	**ZB5 AA333**	0.018
			Black	White	**ZB5 AA133**	0.018
		ON	White	Green	**ZB5 AA341**	0.018
			Black	White	**ZB5 AA141**	0.018
		MARCHE	White	Green	**ZB5 AA342**	0.018
			Black	White	**ZB5 AA142**	0.018
			White	Black	**ZB5 AA245**	0.018
			Black	White	**ZB5 AA145**	0.018
		O	White	Red	**ZB5 AA432**	0.018
				Black	**ZB5 AA232**	0.018
		ARRET	White	Red	**ZB5 AA433**	0.018
				Black	**ZB5 AA233**	0.018
		STOP	White	Red	**ZB5 AA434**	0.018
				Black	**ZB5 AA234**	0.018
		OFF	White	Red	**ZB5 AA435**	0.018
				Black	**ZB5 AA235**	0.018
		UP	Black	White	**ZB5 AA343**	0.018
		DOWN	White	Black	**ZB5 AA344**	0.018
		↑	White	Black	**ZB5 AA335**	0.018
			Black	White	**ZB5 AA334**	0.018
	Projecting *(1)*	O	White	Red	**ZB5 AL432**	0.019
				Black	**ZB5 AL232**	0.019
		ARRET	White	Red	**ZB5 AL433**	0.019
				Black	**ZB5 AL233**	0.019
		STOP	White	Red	**ZB5 AL434**	0.019
				Black	**ZB5 AL234**	0.019
		OFF	White	Red	**ZB5 AL435**	0.019
				Black	**ZB5 AL235**	0.019
	Flush *(1)*	I	White	Green	**ZB5 CA331**	0.019
		O	White	Red	**ZB5 CA432**	0.019
		+	White	Black	**ZB5 CA2934**	0.019
		↑	White	Black	**ZB5 CA2912**	0.019
		R	White	Blue	**ZB5 CA6939**	0.019

(1) Push supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

Heads for lockable "push-turn" pushbuttons

Shape of head	Key type	Locking	Key withdrawal	Reference	Weight kg
	Key n° 4A185	Both positions	Both positions	**ZB5 AFDA**	0.050
		Actuated position	Actuated position	**ZB5 AFDB**	0.050
		Rest position	Rest position	**ZB5 AFDC**	0.050
		Actuated position	Both positions	**ZB5 AFDD**	0.050
	Key LU1	Both positions	Both positions	**ZB5 AFDE01**	0.050
	Key LU2	Both positions	Both positions	**ZB5 AFDE02**	0.050
	Key LU3	Both positions	Both positions	**ZB5 AFDE03**	0.050
	Key LU4	Both positions	Both positions	**ZB5 AFDE04**	0.050
	Key LU5	Both positions	Both positions	**ZB5 AFDE05**	0.050
	Key LU6	Both positions	Both positions	**ZB5 AFDE06**	0.050
	Key LU7	Both positions	Both positions	**ZB5 AFDE07**	0.050
	Key LU8	Both positions	Both positions	**ZB5 AFDE08**	0.050
	Key LU9	Both positions	Both positions	**ZB5 AFDE09**	0.050
	Key LU10	Both positions	Both positions	**ZB5 AFDE10**	0.050
	Key LU11	Both positions	Both positions	**ZB5 AFDE11**	0.050
	Key LU12	Both positions	Both positions	**ZB5 AFDE12**	0.050
	Key LU13	Both positions	Both positions	**ZB5 AFDE13**	0.050
	Key LU14	Both positions	Both positions	**ZB5 AFDE14**	0.050
	Key LU15	Both positions	Both positions	**ZB5 AFDE15**	0.050

Heads for "push-turn" pushbuttons with knurled knob

Shape of head	Description	Marking	Reference	Weight kg
	Knurled knob without cap	–	**ZB5 AF**	0.027
	Knurled knob with marked cap	↑ (white on black background)	**ZB5 AF351**	0.030

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

814440

ZB5 AL8334

814442

ZB5 AL9334

814441

ZB5 AL8434

814439

ZB5 AH04

Heads for double-headed, spring return pushbuttons

Shape of head	Description	Colour of pushes	Degree of protection	Reference	Weight kg
Without function marking on pushes					
	2 flush pushes	Green	IP 40 *(1)*	**ZB5 AA8134**	0.022
		Red	IP 66	**ZB5 AA9134**	0.027
		White	IP 40 *(1)*	**ZB5 AA8112**	0.022
		Black	IP 66	**ZB5 AA9112**	0.027
	1 flush push **1 projecting push**	Green	IP 40 *(1)*	**ZB5 AL8334**	0.021
		Red	IP 66	**ZB5 AL9334**	0.026
		White	IP 40 *(1)*	**ZB5 AL8312**	0.021
		Black	IP 66	**ZB5 AL9312**	0.026
With function marking on pushes					
	2 flush pushes (marked “I”) (marked “O”)	Green	IP 40 *(1)*	**ZB5 AA8234**	0.022
		Red	IP 66	**ZB5 AA9234**	0.027
		White	IP 40 *(1)*	**ZB5 AA8212**	0.022
		Black	IP 66	**ZB5 AA9212**	0.027
	1 flush push **1 projecting push**	Green	IP 40 *(1)*	**ZB5 AL8434**	0.021
		Red	IP 66	**ZB5 AL9434**	0.026
		White	IP 40 *(1)*	**ZB5 AL8412**	0.021
		Black	IP 66	**ZB5 AL9412**	0.026

Heads for "push-push to release" pushbuttons *(2)*

Shape of head	Type of push	Colour of push	Reference	Weight kg
	Without cap *(3)*	–	**ZB5 AH0**	0.018
	Flush	White	**ZB5 AH01**	0.018
		Black	**ZB5 AH02**	0.018
		Green	**ZB5 AH03**	0.018
		Red	**ZB5 AH04**	0.018
		Yellow	**ZB5 AH05**	0.018
		Blue	**ZB5 AH06**	0.018
	Projecting	White	**ZB5 AH1**	0.018
		Black	**ZB5 AH2**	0.018
		Green	**ZB5 AH3**	0.018
		Red	**ZB5 AH4**	0.018
		Yellow	**ZB5 AH5**	0.018
		Blue	**ZB5 AH6**	0.018
	Without cap *(3)*	–	**ZB5 CH0**	0.020
	Flush	White	**ZB5 CH01**	0.020
		Black	**ZB5 CH02**	0.020
		Green	**ZB5 CH03**	0.020
		Red	**ZB5 CH04**	0.020
		Yellow	**ZB5 CH05**	0.020
		Blue	**ZB5 CH06**	0.020

(1) NEMA type 1.
(2) Maximum of 1 row of 3 contact blocks on associated body/fixing collar sub-assembly.
(3) Coloured cap to be ordered separately: see page 1/154.

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

Mushroom heads for spring return pushbuttons

Shape of head	Diameter of push mm	Colour of push	Reference	Weight kg
	30	Black	**ZB5 AC24**	0.027
		Green	**ZB5 AC34**	0.027
		Red	**ZB5 AC44**	0.027
		Yellow	**ZB5 AC54**	0.027
		Blue	**ZB5 AC64**	0.027
	40	Black	**ZB5 AC2**	0.046
		Green	**ZB5 AC3**	0.046
		Red	**ZB5 AC4**	0.046
		Yellow	**ZB5 AC5**	0.046
		Blue	**ZB5 AC6**	0.046
	60	Black	**ZB5 AR2**	0.065
		Green	**ZB5 AR3**	0.065
		Red	**ZB5 AR4**	0.065
		Yellow	**ZB5 AR5**	0.065
		Blue	**ZB5 AR6**	0.065
	60 Hemispherical	Black	**ZB5 AR216**	0.048
		Green	**ZB5 AR316**	0.048
		Red	**ZB5 AR416**	0.048
		Yellow	**ZB5 AR516**	0.048
		Blue	**ZB5 AR616**	0.048

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ZB5 AC24

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814445

ZB5 AC2

814446

ZB5 AR4

540160

ZB5 AR216

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Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

ZB5 AS844

ZB5 AS934

ZB5 AT4

ZB5 AS64

Mushroom heads for latching pushbuttons

(Emergency stop: colour red)

Shape of head	Type of push	Diameter of push mm	Colour of push	Reference	Weight kg
	Trigger action Push-pull *(2)*	40	Red	**ZB5 AT84** *(1)*	0.050
	Trigger action Turn to release *(2)*	30	Red	**ZB5 AS834** *(1)*	0.042
		40	Red	**ZB5 AS844** *(1)*	0.046
	Trigger action Key release (key n° 455) *(2) (4)*	30	Red	**ZB5 AS934** *(1)*	0.068
		40	Red	**ZB5 AS944** *(1) (3)*	0.071
		60	Red	**ZB5 AS934** *(1)*	0.092
	Trigger action Key release (key n° 4A185)	40	Red	**ZB5 AS944D** *(1)*	0.071
	Push-pull	30	Black	**ZB5 AT24**	0.044
		40	Black	**ZB5 AT2**	0.049
			Red	**ZB5 AT4** *(1)*	0.049
		60	Black	**ZB5 AX2**	0.067
			Red	**ZB5 AX4** *(1)*	0.067
	Turn to release	30	Black	**ZB5 AS42**	0.040
			Red	**ZB5 AS44** *(1)*	0.040
		40	Black	**ZB5 AS52**	0.044
			Red	**ZB5 AS54** *(1)*	0.044
			Yellow	**ZB5 AS55**	0.044
		60	Black	**ZB5 AS62**	0.064
			Red	**ZB5 AS64** *(1)*	0.064
	Key release (key n° 455) *(4)* (2 keys included with head)	30	Black	**ZB5 AS72**	0.040
			Red	**ZB5 AS74** *(1)*	0.040
		40	Black	**ZB5 AS12**	0.044
			Red	**ZB5 AS14** *(1) (3)*	0.044
		60	Black	**ZB5 AS22**	0.064
			Red	**ZB5 AS24** *(1)*	0.064
	Key release (key n° 4A185)	40	Red	**ZB5 AS14D** *(1)*	0.044

(1) Mushroom heads for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and to Machinery Directive 98/37/EC.
Mushroom heads for trigger action Emergency stop pushbuttons conform to standard EN 418.
Please consult your Regional Sales Office for full details of these standards and directives.

(2) Maximum number of contacts fitted to the associated body: 4.
Example: 4 single contact blocks, 2 double contact blocks, or 2 single contact blocks + 1 double contact block. See page 1/150

*(3) Other key numbers: key n° **421E**: add suffix **12** to the reference; key n° **458A**: add suffix **10** to the reference; key n° **520E**: add suffix **14** to the reference; key n° **3131A**: add suffix **20** to the reference.*
*Example: For a Ø 40 mushroom head for a trigger action, latching pushbutton, with release by key n° **421E**, the reference becomes: **ZB5 AS94412**.*

(4) For specific keys with other numbers, please consult your Regional Sales Office.

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

ZB5 AD●

Heads for selector switches *(1)*

Shape of head	Type of operator	Number and type of positions	Reference	Weight kg
	Standard handle, black	2 - stay put	**ZB5 AD2**	0.024
		2 - stay put with actuation of the centre contact	**ZB5 AD2M**	0.024
		2 - spring return from right to left	**ZB5 AD4**	0.024
		2 - spring return from right to left with actuation of centre contact	**ZB5 AD4M**	0.024
		3 - stay put	**ZB5 AD3**	0.024
		3 - spring return to centre	**ZB5 AD5**	0.024
		3 - spring return from left to centre	**ZB5 AD7**	0.024
		3 - spring return from right to centre	**ZB5 AD8**	0.024
	Standard handle, white	2 - stay put	**ZB5 AD201**	0.024
		2 - spring return from right to left	**ZB5 AD401**	0.024
		3 - stay put	**ZB5 AD301**	0.024
		3 - spring return to centre	**ZB5 AD501**	0.024
		3 - spring return from left to centre	**ZB5 AD701**	0.024
		3 - spring return from right to centre	**ZB5 AD801**	0.024
	Standard handle, green	2 - stay put	**ZB5 AD203**	0.024
		2 - spring return from right to left	**ZB5 AD403**	0.024
		3 - stay put	**ZB5 AD303**	0.024
		3 - spring return to centre	**ZB5 AD503**	0.024
		3 - spring return from left to centre	**ZB5 AD703**	0.024
		3 - spring return from right to centre	**ZB5 AD803**	0.024

(1) Can only be used for actuation of end row (side) mounted contacts.

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

814473

ZB5 AD●●

Heads for selector switches *(1) (continued)*

Shape of head	Type of operator	Number and type of positions		Reference	Weight kg
	Standard handle, red	2 - stay put		**ZB5 AD204**	0.024
		2 - spring return from right to left		**ZB5 AD404**	0.024
		3 - stay put		**ZB5 AD304**	0.024
		3 - spring return to centre		**ZB5 AD504**	0.024
		3 - spring return from left to centre		**ZB5 AD704**	0.024
		3 - spring return from right to centre		**ZB5 AD804**	0.024
	Standard handle, yellow	2 - stay put		**ZB5 AD205**	0.024
		2 - spring return from right to left		**ZB5 AD405**	0.024
		3 - stay put		**ZB5 AD305**	0.024
		3 - spring return to centre		**ZB5 AD505**	0.024
		3 - spring return from left to centre		**ZB5 AD705**	0.024
		3 - spring return from right to centre		**ZB5 AD805**	0.024
	Standard handle, blue	2 - stay put		**ZB5 AD206**	0.024
		2 - spring return from right to left		**ZB5 AD406**	0.024
		3 - stay put		**ZB5 AD306**	0.024
		3 - spring return to centre		**ZB5 AD506**	0.024
		3 - spring return from left to centre		**ZB5 AD706**	0.024
		3 spring return from right to centre		**ZB5 AD806**	0.024

814472

ZB5 AJ3

	Long handle, black	2 - stay put		**ZB5 AJ2**	0.025
		2 - stay put with actuation of the centre contact		**ZB5 AJ2M**	0.025
		2 - spring return from right to left		**ZB5 AJ4**	0.025
		2 - spring return from right to left with actuation of centre contact		**ZB5 AJ4M**	0.025
		3 - stay put		**ZB5 AJ3**	0.025
		3 - spring return to centre		**ZB5 AJ5**	0.025
		3 - spring return from left to centre		**ZB5 AJ7**	0.025
		3 spring return from right to centre		**ZB5 AJ8**	0.025

(1) Can only be used for actuation of end row (side) mounted contacts.

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Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

1

814495

ZB5 AD●●

Heads for selector switches *(1) (continued)*

Shape of head	Type of operator	Number and type of positions *(2)*		Reference	Weight kg
	Knurled knob, black	2 - stay put		**ZB5 AD29**	0.027
		2 - spring return from right to left		**ZB5 AD49**	0.027
		3 - stay put		**ZB5 AD39**	0.027
		3 - spring return to centre		**ZB5 AD59**	0.027
		3 - spring return from left to centre		**ZB5 AD79**	0.027
		3 - spring return from right to centre		**ZB5 AD89**	0.027

1.4

814517

ZB5 AG●

Shape of head	Type of operator	Number and type of positions *(2)*		Reference	Weight kg
	Key switch with key n° 455 *(4)*	2 - stay put		**ZB5 AG2** *(3)*	0.050
				ZB5 AG4 *(3)*	0.050
		2 -stay put with actuation of the centre contact		**ZB5 AG2M**	0.050
				ZB5 AG4M	0.050
		2 - spring return from right to left		**ZB5 AG6** *(3)*	0.050
		2 spring return from right to left with actuation of centre contact		**ZB5 AG6M**	0.050
		3 - stay put		**ZB5 AG0** *(3)*	0.050
				ZB5 AG3 (3)	0.050
				ZB5 AG5 *(3)*	0.050
				ZB5 AG9 *(3)*	0.050
				ZB5 AG09 *(3)*	0.050
		3 - spring return from left to centre		**ZB5 AG1** *(3)*	0.050
		2 - spring return to centre		**ZB5 AG7** *(3)*	0.050
		3 - spring return from right to centre		**ZB5 AG8** *(3)*	0.050
				ZB5 AG08 *(3)*	0.050

(1) Can only be used for actuation of end row (side) mounted contacts.
(2) The symbol ⚷ indicates key withdrawal position(s).
(3) Other key numbers:
*- key n° 421E: add suffix **12** to the reference,*
*- key n° 458A: add suffix **10** to the reference,*
*- key n° 520E: add suffix **14** to the reference,*
*- key n° 3131A: add suffix **20** to the reference.*
Example:
*For a switch head with key n° 421E, 2-position stay put with key withdrawal from the left-hand position, the reference becomes: **ZB5 AG212**.*
(4) For specific keys with other numbers, please consult your Regional Sales Office.

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Harmony® style 5

Pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

814496

ZB5 AG●●

Heads for selector switches (1) (continued)

Shape of head	Type of operator	Number and type of positions (2)		Reference	Weight kg
	Key switch with key n° 8D1	2 - stay put		ZB5 AG2D	0.050
				ZB5 AG02D	0.050
				ZB5 AG4D	0.050
		2 - spring return from right to left		ZB5 AG6D	0.050
		3 - stay put		ZB5 AG0D	0.050
				ZB5 AG3D	0.050
				ZB5 AG5D	0.050
				ZB5 AG9D	0.050
				ZB5 AG09D	0.050
				ZB5 AG03D	0.050
				ZB5 AG04D	0.050
		3 - spring return from left to centre		ZB5 AG06D	0.050
				ZB5 AG1D	0.050
				ZB5 AG07D	0.050
		3 - spring return from right to centre		ZB5 AG8D	0.050
				ZB5 AG08D	0.050
				ZB5 AG05D	0.050
		2 - spring return to centre		ZB5 AG7D	0.050

Heads for toggle switches

Shape of head	Description	Lever	Type of position	Reference	Weight kg
	2-position	Black	Stay put	ZB5 AD28	0.023
			Spring return	ZB5 AD48	0.023
		White	Stay put	ZB5 AD2801	0.023
		Red	Stay put	ZB5 AD2804	0.023
		Blue	Stay put	ZB5 AD2806	0.023

814497

ZB5 AD28

(1) Can only be used for actuation of end row (side) mounted contacts.
(2) The symbol ⚷ indicates key withdrawal position(s).

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Harmony® style 5

Pilot lights with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads for integral LED:
see page 1/139

563090

ZB5 AV●●

Complete bodies (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED	⎓ 12	White	**ZB5 AVJ1**	0.022
Protected LED		Green	**ZB5 AVJ3**	0.022
		Red	**ZB5 AVJ4**	0.022
		Yellow	**ZB5 AVJ5**	0.022
		Blue	**ZB5 AVJ6**	0.022
	⎓ 24 *(1)*	White	**ZB5 AVB1**	0.022
		Green	**ZB5 AVB3**	0.022
		Red	**ZB5 AVB4**	0.022
		Yellow	**ZB5 AVB5**	0.022
		Blue	**ZB5 AVB6**	0.022
	⎓ 24…120	White	**ZB5 AVBG1**	0.022
		Green	**ZB5 AVBG3**	0.022
		Red	**ZB5 AVBG4**	0.022
		Yellow	**ZB5 AVBG5**	0.022
		Blue	**ZB5 AVBG6**	0.022
	~ 48…120 *(1)*	White	**ZB5 AVG1**	0.022
		Green	**ZB5 AVG3**	0.022
		Red	**ZB5 AVG4**	0.022
		Yellow	**ZB5 AVG5**	0.022
		Blue	**ZB5 AVG6**	0.022
	~ 230…240 *(1)*	White	**ZB5 AVM1**	0.022
		Green	**ZB5 AVM3**	0.022
		Red	**ZB5 AVM4**	0.022
		Yellow	**ZB5 AVM5**	0.022
		Blue	**ZB5 AVM6**	0.022

522071

ZB5 AVB● 156

Complete bodies with 3-terminal “test” function (fixing collar + light block with integral LED + block for “test light” function)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED	⎓ 24 *(2)*	White	**ZB5 AVB1156**	0.022
Protected LED		Green	**ZB5 AVB3156**	0.022
		Red	**ZB5 AVB4156**	0.022
		Yellow	**ZB5 AVB5156**	0.022
		Blue	**ZB5 AVB6156**	0.022

Complete bodies with flashing pilot light (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED	⎓ 24	White	**ZB5 AV18B1**	0.022
Protected LED		Green	**ZB5 AV18B3**	0.022
		Red	**ZB5 AV18B4**	0.022
		Yellow	**ZB5 AV18B5**	0.022
		Blue	**ZB5 AV18B6**	0.022
	~ 48…120	White	**ZB5 AV18G1**	0.022
		Green	**ZB5 AV18G3**	0.022
		Red	**ZB5 AV18G4**	0.022
		Yellow	**ZB5 AV18G5**	0.022
		Blue	**ZB5 AV18G6**	0.022
	~ 230…240	White	**ZB5 AV18M1**	0.022
		Green	**ZB5 AV18M3**	0.022
		Red	**ZB5 AV18M4**	0.022
		Yellow	**ZB5 AV18M5**	0.022
		Blue	**ZB5 AV18M6**	0.022

(1) Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.
*(2) For a 120 or 230 V ~ supply, use complete body **ZB5 BVG●** or **ZB5 BVM●** with block for test function type **ZBZ M156**, see page 1/151.*

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Harmony® style 5

Pilot lights with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads for integral LED:
see page 1/139

814522

ZB5 AV●●4

Complete bodies (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Plug-in connector *(1)*				
Integral LED	⎓ 24	White	**ZB5 AVB14**	0.021
		Green	**ZB5 AVB34**	0.021
		Red	**ZB5 AVB44**	0.021
		Yellow	**ZB5 AVB54**	0.021
		Blue	**ZB5 AVB64**	0.021
	~ 48…120	White	**ZB5 AVG14**	0.021
		Green	**ZB5 AVG34**	0.021
		Red	**ZB5 AVG44**	0.021
		Yellow	**ZB5 AVG54**	0.021
		Blue	**ZB5 AVG64**	0.021
	~ 230…240	White	**ZB5 AVM14**	0.021
		Green	**ZB5 AVM34**	0.021
		Red	**ZB5 AVM44**	0.021
		Yellow	**ZB5 AVM54**	0.021
		Blue	**ZB5 AVM64**	0.021

Other versions	Complete bodies with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

(1) Connecting cables and connector for plug-in connector light blocks: see page 1/152.

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Harmony® style 5

Pilot lights with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads for BA 9s bulbs:
see page 1/139

814524

ZB5 AV6

522068

ZB5 AV156

814523

ZB5 AV3

Complete bodies (fixing collar + light block for BA 9s bulb, incandescent, neon or LED)

Description	Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections					
Direct supply	BA 9s bulb, 2.4 W max. Not included *(1)*	≤ 250	–	**ZB5 AV6**	0.022
Direct supply "Test" function (3 terminals)	BA 9s bulb, 2.4 W max. Not included *(1)*	≤ 250	–	**ZB5 AV156**	0.021
Via integral transformer 1.2 VA, 6 V secondary	BA 9s incandescent bulb, included	∿ 110…120 50/60 Hz	–	**ZB5 AV3**	0.099
		∿ 230 - 50 Hz ∿ 220…240 - 60 Hz	–	**ZB5 AV4**	0.099
		∿ 400 - 50 Hz	–	**ZB5 AV5**	0.099
		∿ 440…480 - 60 Hz	–	**ZB5 AV8**	0.099
		∿ 550…600 - 60 Hz	–	**ZB5 AV9**	0.099
	BA 9s base fitting LED included	∿ 110…120 50/60 Hz	White	**ZB5 AV3D1**	0.102
			Green	**ZB5 AV3D3**	0.102
			Red	**ZB5 AV3D4**	0.102
			Yellow	**ZB5 AV3D5**	0.102
			Blue	**ZB5 AV3D6**	0.102
		∿ 230 - 50 Hz ∿ 220…240 - 60 Hz	White	**ZB5 AV4D1**	0.102
			Green	**ZB5 AV4D3**	0.102
			Red	**ZB5 AV4D4**	0.102
			Yellow	**ZB5 AV4D5**	0.102
			Blue	**ZB5 AV4D6**	0.102
		∿ 400 - 50/60 Hz	White	**ZB5 AV5D1**	0.102
			Green	**ZB5 AV5D3**	0.102
			Red	**ZB5 AV5D4**	0.102
			Yellow	**ZB5 AV5D5**	0.102
			Blue	**ZB5 AV5D6**	0.102
Other versions	Complete bodies with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.				

(1) Bulbs to be ordered separately.

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Pilot lights with double insulated bezel

Sub-assemblies ZB5 A: heads

814529

ZB5 AV053

814528

ZB5 AV01

814530

ZB5 CV063

Heads

Shape of head	For use with body comprising light source type	Colour of lens	Reference	Weight kg
With plain lens				
	Integral LED only Protected LED	White	**ZB5 AV013**	0.017
		Green	**ZB5 AV033**	0.017
		Red	**ZB5 AV043**	0.017
		Yellow	**ZB5 AV053**	0.017
		Blue	**ZB5 AV063**	0.017
	BA 9s bulb only (incandescent, neon or LED)	White	**ZB5 AV01**	0.018
		Green	**ZB5 AV03**	0.018
		Red	**ZB5 AV04**	0.018
		Yellow	**ZB5 AV05**	0.018
		Blue	**ZB5 AV06**	0.018
		Clear	**ZB5 AV07**	0.018
	Integral LED only Protected LED	White	**ZB5 CV013**	0.020
		Green	**ZB5 CV033**	0.020
		Red	**ZB5 CV043**	0.020
		Yellow	**ZB5 CV053**	0.020
		Blue	**ZB5 CV063**	0.020
		5 colours *(1) (2)*	**ZB5 CV003**	0.028
With plain lens, for insertion of legend *(2)*				
	Integral LED only Protected LED	White	**ZB5 AV013E**	0.017
		Green	**ZB5 AV033E**	0.017
		Red	**ZB5 AV043E**	0.017
		Yellow	**ZB5 AV053E**	0.017
		Blue	**ZB5 AV063E**	0.017
With grooved lens *(3)*				
	Integral LED only Protected LED	White	**ZB5 AV013S**	0.017
		Green	**ZB5 AV033S**	0.017
		Red	**ZB5 AV043S**	0.017
		Yellow	**ZB5 AV053S**	0.017
		Blue	**ZB5 AV063S**	0.017
	For BA 9s bulb (neon or LED only)	White	**ZB5 AV01S**	0.017
		Green	**ZB5 AV03S**	0.017
		Red	**ZB5 AV04S**	0.017
		Yellow	**ZB5 AV05S**	0.017
		Blue	**ZB5 AV06S**	0.017
		Clear	**ZB5 AV07S**	0.017

(1) Head supplied with 5 different coloured lenses (white, green, red, yellow, blue) for insertion of legend.

(2) For legend ordering information: see page 1/160.

(3) For use in bright ambient light conditions (outdoors in sunlight, for example). For heads with grooved lens, the use of "high luminosity" LEDs is recommended, see page 1/151.

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Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads for integral LED:
see pages 1/145 to 1/147

814532

ZB5 AW0●●1

814533

ZB5 AW0●●3

Complete bodies (fixing collar + single contact block + light block with integral LED)

Light source	Supply voltage V	Type of contact (1) N/O	Type of contact (1) N/C	Colour of light source	Reference	Weight kg
Screw clamp terminal connections						
Integral LED Protected LED	≂ 24	1	–	White	**ZB5 AW0B11**	0.032
				Green	**ZB5 AW0B31**	0.032
				Red	**ZB5 AW0B41**	0.032
				Yellow	**ZB5 AW0B51**	0.032
				Blue	**ZB5 AW0B61**	0.032
		–	1	White	**ZB5 AW0B12**	0.032
				Green	**ZB5 AW0B32**	0.032
				Red	**ZB5 AW0B42**	0.032
				Yellow	**ZB5 AW0B52**	0.032
				Blue	**ZB5 AW0B62**	0.032
		2	–	White	**ZB5 AW0B13**	0.042
				Green	**ZB5 AW0B33**	0.042
				Red	**ZB5 AW0B43**	0.042
				Yellow	**ZB5 AW0B53**	0.042
				Blue	**ZB5 AW0B63**	0.042
		1	1	White	**ZB5 AW0B15**	0.042
				Green	**ZB5 AW0B35**	0.042
				Red	**ZB5 AW0B45**	0.042
				Yellow	**ZB5 AW0B55**	0.042
				Blue	**ZB5 AW0B65**	0.042
	≂ 48…120	1	–	White	**ZB5 AW0G11**	0.032
				Green	**ZB5 AW0G31**	0.032
				Red	**ZB5 AW0G41**	0.032
				Yellow	**ZB5 AW0G51**	0.032
				Blue	**ZB5 AW0G61**	0.032
		–	1	White	**ZB5 AW0G12**	0.032
				Green	**ZB5 AW0G32**	0.032
				Red	**ZB5 AW0G42**	0.032
				Yellow	**ZB5 AW0G52**	0.032
				Blue	**ZB5 AW0G62**	0.032

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/150.

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Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads for integral LED:
see pages 1/145 to 1/147

814536

ZB5 AW0●●3

814537

ZB5 AW0●●1

Complete bodies (fixing collar + single contact block + light block with integral LED) *(continued)*

Light source	Supply voltage V	Type of contact (1) N/O	Type of contact (1) N/C	Colour of light source	Reference	Weight kg
Screw clamp terminal connections *(continued)*						
Integral LED Protected LED	∿ 48…120	2	–	White	**ZB5 AW0G13**	0.042
				Green	**ZB5 AW0G33**	0.042
				Red	**ZB5 AW0G43**	0.042
				Yellow	**ZB5 AW0G53**	0.042
				Blue	**ZB5 AW0G63**	0.042
		1	1	White	**ZB5 AW0G15**	0.042
				Green	**ZB5 AW0G35**	0.042
				Red	**ZB5 AW0G45**	0.042
				Yellow	**ZB5 AW0G55**	0.042
				Blue	**ZB5 AW0G65**	0.042
	∿ 230…240	1	–	White	**ZB5 AW0B11**	0.032
				Green	**ZB5 AW0M31**	0.032
				Red	**ZB5 AW0M41**	0.032
				Yellow	**ZB5 AW0M51**	0.032
				Blue	**ZB5 AW0M61**	0.032
		–	1	White	**ZB5 AW0M12**	0.032
				Green	**ZB5 AW0M32**	0.032
				Red	**ZB5 AW0M42**	0.032
				Yellow	**ZB5 AW0M52**	0.032
				Blue	**ZB5 AW0M62**	0.032
		2	–	White	**ZB5 AW0M13**	0.042
				Green	**ZB5 AW0M33**	0.042
				Red	**ZB5 AW0M43**	0.042
				Yellow	**ZB5 AW0M53**	0.042
				Blue	**ZB5 AW0M63**	0.042
		1	1	White	**ZB5 AW0M15**	0.042
				Green	**ZB5 AW0M35**	0.042
				Red	**ZB5 AW0M45**	0.042
				Yellow	**ZB5 AW0M55**	0.042
				Blue	**ZB5 AW0M65**	0.042
	400 V, 50 Hz	1	1	White	**ZB5 AW05B15**	0.136
				Green	**ZB5 AW05B35**	0.136
				Red	**ZB5 AW05B45**	0.136
				Yellow	**ZB5 AW05B55**	0.136
				Blue	**ZB5 AW05B65**	0.136
	400/460 V, 60 Hz	1	1	White	**ZB5 AW08B15**	0.136
				Green	**ZB5 AW08B35**	0.136
				Red	**ZB5 AW08B45**	0.136
				Yellow	**ZB5 AW08B55**	0.136
				Blue	**ZB5 AW08B65**	0.136
	550/600 V, 60 Hz	1	1	White	**ZB5 AW09B15**	0.136
				Green	**ZB5 AW09B35**	0.136
				Red	**ZB5 AW09B45**	0.136
				Yellow	**ZB5 AW09B55**	0.136
				Blue	**ZB5 AW09B65**	0.136
Other versions	Complete bodies with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.					

(1) Can be fitted with additional contact blocks : see page 1/150.

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Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads for integral LED:
see pages 1/145 to 1/147

814541

ZB5 AW0●●24

814542

ZB5 AW0●●34

Complete bodies (fixing collar + single contact block + light block with integral LED) *(continued)*

Light source	Supply voltage V	Type of contact (1) N/O	Type of contact (1) N/C	Colour of light source	Reference	Weight kg
Plug-in connector *(2)*						
Integral LED Protected LED	≂ 24	1	–	White	**ZB5 AW0B114**	0.028
				Green	**ZB5 AW0B314**	0.028
				Red	**ZB5 AW0B414**	0.028
				Yellow	**ZB5 AW0B514**	0.028
				Blue	**ZB5 AW0B614**	0.028
		–	1	White	**ZB5 AW0B124**	0.028
				Green	**ZB5 AW0B324**	0.028
				Red	**ZB5 AW0B424**	0.028
				Yellow	**ZB5 AW0B524**	0.028
				Blue	**ZB5 AW0B624**	0.028
		2	–	White	**ZB5 AW0B134**	0.035
				Green	**ZB5 AW0B334**	0.035
				Red	**ZB5 AW0B434**	0.035
				Yellow	**ZB5 AW0B534**	0.035
				Blue	**ZB5 AW0B634**	0.035
		1	1	White	**ZB5 AW0B154**	0.035
				Green	**ZB5 AW0B354**	0.035
				Red	**ZB5 AW0B454**	0.035
				Yellow	**ZB5 AW0B554**	0.035
				Blue	**ZB5 AW0B654**	0.035
	≂ 48...120	1	–	White	**ZB5 AW0G114**	0.028
				Green	**ZB5 AW0G314**	0.028
				Red	**ZB5 AW0G414**	0.028
				Yellow	**ZB5 AW0G514**	0.028
				Blue	**ZB5 AW0G614**	0.028
		–	1	White	**ZB5 AW0G124**	0.028
				Green	**ZB5 AW0G324**	0.028
				Red	**ZB5 AW0G424**	0.028
				Yellow	**ZB5 AW0G524**	0.028
				Blue	**ZB5 AW0G624**	0.028

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/152.
(2) Connecting cables and connector for plug-in connector electrical blocks: see page 1/152.

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Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads for integral LED:
see pages 1/145 to 1/147

Complete bodies (fixing collar + single contact block + light block with integral LED) *(continued)*

Light source	Supply voltage V	Type of contact *(1)* N/O	N/C	Colour of light source	Reference	Weight kg
Plug-in connector *(2) (continued)*						
Integral LED	~ 48…120	2	–	White	**ZB5 AW0G134**	0.035
				Green	**ZB5 AW0G334**	0.035
				Red	**ZB5 AW0G434**	0.035
				Yellow	**ZB5 AW0G534**	0.035
				Blue	**ZB5 AW0G634**	0.035
		1	1	White	**ZB5 AW0G154**	0.035
				Green	**ZB5 AW0G354**	0.035
				Red	**ZB5 AW0G454**	0.035
				Yellow	**ZB5 AW0G554**	0.035
				Blue	**ZB5 AW0G654**	0.035
	~ 230…240	1	–	White	**ZB5 AW0M114**	0.028
				Green	**ZB5 AW0M314**	0.028
				Red	**ZB5 AW0M414**	0.028
				Yellow	**ZB5 AW0M514**	0.028
				Blue	**ZB5 AW0M614**	0.028
		–	1	White	**ZB5 AW0M124**	0.028
				Green	**ZB5 AW0M324**	0.028
				Red	**ZB5 AW0M424**	0.028
				Yellow	**ZB5 AW0M524**	0.028
				Blue	**ZB5 AW0M624**	0.028
		2	–	White	**ZB5 AW0M134**	0.035
				Green	**ZB5 AW0M334**	0.035
				Red	**ZB5 AW0M434**	0.035
				Yellow	**ZB5 AW0M534**	0.035
				Blue	**ZB5 AW0M634**	0.035
		1	1	White	**ZB5 AW0M154**	0.035
				Green	**ZB5 AW0M354**	0.035
				Red	**ZB5 AW0M454**	0.035
				Yellow	**ZB5 AW0M554**	0.035
				Blue	**ZB5 AW0M654**	0.035

814545

ZB5 AW0●●34

814546

ZB5 AW0●●24

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office

(1) Can be fitted with additional contact blocks: see page 1/152.
(2) Connecting cables and connector for plug-in connector electrical blocks: see page 1/152.

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Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads for BA 9s bulbs: see pages 1/145 to 1/147

814549

ZB5 AW065

563158

ZB5 AW035

Complete bodies (fixing collar + single contact block + light block for BA 9s bulb, incandescent, neon or LED)

Description	Light source	Supply voltage V	Type of contact (1) N/O	Type of contact (1) N/C	Colour of light source	Reference	Weight kg
Screw clamp terminal connections							
Direct supply	BA 9s bulb, 2.4 W max. Not included (2)	≤ 250	1	–	–	**ZB5 AW061**	0.031
			–	1	–	**ZB5 AW062**	0.031
			2	–	–	**ZB5 AW063**	0.041
			1	1	–	**ZB5 AW065**	0.041
Via integral transformer 1.2 VA, 6 V secondary	BA 9s incandescent bulb, included	∿ 110…120 50/60 Hz	1	–	–	**ZB5 AW031**	0.110
			1	1	–	**ZB5 AW035**	0.119
		∿ 230 - 50 Hz	1	–	–	**ZB5 AW041**	0.110
		∿ 220…240 - 60 Hz	1	1	–	**ZB5 AW045**	0.119
		∿ 400 - 50 Hz	1	–	–	**ZB5 AW051**	0.110
			1	1	–	**ZB5 AW055**	0.119
	BA 9s base fitting LED included	∿ 110…120 50/60 Hz	1	1	White	**ZB5 AW03D15**	0.119
					Green	**ZB5 AW03D35**	0.119
					Red	**ZB5 AW03D45**	0.119
					Yellow	**ZB5 AW03D55**	0.119
					Blue	**ZB5 AW03D65**	0.119
		∿ 230 - 50 Hz ∿ 220…240 - 60 Hz	1	1	White	**ZB5 AW04D15**	0.119
					Green	**ZB5 AW04D35**	0.119
					Red	**ZB5 AW04D45**	0.119
					Yellow	**ZB5 AW04D55**	0.119
					Blue	**ZB5 AW04D65**	0.119
		∿ 400 50/60 Hz	1	1	White	**ZB5 AW05D15**	0.120
					Green	**ZB5 AW05D35**	0.120
					Red	**ZB5 AW05D45**	0.120
					Yellow	**ZB5 AW05D55**	0.120
					Blue	**ZB5 AW05D65**	0.120

Other versions Complete bodies with integral transformer incorporating Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office

(1) Can be fitted with additional contact blocks: see page 1/150.
(2) Bulb to be ordered separately: see page 1/162.

Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see pages 1/140 to 1/144

Heads for spring return illuminated pushbuttons

Shape of head	Type of push	Colour	Reference	Weight kg
With plain lens ■ Only for use with bodies comprising a light source with integral LED			Protected LED	
	Flush	White	**ZB5 AW313**	0.017
		Green	**ZB5 AW333**	0.017
		Red	**ZB5 AW343**	0.017
		Yellow	**ZB5 AW353**	0.017
		Blue	**ZB5 AW363**	0.017
	Flush with illuminated ring	White	**ZB5 AW913**	0.016
		Green	**ZB5 AW933**	0.016
		Red	**ZB5 AW943**	0.016
		Yellow	**ZB5 AW953**	0.016
		Blue	**ZB5 AW963**	0.016
	Flush with clear boot	White	**ZB5 AW513**	0.019
		Green	**ZB5 AW533**	0.019
		Red	**ZB5 AW543**	0.019
		Yellow	**ZB5 AW553**	0.019
		Blue	**ZB5 AW563**	0.019
	Flush for insertion of legend	White	**ZB5 AA18**	0.018
		Green	**ZB5 AA38**	0.018
		Red	**ZB5 AA48**	0.018
		Yellow	**ZB5 AA58**	0.018
		Blue	**ZB5 AA68**	0.018
	Projecting	White	**ZB5 AW113**	0.018
		Green	**ZB5 AW133**	0.018
		Red	**ZB5 AW143**	0.018
		Yellow	**ZB5 AW153**	0.018
		Blue	**ZB5 AW163**	0.018
	Flush (legend can be inserted)	White	**ZB5 CW313**	0.023
		Green	**ZB5 CW333**	0.023
		Red	**ZB5 CW343**	0.023
		Yellow	**ZB5 CW353**	0.023
		Blue	**ZB5 CW363**	0.023
	Projecting (legend can be inserted)	White	**ZB5 CW113**	0.024
		Green	**ZB5 CW133**	0.024
		Red	**ZB5 CW143**	0.024
		Yellow	**ZB5 CW153**	0.024
		Blue	**ZB5 CW163**	0.024
	Flush (high guard)	White	**ZB5 CW3136**	0.014
		Green	**ZB5 CW3336**	0.014
		Red	**ZB5 CW3436**	0.014
		Yellow	**ZB5 CW3536**	0.014
		Blue	**ZB5 CW3636**	0.014
■ Only for use with bodies comprising a light source with BA 9s bulb (incandescent, neon or LED)				
	Flush	White	**ZB5 AW31**	0.018
		Green	**ZB5 AW33**	0.018
		Red	**ZB5 AW34**	0.018
		Yellow	**ZB5 AW35**	0.018
		Blue	**ZB5 AW36**	0.018
		Clear	**ZB5 AW37**	0.018
	Projecting	White	**ZB5 AW11**	0.017
		Green	**ZB5 AW13**	0.017
		Red	**ZB5 AW14**	0.017
		Yellow	**ZB5 AW15**	0.017
		Blue	**ZB5 AW16**	0.017
		Clear	**ZB5 AW17**	0.017

814556

ZB5 AW313

814557

ZB5 AW363

814555

ZB5 AW143

814558

ZB5 CW113

109498

ZB5 CW3136

814559

ZB5 AW33

Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see pages 1/140 to 1/144

Heads for spring return illuminated pushbuttons

Shape of head	Type of push	Colour	Reference	Weight kg
With groved lens *(1)* ■ Only for use with bodies comprising a light source with integral LED Protected LED				
	Flush	White	**ZB5 AW313S**	0.017
		Green	**ZB5 AW333S**	0.017
		Red	**ZB5 AW343S**	0.017
		Yellow	**ZB5 AW353S**	0.017
		Blue	**ZB5 AW363S**	0.017
	Projecting	White	**ZB5 AW113S**	0.017
		Green	**ZB5 AW133S**	0.017
		Red	**ZB5 AW143S**	0.017
		Yellow	**ZB5 AW153S**	0.017
		Blue	**ZB5 AW163S**	0.017
■ Only for use with bodies comprising a light source with BA 9s bulb (incandescent, neon or LED).				
	Flush	White	**ZB5 AW31S**	0.018
		Green	**ZB5 AW33S**	0.018
		Red	**ZB5 AW34S**	0.018
		Yellow	**ZB5 AW35S**	0.018
		Blue	**ZB5 AW36S**	0.018
		Clear	**ZB5 AW37S**	0.018
	Projecting	White	**ZB5 AW11S**	0.018
		Green	**ZB5 AW13S**	0.018
		Red	**ZB5 AW14S**	0.018
		Yellow	**ZB5 AW15S**	0.018
		Blue	**ZB5 AW16S**	0.018
		Clear	**ZB5 AW17S**	0.018

(1) For use in bright ambient light conditions (outdoors in sunlight, for example). For heads with grooved lens, the use of "high luminosity" LEDs is recommended, see page 1/151.

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Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see pages 1/140 to 1/144

Heads for illuminated "push-push to release" pushbuttons (1)

Shape of head	Type of push	Colour of lens	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED Protected LED				
	Flush	White	**ZB5 AH013**	0.017
		Green	**ZB5 AH033**	0.017
		Red	**ZB5 AH043**	0.017
		Yellow	**ZB5 AH053**	0.017
		Blue	**ZB5 AH063**	0.017
	Projecting	White	**ZB5 AH13**	0.017
		Green	**ZB5 AH33**	0.017
		Red	**ZB5 AH43**	0.017
		Yellow	**ZB5 AH53**	0.017
		Blue	**ZB5 AH63**	0.017
	Flush	White	**ZB5 CH313**	0.018
		Green	**ZB5 CH333**	0.018
		Red	**ZB5 CH343**	0.018
		Yellow	**ZB5 CH353**	0.018
		Blue	**ZB5 CH363**	0.018

(1) Maximum of 1 row of 2 contact blocks on associated body/fixing collar sub-assembly.

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Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see pages 1/140 to 1/144

814567

ZB5 AW833743

814568

ZB5 AW823743

814569

ZB5 AW843743

Heads with pilot light for double-headed, spring return pushbuttons (IP 40) *(1)*

Shape of head	Description	Colour of pushes	Colour of pilot light	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED "high luminosity" *(2)* Protected LED					
■ Without function marking on push					
	1 flush push **1 central pilot light** **1 flush push**	Black Red	Clear *(3)*	**ZB5 AW812743**	0.022
		Green Red	Clear *(3)*	**ZB5 AW813743**	0.022
		White Black	Clear *(3)*	**ZB5 AW811723**	0.022
	1 flush push **1 central pilot light** **1 projecting push**	Black Red	Clear *(3)*	**ZB5 AW812743**	0.021
		Green Red	Clear *(3)*	**ZB5 AW833743**	0.021
		White Black	Clear *(3)*	**ZB5 AW831723**	0.021
■ With function marking on push					
	1 flush push (marked “I”) **1 central pilot light** **1 flush push** (marked “O”)	Black Red	Clear *(3)*	**ZB5 AW822743**	0.022
		Green Red	Clear *(3)*	**ZB5 AW823743**	0.022
		White Black	Clear *(3)*	**ZB5 AW821723**	0.021
	1 flush push (marked “I”) **1 central pilot light** **1 projecting push** (marked “O”)	Black Red	Clear *(3)*	**ZB5 AW842743**	0.021
		Green Red	Clear *(3)*	**ZB5 AW843743**	0.021
		White Black	Clear *(3)*	**ZB5 AW841723**	0.021

(1) Maximum of 1 row of 2 contact blocks on associated body/fixing collar sub-assembly.
*(2) NEMA type 1, for a head with IP 66 degree of protection (NEMA type 4X), fit a clear sealing boot **ZBW 008**: see page 1/163.*
(3) Colour of centrally positioned pilot light determined by the colour of the LED incorporated in the body assembly.

Heads for Ø 40 latching mushroom head pushbuttons

Only for use with bodies comprising a light source with integral LED "high luminosity" *(2)* Protected LED

Shape of head	Type of push	Colour of push	Reference	Weight kg
	Turn to release	White	**ZB5 AW713**	0,022
		Green	**ZB5 AW733**	0.022
		Red	**ZB5 AW743**	0.022
		Yellow	**ZB5 AW753**	0.022
		Blue	**ZB5 AW763**	0.022

103547

ZB5 AW743

*(1) NEMA type 1, for a head with IP 66 degree of protection (NEMA type 4X), fit a clear sealing boot **ZBW 008**: see page 1/163.*
(2) "High luminosity" LED, see page 1/151.
(3) Colour of centrally positioned pilot light determined by the colour of the LED incorporated in the body assembly.

Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

814578

ZB5 AK1213

814579

ZB5 AK1463

Heads for illuminated selector switches with standard handle *(1)*

Shape of head	Number and type of positions	Colour of handle	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED Protected LED				
	2 - stay put	White	**ZB5 AK1213**	0.021
		Green	**ZB5 AK1233**	0.021
		Red	**ZB5 AK1243**	0.021
		Yellow	**ZB5 AK1253**	0.021
		Blue	**ZB5 AK1263**	0.021
	2 - spring return from right to left	White	**ZB5 AK1413**	0.021
		Green	**ZB5 AK1433**	0.021
		Red	**ZB5 AK1443**	0.021
		Yellow	**ZB5 AK1453**	0.021
		Blue	**ZB5 AK1463**	0.021
	3 - stay put	White	**ZB5 AK1313**	0.021
		Green	**ZB5 AK1333**	0.021
		Red	**ZB5 AK1343**	0.021
		Yellow	**ZB5 AK1353**	0.021
		Blue	**ZB5 AK1363**	0.021
	3 - spring return to centre	White	**ZB5 AK1513**	0.021
		Green	**ZB5 AK1533**	0.021
		Red	**ZB5 AK1543**	0.021
		Yellow	**ZB5 AK1553**	0.021
		Blue	**ZB5 AK1563**	0.021
	3 - spring return from right to centre	White	**ZB5 AK1813**	0.021
		Green	**ZB5 AK1833**	0.021
		Red	**ZB5 AK1843**	0.021
		Yellow	**ZB5 AK1853**	0.021
		Blue	**ZB5 AK1863**	0.021
	3 - spring return from left to centre	White	**ZB5 AK1713**	0.021
		Green	**ZB5 AK1733**	0.021
		Red	**ZB5 AK1743**	0.021
		Yellow	**ZB5 AK1753**	0.021
		Blue	**ZB5 AK1763**	0.021

(1) NEMA type 13.

1.4

General: pages 1/106 to 1/113
Characteristics: pages 1/114 to 1/117
Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: electrical blocks

814584

ZBE 101

814585

ZBE 102

814586

ZBE 203

814587

ZBE 204

814584

ZBE 201

814585

ZBE 202

Contact blocks with screw clamp terminal connections *(1)*

Description	Type of contact N/O	Type of contact N/C	Sold in lots of	Unit reference	Weight kg
Standard single contact blocks	1	–	5	**ZBE 101**	0.011
	–	1	5	**ZBE 102**	0.011
Standard double contact blocks	2	–	5	**ZBE 203**	0.020
	–	2	5	**ZBE 204**	0.020
	1	1	5	**ZBE 205**	0.020
Special contact blocks for low power switching with gold flashed contacts	1	–	5	**ZBE 1016**	0.012
	–	1	5	**ZBE 1026**	0.012
Special contact blocks for low power switching with gold flashed contacts and dust protection *(2)*	1	–	5	**ZBE 1016P**	0.012
	–	1	5	**ZBE 1026P**	0.012

Description	Type of contact N/O	Type of contact N/C	Sold in lots of	Unit reference	Weight kg
Specific contact block for early make contact function	1	–	5	**ZBE 201**	0.011
Specific contact block for late break contact function	–	1	5	**ZBE 202**	0.011

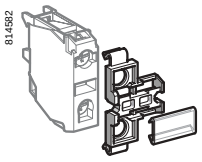
Body/fixing collar

814588

ZB5 AZ009

For use with	Sold in lots of	Unit reference	Weight kg
Electrical blocks (contact or light)	10	**ZB5 AZ009**	0.006

Clip-on legend holders for electrical blocks with screw clamp terminal connections


814582

ZBZ 001

Identification of an XB5 A control or signalling unit	10	**ZBZ 001**	0.001

Sheet of 50 blank legends

Legend holder ZBZ 001	10	**ZBY 001**	0.023

"SIS Label" labelling software (for legends **ZBY 001**)

563527

XBY 2U

Legend design for English, French, German, Italian, Spanish	1	**XBY 2U**	0.100

(1) The contact blocks enable variable composition of body sub-assemblies. Maximum number of rows possible: 3. Either 3 rows of 3 single contacts or 1 row of 3 double contacts + 1 row of 3 single contacts (double contact blocks occupy 2 rows).

(2) It is not possible to fit an additional contact block on the back of these blocks.

Other versions Contact blocks with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

General: pages 1/106 to 1/113
Characteristics: pages 1/114 to 1/117
Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: electrical blocks

Light blocks with screw clamp terminals

Description	Supply voltage V	Colour of light source	Sold in lots of	Unit reference	Weight kg
Integral LED (to combine with heads for integral LED)	⎓ 12	White	5	**ZBV J1** *(1)*	0.017
		Green	5	**ZBV J3** *(1)*	0.017
		Red	5	**ZBV J4** *(1)*	0.017
		Yellow	5	**ZBV J5** *(1)*	0.017
		Blue	5	**ZBV J6** *(1)*	0.017
	⎓ 24	White	5	**ZBV B1** *(1)*	0.017
		Green	5	**ZBV B3** *(1)*	0.017
		Red	5	**ZBV B4** *(1)*	0.017
		Yellow	5	**ZBV B5** *(1)*	0.017
		Blue	5	**ZBV B6** *(1)*	0.017
	⎓ 24…120	White	5	**ZBV BG1**	0.017
		Green	5	**ZBV BG3**	0.017
		Red	5	**ZBV BG4**	0.017
		Yellow	5	**ZBV BG5**	0.017
		Blue	5	**ZBV BG6**	0.017
	∿ 48…120	White	5	**ZBV G1** *(1)*	0.017
		Green	5	**ZBV G3** *(1)*	0.017
		Red	5	**ZBV G4** *(1)*	0.017
		Yellow	5	**ZBV G5** *(1)*	0.017
		Blue	5	**ZBV G6** *(1)*	0.017
	∿ 230…240	White	5	**ZBV M1** *(1)*	0.017
		Green	5	**ZBV M3** *(1)*	0.017
		Red	5	**ZBV M4** *(1)*	0.017
		Yellow	5	**ZBV M5** *(1)*	0.017
		Blue	5	**ZBV M6** *(1)*	0.017
Direct supply for BA 9s bulb, 2.4 W max. **Not included** *(2)*	≤ 250	–	5	**ZBV 6**	0.016

814592

ZBV B●

522067

ZBZ G156

522068

ZBZ M156

814594

ZBZ V●

Blocks for “test light” function

For use with	Supply voltage V	Description	Reference	Weight kg
Light blocks	⎓ 12 and 24 ⎓ 24…120	Single module, 1 connecting wire	**ZBZ G156** *(3)*	0.010
Light blocks with integral LED	∿ 48…230	Double module, with connecting wires	**ZBZ M156** *(4)*	0.010

814588

ZB5 AZ009

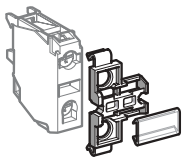
LED suppressors

For use with	Supply voltage V	Reference	Weight kg
Light blocks with integral LED fitted with screw clamp terminal connections	∿ 120	**ZBZ VG**	0.010
	∿ 230	**ZBZ VM**	0.010

Body/fixing collar

For use with	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	**ZB5 AZ009**	0.006

814269



ZBZ 001

Clip-on legend holders for electrical blocks with screw clamp terminal connections

Identification of an XB5 A control or signalling unit	10	**ZBZ 001**	0.001

Sheet of 50 blank legends

Legend holder ZBZ 001	10	**ZBY 001**	0.023

“SIS Label” labelling software (for legends ZBY 001)

Legend design for English, French, German, Italian, Spanish	1	**XBY 2U**	0.100

563527

XBY 2U

*(1) To order a “high luminosity” version, add the suffix **S** to the reference (example: **ZBV B5S** for a yellow, 24 V, high luminosity light block).*

(2) Bulb to be ordered separately: see page 1/162.

*(3) Block for use with ⎓ light blocks with integral LED types **ZBV J●**, **ZBV B●**, **ZBV BG●** or with direct supply light block for BA 9s bulb, **ZBV 6**.*

*(4) Block for use with ∿ light blocks with integral LED types **ZBV G●**, **ZBV M●**, see connections on page 1/171*

Other versions Light blocks with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

General: pages 1/106 to 1/113
Characteristics: pages 1/114 to 1/117
Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: electrical blocks

814597

ZBE 1014

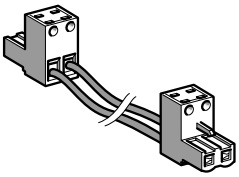
814598

ZBE 1024

814599

ZBV B●4

563159



APE 1C2250

563160

APE 1PAD21

814600

ZB5 AZ009

Contact blocks for plug-in connector

Description	Type of contact N/O	Type of contact N/C	Sold in lots of	Unit reference	Weight kg
Standard contact blocks	1	–	5	**ZBE 1014**	0.009
	–	1	5	**ZBE 1024**	0.009

Light blocks for plug-in connector

Description	Supply voltage V	Colour of light source	Sold in lots of	Unit reference	Weight kg
Integral LED (to combine with heads for integral LED) Protected LED	⎓ 24	White	5	**ZBV B14**	0.016
		Green	5	**ZBV B34**	0.016
		Red	5	**ZBV B44**	0.016
		Yellow	5	**ZBV B54**	0.016
		Blue	5	**ZBV B64**	0.016
	~ 48…120	White	5	**ZBV G14**	0.016
		Green	5	**ZBV G34**	0.016
		Red	5	**ZBV G44**	0.016
		Yellow	5	**ZBV G54**	0.016
		Blue	5	**ZBV G64**	0.016
	~ 230…240	White	5	**ZBV M14**	0.016
		Green	5	**ZBV M34**	0.016
		Red	5	**ZBV M44**	0.016
		Yellow	5	**ZBV M54**	0.016
		Blue	5	**ZBV M64**	0.016

Connecting cables and connector

Description	Number of connectors	Wire c.s.a. mm²	Length mm	Sold in lots of	Unit reference	Weight kg
Cables with connectors 2-pin, 5.08 mm pitch	1	0.75	500	8	**APE 1C2150**	0.120
	2	0.75	500	8	**APE 1C2250**	0.180
Self-stripping connector 2-pin, 5.08 mm pitch	–	0.75	–	16	**APE 1PAD21**	0.080
Spring terminal connector 2-pin, 5.08 mm pitch	–	0.2 to 2.5	–	10	**APE 1PRE21**	0.003

Body/fixing collar

For use with	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	**ZB5 AZ009**	0.006

General: pages 1/106 to 1/113
Characteristics: pages 1/114 to 1/117
Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: electrical blocks

814605

ZBE 701

814606

ZBE 702

Contact blocks for printed circuit board connection (1)

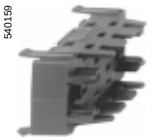
Description	Type of contact N/O	Type of contact N/C	Sold in lots of	Unit reference	Weight kg
Standard contact blocks	1	–	10	**ZBE 701**	0.002
	–	1	10	**ZBE 702**	0.002
Special contact blocks for low power switching with gold flashed contacts	1	–	10	**ZBE 7016** ▲	0.003
	–	1	10	**ZBE 7026** ▲	0.003

814607

ZBV B●7

Light blocks for printed circuit board connection (1)

Description	Supply voltage V	Colour of LED	Sold in lots of	Unit reference	Weight kg
Integral LED (to combine with heads for integral LED) Protected LED	≂ 24	White	5	**ZBV B17**	0.004
		Green	5	**ZBV B37**	0.004
		Red	5	**ZBV B47**	0.004
		Yellow	5	**ZBV B57**	0.004
		Blue	5	**ZBV B67**	0.004


540159

ZBZ 01●

Adaptor (socket) for printed circuit board connection

For use with	Thickness of printed circuit board mm	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	1.6 ± 0.2	10	**ZBZ 010**	0.008
	2.2 ± 0.2	10	**ZBZ 011**	0.008
	3.2 ± 0.2	10	**ZBZ 012**	0.008

814608

ZB5 AZ079

Accessories specifically for printed circuit board mounting (1)

Description	For use with	Sold in lots of	Unit reference	Weight kg
Fixing collar/pillar	Printed circuit board support	10	**ZB5 AZ079**	0.003
Fixing screw for printed circuit board	Fixing collar/pillar ZB5 AZ079	10	**ZBZ 006**	0.011

(1) For details of support drilling and of printed circuit board: see page 1/173.
Must be used in conjunction with adaptor (socket) ***ZBZ 010****.*

▲ Available: 4th quarter 2005.

General: pages 1/106 to 1/113
Characteristics: pages 1/114 to 1/117
Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

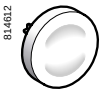
Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: for heads

814611

ZBA ●



814612

ZBL ●

814613

ZBA ●33

Pushbutton caps - unmarked

For use with	Type of push	Colour	Sold in lots of	Unit reference	Weight kg
ZB5 AA0 circular pushbutton heads supplied without cap	Flush	White	10	**ZBA 1**	0.001
		Black	10	**ZBA 2**	0.001
		Green	10	**ZBA 3**	0.001
		Red	10	**ZBA 4**	0.001
		Yellow	10	**ZBA 5**	0.001
		Blue	10	**ZBA 6**	0.001
		6 colours *(1)*	1	**ZBA 9**	0.006
	Projecting	White	10	**ZBL 1**	0.001
		Black	10	**ZBL 2**	0.001
		Green	10	**ZBL 3**	0.001
		Red	10	**ZBL 4**	0.001
		Yellow	10	**ZBL 5**	0.001
		Blue	10	**ZBL 6**	0.001
		6 colours *(1)*	1	**ZBL 9**	0.006
ZB5 CA0 square pushbutton heads supplied without cap	Flush	White	10	**ZBC 1**	0.001
		Black	10	**ZBC 2**	0.001
		Green	10	**ZBC 3**	0.001
		Red	10	**ZBC 4**	0.001
		Yellow	10	**ZBC 5**	0.001
		Blue	10	**ZBC 6**	0.001

Pushbutton caps - marked *(3)*

For use with	Type of push	Marking		Colour of cap	Unit reference	Weight kg
		Text	Colour			
ZB5 AA0 circular pushbutton heads supplied without cap (Sold in lots of 10)	Flush	I *(2)*	White	Green	**ZBA 331**	0.001
			Black	White	**ZBA 131**	0.001
		II	White	Green	**ZBA 336**	0.001
			Black	White	**ZBA 136**	0.001
		III	White	Green	**ZBA 337**	0.001
			Black	White	**ZBA 137**	0.001
		IV	White	Green	**ZBA 338**	0.001
			Black	White	**ZBL 138**	0.001
		START *(2)*	White	Green	**ZBA 333**	0.001
			Black	White	**ZBA 133**	0.001
		ON	White	Green	**ZBA 341**	0.001
			Black	White	**ZBA 141**	0.001
		MARCHE	White	Green	**ZBA 342**	0.001
			Black	White	**ZBA 142**	0.001
		UP *(2)*	Black	White	**ZBA 343**	0.001
		DOWN *(2)*	White	Black	**ZBA 344**	0.001
		⏉ *(2)*	White	Black	**ZBA 245**	0.001
			Black	White	**ZBA 145**	0.001
		⬆	White	Black	**ZBA 335**	0.001
			Black	White	**ZBA 334**	0.001
		O *(2)*	White	Red	**ZBA 432**	0.001
				Black	**ZBA 232**	0.001
		ARRET	White	Red	**ZBA 433**	0.001
				Black	**ZBA 233**	0.001
		STOP *(2)*	White	Red	**ZBA 434**	0.001
				Black	**ZBA 234**	0.001
		OFF	White	Red	**ZBA 435**	0.001
				Black	**ZBA 235**	0.001
		⏀	White	Green	**ZBA 346**	0.001
		R *(2)*	White	Blue	**ZBA 639**	0.001
		+	White	Black	**ZBA 2934**	0.001
		–	White	Black	**ZBA 2935**	0.001

(1) Set of 6 different coloured caps: white, black, green, red, yellow, blue.
(2) Double injection moulded marking.
(3) Can be clipped-in at 90° steps, through 360°.

General:
pages 1/106 to 1/113

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pages 1/114 to 1/117

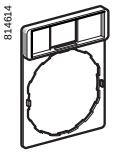
Dimensions:
pages 1/166 to 1/173

Control and signalling units Ø 22

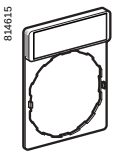
Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

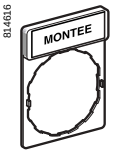
Separate components and accessories: for heads



ZBZ 32



ZBY ●101



ZBY 2107

Standard (30 x 40 mm) legend holders for 8 x 27 mm legends *(1)*

Description	Legend		Sold in lots of	Unit reference	Weight kg
	Colour	Marking			
Without legend	–	–	10	**ZBZ 32**	0,001
With blank legend (for engraving)	Black or red background	–	10	**ZBY 2101**	0.002
	White or yellow background	–	10	**ZBY 4101**	0.002
With 8 x 27 mm legend (with International marking)	Black or red background *(2)*	O (black background)	1	**ZBY 2146**	0.002
		O (red background)	1	**ZBY 2931**	0.002
		I	1	**ZBY 2147**	0.002
		II	1	**ZBY 2148**	0.002
		O-I	1	**ZBY 2178**	0.002
		I-II	1	**ZBY 2179**	0.002
		I-O-II	1	**ZBY 2186**	0.002
		AUTO	1	**ZBY 2115**	0.002
		STOP	1	**ZBY 2304**	0.002
With 8 x 27 mm legend (with French language marking)	Black or red background *(2)*	ARRET (red background)	1	**ZBY 2104**	0.002
		ARRET (black background)	1	**ZBY 0104**	0.002
		ARRET GENERAL	1	**ZBY 2129**	0.002
		ARRET REARMEMENT	1	**ZBY 2133**	0.002
		ARRET D'URGENCE	1	**ZBY 2130**	0.002
		ARRET-MARCHE	1	**ZBY 2166**	0.002
		ARRIERE	1	**ZBY 2106**	0.002
		AUTO CYCLE-CYCLE	1	**ZBY 2198**	0.002
		AUTO CYCLE-MAIN	1	**ZBY 2199**	0.002
		AUTO-MAIN	1	**ZBY 2164**	0.002
		AUTO-O-MAIN	1	**ZBY 2185**	0.002
		AVANT	1	**ZBY 2105**	0.002
		AVANT-O-ARRIERE	1	**ZBY 2184**	0.002
		C-P-C-NORMAL	1	**ZBY 2165**	0.002
		CYCLE-MAIN	1	**ZBY 2197**	0.002
		DECLENCHEMENT	1	**ZBY 2132**	0.002
		DEFAUT (black background)	1	**ZBY 2134**	0.002
		DEFAUT (red background)	1	**ZBY 2135**	0.002
		DEPART CYCLE	1	**ZBY 2195**	0.002
		DESCENTE	1	**ZBY 2108**	0.002
		DROITE	1	**ZBY 2109**	0.002
		ENCLENCHEMENT	1	**ZBY 2131**	0.002
		EN SERVICE	1	**ZBY 2111**	0.002
		FERMETURE	1	**ZBY 2114**	0.002
		GAUCHE	1	**ZBY 2110**	0.002
		HORS SERVICE	1	**ZBY 2112**	0.002
		HORS-EN	1	**ZBY 2167**	0.002
		LENT	1	**ZBY 2127**	0.002
		MAIN	1	**ZBY 2116**	0.002
		MARCHE	1	**ZBY 2103**	0.002
		MONTEE	1	**ZBY 2107**	0.002
		OUVERTURE	1	**ZBY 2113**	0.002
		PHASE / PHASE	1	**ZBY 2196**	0.002
		REARMEMENT (red background)	1	**ZBY 2123**	0.002
		REARMEMENT (black background)	1	**ZBY 0123**	0.002
		SOUS TENSION	1	**ZBY 2126**	0.002
		VITE	1	**ZBY 2128**	0.002

(1) For legends, see pages 1/157 to 1/159.

(2) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

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Dimensions: pages 1/166 to 1/173

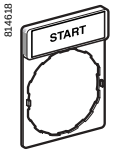
Control and signalling units Ø 22

Harmony® style 5

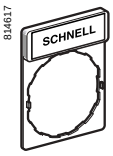
Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: for heads

Standard (30 x 40 mm) legend holders for 8 x 27 mm legends *(continued)*



ZBY 2303



ZBY 2228

Description	Legend		Reference	Weight
	Colour	Marking		kg
With legend (with English language marking)	Black or red background *(1)*	AUTO-HAND	**ZBY 2364**	0.002
		AUTO-O-HAND	**ZBY 2385**	0.002
		CLOSE	**ZBY 2314**	0.002
		DOWN	**ZBY 2308**	0.002
		EMERGENCY STOP	**ZBY 2330**	0.002
		FAST	**ZBY 2328**	0.002
		FORWARD	**ZBY 2305**	0.002
		HAND	**ZBY 2316**	0.002
		HAND-OFF-AUTO	**ZBY 2387**	0.002
		INCH	**ZBY 2321**	0.002
		LEFT	**ZBY 2310**	0.002
		OFF	**ZBY 2312**	0.002
		OFF-ON	**ZBY 2167**	0.002
		ON	**ZBY 2311**	0.002
		OPEN	**ZBY 2313**	0.002
		POWER ON	**ZBY 2326**	0.002
		RESET (red background)	**ZBY 2323**	0.002
		RESET (black background)	**ZBY 2322**	0.002
		REVERSE	**ZBY 2306**	0.002
		RIGHT	**ZBY 2309**	0.002
		RUN	**ZBY 2334**	0.002
		SLOW	**ZBY 2327**	0.002
		START	**ZBY 2303**	0.002
		STOP-START	**ZBY 2366**	0.002
		UP	**ZBY 2307**	0.002
With legend (with German language marking)	Black or red background *(1)*	AB	**ZBY 2208**	0.002
		AUF	**ZBY 2207**	0.002
		AUS	**ZBY 2204**	0.002
		AUS-EIN	**ZBY 2266**	0.002
		AUS-IN BETRIEB	**ZBY 2267**	0.002
		AUS-RÜCKSTELLUNG	**ZBY 2233**	0.002
		AUSSCHALTEN	**ZBY 2232**	0.002
		AUTO-HAND	**ZBY 2364**	0.002
		AUTO-O-HAND	**ZBY 2385**	0.002
		AUTOZYKL-HAND	**ZBY 2299**	0.002
		AUTOZYKL-1 ZYKL	**ZBY 2298**	0.002
		C-P-C-NORMAL	**ZBY 2265**	0.002
		EIN	**ZBY 2203**	0.002
		EINSCHALTEN	**ZBY 2231**	0.002
		HAND	**ZBY 2316**	0.002
		LANGSAM	**ZBY 2227**	0.002
		LINKS	**ZBY 2210**	0.002
		NOT-AUS (red background)	**ZBY 2230**	0.002
		NOT-AUS (yellow background)	**ZBY 22420001**	0.002
		NOT-HALT	**ZBY 2229**	0.002
		ÖFFNEN	**ZBY 2213**	0.002
		RECHTS	**ZBY 2209**	0.002
		RÜCKSTELLUNG	**ZBY 2223**	0.002
		SCHLIESSEN	**ZBY 2214**	0.002
		SCHNELL	**ZBY 2228**	0.002
		SPANNUNG EIN	**ZBY 2226**	0.002
		STEUERUNG AUS	**ZBY 2212**	0.002
		STEUERUNG EIN	**ZBY 2211**	0.002
		STÖRUNG (black background)	**ZBY 2234**	0.002
		STÖRUNG (red background)	**ZBY 2235**	0.002
		VOR	**ZBY 2205**	0.002
		VOR-O-ZURÜCK	**ZBY 2284**	0.002
		ZURÜCK	**ZBY 2206**	0.002
		ZYKLUS-HAND	**ZBY 2297**	0.002
		ZYKLUSSTART	**ZBY 2295**	0.002

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

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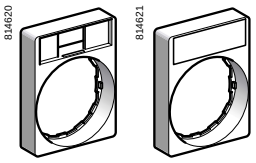
Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

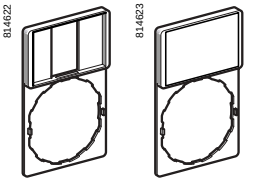
Separate components and accessories: for heads



ZBZ 34 *ZBY ●H101*

30 x 40 mm legend holders (flush mounting with bezel) for 8 x 27 mm legends

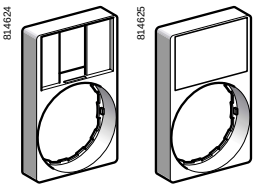
Description	For use with	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	Circular heads	–	10	**ZBZ 34**	0.003
	Square heads	–	10	**ZBC Z34**	0.002
With blank legend	Circular heads	Black or red background	10	**ZBY 2H101**	0.004
		White or yellow background	10	**ZBY 4H101**	0.004
	Square heads	Black or red background	10	**ZBC Y2H101**	0.002
		White or yellow background	10	**ZBC Y4H101**	0.002



ZBZ 33 *ZBY 610●*

Standard (30 x 50 mm) legend holders for 18 x 27 mm legends

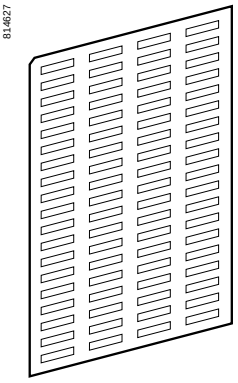
Description	For use with	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	Circular and square heads	–	10	**ZBZ 33**	0.001
With blank legend	Circular and square heads	Black or red background	10	**ZBY 6101**	0.002
		White or yellow background	10	**ZBY 6102**	0.002



ZBZ 35 *ZBY 6H10●*

30 x 50 mm legend holders (flush mounting with bezel) for 18 x 27 mm legends

Description	For use with	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	Circular heads	–	10	**ZBZ 35**	0.003
	Square heads	–	10	**ZBC Z35**	0.002
With blank legend	Circular heads	Black or red background	10	**ZBY 6H101**	0.004
		White or yellow background	10	**ZBY 6H102**	0.004
	Square heads	Black or red background	10	**ZBC Y6H101**	0.003
		White or yellow background	10	**ZBC Y6H102**	0.003



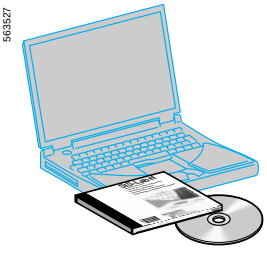
ZBY 4100

Legends for engraving

Description mm	For use with	Colour	Sold in lots of	Unit reference	Weight kg
8 x 27	30 x 40 mm legend holders	Black or red background	10	**ZBY 0101**	0,001
		White or yellow background	10	**ZBY 0102**	0.001
18 x 27	30 x 50 mm legend holders	Black or red background	10	**ZBY 5101**	0.001
		White or yellow background	10	**ZBY 5102**	0.001

Sheets of peel-off legends (with backing board and protective transparent cover)

Description	For use with	Sold in lots of	Unit reference	Weight kg
Sheet of 76 8 x 27 mm legends	30 x 40 mm legend holders ZBZ 32 and ZBZ 34	10	**ZBY 4100**	0.043
Sheet of 40 18 x 27 mm legends	30 x 50 mm legend holders ZBZ 33 and ZBZ 35	10	**ZBY 5100**	0.044



XBY 2U

"SIS Label" labelling software

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	**XBY 2U**	0.100

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: for heads

814628

ZBY 02178

814629

ZBY 0●104

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34)

Colour	Marking		Reference	Weight kg
Black or red background *(1)*	International	O (black background)	**ZBY 02146**	0,001
		O (red background)	**ZBY 02931**	0.001
		I	**ZBY 02147**	0.001
		II	**ZBY 02148**	0.001
		O-I	**ZBY 02178**	0.001
		I-II	**ZBY 02179**	0.001
		I-O-II	**ZBY 02186**	0.001
		AUTO	**ZBY 02115**	0.001
		STOP	**ZBY 02304**	0.001
	French	ARRET (red background)	**ZBY 02104**	0.001
		ARRET (black background)	**ZBY 00104**	0.001
		ARRET GENERAL	**ZBY 02129**	0.001
		ARRET REARMEMENT	**ZBY 02133**	0.001
		ARRET D'URGENCE	**ZBY 02130**	0.001
		ARRET-MARCHE	**ZBY 02166**	0.001
		ARRIERE	**ZBY 02106**	0.001
		AUTO CYCLE-CYCLE	**ZBY 02198**	0.001
		AUTO CYCLE-MAIN	**ZBY 02199**	0.001
		AUTO-MAIN	**ZBY 02164**	0.001
		AUTO-O-MAIN	**ZBY 02185**	0.001
		AVANT	**ZBY 02105**	0.001
		AVANT-O-ARRIERE	**ZBY 02184**	0.001
		C-P-C-NORMAL	**ZBY 02165**	0.001
		CYCLE-MAIN	**ZBY 02197**	0.001
		DECLENCHEMENT	**ZBY 02132**	0.001
		DEFAUT (black background)	**ZBY 02134**	0.001
		DEFAUT (red background)	**ZBY 02135**	0.001
		DEPART CYCLE	**ZBY 02195**	0.001
		DESCENTE	**ZBY 02108**	0.001
		DROITE	**ZBY 02109**	0.001
		ENCLENCHEMENT	**ZBY 02131**	0.001
		EN SERVICE	**ZBY 02111**	0.001
		FERMETURE	**ZBY 02114**	0.001
		GAUCHE	**ZBY 02110**	0.001
		HORS SERVICE	**ZBY 02112**	0.001
		HORS-EN	**ZBY 02167**	0.001
		LENT	**ZBY 02127**	0.001
		MAIN	**ZBY 02116**	0.001
		MARCHE	**ZBY 02103**	0.001
		MONTEE	**ZBY 02107**	0.001
		OUVERTURE	**ZBY 02113**	0.001
		PHASE / PHASE	**ZBY 02196**	0.001
		REARMEMENT (red background)	**ZBY 02123**	0.001
		REARMEMENT (black background)	**ZBY 00123**	0.001
		SOUS TENSION	**ZBY 02126**	0.001
		VITE	**ZBY 02128**	0.001

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: for heads

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34) *(continued)*

814633

ZBY 02303

Colour	Marking		Reference	Weight kg
Black or red background *(1)*	English	AUTO-HAND	**ZBY 02364**	0,001
		AUTO-O-HAND	**ZBY 02385**	0.001
		CLOSE	**ZBY 02314**	0.001
		DOWN	**ZBY 02308**	0.001
		EMERGENCY STOP	**ZBY 02330**	0.001
		FAST	**ZBY 02328**	0.001
		FORWARD	**ZBY 02305**	0.001
		HAND	**ZBY 02316**	0.001
		HAND-OFF-AUTO	**ZBY 02387**	0.001
		INCH	**ZBY 02321**	0.001
		LEFT	**ZBY 02310**	0.001
		OFF	**ZBY 02312**	0.001
		OFF-ON	**ZBY 02367**	0.001
		ON	**ZBY 02311**	0.001
		OPEN	**ZBY 02313**	0.001
		POWER ON	**ZBY 02326**	0.001
		RESET (red background)	**ZBY 02323**	0.001
		RESET (black background)	**ZBY 02322**	0.001
		REVERSE	**ZBY 02306**	0.001
		RIGHT	**ZBY 02309**	0.001
		RUN	**ZBY 02334**	0.001
		SLOW	**ZBY 02327**	0.001
		START	**ZBY 02303**	0.001
		STOP-START	**ZBY 02366**	0.001
		UP	**ZBY 02307**	0.001
	German	AB	**ZBY 02208**	0.001
		AUF	**ZBY 02207**	0.001
		AUS	**ZBY 02204**	0.001
		AUS-EIN	**ZBY 02266**	0.001
		AUS-IN BETRIEB	**ZBY 02267**	0.001
		AUS-RÜCKSTELLUNG	**ZBY 02233**	0.001
		AUSSCHALLEN	**ZBY 02232**	0.001
		AUTO-HAND	**ZBY 02364**	0.001
		AUTO-O-HAND	**ZBY 02385**	0.001
		AUTOZYKL-HAND	**ZBY 02299**	0.001
		AUTOZYKL- 1 ZYKL	**ZBY 02298**	0.001
		C-P-C-NORMAL	**ZBY 02265**	0.001
		EIN	**ZBY 02203**	0.001
		EINSCHALTEN	**ZBY 02231**	0.001
		HAND	**ZBY 02316**	0.001
		LANGSAM	**ZBY 02227**	0.001
		LINKS	**ZBY 02210**	0.001
		NOT-AUS (red background)	**ZBY 02230**	0.001
		NOT-AUS (yellow background)	**ZBY 022420001**	0.001
		NOT-HALT	**ZBY 02229**	0.001
		ÖFFNEN	**ZBY 02213**	0.001
		RECHTS	**ZBY-02209**	0.001
		RÜCKSTELLUNG	**ZBY-02223**	0.001
		SCHLIESSEN	**ZBY-02214**	0.001
		SCHNELL	**ZBY-02228**	0.001
		SPANNUNG EIN	**ZBY-02226**	0.001
		STEUERUNG AUS	**ZBY-02212**	0.001
		STEUERUNG EIN	**ZBY-02211**	0.001
		STÖRUNG (black background)	**ZBY-02234**	0.001
		STÖRUNG (red background)	**ZBY-02235**	0.001
		VOR	**ZBY-02205**	0.001
		VOR-O-ZURÜCK	**ZBY-02284**	0.001
		ZURÜCK	**ZBY-02206**	0.001
		ZYKLUS-HAND	**ZBY-02297**	0.001
		ZYKLUSSTART	**ZBY-02295**	0.001

814632

ZBY 02228

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

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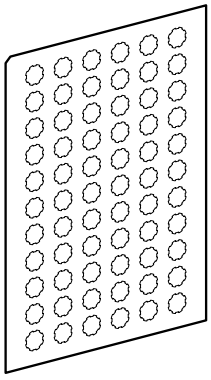
Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: for heads

814634



ZBY 1101

Legends for pushbuttons, switches and pilot lights XB5 A

Description	Marking		Sold in lots of	Unit reference	Weight kg
Sheets of 66 circular peel-off transparent self-adhesive legends	Without		10	**ZBY 1101**	0.017
Strips of 66 circular peel-off transparent self-adhesive legends	International	O	10	**ZBY 1146**	0.017
		I	10	**ZBY 1147**	0.017
		II	10	**ZBY 1148**	0.017
		III	10	**ZBY 1149**	0.017
		STOP	10	**ZBY 1304**	0.017
		⬆	10	**ZBY 1912**	0.017
	French	ARRET	10	**ZBY 1104**	0.017
		ARRIERE	10	**ZBY 1106**	0.017
		AUTO	10	**ZBY 1115**	0.017
		AVANT	10	**ZBY 1105**	0.017
		DESCENTE	10	**ZBY 1108**	0.017
		MAIN	10	**ZBY 1116**	0.017
		MARCHE	10	**ZBY 1103**	0.017
		MONTEE	10	**ZBY 1107**	0.017
	English	HAND	10	**ZBY 1316**	0.017
		OFF	10	**ZBY 1312**	0.017
		ON	10	**ZBY 1311**	0.017
		START	10	**ZBY 1303**	0.017
	German	AB	10	**ZBY 1208**	0.017
		AUF	10	**ZBY 1207**	0.017
		AUS	10	**ZBY 1204**	0.017
		EIN	10	**ZBY 1203**	0.017
		ZU	10	**ZBY 1214**	0.017
Strip of 66 square peel-off transparent self-adhesive legends	Without		10	**ZBC Y1101**	0.017

563527

XBY 2U

"SIS Label" labelling software

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	**XBY 2U**	0.100

563069

ZBY 9130

Circular legends for Emergency stop mushroom head pushbuttons (yellow)

Diameter mm	Marking on yellow background	Reference	Weight kg
60	Without	**ZBY 9101**	0.004
	ARRET D'URGENCE	**ZBY 9130**	0.004
	EMERGENCY STOP	**ZBY 9330**	0.004
	NOT-AUS	**ZBY 9230**	0.004
90	Without	**ZBY 8101**	0.008
	ARRET D'URGENCE	**ZBY 8130**	0.008
	EMERGENCY STOP	**ZBY 8330**	0.008
	NOT-AUS	**ZBY 8230**	0.008

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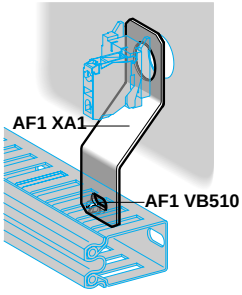
Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories

563155



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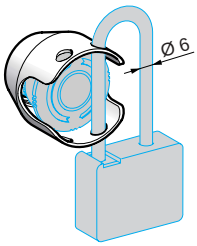
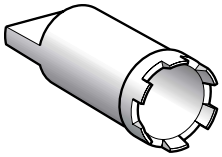


ZBZ 160●

814640



ZB5 AZ905

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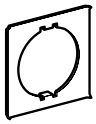
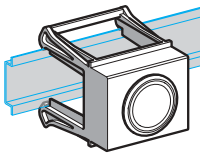


103548

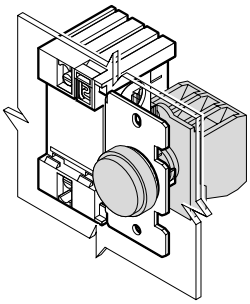
ZB5 AZ902 *ZB4 BZ64*

501562



15151

563157



XBZ S43

Accessories

Description	Application		Sold in lots of	Unit reference	Weight kg
Cable ducting support	Fixing beneath head		10	**AF1 XA1**	0.030
M5 x 10 screw, with hexagonal slotted head	For fixing cable ducting		100	**AF1 VB510**	0.003
Support	For pushbuttons, switches and pilot lights XB5 A		1	**DX1 AP52**	0.160
Metal guards Padlockable *(1)*	For Emergency stop function only with the following Ø 40 trigger action pushbuttons: XB5 AT8●, XB5 AS8●, XB5 AS9●, ZB5 AT8●, ZB5 AS8●, ZB5 AS9●.	Chromium plated	1	**ZBZ 1600**	0.046
		Black	1	**ZBZ 1602**	0.046
		Red	1	**ZBZ 1604**	0.046
		Yellow	1	**ZBZ 1605**	0.046
		Blue	1	**ZBZ 1606**	0.046
Plastic guard	For selector switches with standard handle or key switches	Black	1	**ZBZ 2102**	0.005
Plastic blanking plug, round, black *(2)*	For Ø 22 control and signalling units with circular head		10	**ZB5 SZ3**	0.008
Plastic blanking plug, square, black *(2)*	For Ø 22 control and signalling units with square head		10	**ZB5 SZ5**	0.009
Add-on square trim	Gives a square appearance to ZB5 A circular heads		10	**ZB5 AZ31**	0.002
Nut	Fixing the head		10	**ZB5 AZ901**	0.002
Bezel tool	Tightening head fixing nut ZB5 AZ901		1	**ZB5 AZ905**	0.016
Anti-rotation plate	Prevents rotation of the head		10	**ZB5 AZ902**	0.008
Padlockable flaps	For pushbuttons	Black	1	**ZB4 BZ62**	0.076
		Red	1	**ZB4 BZ64**	0.076
		Yellow	1	**ZB4 BZ65**	0.076
		Blue	1	**ZB4 BZ66**	0.076
Pushbutton support	For 35 mm DIN rail, for use in modular enclosure *(3)*		1	**15151**	0.040

AS-Interface module for Ø 22 control and signalling units

Description	For use with	Reference	Weight kg
Panel fixing, in conjunction with a Harmony pushbutton or switch			
S7.F profile	4 inputs and 4 outputs direct supply from the bus	**XBZ S43**	0.100

(1) No isolation function is possible when this guard is fitted.
(2) Supplied complete with fixing nut.
(3) Marketed under the Merlin Gerin brand.

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Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

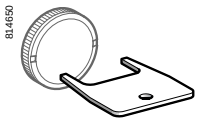
Separate components, accessories and replacement parts

DL1 CE●●●

DL1 CJ0●●●

DL1 CF●●●

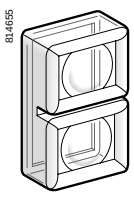
XBF X13



ZBZ 8

ZBG 455

ZBP 0



ZBW 008

BA 9s bulbs and associated accessories

Description	Characteristics	Colour	Sold in lots of	Unit reference	Weight kg
LEDs	≂ 24 V	White	1	**DL1 CJ0241**	0.002
		Green	1	**DL1 CJ0243**	0.002
		Red	1	**DL1 CJ0244**	0.002
		Yellow	1	**DL1 CJ0245**	0.002
		Blue	1	**DL1 CJ0246**	0.002
	≂ 48 V	Green	1	**DL1 CJ0483**	0.002
		Red	1	**DL1 CJ0484**	0.002
		Yellow	1	**DL1 CJ0485**	0.002
	6 V - 1.2 W	White	1	**DL1 CD0061**	0.002
		Green	1	**DL1 CD0063**	0.002
		Red	1	**DL1 CD0064**	0.002
		Yellow	1	**DL1 CD0065**	0.002
		Blue	1	**DL1 CD0066**	0.002
Incandescent bulbs	6 V -1.2 W	–	10	**DL1 CB006**	0.002
	24 V - 2 W	–	10	**DL1 CE024**	0.002
	120…130 V - 2. W	–	10	**DL1 CE130**	0.002
Neon bulbs	120…130 V	–	10	**DL1 CF110**	0.002
	230…240 V	–	10	**DL1 CF220**	0.002
Bulb extractor	–	–	1	**XBF X13**	0.005
Lens cap tightening tool	Illuminated pushbuttons, with flush push	–	1	**ZBZ 8**	0.009

Replacement keys for Emergency stop key release heads and key switches

Description	Key number	Reference	Weight kg
Sets of 2 keys	455	**ZBG 455**	0.013
	421E	**ZBG 421E**	0.014
	458A	**ZBG 458A**	0.014
	520E	**ZBG 520E**	0.014
	3131A	**ZBG 3131A**	0.014
	4A185	**ZBD A185**	0.014
	LU1	**ZBD LU1**	0.014
	LU2	**ZBD LU2**	0.014
	LU3	**ZBD LU3**	0.014
	LU4	**ZBD LU4**	0.014
	LU5	**ZBD LU5**	0.014
	LU6	**ZBD LU6**	0.014
	LU7	**ZBD LU7**	0.014
	LU8	**ZBD LU8**	0.014
	LU9	**ZBD LU9**	0.014
	LU10	**ZBD LU10**	0.014
	LU11	**ZBD LU11**	0.014
	LU12	**ZBD LU12**	0.014
	LU13	**ZBD LU13**	0.014
	LU14	**ZBD LU14**	0.014
	8D1	**ZBD 8D1**	0.014

Clear boots

Description	For use with pushbuttons	Sold in lots of	Unit reference	Weight kg
Single boots	Flush with circular head	10	**ZBP A**	0.002
	Projecting with circular head	10	**ZBP 0**	0.002
	Flush or projecting with circular head for food industry applications	10	**ZBP 0A**	0.002
Double boots	Flush or projecting double-headed	10	**ZBW 008**	0.005
	Flush double-headed	10	**ZBW 008F**	0.005
	Double-headed for food industry applications	10	**ZBW 008A**	0.005

General:
pages 1/106 to 1/113

Characteristics:
pages 1/114 to 1/117

Dimensions:
pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Replacement parts

Coloured boots

Description	Colour	Sold in lots of	Unit reference	Weight kg
Coloured boots (can be replaced without dismantling the head)	Black	10	**ZB2 BP012**	0.003
	Green	10	**ZB2 BP013**	0.003
	Red	10	**ZB2 BP014**	0.003
	Yellow	10	**ZB2 BP015**	0.003
	Blue	10	**ZB2 BP016**	0.003

Lens caps

ZBV 01●3

For use with	Colour	Sold in lots of	Unit reference	Weight kg
Circular lens caps for light sources with integral LED				
Pilot lights	White	10	**ZBV 0113**	0.002
	Green	10	**ZBV 0133**	0.002
	Red	10	**ZBV 0143**	0.002
	Yellow	10	**ZBV 0153**	0.002
	Blue	10	**ZBV 0163**	0.002
	5 different coloured grooved lenses *(1)*	1	**ZBV 0103S**	0.010
Illuminated pushbuttons, with flush push	White	10	**ZBW 9113**	0.002
	Green	10	**ZBW 9133**	0.002
	Red	10	**ZBW 9143**	0.002
	Yellow	10	**ZBW 9153**	0.002
	Blue	10	**ZBW 9163**	0.002
Illuminated pushbuttons, with projecting push	White	10	**ZBW 9313**	0.002
	Green	10	**ZBW 9333**	0.002
	Red	10	**ZBW 9343**	0.002
	Yellow	10	**ZBW 9353**	0.002
	Blue	10	**ZBW 9363**	0.002
Square lens caps for light sources with integral LED				
Pilot lights	White	10	**ZBC V0113**	0.002
	Green	10	**ZBC V0133**	0.002
	Red	10	**ZBC V0143**	0.002
	Yellow	10	**ZBC V0153**	0.002
	Blue	10	**ZBC V0163**	0.002
Illuminated pushbuttons, with flush push	White	10	**ZBC W9113**	0.002
	Green	10	**ZBC W9133**	0.002
	Red	10	**ZBC W9143**	0.002
	Yellow	10	**ZBC W9153**	0.002
	Blue	10	**ZBC W9163**	0.002
Illuminated pushbuttons, with projecting push	White	10	**ZBC W9313**	0.002
	Green	10	**ZBC W9333**	0.002
	Red	10	**ZBC W9343**	0.002
	Yellow	10	**ZBC W9353**	0.002
	Blue	10	**ZBC W9363**	0.002
Circular lens caps for light sources with BA 9s base fitting				
Pilot lights	White	10	**ZBV 011**	0.002
	Green	10	**ZBV 013**	0.002
	Red	10	**ZBV 014**	0.002
	Yellow	10	**ZBV 015**	0.002
	Blue	10	**ZBV 016**	0.002
	Clear	10	**ZBV 017**	0.002
Illuminated pushbuttons, with flush push	White	10	**ZBW 911**	0.002
	Green	10	**ZBW 913**	0.002
	Red	10	**ZBW 914**	0.002
	Yellow	10	**ZBW 915**	0.002
	Blue	10	**ZBW 916**	0.002
	Clear	10	**ZBW 917**	0.002
Illuminated pushbuttons, with projecting push	White	10	**ZBW 931**	0.002
	Green	10	**ZBW 933**	0.002
	Red	10	**ZBW 934**	0.002
	Yellow	10	**ZBW 935**	0.002
	Blue	10	**ZBW 936**	0.002
	Clear	10	**ZBW 937**	0.002

ZBV 01●

(1) Clear, green, red, yellow, blue.

General: pages 1/106 to 1/113
Characteristics: pages 1/114 to 1/117
Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22
Harmony® style 5
Specific function units, with double insulated bezel

563091

XB5 AA

Manual overload reset buttons (travel 10 mm) *(1)*

Shape of head	Actuation distance mm	Marking	Colour	Reference	Weight kg
Without cap *(2)*					
	17…120	–	–	**XB5 AA801**	0.027
	120…257	–	–	**XB5 AA802**	0.040
With flush push					
	17…120	Without	Green	**XB5 AA831**	0.027
			Red	**XB5 AA841**	0.027
			Blue	**XB5 AA861**	0.027
		O	Red	**XB5 AA84101**	0.027
		R	Blue	**XB5 AA86102**	0.027
	120…257	Without	Green	**XB5 AA832**	0.040
			Red	**XB5 AA842**	0.040
			Blue	**XB5 AA862**	0.040
		O	Red	**XB5 AA84201**	0.040
		R	Blue	**XB5 AA86202**	0.040
With projecting push					
	17…120	O	Red	**XB5 AL84101**	0.027
	120…257	O	Red	**XB5 AL84201**	0.040

109501

ZB5 AD

Heads + mounting base for potentiometer

Shape of head	Description	For use on	Reference	Weight kg
	For potentiometer with shaft length 44 to 50 mm (potentiometer not included)	Ø 6 mm shaft	**ZB5 AD912**	0.032
		Ø 6.35 mm shaft	**ZB5 AD922**	0.032

(1) NEMA type 13.
(2) Coloured cap to be ordered separately: see page 1/154.

General::
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Characteristics:
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Dimensions:
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Control and signalling units Ø 22
Harmony® style 5
Specific function units, with double insulated bezel

563161

XD5 PA12

814667

ZD5 PA103

814666

ZD5 PA203

563162

ZD5 PA12

814663

XB5 DS●

814664

XB5 KS●

814665

XB5 DT1S

Joystick controllers (54 mm long operating shaft) *(1)*

Complete joystick controllers (screw clamp terminal connections)

Description	Operation	Spring return to zero position	Reference	Weight kg
2 direction	1 notch 1 N/O contact per direction	Without	**XD5 PA12**	0.060
		With	**XD5 PA22**	0.060
4 direction	1 notch 1 N/O contact per direction	Without	**XD5 PA14**	0.077
		With	**XD5 PA24**	0.077

Sub-assemblies for joystick controllers

Description	For use on		Reference	Weight kg
Complete body/contact assemblies (screw clamp terminal connections)	2 direction		**ZD5 PA103**	0.049
	4 direction		**ZD5 PA203**	0.058
Complete head assemblies with operating shaft	2 direction, stay put		**ZD5 PA12**	0.022
	2 direction, spring return to zero position		**ZD5 PA22**	0.022
	4 direction, stay put		**ZD5 PA14**	0.022
	4 direction, spring return to zero position		**ZD5 PA24**	0.022
Legends 30 x 48 mm for engraving	2 direction	Black one side Red reverse	**ZBG 2201**	0.001
		White one side Yellow reverse	**ZBG 2401**	0.001
Legends 48 x 48 mm for engraving	4 direction	Black one side Red reverse	**ZBG 4201**	0.002
		White one side Yellow reverse	**ZBG 4401**	0.002

Hour counters *(2)*

Characteristics	Supply voltage V	Reference	Weight kg
Indication 0…9999.9	⎓ 12…24 - 50/60 Hz	**XB5 DSB**	0.045
	∿ 120 - 60 Hz	**XB5 DSG**	0.045
	∿ 230…240 -50 Hz	**XB5 DSM**	0.045

Annunciators (IP 40 NEMA 1) *(2)*

Characteristics	Supply voltage V	Reference	Weight kg
85 db buzzer, basic: 4 kHz with continuous or intermittent operation (connection diagram: see page 1/172)	⎓ 24 - 50/60 Hz	**XB5 KSB**	0.035
	∿ 120 - 50/60 Hz	**XB5 KSG**	0.035
	∿ 230…240 - 50 Hz	**XB5 KSM**	0.035

Fuse carrier *(2)*

Description	For use with	Reference	Weight kg
Fuse carrier	5 x 20 mm fuse 6.3 A - 250 V	**XB5 DT1S**	0.022

(1) Cannot be used with standard contact blocks ZBE 101 (single) or ZBE 20● (double).
(2) Replacement parts: fixing nut ZB5 AZ901, anti-rotation plate: ZB5 AZ902, tightening key: ZB5 AZ905.

Other versions — Joystick controllers and complete body/contact assemblies for joystick controllers with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

General: pages 1/106 to 1/113
Characteristics: pages 1/114 to 1/117
Dimensions: pages 1/166 to 1/173

Control and signalling units Ø 22

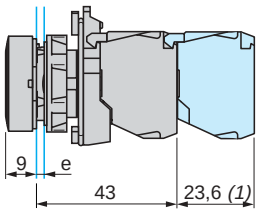
Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

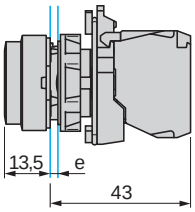
Complete units XB5 A: contact functions

Pushbuttons, spring return

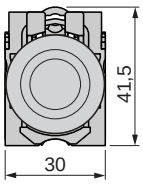
XB5 AA●●



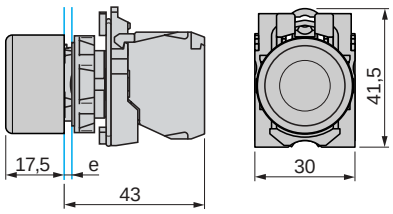
XB5 AL●●



Common face view



XB5 AP●●



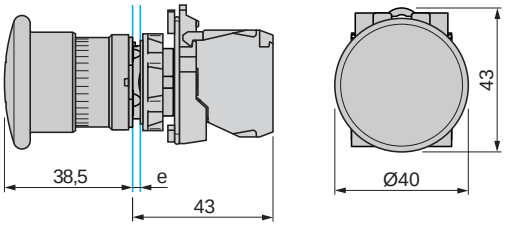
(1) Additional row of contacts or double contact.

e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Mushroom head

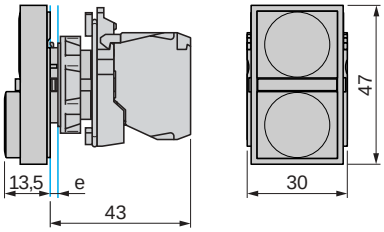
XB5 AC21



e: panel thickness: 1 to 6 mm

Double-headed

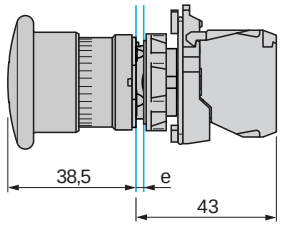
XB5 AL●45, XB5 AL●4C5



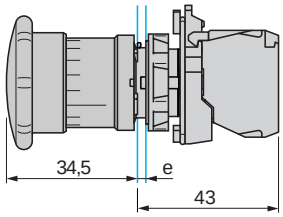
e: panel thickness: 1 to 6 mm

Emergency stop mushroom head pushbuttons

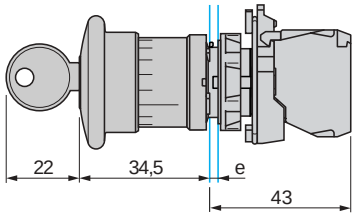
XB5 AT42, XB5 BT845



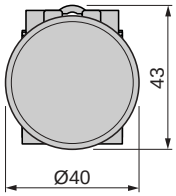
XB5 AS542, XB5 AS8445



XB5 AS142, XB5 A9445



Common face view



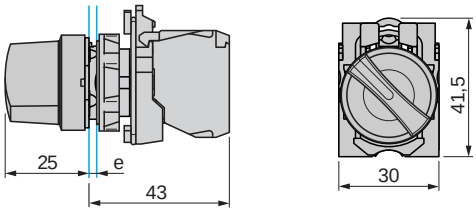
e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Selector switches

Standard handle operator

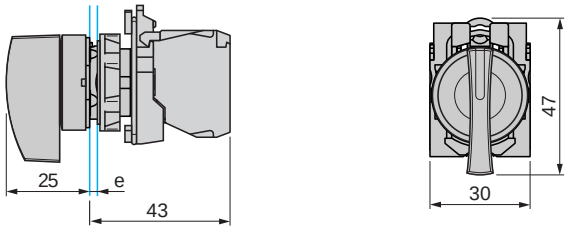
XB5 AD



e: panel thickness: 1 to 6 mm

Long handle operator

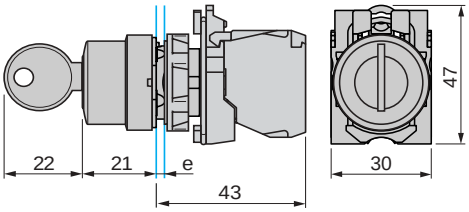
XB5 AJ



e: panel thickness: 1 to 6 mm

Key switches

XB5 AG



e: panel thickness: 1 to 6 mm

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pages 1/118 to 1/165

Control and signalling units Ø 22

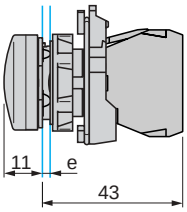
Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units XB5 A: signalling functions with or without contacts

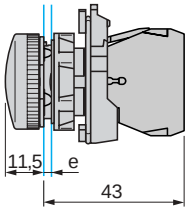
Pilot lights

Integral LED — **XB5 AVB●, AVG●, AVM●**

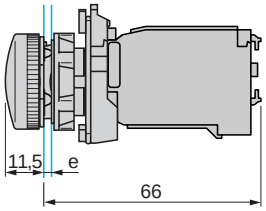


e: panel thickness: 1 to 6 mm

Direct supply — **XB5 AV6**

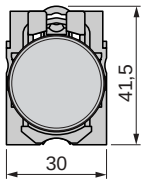


Via integral transformer — **XB5 AV3●, AV4●**



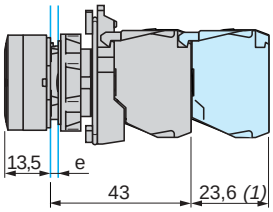
e: panel thickness: 1 to 6 mm

Common face view

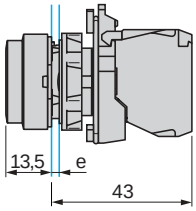


Illuminated pushbuttons

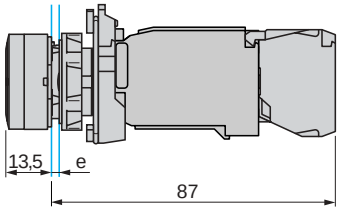
Integral LED — **XB5 AW3●●5**



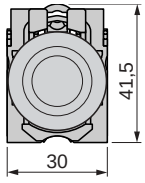
Direct supply — **XB5 AW3●65**



Via integral transformer — **XB5 AW3●●5**



Common face view

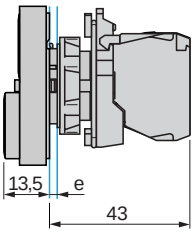


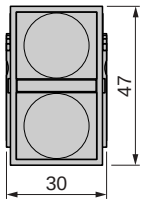
(1) Additional row of contacts or double contact.

e: panel thickness: 1 to 6 mm

Double-headed pushbuttons with pilot light

Integral LED — **XB5 AW84●5**

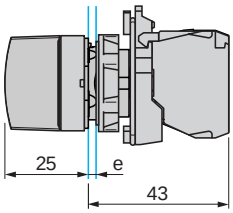


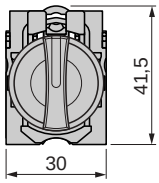


e: panel thickness: 1 to 6 mm

Illuminated selector switches

Integral LED — **XB5 AK12●●5**

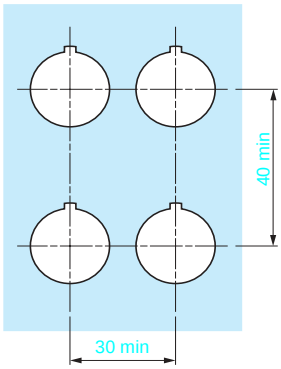




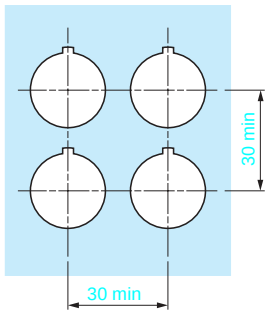
e: panel thickness: 1 to 6 mm

Panel cut-out for pushbuttons, switches and pilot lights *(1)*

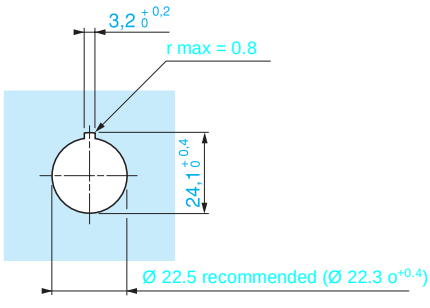
Screw clamp terminal and plug-in connector models



Printed circuit board connection models



Detail of lug recess



(1) Fixing centres for pushbuttons, switches and pilot lights fitted with Faston connector terminals: 32 x 45 min.

Control and signalling units Ø 22

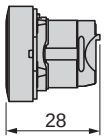
Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

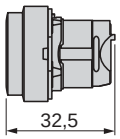
Complete units ZB5 A: contact functions

Heads for spring return pushbuttons

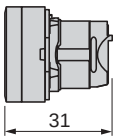
ZB5 AA●, AA●●●, ZB5 AA●8

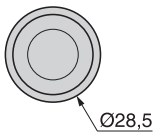


ZB5 AL●, ZB5 AL●●●

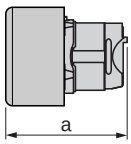


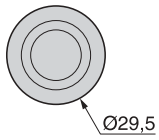
ZB5 AA●4, ZB5 AA●6 Common face view



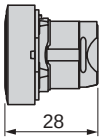


ZB5 AP●●, ZB5 AP●S, ZB5 AP●83, ZB5 AP●

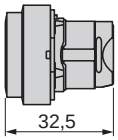




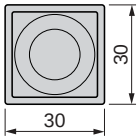
ZB5 CA●, ZB5 CA0



ZB5 CL●



Common face view

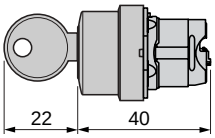


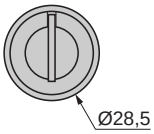
ZB5	a
AP●●	36.5
AP●S	33
AP●83	32
AP●	35

Heads for pushbuttons

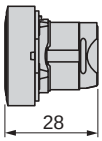
Lockable "push-turn"

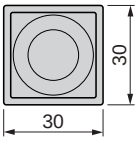
ZB5 AFD





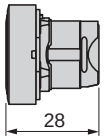
ZB5 CH0●



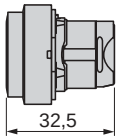


Push-push to release

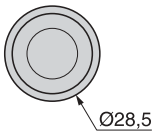
ZB5 AH0●



ZB5 AH●

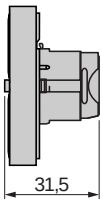


Common face view

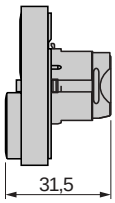


Heads for double-headed, spring return pushbuttons

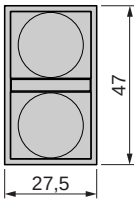
ZB5 AA81●●, ZB5 AA82●●



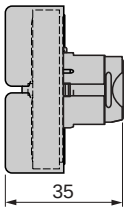
ZB5 AL83●●, ZB5 AL84●●



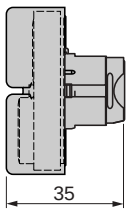
Common face view



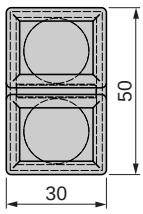
ZB5 AA91●●
ZB5 AA92●●



ZB5 AL93●●
ZB5 AL94●●



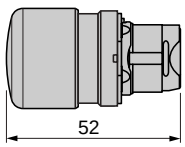
Common face view

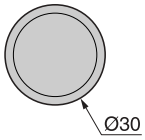


Heads for pushbuttons

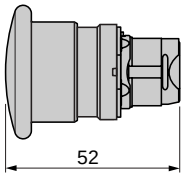
Mushroom head

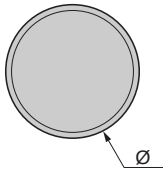
ZB5 AC●4





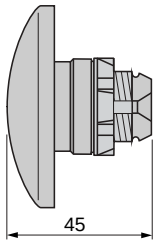
ZB5 AC●, AR●

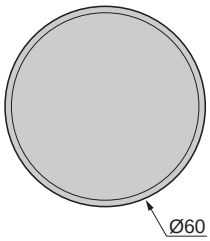




ZB5	Ø
AC●	40
AR●	60

ZB5 AR●16





General:
pages 1/106 to 1/113

Characteristics:
pages 1/114 to 1/117

References:
pages 1/118 to 1/165

Control and signalling units Ø 22

Harmony® style 5

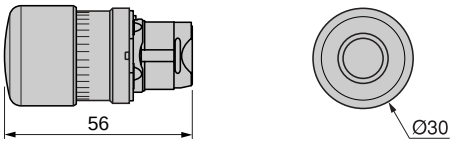
Pushbuttons, switches and pilot lights with double insulated bezel

Complete units ZB5 A: contact functions

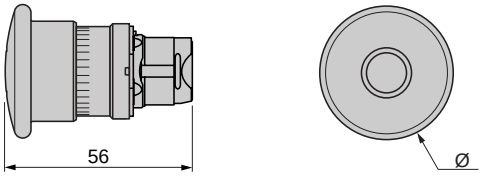
Mushroom heads for latching pushbuttons

Push-pull

ZB5 AT44



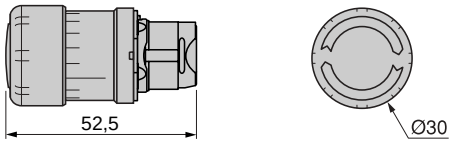
ZB5 AT4, ZB5 AT84, ZB5 AX4



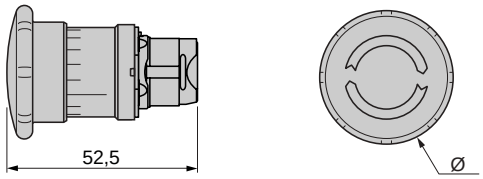
ZB5	Ø
AT4, AT84	40
AX4	60

Turn to release

ZB5 AS4●, ZB5 AS834



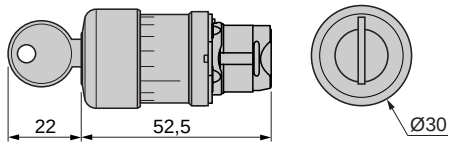
ZB5 AS5●, ZB5 AS844, ZB5 AS6●



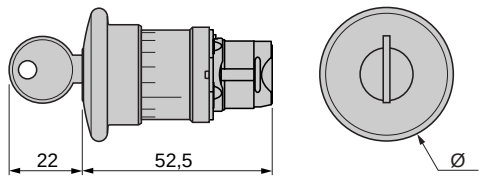
ZB5	Ø
AS5●, AS844	40
AS6●	60

Key release

ZB5 AS7●, ZB5 AS934

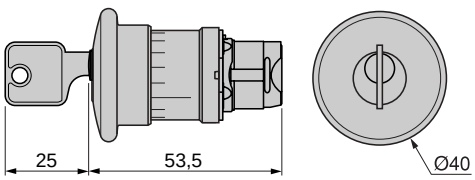


ZB5 AS1●, ZB5 AS2●, ZB5 AS944, ZB5 AS964



ZB5	Ø
AS1●, AS944	40
AS2●, AS964	60

ZB5 AS14D



Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units ZB5 A: contact functions

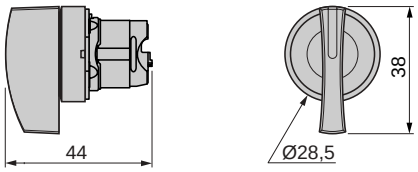
Heads for selector switches

Standard handle operator

ZB5 AD●, ZB5 AD●M

Long handle operator

ZB5 AJ●, ZB5 AJ●M

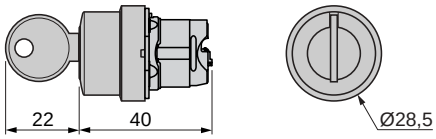


Knurled knob, black

ZB5 AD●9

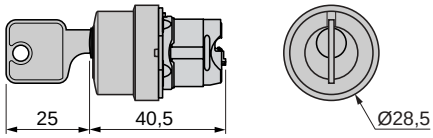
Key switch (Ronis n° 455)

ZB5 AG●, ZB5 AG0●, ZB5 AG●M



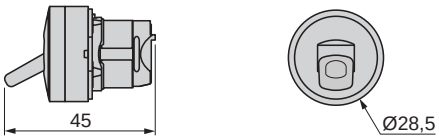
Key switch (DOM n° 8D1)

ZB5 AGD



Heads for toggle switches

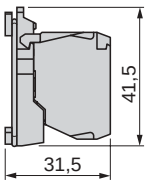
ZB5 AD●8



Bodies for pushbuttons and switches

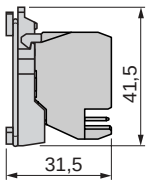
Screw clamp terminal connections

ZB5 AZ10●, ZB5 AZ141



Plug-in connector

ZB5 AZ10●4, ZB5 AZ1414



Control and signalling units Ø 22

Harmony® style 5

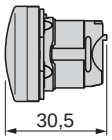
Pushbuttons, switches and pilot lights with double insulated bezel

Complete units ZB5 A: signalling functions with or without contacts

Heads for pilot lights, with light source

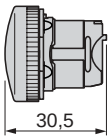
Integral LED

ZB5 AV0●3

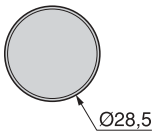


Incandescent, neon or LED

ZB5 AV0●, AV0●S



Common face view

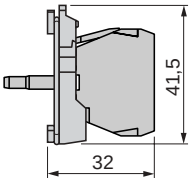


ZB5 CV0●3, CH3●3

Bodies for pilot lights, screw clamp terminal connections

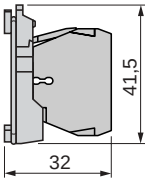
Integral LED

ZB5 AV●●



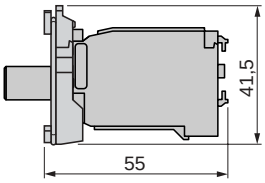
Direct supply, for BA 9s bulb

ZB5 AV6



Via integral transformer for BA 9s bulb

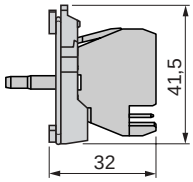
ZB5 AV●, AV●D●



Bodies for pilot lights, plug-in connector

Integral LED

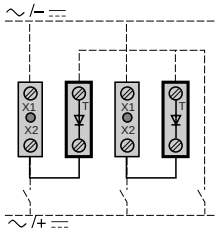
ZB5 AV●●4



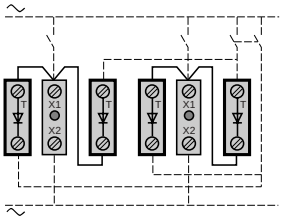
Blocks for “test light” function

Connections

ZBZ G156



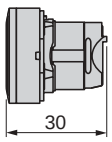
ZBZ M156



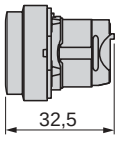
Heads for spring return illuminated pushbuttons, for light source

LED

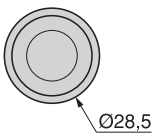
ZB5 AW3●3, AW3●3S, ZB5 AA●8



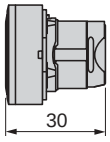
ZB5 AW1●3, ZB5 AW1●3S, ZB5 AL●8

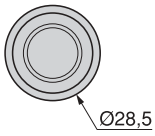


Common face view

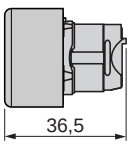


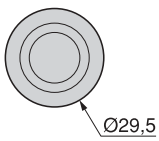
ZB5 AW9●3



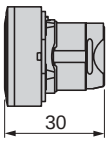


ZB5 AW5●3

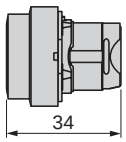




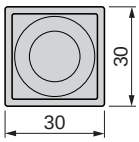
ZB5 CW3●3



ZB5 CW1●3

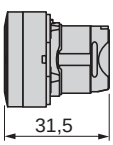


Common face view

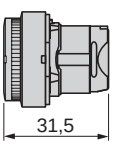


BA 9s bulb

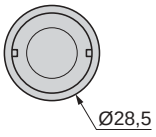
ZB5 AW3●, AW3●S



ZB5 AW1●, ZB5 AW1●S



Common face view



General:
pages 1/106 to 1/113

Characteristics:
pages 1/114 to 1/117

References:
pages 1/118 to 1/165

Control and signalling units Ø 22

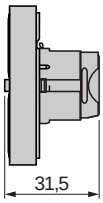
Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

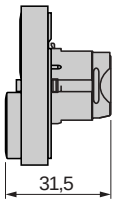
Complete units ZB5 A: signalling functions with or without contacts

Heads for double-headed pushbuttons with pilot light

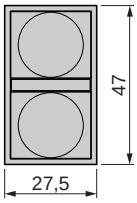
ZB5 AW81●●●3, ZB5 AW82●●●3



ZB5 AW83●●●3, ZB5 AW84●●●3

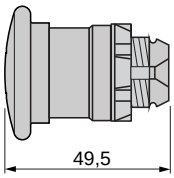


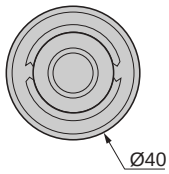
Common face view



Mushroom heads for latching pushbuttons

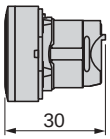
ZB5 AW7●3



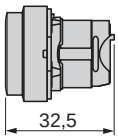


Heads for illuminated "push-push to release" pushbuttons

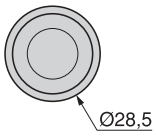
ZB5 AH0●3



ZB5 AH●3

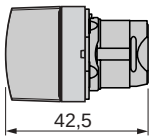


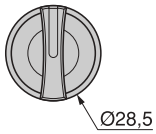
Common face view



Heads for illuminated selector switches with standard handle

ZB5 AK1●●●3

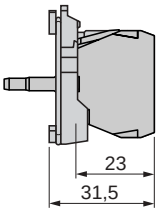




Bodies for illuminated pushbuttons and selector switches, screw clamp terminal connections

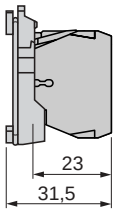
Integral LED

ZB5 AW0●●●



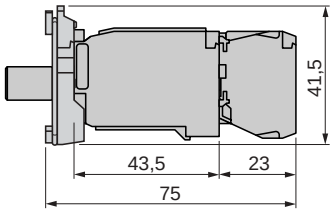
Direct supply, for BA 9s bulb

ZB5 AW06●



Via integral transformer for BA 9s bulb

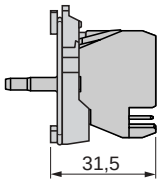
ZB5 AW0●●, ZB5 AW0●D●●



Bodies for illuminated pushbuttons and selector switches, plug-in connector

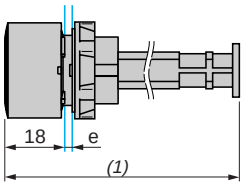
Integral LED

ZB5 AW0●●●4

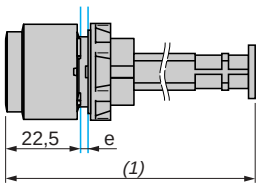


Manual overload reset buttons

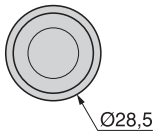
XB5 A8●●●



XB5 AL8●●●



Common face view

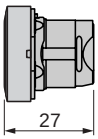


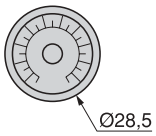
e: panel thickness 1 to 6 mm

(1) Value not yet communicated

Head + mounting base for potentiometer

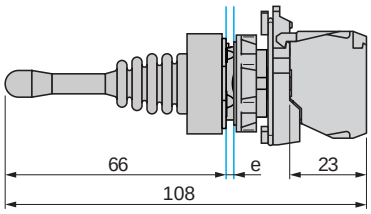
ZB5 AD9●2





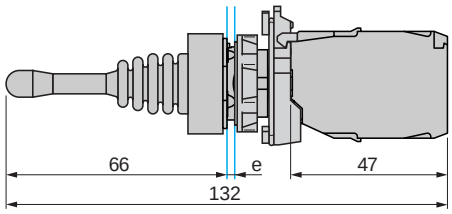
Joystick controllers

XD5 PA●2



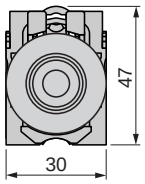
e: panel thickness 1 to 6 mm

XD5 PA●4



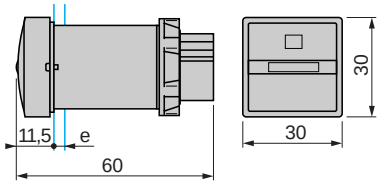
e: panel thickness 1 to 6 mm

Common face view



Hour counters

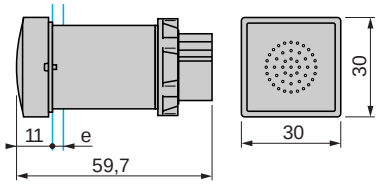
XB5 DS●



e: panel thickness 1 to 6 mm

Annunciators

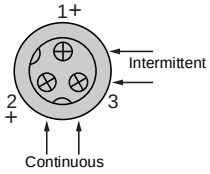
XB5 KS●



e: panel thickness 1 to 6 mm

Connection diagram

XB5 KS●



General:
pages 1/106 to 1/113

Characteristics:
pages 1/114 to 1/117

References:
pages 1/118 to 1/165

Control and signalling units Ø 22

Harmony® style 5

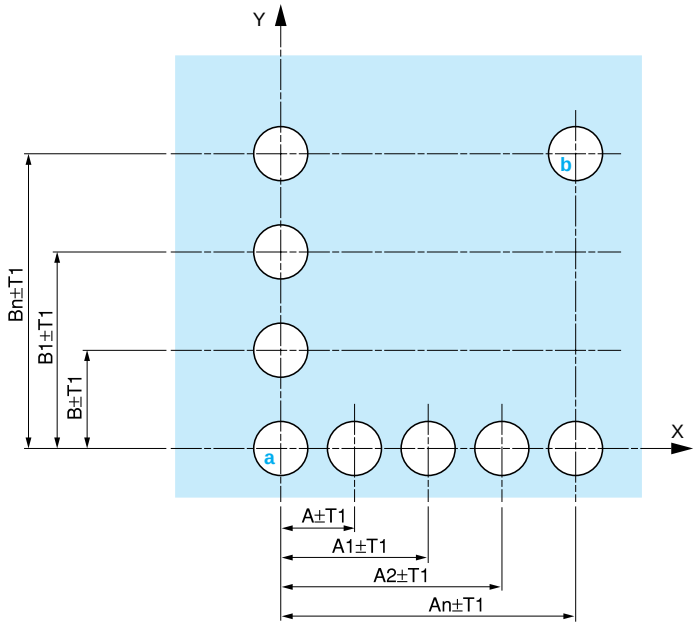
Pushbuttons, switches and pilot lights with double insulated bezel:

Complete units ZB5 A

Pushbuttons, switches and pilot lights for printed circuit board connection

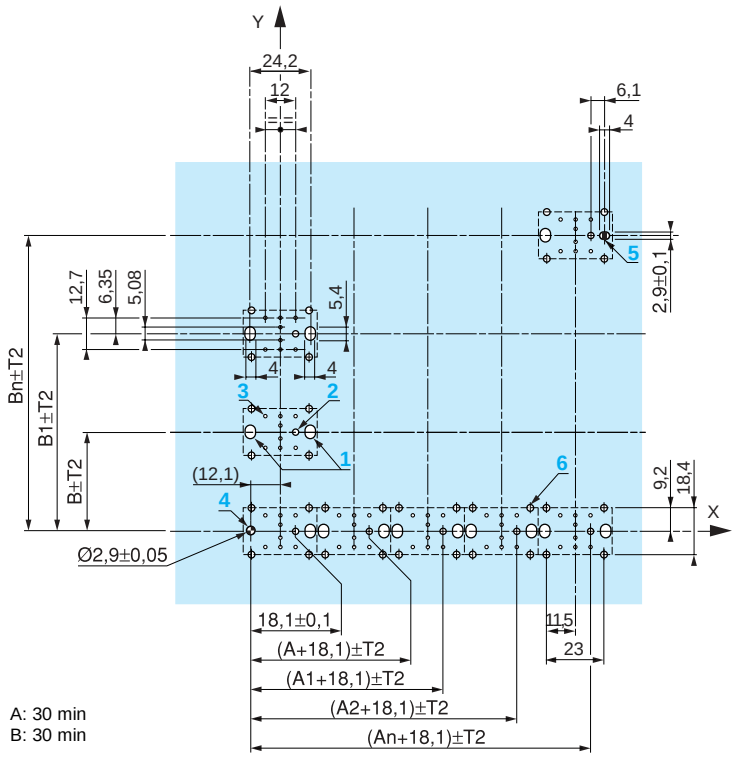
Panel cut-out (viewed from installer's side)

Dimensions in mm



Printed circuit board drillings (viewed from electrical block side)

Dimensions in mm



■ Installation precautions:

□ Minimum thickness of circuit board: 1.6 mm.

□ Cut-out diameter: 22.4 mm ± 0.1 mm.

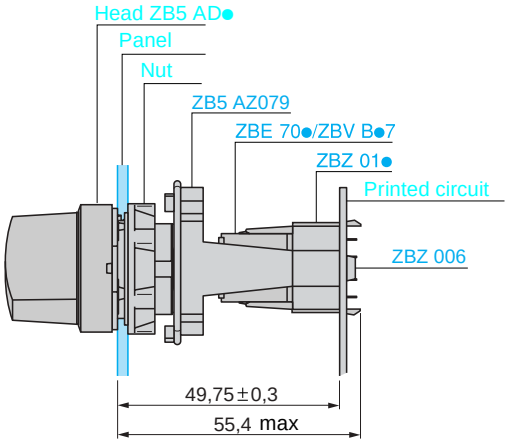
□ Orientation of body/fixing collar ZB5 BZ079: ± 2° 30' (excluding cut-outs marked a and b).

□ Tightening torque of screws ZBZ 006: 0.6 N.m. max.

□ Allow for one ZB5 BZ079 pillar and its fixing screws:

- every 90 mm horizontally (X), and 120 mm vertically (Y),
- with each selector switch head (ZB5 AD●, ZB5 AJ●, ZB5 AG●).

The fixing centres marked a and b are diagonally opposed and must align with those marked 4 and 5 on the printed circuit board.



■ Mounting of adapter (socket) ZBZ 01●:

1 2 elongated holes for ZBZ 006 screw access.

2 1 hole Ø 2.4 mm ± 0.05 for centring adapter ZBZ 01●.

3 8 x Ø 1.2 mm holes.

4 1 hole Ø 2.9 mm ± 0.05, for centring the printed circuit board (with cut-out marked a).

5 1 elongated hole for orientation of the printed circuit board (with cut-out marked b).

6 4 holes Ø 2.4 mm ± 0.05 for clipping in adapter ZBZ 01●.

Dimensions An + 18.1 relate to the Ø 2.4 mm ± 0.05 holes for centring adapter ZBZ 01●.

General tolerances of the panel and printed circuit board

The cumulative tolerance must not exceed 0.3 mm: T1 + T2 = 0.3 mm max.

Control and signalling units Ø 22
Harmony® style 7
Monolithic pushbuttons, switches and pilot lights

Environment

Protective treatment	Standard version		"TH"
Ambient air temperature around the device	Storage	**°C**	- 40…+ 70
	Operation	**°C**	- 25…+ 70 for LED and neon bulb versions - 25…+ 40 for incandescent bulb version
Electric shock protection	Conforming to IEC 60536		Class II
Degree of protection	Conforming to IEC 60529		IP 54 front face IP 20 rear face (protection against direct contact)
	Conforming to NEMA		NEMA type 12
Mounting	Conforming to IEC/EN 60947-5-1		Finished fixing hole: 22.5 mm recommended (22.3 +0.4/ 0) Fixing centres: 30 x 40 mm min. (unless otherwise indicated) Mounting panel thickness: metal: 1 to 6 mm, double insulated: 2 to 6 mm Recommended tightening torque of fixing nut: 2 N.m. max.: 3 N.m
Cabling capacity	Conforming to EN60947-1		Screw clamp terminal connections: □ min.: 1 x 0.34 mm^2 without cable end □ max.: 2 x 1.5 mm^2 with cable end
			Forked "U" tag connectors: 2 max., fitted head to tail Fork width 6 to 7.5 mm for M3.5 screw
			Faston connectors: type 6.35 x 0.8 mm
Screw clamp tightening torque		**N.m**	0.8 (nominal recommended) 1.2 (max)
			Screw heads compatible with Pozidriv or Phillips or JIS screwdrivers (size 1) and flat screwdrivers (4 and 5.5 mm)
Mechanical durability (in operating cycles)			Pushbuttons: 1 000 000 Illuminated pushbuttons, spring return: 300 000 Illuminated pushbuttons, push-push: 300 000 Selector switches: 300 000 Key switches: 300 000 Emergency stop pushbuttons: 10 000
Vibration resistance	Conforming to IEC 60068-2-6		5 gn (frequency 2 at 500 Hz)
Electric shock resistance	Conforming to IEC 60068-2-27		50 gn (half sine wave for 11 ms) Emergency stop: 10 gn (half sine wave for 11 ms)
Conforming to standards	Generic standards		IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-5 UL 508, CSA C22 n°14, JIS C 4520 (pending)
Terminal referencing	Conforming to EN 50005 and EN 50013		Conforming

Contact block characteristics

Type of contact	N/C or N/O or C/O		Slow break
Positive operation	Conforming to IEC/EN 60947-5-1 appendix K		All functions incorporating an N/C contact have positive opening operation
Short-circuit protection	Conforming to IEC/EN 60947-5-1	**A**	4 (gG cartridge fuse conforming to IEC 269-1)
Rated insulation voltage	Conforming to IEC/EN 60947-1	**V**	Ui = 250 (degree of pollution 3)
Rated impulse withstand voltage	Conforming to IEC/EN 60947-1	**kV**	Uimp = 6
Rated operational characteristics (conforming to IEC/EN 60947-5-1)	a.c. supply: utilisation category AC14, D300		Ue = 240 V and Ie = 0.3 A or Ue = 120 V and Ie = 0.6 A
Electrical reliability	Failure rate conforming to IEC 60947-5-4		At 17 V and 5 mA: $\lambda \leqslant 10^{-6}$

Single light block characteristics

Type of bulb			**LED**	**Incandescent** (all models)	**Neon** (direct)
Voltage limits	For rated voltage	**V**	24 V ⎓: 19.2…30 ⎓; 21.6…26.4 ∿ 120 V ∿: 100…132 ∿ 230-240 V ∿: 195…264 ∿	120 V ∿: 100…132 ∿ 230 V ∿: 195…264 ∿	Direct supply model: 230 V ∿: 195…264 ∿
Current consumption	Applicable to all colours	**mA**	18 (all types, all voltages)	Depending on bulb	< 5
Service life	At rated voltage and at an ambient temperature of 25 °C	**H**	80 000	2 000	50 000
Electromagnetic emissions	Conforming to IEC 55011		Class B		

References:
pages 1/175 to 1/178

Dimensions, mounting:
page 1/179

Control and signalling units Ø 22

Harmony® style 7

Monolithic pushbuttons, switches and pilot lights

XB7 EA●1P

Pushbuttons

Shape of head	Type of push	Type of contact N/O	N/C	C/O	Marking Text	Colour	Colour of push	Sold in lots of	Unit reference	Weight kg
Pushbuttons, spring return										
	Flush	1	–	–	–	–	Black	10	**XB7 EA21P** *(1)*	0.020
					–	–	Green	10	**XB7 EA31P** *(1)*	0.020
					–	–	Yellow	10	**XB7 EA51P** *(1)*	0.020
		–	1	–			Red	10	**XB7 EA42P** *(1)*	0.020
		–	–	1	–	–	Black	10	**XB7 EA25P**	0.020
					–	–	Green	10	**XB7 EA35P**	0.020
					–	–	Red	10	**XB7 EA45P**	0.020
		2	–	–	–	–	Black	10	**XB7 EA23P**	0.020
					–	–	Green	10	**XB7 EA33P**	0.020
	Flush	1	–	–	**"I"**	White	Green	10	**XB7 EA3131P** ▲	0.020
		2	–	–				10	**XB7 EA3331P** ▲	0.020
	Projecting	–	1	–	**"O"**	White	Red	10	**XB7 EL4232P** ▲	0.020
		–	–	1				10	**XB7 EL4532P** ▲	0.020
	Flush	1	–	–	↑	Black	White	10	**XB7 EA11341P** ▲	0.020
		–	–	1				10	**XB7 EA15341P** ▲	0.020
	Flush	1	–	–	↑	White	Black	10	**XB7 EA21341P** ▲	0.020
		–	–	1				10	**XB7 EA25341P** ▲	0.020
Pushbuttons, push-push										
	Flush	1	–	–	–	–	Black	10	**XB7 EH21P**	0.020
					–	–	Green	10	**XB7 EH31P**	0.020
		–	–	1	–	–	Black	10	**XB7 EH25P**	0.020
					–	–	Green	10	**XB7 EH35P**	0.020

XB7 ED21P

XB7 EG33P

Selector switches

Shape of head	Type of operator	Type of contact N/O	N/C	C/O	Number and type of positions *(2)*		Sold in lots of	Unit reference	Weight kg
	Standard handle, black	1	–	–	2 - stay put		10	**XB7 ED21P** *(1)*	0.025
		1	1	–	2 - stay put		10	**XB7 ED25P**	0.025
		2	–	–	3 - stay put		10	**XB7 ED33P**	0.025
	Key switches (key n° 455)	1	–	–	2 - withdrawal from LH position		10	**XB7 EG21P**	0.049
		2	–	–	3 - withdrawal from centre position		10	**XB7 EG33P**	0.049

Emergency stop mushroom head pushbuttons, Ø 40

Shape of head	Type of push	Type of contact N/O	N/C	C/O	Colour of push	Sold in lots of	Unit reference	Weight kg
	Turn to release	–	1	–	Red	10	**XB7 ES542P**	0.032
		1	1	–	Red	10	**XB7 ES545P**	0.035
	Turn to release (key n° 455)	–	1	–	Red	10	**XB7 ES142P**	0.055
		1	1	–	Red	10	**XB7 ES145P**	0.058

XB7 ES542P

*(1) For version with Faston connectors (1 x 6.35 mm and 2 x 2.8 mm), add suffix "**3**" to the above references.*
*Example: **XB7 EA21P3**.*
(2) The symbol " ⚷ " indicates the key withdrawal position.

▲ Available:
3rd quarter 2005.

Characteristics: page 1/174
Dimensions, mounting: page 1/179

Control and signalling units Ø 22
Harmony® style 7
Monolithic pushbuttons, switches and pilot lights

XB7 EV0●●P

Pilot lights with integral LED ("true" colours)

Shape of head	Supply voltage V	Colour of lens	Sold in lots of	Unit reference	Weight kg
Integral LED	≂ 24	White	10	**XB7 EV01BP** *(1)*	0.020
		Green	10	**XB7 EV03BP** *(1)*	0.020
		Red	10	**XB7 EV04BP** *(1)*	0.020
		Yellow	10	**XB7 EV05BP** *(1)*	0.020
		Blue	10	**XB7 EV06BP** *(1)* ▲	0.020
		Orange	10	**XB7 EV08BP** *(1)* ▲	0.020
	∿ 120 50-60 Hz	White	10	**XB7 EV01GP** *(1)*	0.020
		Green	10	**XB7 EV03GP** *(1)*	0.020
		Red	10	**XB7 EV04GP** *(1)*	0.020
		Yellow	10	**XB7 EV05GP** *(1)*	0.020
		Blue	10	**XB7 EV06GP** *(1)* ▲	0.020
		Orange	10	**XB7 EV08GP** *(1)* ▲	0.020
	∿ 230 50-60 Hz	White	10	**XB7 EV01MP** *(1)*	0.020
		Green	10	**XB7 EV03MP** *(1)*	0.020
		Red	10	**XB7 EV04MP** *(1)*	0.020
		Yellow	10	**XB7 EV05MP** *(1)*	0.020
		Blue	10	**XB7 EV06MP** *(1)* ▲	0.020
		Orange	10	**XB7 EV08MP** *(1)* ▲	0.020

Illuminated pushbuttons with integral LED ("true" colours)

XB7 EW3●●1P

XB7 EH0●●1P

Shape of head	Type of push	Supply voltage V	Type of contact N/O	Type of contact N/C	Colour of lens	Sold in lots of	Unit reference	Weight kg
Illuminated pushbuttons, spring return								
Integral LED	**Projecting**	⎓ 24	1	–	Green	10	**XB7 EW33B1P**	0.022
					Red	10	**XB7 EW34B1P**	0.022
					Yellow	10	**XB7 EW35B1P**	0.022
			–	1	Red	10	**XB7 EW34B2P**	0.022
		∿ 230	1	–	Green	10	**XB7 EW33M1P**	0.022
					Red	10	**XB7 EW34M1P**	0.022
					Yellow	10	**XB7 EW35M1P**	0.022
			–	1	Red	10	**XB7 EW34M2P**	0.022
Illuminated pushbuttons, push-push								
Integral LED	**Projecting**	⎓ 24	1	–	Green	10	**XB7 EH03B1P**	0.022
					Red	10	**XB7 EH04B1P**	0.022
					Yellow	10	**XB7 EH05B1P**	0.022
			–	1	Red	10	**XB7 EH04B2P**	0.022
		∿ 230	1	–	Green	10	**XB7 EH03M1P**	0.022
					Red	10	**XB7 EH04M1P**	0.022
					Yellow	10	**XB7 EH05M1P**	0.022
			–	1	Red	10	**XB7 EH04M2P**	0.022

*(1) For version with Faston connectors (1 x 6.35 mm and 2 x 2.8 mm), add suffix "**3**" to the above references.*
*Example: **XB7 EV61P3**.*

▲ Available:
3rd quarter 2005.

Characteristics: page 1/174
Dimensions, mounting: page 1/179

Control and signalling units Ø 22
Harmony® style 7
Monolithic pushbuttons, switches and pilot lights

XB7 EV●●P

Pilot lights with BA 9s base fitting

Shape of head	Supply	Description	Supply voltage V	Colour of lens	Sold in lots of	Unit reference	Weight kg
	Direct *(2)*	For incandescent bulb (not included) *(2)* BA 9s base fitting	≤ 250	White	10	**XB7 EV61P** *(1)*	0.018
				Green	10	**XB7 EV63P** *(1)*	0.018
				Red	10	**XB7 EV64P** *(1)*	0.018
				Yellow	10	**XB7 EV65P** *(1)*	0.018
				Blue	10	**XB7 EV66P** *(1)*	0.018
				Clear	10	**XB7 EV67P** *(1)*	0.018
				Orange	10	**XB7 EV68P** *(1)*	0.018
		With neon bulb (included) BA 9s base fitting	∿ 230 50/60 Hz	White	10	**XB7 EV41P** *(1)*	0.020
				Green	10	**XB7 EV43P** *(1)*	0.020
				Red	10	**XB7 EV44P** *(1)*	0.020
				Yellow	10	**XB7 EV45P** *(1)*	0.020
				Blue	10	**XB7 EV46P** *(1)*	0.020
				Clear	10	**XB7 EV47P** *(1)*	0.020
	Direct through resistor	For incandescent bulb 130 V - 2.6 W (included) BA 9s base fitting	∿ 230 50/60 Hz	White	10	**XB7 EV71P** *(1)*	0.020
				Green	10	**XB7 EV73P** *(1)*	0.020
				Red	10	**XB7 EV74P** *(1)*	0.020
				Yellow	10	**XB7 EV75P** *(1)*	0.020
				Blue	10	**XB7 EV76P** *(1)*	0.020
				Clear	10	**XB7 EV77P** *(1)*	0.020
				Orange	10	**XB7 EV78P** *(1)*	0.020
		130 V - 2.6 W bulb (not included) BA 9s base fitting	∿ 230 50/60 Hz	White	10	**XB7 EV710P**	0.020
				Green	10	**XB7 EV730P**	0.020
				Red	10	**XB7 EV740P**	0.020
				Yellow	10	**XB7 EV750P**	0.020
				Blue	10	**XB7 EV760P**	0.020
				Clear	10	**XB7 EV770P**	0.020
	Via integral transformer	With incandescent bulb (6V - 1.2 W) (included) BA 9s base fitting	∿ 120 50/60 Hz	White	10	**XB7 EV821P**	0.020
				Green	10	**XB7 EV823P**	0.020
				Red	10	**XB7 EV824P**	0.020
				Yellow	10	**XB7 EV825P**	0.020
				Blue	10	**XB7 EV826P**	0.020
				Clear	10	**XB7 EV827P**	0.020
			∿ 230 50/60 Hz	White	10	**XB7 EV81P**	0.020
				Green	10	**XB7 EV83P**	0.020
				Red	10	**XB7 EV84P**	0.020
				Yellow	10	**XB7 EV85P**	0.020
				Blue	10	**XB7 EV86P**	0.020
				Clear	10	**XB7 EV87P**	0.020

XB7 EW3●●1P

XB7 EH0●●1P

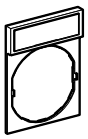
Illuminated pushbuttons with BA 9s base fitting

Type of push Shape of head	Supply	Supply voltage V	Type of contact N/O	Type of contact N/C	Colour of lens	Sold in lots of	Unit reference	Weight kg
Illuminated pushbuttons, spring return								
Projecting	Direct supply for BA 9s neon bulb (included)	∿ 230	1	–	Green	10	**XB7 EW3341P**	0.022
					Red	10	**XB7 EW3441P**	0.022
					Yellow	10	**XB7 EW3541P**	0.022
	Direct supply for BA 9s incandescent bulb (not included) *(2)*	⩽ 250	1	–	Green	10	**XB7 EW3361P**	0.020
					Red	10	**XB7 EW3461P**	0.020
					Yellow	10	**XB7 EW3561P**	0.020
Illuminated pushbuttons, push-push								
Projecting	Direct supply for BA 9s neon bulb (included)	∿ 230	1	–	Green	10	**XB7 EH0341P**	0.022
					Red	10	**XB7 EH0441P**	0.022
					Yellow	10	**XB7 EH0541P**	0.022
	Direct supply for BA 9s incandescent bulb (not included) *(2)*	⩽ 250	1	–	Green	10	**XB7 EH0361P**	0.020
					Red	10	**XB7 EH0461P**	0.020
					Yellow	10	**XB7 EH0561P**	0.020

*(1) For version with Faston connectors (1 x 6.35 mm and 2 x 2.8 mm), add suffix "**3**" to the above references.*
*Example: **XB7 EV61P3**.*
(2) Bulb rating for direct supply pilot lights: 250 V max; 2.6 W max.

Characteristics: page 1/174
Dimensions, mounting: page 1/179

Control and signalling units Ø 22
Harmony® style 7
Monolithic pushbuttons, switches and pilot lights


ZBY 2101

30 x 40 mm legend holder with legend (black or red background)

With blank legend

Text	Sold in lots of	Unit reference	Weight kg
Without	10	**ZBY 2101**	0.001

With marked legend (sold singly)

- Start functions: white letters on black background.
- Stop functions: white letters on red background.

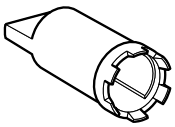
Text	Reference	Weight kg	Text	Reference	Weight kg
Auto	**ZBY 2115**	0.001	Reset	**ZBY 2323**	0.001
Down	**ZBY 2308**	0.001	Reverse	**ZBY 2306**	0.001
Forward	**ZBY 2305**	0.001	Right	**ZBY 2309**	0.001
Hand	**ZBY 2316**	0.001	Start	**ZBY 2303**	0.001
Inch	**ZBY 2321**	0.001	Stop	**ZBY 2304**	0.001
Left	**ZBY 2310**	0.001	Up	**ZBY 2307**	0.001
Off	**ZBY 2312**	0.001	O	**ZBY 2146**	0.001
On	**ZBY 2311**	0,001	I	**ZBY 2147**	0.001
Power on	**ZBY 2326**	0.001	O-I	**ZBY 2178**	0.001

Accessories

ZB5 AZ901

ZB5 AZ902

Text	Colour	Sold in lots of	Unit reference	Weight kg
Anti-rotation plate	–	10	**ZB5 AZ902**	0.008
Fixing nut	–	10	**ZB5 AZ901**	0.002
Bezel tightening tool	–	1	**ZB5 AZ905**	0.016
Grooved lens caps for BA 9s pilot lights	White	10	**ZB7 EV01**	0.002
	Green	10	**ZB7 EV03**	0.002
	Red	10	**ZB7 EV04**	0.002
	Yellow	10	**ZB7 EV05**	0.002
	Blue	10	**ZB7 EV06**	0.002
	Clear	10	**ZB7 EV07**	0.002
	Orange	10	**ZB7 EV08**	0.002


ZB5 AZ905

Bulbs

DL1 CE●●●

DL1 CS●●●●

Description	Voltage V	Power W	Colour	Sold in lots of	Unit reference	Weight kg
Incandescent bulbs, standard BA 9s base fitting Ø 11 mm max length 28 mm max.	6	1.2	–	100	**DL1 CB006NSP**	0.002
	24	2.0	–	100	**DL1 CE024NSP**	0.002
	130	2.4	–	100	**DL1 CE130NSP**	0.002
Incandescent bulbs, long life BA 9s base fitting Ø 11 mm max length 28 mm max.	6	1.2	–	10	**DL1 CB006**	0.002
	24	2.0	–	10	**DL1 CE024**	0.002
	130	2.4	–	10	**DL1 CE130**	0.002
Neon bulbs BA 9s base fitting Ø 11 mm max length 28 mm max.	220…240	–	Green	10	**DL1 CS3220**	0.002
				100	**DL1 CS3220SP**	0.002
			Blue	10	**DL1 CS6220**	0.002
				100	**DL1 CS6220SP**	0.002
			Orange *(1)*	10	**DL1 CS7220**	0.002
				100	**DL1 CS7220SP**	0.002

(1) For use with red, yellow or clear pilot light.

Characteristics: page 1/174
Dimensions, mounting: page 1/179

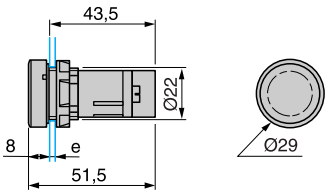
Control and signalling units Ø 22

Harmony® style 7

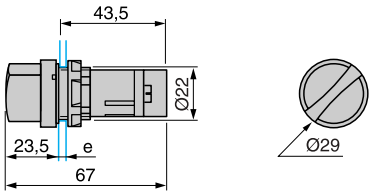
Monolithic pushbuttons, switches and pilot lights

Dimensions

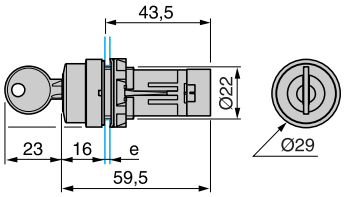
XB7 EA●●P, XB7 EH●●P



XB7 ED●●P

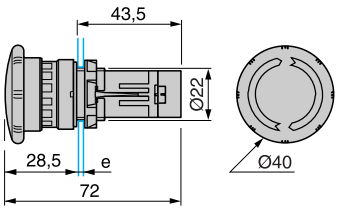


XB7 EG●●P

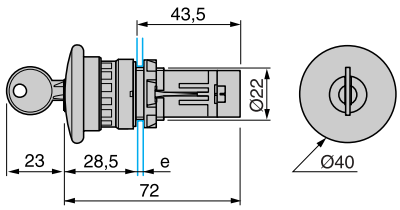


e: panel thickness = 1 to 6 mm

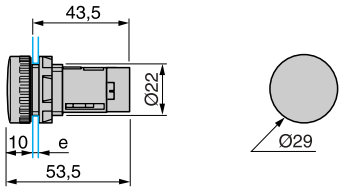
XB7 ES5●●P



XB7 ES1●●P

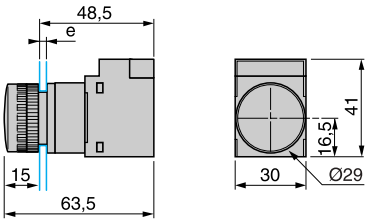


XB7 EV●●●P

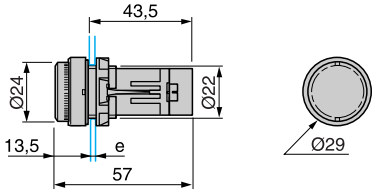


e: panel thickness = 1 to 6 mm

XB7 EV8●P

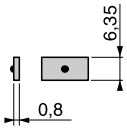


XB7 EW3●●●P, XB7 EH0●●●P

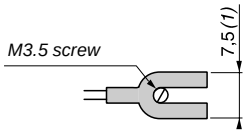


e: panel thickness = 1 to 6 mm

Faston connector



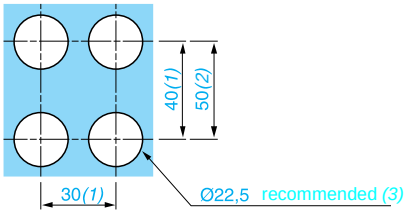
Forked "U" tag connection



(1) Maximum value.

Mounting

Diameter of finished fixing holes



(1) Minimum value.
(2) For XB7 EV8 ●P.
(3) Standard value: Ø 22.3 (0; + 0.4).

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References: pages 1/175 to 1/178

Control and signalling units Ø 22
Digital display units

General

The **XA2 VA** digital display unit comprises 2 parts:

- the head, fitted into a Ø 22.3 mm hole on the support panel and held in position by a locking ring,
- the body, which clips onto the rear of the head.

The head contains the 7 segment LED display (height 14 mm) + decimal point, and the body contains all the electronic decoding and supply circuitry.

Connection is made to screw connectors.

Grouping of 2 displays is possible, using the double legend plate holder.

Type	7 segment LED + decimal point (height: 14 mm)
Mounting	Panel mounting in Ø 22.3 mm hole Grouping facility (2 display units): - mechanically: by double legend plate holder (associated reading) or - electrically: connecting in parallel (multiplexing for version with memory)

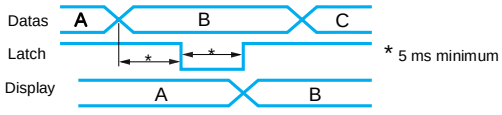
Environment

Ambient air temperature	For operation: - 25…+ 70 °C For storage: - 40…+ 85 °C
Vibration resistance	10 gn (10…500 Hz) conforming to IEC 68-2-6
Shock resistance	180 gn, duration 11 ms, conforming to IEC 68-2-27
Electric shock protection	Class II, conforming to IEC 536 and NF C 20-030
Degree of protection	IP 65 conforming to IEC 529 and NF C 20-010

Electrical characteristics

Product certifications	UL (Listed) - CSA
Supply voltage	24 V ⎓ (consumption: 40 mA max.)
Voltage limits	13 V (70 mA) to 30 V (36 mA max.)
Protection	Against reverse polarity
Logic inputs	State 0: - 30 V (0 mA) to + 5 V (1.4 mA) State 1: + 13 V (4 mA) to + 30 V (9.5 mA) These inputs must be connected to PLC solid-state PNP type outputs, positive logic
Connection	Screw connectors Clamping capacity: 0.5 x 2.5 mm².

Change of value displayed

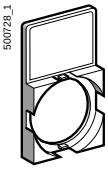


Control and signalling units Ø 22
Digital display units

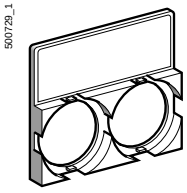
References

ZA2 VA1●

ZA2 VA0●



ZA2 BZ35●●

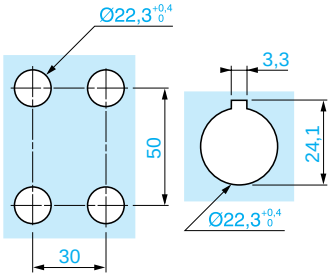


ZA2 VZ31●●

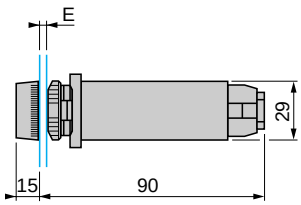
Description		Reference	Weight kg
Body	Decimal + BCD	**ZA2 VA11**	0.060
	BCD + Latch	**ZA2 VA12**	0.060
Head	Green	**ZA2 VA03**	0.020
	Red	**ZA2 VA04**	0.020
	Yellow	**ZA2 VA05**	0.020
Single legend plate holder with blank legend plate	Black or red background legend plate	**ZA2 BZ35101**	0.001
	White or yellow background legend plate	**ZA2 BZ35102**	0.001
Double legend plate holder with blank legend plate	Black or red background legend plate	**ZA2 VZ3101**	0.005
	White or yellow background legend plate	**ZA2 VZ3102**	0.005
Tightening tool	For head locking ring	**ZA2 BZ905**	0.060

Dimensions

Panel cut-out
(CENELEC EN 50007)

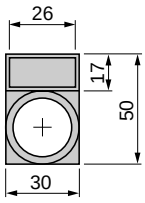


Digital display unit
ZA2 VA1● + ZA2 VA0●

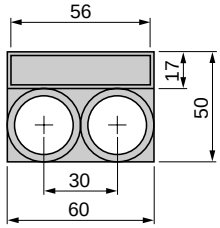


E = panel thickness, 1 to 5 mm

Legend plate holder
ZA2 BZ3510●

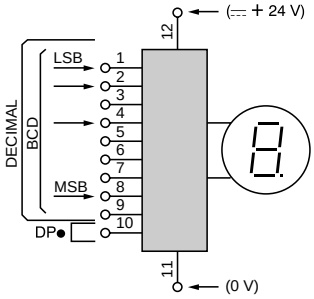


ZA2 VZ310●



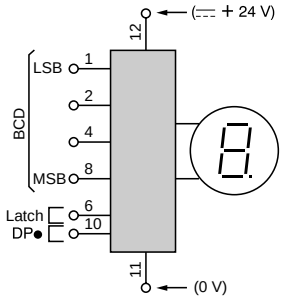
Connections and input tables

Decimal + BCD



DP = decimal point

BCD + Latch



Latch = memory

Decimal

1	2	3	4	5	6	7	8	9	Display
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	2
0	0	1	0	0	0	0	0	0	3
0	0	0	1	0	0	0	0	0	4
0	0	0	0	1	0	0	0	0	5
0	0	0	0	0	1	0	0	0	6
0	0	0	0	0	0	1	0	0	7
0	0	0	0	0	0	0	1	0	8
0	0	0	0	0	0	0	0	1	9

BCD

8	4	2	1	Display	8	4	2	1	Display
0	0	0	0	0	1	0	0	1	9
0	0	0	1	1	1	0	1	0	A
0	0	1	0	2	1	0	1	1	B
0	0	1	1	3	1	1	0	0	C
0	1	0	0	4	1	1	0	1	D
0	1	0	1	5	1	1	1	0	E
0	1	1	0	6	1	1	1	1	F
0	1	1	1	7					
1	0	0	0	8					

BCD = binary coded decimal

Control and signalling units Ø 22
Joystick controllers

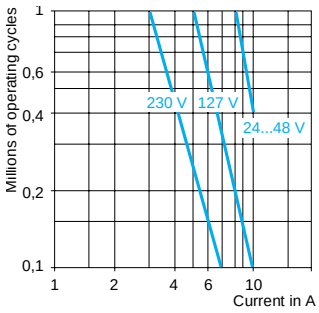
Environment

Conformity to standards	IEC 947-5-1, EN 60 947-5-1, IEC 337-1, VDE 0660-200
Product certifications	Standard version: CSA A600-Q600, LRO
Protective treatment	Standard version: “TC”
Ambient air temperature	Operation: - 25…+ 70 °C. Storage: - 40…+ 70 °C
Operating position	All positions
Vibration resistance	5 gn (40 Hz < frequency < 500 Hz) conforming to IEC 68-2-6
Shock resistance	20 gn conforming to IEC 68-2-27
Electric shock protection	Class I, conforming to IEC 536 and NF C 20-030
Degree of protection	IP 66 conforming to IEC 529 and NF C 20-010
Mechanical life	1 million operating cycles

Contact block characteristics

Rated operational characteristics	∿ AC-15; A300 or Ue = 240 V and Ie = 3 A ⎓ DC13; Q300 or Ue = 250 V and Ie = 0.27 A conforming to IEC 947-5-1 Appendix A
Rated insulation voltage	Ui: 500 V conforming to IEC 947-1; degree of pollution 3; 600 V conforming to UL 508 and CSA C 22-2 n° 14
Rated impulse withstand voltage	U imp = 6 kV conforming to IEC 947-1
Contact operation	Slow break N/O
Short-circuit protection	10 A cartridge fuse type gG (gl) or N conforming to IEC 947-5-1, VDE 0660-200
Terminal referencing	Conforming to CENELEC EN 50013
Rated operational power	Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Operating rate: 3600 operating cycles/hour. Load factor: 0.5

a.c. supply ∿ 50-60 Hz
⌒ Inductive circuit



d.c. supply ⎓
Power broken in W
for 1 million operating cycles

Voltage V	**24**	**48**	**120**
⌒ W	65	48	40

Electrical reliability	Failure rate < 1 fault for 100 million operating cycles (programmable controller inputs, ⎓ 24 V)
Connection	- Screw and captive cable clamp terminals. Clamping capacity: min. 1 x 0.5 mm², max., with or without cable end: 2 x 1.5 mm² - 6.3 mm Faston connectors (on request)

1.6

References:
pages 1/183 and 1/184

Dimensions:
page 1/185

Schemes:
page 1/185

Control and signalling units Ø 22
Joystick controllers

94172

XD2 GA8211

94173

XD2 GA8441

Complete units type XD2 G, with chromium plated metal bezel

Interchangeable contacts

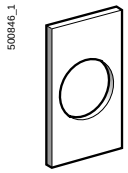
Description	Operation	Spring return to zero position	Bezel finish	Reference	Weight kg
2 direction Fixing centres 90 x 90 mm Ⓐ ◄—○—► Ⓑ	1 notch 1 N/O contact per direction	Without	Shiny	**XD2 GA8211**	0.300
			Black	**XD2 GA82117**	0.300
		With	Shiny	**XD2 GA8221**	0.300
			Black	**XD2 GA82217**	0.300
	2 notches 2 N/O contacts per direction	Without	Shiny	**XD2 GA8231**	0.500
			Black	**XD2 GA82317**	0.500
		With	Shiny	**XD2 GA8241**	0.500
			Black	**XD2 GA82417**	0.500
		1st notch stay put 2nd notch with spring return to 1st notch	Shiny	**XD2 GA8251**	0.500
			Black	**XD2 GA82517**	0.500
4 direction Fixing centres 90 x 90 mm Ⓓ Ⓐ ◄—○—► Ⓑ Ⓒ	1 notch 1 N/O contact per direction	Without	Shiny	**XD2 GA8411**	0.330
			Black	**XD2 GA84117**	0.330
		With	Shiny	**XD2 GA8421**	0.330
			Black	**XD2 GA84217**	0.330
	2 notches 2 N/O contacts per direction	Without	Shiny	**XD2 GA8431**	0.550
			Black	**XD2 GA84317**	0.550
		With	Shiny	**XD2 GA8441**	0.550
			Black	**XD2 GA84417**	0.550
		1st notch stay put 2nd notch with spring return to 1st notch	Shiny	**XD2 GA8451**	0.550
			Black	**XD2 GA84517**	0.550

Characteristics:
page 1/182

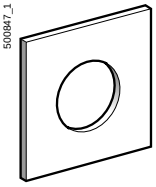
Dimensions:
page 1/185

Schemes:
page 1/185

Control and signalling units Ø 22
Joystick controllers



ZD2 GY5201



ZD2 GY6201

ZB2 BE101

Legend plates

Description	Text	Colour	Reference	Weight kg
2 direction 40 x 64 mm	Without	Black one side, red reverse	**ZD2 GY5201**	0.002
		White one side, yellow reverse	**ZD2 GY5401**	0.002
	With *(1)* (specify when ordering)	Black background, white letters	**ZD2 GY5002**	0.002
		Red background, white letters	**ZD2 GY5004**	0.002
		White background, black letters	**ZD2 GY5001**	0.002
		Yellow background, black letters	**ZD2 GY5005**	0.002
4 direction 64 x 64 mm	Without	Black one side, red reverse	**ZD2 GY6201**	0.003
		White one side, yellow reverse	**ZD2 GY6401**	0.003
	With *(1)* (specify when ordering)	Black background, white letters	**ZD2 GY6002**	0.003
		Red background, white letters	**ZD2 GY6004**	0.003
		White background, black letters	**ZD2 GY6001**	0.003
		Yellow background, black letters	**ZD2 GY6005**	0.003

Contact blocks

Description	Contact	Reference	Weight kg
Slow break Additional or replacement	N/O	**ZB2 BE101**	0.015

(1) 2 lines of 11 characters maximum per direction.

Other versions

XD2 G joystick controllers with:
- variable composition; 2, 3, 4 or 8 direction,
- contact blocks with Faston connectors conforming to NF C 20-120,
- gold flashed contacts for low power switching.

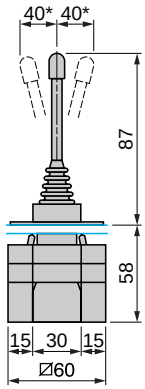
Please consult your Regional Sales Office.

Characteristics: page 1/182
Dimensions: page 1/185
Schemes: page 1/185

Control and signalling units Ø 22
Joystick controllers

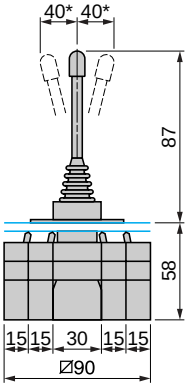
XD2 GA●●

1 notch
1 N/O contact per direction



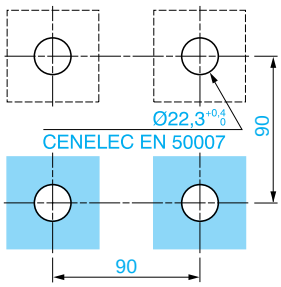
* in each of the 4 directions

2 notches
2 N/O contacts per direction

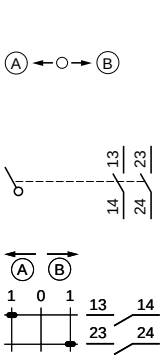


* in each of the 4 directions

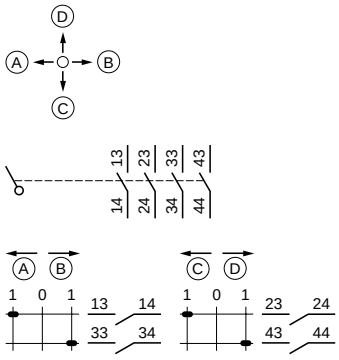
Panel cut-out
(thickness 1 to 6 mm)
XD2 GA (2 and 4 direction)



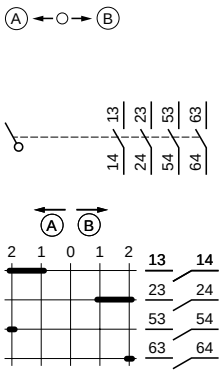
XD2 GA8211, GA82117
XD2 GA8221, GA82217



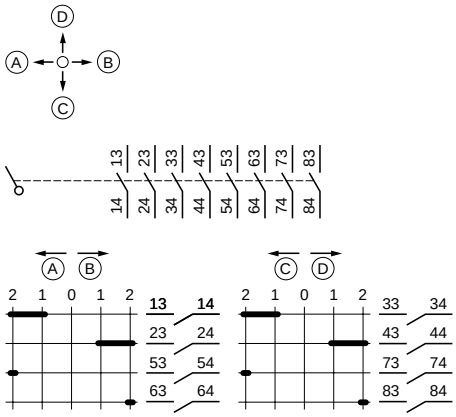
XD2 GA8411, GA84117
XD2 GA8421, GA84217



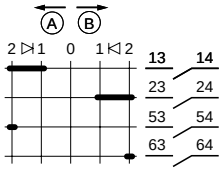
XD2 GA8231, GA82317
XD2 GA8241, GA82417



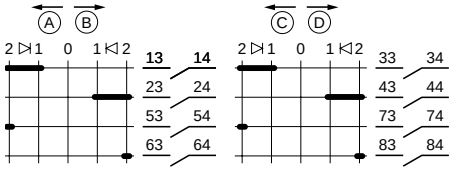
XD2 GA8431, GA84317
XD2 GA8441, GA84417



XD2 GA8251, GA82517



XD2 GA8451, GA84517



Characteristics:
page 1/182

References:
pages 1/183 and 1/184

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights,
with chromium plated metal bezel

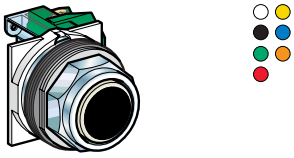
Complete units 9001 K

1

Complete units

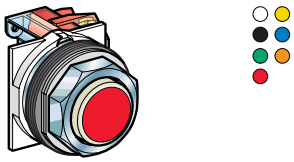
Contact functions

Pushbuttons, spring return



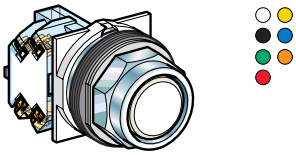
Flush push

9001 KR1●●● See page 1/192



Projecting push

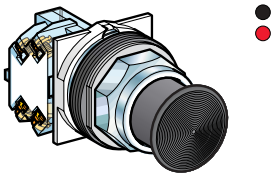
9001 KR3●●● See page 1/192



Recessed push (high guard)

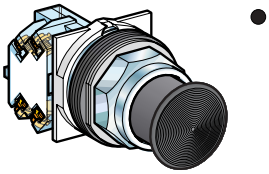
9001 KR2●●● See page 1/192

Mushroom head pushbuttons



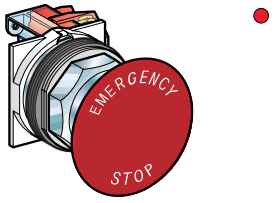
Spring return Ø 35 or Ø 57

9001 KR2●●H13 See page 1/192



Latching Ø 41

9001 KR●●● See page 1/192

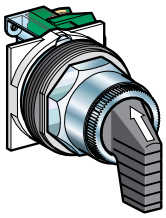


Emergency stop, spring return Ø 57

9001 KR5R05H6 See page 1/192

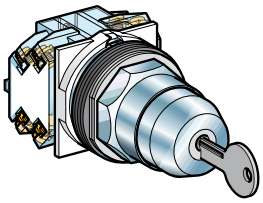
Selector switches, key switches and joystick controllers

1.7



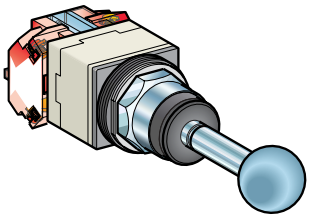
Selector switches, long black handle

9001 KS●●FBH●● See page 1/193



Key switches

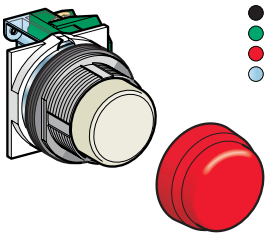
9001 KS●●K●H●● See page 1/193



Joystick controllers

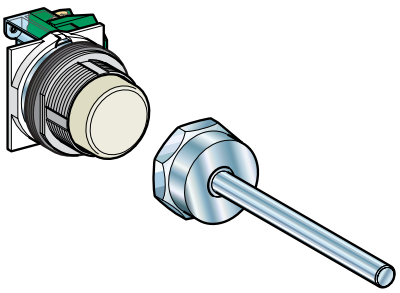
9001 K●●H● See page 1/199

Booted pushbuttons and wobblestick (with accessories)



Booted pushbuttons

9001 KR●●● + 9001 KU● See pages 1/192 and 1/206

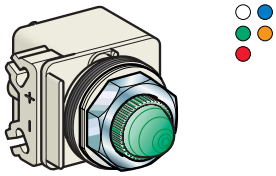


Wobblestick

9001 KR●●● + 9001 K8 See pages 1/192 and 1/206

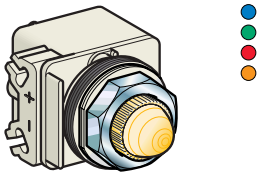
Light functions

Pilot lights



BA 9s base mounted super bright LED

9001 KP●●● See page 1/194



BA 9s incandescent bulb

9001 KP●●● See page 1/194

Characteristics:
pages 1/190 and 1/191

References:
pages 1/192 to 1/199

Dimensions:
pages 1/210 to 1/215

Control and signalling units Ø 30

Harmony® style 9

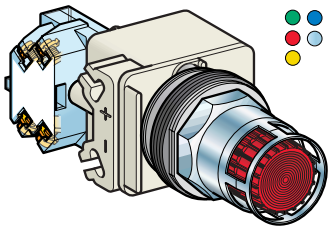
Pushbuttons, switches and pilot lights, with chromium plated metal bezel

Complete units 9001 K

Complete units

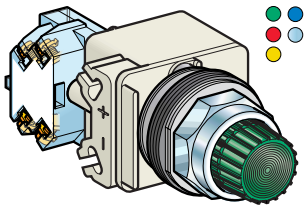
Combined contact and light functions

Illuminated pushbuttons, spring return



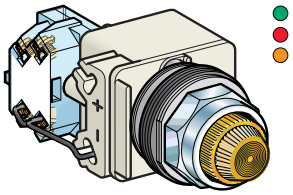
Flush push, super bright LED

9001 K●L●●● See page 1/195



Projecting push

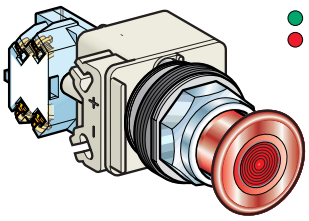
9001 K2L●●● See page 1/196



"Push to test", projecting push, super bright LED

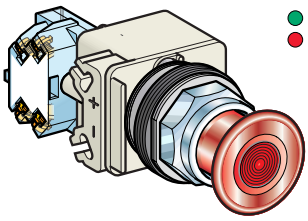
9001 KT●●●31 See page 1/197

Ø 41 mushroom head illuminated pushbuttons, super bright LED



2-position, push-pull

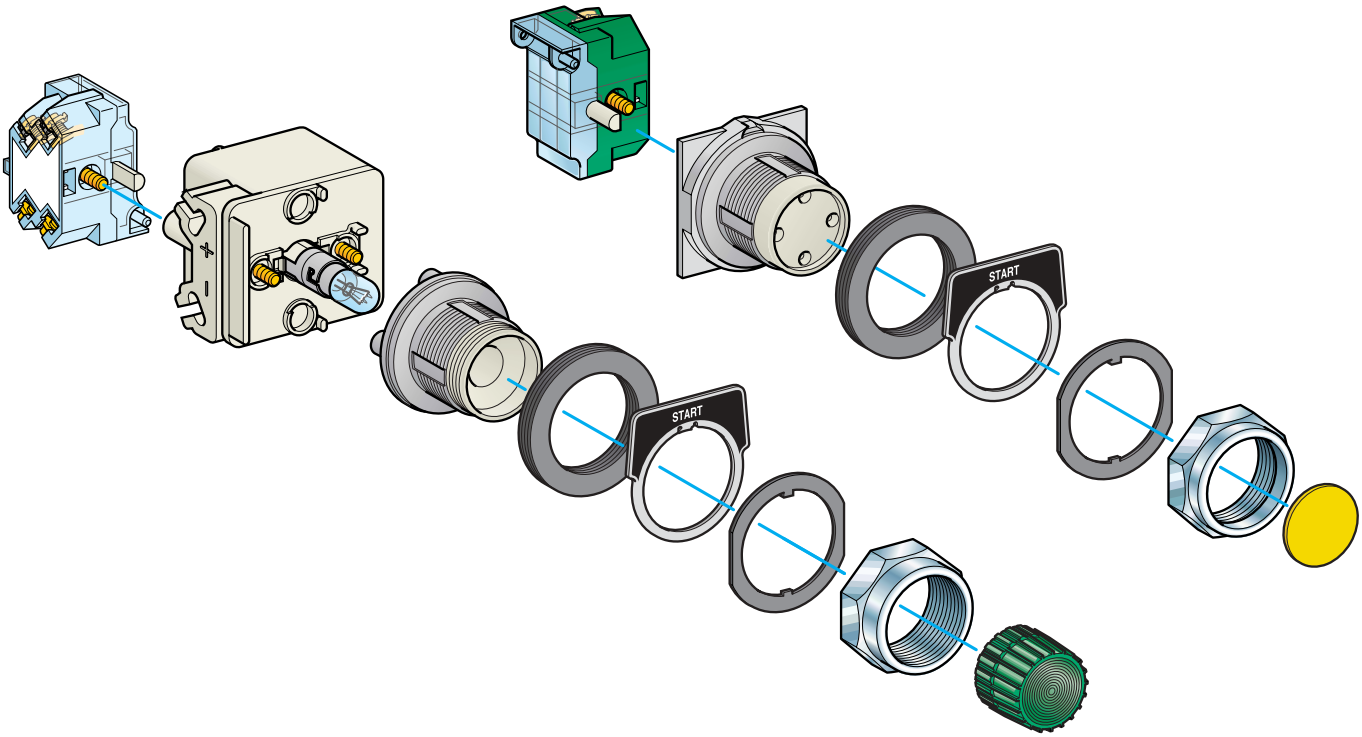
9001 KR9P●●● See page 1/197



3-position, push-pull

9001 KR8P●●● See page 1/197

Separate components and accessories



Characteristics: pages 1/190 and 1/191
References: pages 1/192 to 1/199
Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

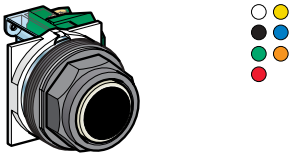
Complete units 9001 SK

1

Complete units

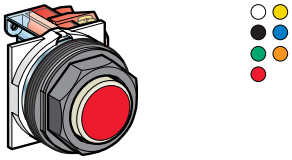
Contact functions

Pushbuttons, spring return



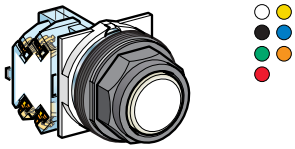
Flush push

9001 SKR1●●● See page 1/200



Projecting push

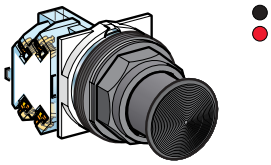
9001 SKR3●●● See page 1/200



Recessed push (high guard)

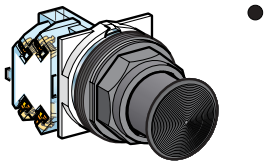
9001 SKR2●●● See page 1/200

Mushroom head pushbuttons



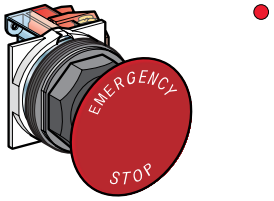
Spring return Ø 35 or Ø 57

9001 SKR2●●H13 See page 1/200



Latching Ø 41

9001 SKR●●● See page 1/200

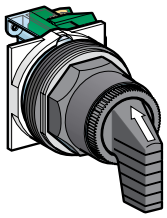


Emergency stop, spring return Ø 57

9001 SKR5R05H6 See page 1/200

Selector switches

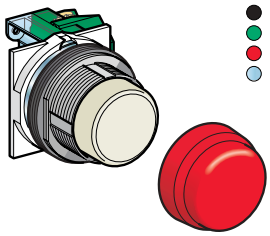
1.7



Selector switches, long black handle

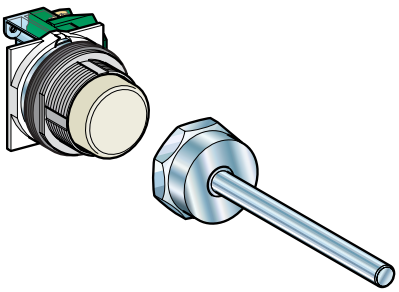
9001 SKS●●FBH●● See page 1/202

Booted pushbuttons and wobblestick (with accessories)



Booted pushbuttons

9001 SKR●●● + 9001 KU● See pages 1/200 and 1/206

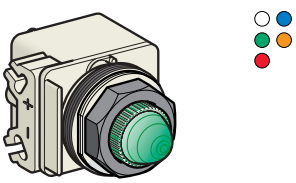


Wobblestick

9001 SKR●●● + 9001 K8 See pages 1/200 and 1/206

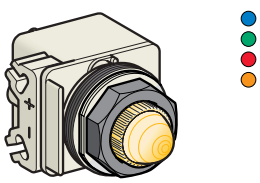
Light functions

Pilot lights



BA 9s base mounted super bright LED

9001 SKP●●● See page 1/201



BA 9s incandescent bulb

9001 SKP●●● See page 1/201

Characteristics:
pages 1/190 and 1/191

References:
pages 1/200 to 1/205

Dimensions:
pages 1/210 to 1/215

Control and signalling units Ø 30

Harmony® style 9

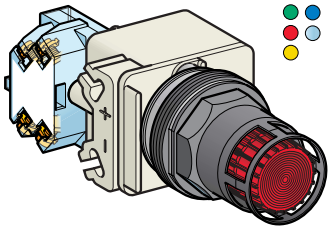
Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK

Complete units

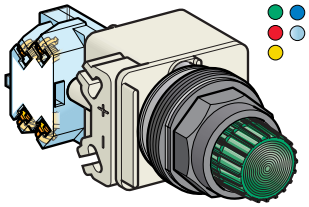
Combined contact and light functions

Illuminated pushbuttons, spring return



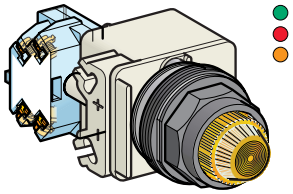
Flush push

9001 SK1L●●● See page 1/202



Projecting push

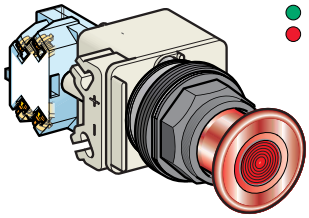
9001 SK2L●●● See page 1/203



"Push to test", projecting push

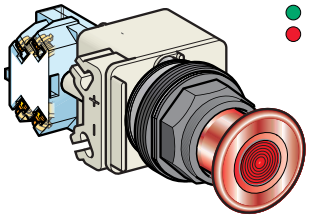
9001 SKT●●●31 See page 1/204

Ø 41 mushroom head illuminated pushbuttons



2-position, push-pull

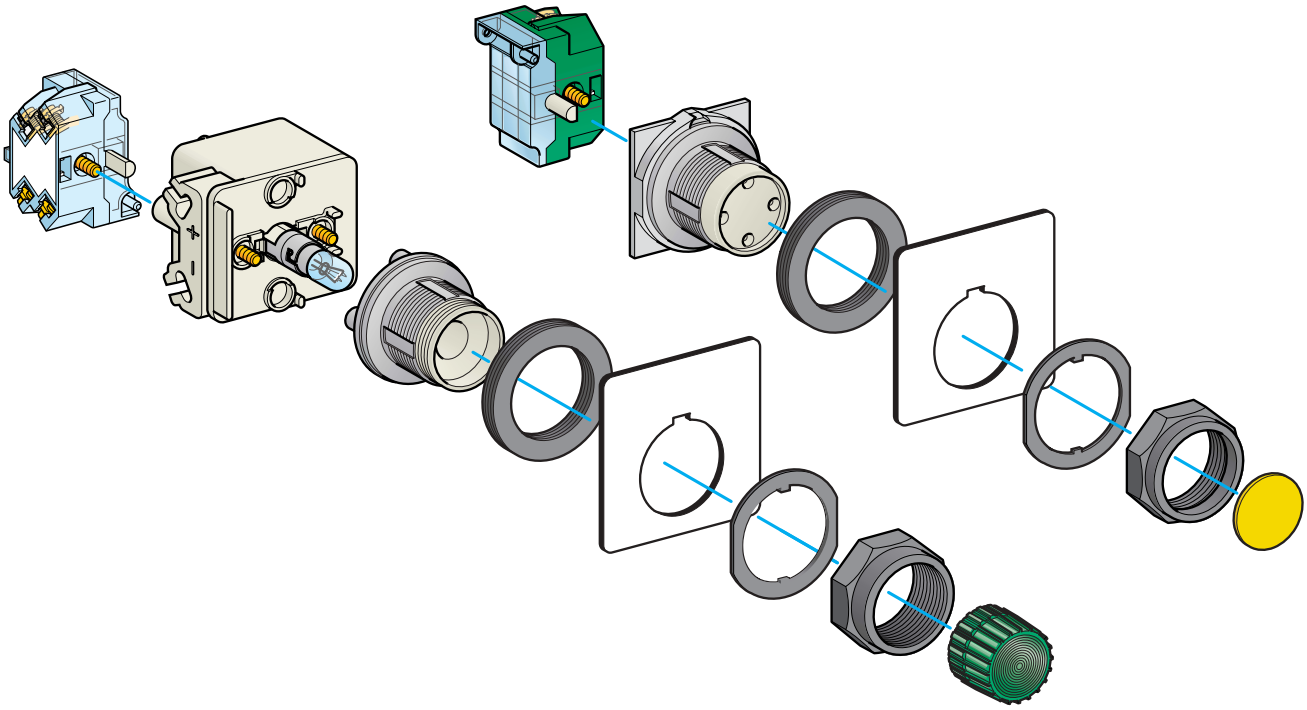
9001 SKR9P●●● See page 1/205



3-position, push-pull

9001 SKR8P●●● See page 1/205

Separate components and accessories



Characteristics: pages 1/190 and 1/191

References: pages 1/200 to 1/205

Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30
Harmony® style 9
Pushbuttons, switches and pilot lights

Environment

Conforming to standards			IEC 947-1, IEC 947-5-1, IEC 947-5-4, EN 60947-5-1, JIS C 4520 and 852, UL 508, CSA C22-2 n° 14
Product certifications			UL508, NEMA A600-Q600
Protective treatment standard version			"TC"
Ambient air temperature around the device	Storage	**°C**	- 40...+ 70
	Operation	**°C**	- 25...+ 70
Vibration resistance	Conforming to IEC 68-2-6		Frequency: 2 to 500 Hz: 7gn Ford Standard EA-1
Shock resistance	Conforming to IEC 68-2-27		Half sine wave: 50 gn
Electric shock protection	Conforming to IEC 536		Class II
Degree of protection for the chromium metal bezel range	Conforming to IEC 529 & NF C 20-010		IP 66
	Conforming to NEMA		Types 1, 2, 3, 3R, 4, 6, 12 and 13
Degree of protection for the double insulated bezel range	Conforming to IEC 529 & NF C 20-010		IP 66
	Conforming to NEMA		Types 1, 2, 3, 3R, 4, 4X, 12 and 13
Mechanical life (in millions of operating cycles)	Pushbuttons, spring return		5
	Illuminated pushbuttons		5
	Selector switches and key switches		0.5
Mounting position			All positions

General:
pages 1/186 and 1/187

General:
pages 1/188 and 1/189

References:
pages 1/192 to 1/199

References:
pages 1/200 to 1/205

Dimensions:
pages 1/210 to 1/215

Electrical characteristics of contact blocks

Rated operational characteristics	~ AC-15		3 A, 240 V			
	⎓ DC-13		0.55 A, 125 V			
Rated insulation voltage	Conforming to IEC 947-1	**V**	Ui = 250 degree of pollution 3 (except pilot lights with incandescent bulb: degree of pollution 2)			
Rated impulse withstand voltage	Conforming to IEC 947-1	**kV**	Uimp = 2.5			
Contact material	Normal environment and usage		Silver alloy			
Contact operation	"N/C" ou "N/O"		Slow break			
Positive operation	Conforming to IEC 947-5-2	**N**	N/C contact(s) with positive opening operation			
Short-circuit protection	Conforming to IEC 947-5-1	**A**	Cartridge fuse mounted upstream: 10			
Cabling capacity	Conforming to IEC 947-1	**mm²** **mm²**	Screw clamp terminals (cross headedslotted screw) Mini: 1 x 0.22 Maxi: 2 x 1.5 Recommended tightening torque: 0.8 N.m			
Thermal current	Ith	**A**	10			
Maximum operation current	a.c. supply: utilisation category AC-15	**V** **A** **VA**	Contact making capacity 120 60 7200	240 30 7200	480 15 7200	600 12 7200
		V **A** **VA**	Breaking capacity 120 6 720	240 3 720	480 1.5 720	600 1.2 720
	d.c.supply: utilisation category DC-13	**V** **A**	Contact making capacity and breaking capacity 125 0.55	250 0.27	600 0.1	

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

821091

9001 KR1BH5

821092

9001 KR3RH6

821084

9001 KR2UH13

821085

9001 KR24BH13

105025

9001 KR25BH13

Pushbuttons, spring return

Shape of head	Type of push	Type of contact "N/O"	"N/C"	"C/O"	Colour	Reference	Weight kg
	Flush	1	–	–	Black	**9001 KR1BH5**	0.121
					Green	**9001 KR1GH5**	0.121
		–	–	1	Black	**9001 KR1BH13**	0.121
					Green	**9001 KR1GH13**	0.121
					Red	**9001 KR1RH13**	0.121
					Multi-colour	**9001 KR1UH13** *(1)*	0.121
		1	–	–	Multi-colour	**9001 KR1UH5** *(1)*	0.121
	Projecting	–	1	–	Red	**9001 KR3RH6**	0.128
		–	–	1	Multi-colour	**9001 KR3UH13** *(1)*	0.128
		1	–	–	Multi-colour	**9001 KR3UH5** *(1)*	0.128
	Projecting (high guard)	1	–	–	Green	**9001 KR2GH5**	0.136
		–	–	1	Multi-colour	**9001 KR2UH13** *(1)*	0.136
		1	–	–	Multi-colour	**9001 KR2UH5** *(1)*	0.136

Mushroom head pushbuttons

Shape of head	Type of push	Diameter mm	Type of contact "N/O"	"N/C"	"C/O"	Colour	Reference	Weight kg
	Spring return	Ø 35	–	–	1	Black	**9001 KR24BH13**	0.126
						Red	**9001 KR24RH13**	0.126
		Ø 35 Snap in Knob	–	1	–	Red	**9001 KR4RH6**	0.154
		Ø 57	–	–	1	Black	**9001 KR25BH13**	0.132
						Red	**9001 KR25RH13**	0.132
		Ø 57 Snap in Knob	–	1	–	Red	**9001 KR5RH6**	0.154

Emergency stop mushroom head pushbuttons

Shape of head	Type of push	Diameter mm	Type of contact "N/C" l. break	"N/C"	"C/O"	Colour	Reference	Weight kg
	3 positions: Mom.-push: maint.-neutral: Mom. -pull	Ø 41	–	2	–	Black	**9001 KR8BH25**	0.195
						Red	**9001 KR8RH25**	0.195
	2 positions: Maint. -push: Maint. -pull	Ø 41	–	–	1	Black	**9001 KR9BH13**	0.141
						Red	**9001 KR9RH13**	0.141
			–	–	1	Red	**9001 KR9R94H13**	0.141
			–	1	–	Red	**9001 KR9RH6**	0.141
	Push-pull	Ø 35	–	1	–	Red	**9001 KR9R20H6**	0.141
		Ø 57	–	1	–	Red	**9001 KR9R21H6**	0.141
	Spring return	Ø 35 *(2)*	–	1	–	Red	**9001 KR4R05H6**	0.154
		Ø 57 *(2)*	–	1	–	Red	**9001 KR5R05H6**	0.154
	Late break	Ø 41 *(2)*	2	–	–	Red	**9001 KR8R05H25**	0.154

(1) Supplied with 7 different coloured caps: black, green, red, yellow, blue, white and orange, ready for clipping-in.
(2) Marked "EMERGENCY STOP".

General: pages 1/186 and 1/187
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

9001 KS43FB

9001 KS11K1R

Selector switches and key switches (contact actuation sequence, see page 1/211)

Shape of head	Mount on side	Contact block (order seperately)	Contact status 1 - closed 0 - open	Number and type of positions	Reference	Weight kg
Long handle, black	1 or 2	9001KA2	0 1	2 stay put	**9001 KS11FB**	0.172
	1 or 2	9001KA2	0 1	2 spring return from right to left	**9001 KS34FB**	0.172
	1	9001KA1	1 0 / 0 0 / 0 1	3 stay put	**9001 KS43FB**	0.172
	1 or 2	9001KA1	0 0 / 0 1 / 1 0	3 stay put	**9001 KS46FB**	0.172
	1 or 2	9001KA1	1 0 / 0 0 / 0 1	3 spring return from left to center	**9001 KS63FB**	0.172
	1 or 2	9001KA1	1 0 / 0 0 / 0 1	3 spring return to center	**9001 KS53FB**	0.172
	Side 2	9001KA1	1 0 0 0 / 0 0 0 1 / 0 1 0 0 / 0 0 1 0	4 stay put	**9001 KS88FB**	0.172
	Side 1	9001KA1				
Key (Ronis n° 455)	1 or 2	9001KA2	0 1	2 stay put	**9001 KS11K1R**	0.207
	1 or 2	9001KA1	0 1 / 1 0	2 stay put	**9001 KS11K1R**	0.207
	1 or 2	9001KA1	0 1 / 1 0	2 stay put	**9001 KS11K3R**	0.207
	1 or 2	9001KA1	1 0 / 0 0 / 0 1	3 stay put	**9001 KS43K5R**	0.234
	1 or 2	9001KA1	1 0 / 0 0 / 0 1	3 spring return to center	**9001 KS53K5R**	0.234
Key (E10)		*For E 10 key, remove R from reference.*		*Ex: 9001 KS11K1R: Ronis key 9001 KS11K1: E10 key*		

Nota : *Other contact configurations are available. Please consult your Regional Sales Office.*

General: pages 1/186 and 1/187
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/192 to 1/197

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

109200

9001 KP35LGG9

109201

9001 KP38R9

109202

9001 KP7L9

Pilot lights with BA 9s base mounted (super bright LED, included)

Shape of head	Supply voltage V	Colour	Reference	Weight kg
	≂ 24	Green	**9001 KP35LGG9**	0.134
		Red	**9001 KP35LRR9**	0.134
		Amber	**9001 KP35LYA9**	0.134
		Blue	**9001 KP35LLL9**	0.134
		White	**9001 KP35LWW9**	0.134
	≂ 48	Green	**9001 KP36LGG9**	0.134
		Red	**9001 KP36LRR9**	0.134
		Amber	**9001 KP36LYA9**	0.134
		Blue	**9001 KP36LLL9**	0.134
		White	**9001 KP36LWW9**	0.134
	≂ 120	Green	**9001 KP38LGG9**	0.134
		Red	**9001 KP38LRR9**	0.134
		Amber	**9001 KP38LYA9**	0.134
		Blue	**9001 KP38LLL9**	0.134
		White	**9001 KP38LWW9**	0.134

Pilot lights with BA 9s, incandescent bulb (bulb included)

Shape of head	Supply	Supply voltage V	Colour	Reference	Weight kg
	Direct supply for BA 9s bulb (included)	≂ 12	Green	**9001 KP32G9**	0.134
			Red	**9001 KP32R9**	0.134
			Amber	**9001 KP32A9**	0.134
			Blue	**9001 KP32L9**	0.134
		≂ 24	Green	**9001 KP35G9**	0.134
			Red	**9001 KP35R9**	0.134
			Amber	**9001 KP35A9**	0.134
			Blue	**9001 KP35L9**	0.134
		≂ 48	Green	**9001 KP36G9**	0.134
			Red	**9001 KP36R9**	0.134
			Amber	**9001 KP36A9**	0.134
			Blue	**9001 KP36L9**	0.134
		≂ 120	Green	**9001 KP38G9**	0.134
			Red	**9001 KP38R9**	0.134
			Amber	**9001 KP38A9**	0.134
			Blue	**9001 KP38L9**	0.134
	Via integral transformer for BA 9s 6 V bulb (included)	~ 120	Green	**9001 KP1G9**	0.210
			Red	**9001 KP1R9**	0.210
			Amber	**9001 KP1A9**	0.210
			Blue	**9001 KP1L9**	0.210
		~ 230	Green	**9001 KP7G9**	0.210
			Red	**9001 KP7R9**	0.210
			Amber	**9001 KP7A9**	0.210
			Blue	**9001 KP7L9**	0.210
		~ 380	Green	**9001 KP5G9**	0.210
			Red	**9001 KP5R9**	0.210
			Amber	**9001 KP5A9**	0.210
			Blue	**9001 KP5L9**	0.210
		~ 600	Green	**9001 KP6G9**	0.210
			Red	**9001 KP6R9**	0.210
			Amber	**9001 KP6A9**	0.210
			Blue	**9001 KP6L9**	0.210

General: pages 1/186 and 1/187
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

Illuminated pushbuttons, spring return, flush push (super bright LED, included)

Shape of head	Description supply	Type of contact “C/O”	Supply voltage V	Colour	Reference	Weight kg
Extended metallic guard						
	BA 9s base mounted LED (included)	1	≂ 24	Red	**9001 K3L35LRRH13**	0.175
				Green	**9001 K3L35LGGH13**	0.175
				Amber	**9001 K3L35LYAH13**	0.175
			≂ 48	Red	**9001 K3L36LRRH13**	0.175
				Green	**9001 K3L36LGGH13**	0.175
				Amber	**9001 K3L36LYAH13**	0.175
			≂ 120	Red	**9001 K3L38LRRH13**	0.175
				Green	**9001 K3L38LGGH13**	0.175
				Amber	**9001 K3L38LYAH13**	0.175
	Direct supply for BA 9s incandescent bulb (included)	1	≂ 24	Red	**9001 K3L35RH13**	0.175
				Green	**9001 K3L35GH13**	0.175
				Amber	**9001 K3L35AH13**	0.175
		1	≂ 48	Red	**9001 K3L36RH13**	0.175
				Green	**9001 K3L36GH13**	0.175
				Amber	**9001 K3L36AH13**	0.175
		1	≂ 120	Red	**9001 K3L38RH13**	0.175
				Green	**9001 K3L38GH13**	0.175
				Blue	**9001 K3L38LH13**	0.175
				Amber	**9001 K3L38AH13**	0.175
				White	**9001 K3L38WH13**	0.175
				Clear	**9001 K3L38CH13**	0.175
	Via integral transformer for BA 9s 6 V incandescent bulb (included)	1	~ 120	Red	**9001 K3L1RH13**	0.250
				Green	**9001 K3L1GH13**	0.250
				Amber	**9001 K3L1AH13**	0.250
			≂ 230	Red	**9001 K3L7RH13**	0.250
				Green	**9001 K3L7GH13**	0.250
				Amber	**9001 K3L7AH13**	0.250
Full guard in plastic						
	BA 9s base mounted (included)	1	≂ 24	Red	**9001 K1L35LRRH13**	0.166
				Green	**9001 K1L35LGGH13**	0.166
				Amber	**9001 K1L35LYAH13**	0.166
		1	≂ 48	Red	**9001 K1L36LRRH13**	0.166
				Green	**9001 K1L36LGGH13**	0.166
				Amber	**9001 K1L36LYAH13**	0.166
		1	≂ 120	Red	**9001 K1L38LRRH13**	0.166
				Green	**9001 K1L38LGGH13**	0.166
				Amber	**9001 K1L38LYAH13**	0.166

109203

9001 K1L35LGGH13

1.7

General: pages 1/186 and 1/187
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

9001 K2L●●●H13

Illuminated pushbuttons, spring return, projecting push

Shape of head	Type of contact			Supply voltage V	Colour	Reference	Weight kg
	"N/O" late break	"N/C"	"C/O"				
BA 9s base mounted LED (included)							
	–	–	1	≂ 24	Red	**9001 K2L35LRRH13**	0.166
					Green	**9001 K2L35LGGH13**	0.166
					Amber	**9001 K2L35LYAH13**	0.166
	–	–	1	≂ 48	Red	**9001 K2L36LRRH13**	0.166
					Green	**9001 K2L36LGGH13**	0.166
					Amber	**9001 K2L36LYAH13**	0.166
	–	–	1	≂ 120	Red	**9001 K2L38LRRH13**	0.166
					Green	**9001 K2L38LGGH13**	0.166
					Amber	**9001 K2L38LYAH13**	0.166
Direct supply for BA 9s incandescent bulb (included)							
	–	–	1	≂ 24	Red	**9001 K2L35RH13**	0.166
					Green	**9001 K2L35GH13**	0.166
					Amber	**9001 K2L35AH13**	0.166
					Blue	**9001 K2L35LH13**	0.166
					White	**9001 K2L35WH13**	0.166
	–	–	1	≂ 48	Red	**9001 K2L36RH13**	0.166
					Green	**9001 K2L36GH13**	0.166
					Amber	**9001 K2L36AH13**	0.166
					Blue	**9001 K2L36LH13**	0.166
					White	**9001 K2L36WH13**	0.166
	–	–	1	≂ 120	Red	**9001 K2L38RH13**	0.166
					Green	**9001 K2L38GH13**	0.166
					Amber	**9001 K2L38AH13**	0.166
					Blue	**9001 K2L38LH13**	0.166
					White	**9001 K2L38WH13**	0.166
Via integral transformer for BA 9s incandescent bulb (included)							
	–	–	1	∼ 230	Red	**9001 K2L7RH13**	0.140
					Green	**9001 K2L7GH13**	0.140
					Amber	**9001 K2L7AH13**	0.140
					Blue	**9001 K2L7LH13**	0.140
					White	**9001 K2L7WH13**	0.140

General: pages 1/186 and 1/187
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

Illuminated mushroom head pushbuttons (super bright LED, included)

Shape of head	Diameter mm	Type of contact "N/O" l. break	Type of contact "N/O"	Type of contact "C/O"	Supply voltage V	Colour	Reference	Weight kg
2 position stay put pushbuttons. Direct supply for BA 9s incandescent bulb (included)								
	Ø 41	Order contacts separately			≂ 24	Green	**9001 KR9P35LGG**	0.186
						Red	**9001 KR9P35LRR**	0.186
					≂ 48	Green	**9001 KR9P36LGG**	0.186
						Red	**9001 KR9P36LRR**	0.186
					≂ 120	Green	**9001 KR9P38LGG**	0.186
						Red	**9001 KR9P38LRR**	
3 position pushbuttons (pull: spring return, center: stay put, push: spring return)								
	Ø 41	Order contacts separately			≂ 24	Green	**9001 KR8P35LGG**	0.254
						Red	**9001 KR8P35LRR**	0.254
					≂ 48	Green	**9001 KR8P36LGG**	0.254
						Red	**9001 KR8P36LRR**	0.254
					≂ 120	Green	**9001 KR8P38LGG**	0.254
						Red	**9001 KR8P38LRR**	0.254

109204

9001 KR9P35LGGH13

109205

9001 KR8P35LRRH25

Mechanically interlocked pushbuttons

Shape of head	Type of push	Type of contact "N/O" l. break	Type of contact "N/O"	Type of contact "C/O"	Colour	Reference	Weight kg
	Both maintained	–	–	1	Multi-colour	**9001 KR11UH1H1** *(1)*	0.540
	One spring return and one latching	–	–	1	Multi-colour	**9001 KR12UH1H1** *(1)*	0.540

Illuminated "Push to test" pushbuttons, spring return (super bright LED, included)

Shape of head	Type of push	Type of contact "N/O" l. break	Type of contact "N/O"	Type of contact "C/O"	Supply voltage V	Colour	Reference	Weight kg
Direct supply								
	Projecting push	1	–	–	≂ 24	Green	**9001 KT35LGG31**	0.235
						Red	**9001 KT35LRR31**	0.235
						Amber	**9001 KT35LLYA31**	0.235
		1	–	–	≂ 48	Green	**9001 KT36LGG31**	0.235
						Red	**9001 KT36LRR31**	0.235
						Amber	**9001 KT36LYA31**	0.235
		1	–	–	≂ 120	Green	**9001 KT38LGG31**	0.235
						Red	**9001 KT38LRR31**	0.235
						Amber	**9001 KT38LYA31**	0.235

109206

9001 KR11UH13H13

(1) Supplied with 7 different coloured caps: black, green, red, yellow, blue, white and orange, ready for clipping-in.

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Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

9001 K46J35LYFA

Illuminated selector switches with long handle (super bright LED, included)

Shape of head	Supply	Mount on side	Contact block (1)	Contact status 1 - closed 0 - open	Supply voltage V	Number and type of positions	Colour	Reference	Weight kg
	Supplied with 24 V light module (super bright LED)	1 or 2	9001KA2	0 1	≂ 24	2 stay put	Green	**9001 K11J35LGFG**	0.245
							Red	**9001 K11J35LRFR**	0.245
							Amber	**9001 K11J35LYFA**	0.245
		1 or 2	9001KA2	0 1	≂ 24	2 spring return from right to left	Green	**9001 K34J35LGFG**	0.245
							Red	**9001 K34J35LRFR**	0.245
							Amber	**9001 K34J35LYFA**	0.245
		1 or 2	9001KA1	1 0 / 0 0 / 0 1	≂ 24	3 stay put	Green	**9001 K43J35LGFG**	0.245
							Red	**9001 K43J35LRFR**	0.245
							Amber	**9001 K43J35LYFA**	0.245
		Side 2	9001KA1	1 0 / 0 0 / 0 1	≂ 24	3 stay put	Green	**9001 K46J35LGFG**	0.245
							Red	**9001 K46J35LRFR**	0.245
		Side 1	9001KA1	0 0 / 1 0 / 0 1			Amber	**9001 K46J35LYFA**	0.245
		1 or 2	9001KA1	1 0 / 0 0 / 0 1	≂ 24	3 spring return to center	Green	**9001 K53J35LGFG**	0.245
							Red	**9001 K53J35LRFR**	0.245
							Amber	**9001 K53J35LYFA**	0.245
		1 or 2	9001KA1	1 0 / 0 0 / 0 1	≂ 24	3 spring return from left to center	Green	**9001 K63J35LGFG**	0.245
							Red	**9001 K63J35LRFR**	0.245
							Amber	**9001 K63J35LYFA**	0.245
		Side 2	9001KA1	1 0 / 0 0 / 0 1 / 0 0	≂ 24	4 stay put	Green	**9001 K88J35LGFG**	0.245
							Red	**9001 K88J35LRFR**	0.245
		Side 1	9001KA1	0 0 / 0 1 / 0 0 / 1 0			Amber	**9001 K88J35LYFA**	0.245

(1) Order and install listed contact block for noted contact sequence.
Other contact sequences are available. Please consult your Regional Sales Office.

General: pages 1/186 and 1/187
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Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

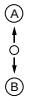
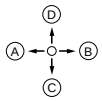
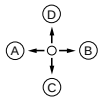
Illuminated mushroom head pushbuttons, push-pull, Ø 41 red

Shape of head	Supply	Type of contact "N/C" l.break	Type of contact "N/C"	Type of contact "C/O"	Supply voltage V	Reference	Weight kg
2 position stay put pushbuttons							
	Direct supply for BA 9s incandescent bulb (included)	1	1	–	≂ 24	**9001 KR9P35RH25**	0.168
					≂ 120	**9001 KR9P38RH25**	0.168
	Via integral transformer for BA 9s 6 V incandescent bulb (included)	1	1	–	≂ 230	**9001 KR9P7RH25**	0.245
3 position pushbuttons (pull: spring return, center: stay put, push: spring return)							
	Direct supply for BA 9s incandescent bulb (included)	1	1	–	≂ 24	**9001 KR8P35RH25**	0.168
					≂ 120	**9001 KR8P38RH25**	0.168
	Via integral transformer for BA 9s 6 V incandescent bulb (included)	1	1	–	≂ 230	**9001 KR8P7RH25**	0.245

821125

9001 KR8P●●RH25

Joystick controllers (80 mm long operating shaft)

Shape of head	Description	Type of contact "N/O"	Type of contact "N/C"	Type of contact "C/O"	Direction	Reference	Weight kg
	3 positions spring return	–	2	–		**9001 K31H8**	0.372
		Order contacts separately				**9001 K31**	0.372
		2	–	–		**9001 K71H7**	0.372
		Order contacts separately				**9001 K71**	0.372
	5 positions spring return	–	–	2		**9001 K35H2**	0.372
		Order contacts separately				**9001 K35**	0.372
	3 positions stay put	Order contacts separately				**9001 K73**	0.372
	5 positions spring return with latch *(1)*	Order contacts separately				**9001 K34**	0.372

(1) Latch button must be depressed before joystick will operate.

510317

9001 K31H8

General: pages 1/186 and 1/187
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Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK, with screw clamp terminals

109211

9001 SKR1GH13

109212

9001 SKR3RH6

109213

9001 SKR2GH5

Pushbuttons, spring return

Shape of head	Type of push	Type of contact "N/O"	"N/C"	"C/O"	Colour	Reference	Weight kg
	Flush	1	–	–	Black	**9001 SKR1BH5**	0.086
					Green	**9001 SKR1GH5**	0.086
		–	–	1	Black	**9001 SKR1BH13**	0.086
					Green	**9001 SKR1GH13**	0.086
					Red	**9001 SKR1RH13**	0.086
					Multi-colour	**9001 SKR1UH13** *(1)*	0.086
		1	–	–	Multi-colour	**9001 SKR1UH5** *(1)*	0.086
	Projecting	–	1	–	Red	**9001 SKR3RH6**	0.070
		–	–	1	Multi-colour	**9001 SKR3UH13** *(1)*	0.070
		1	–	–	Multi-colour	**9001 SKR3UH5** *(1)*	0.070
	Projecting (high guard)	1	–	–	Green	**9001 SKR2GH5**	0.090
		–	–	1	Multi-colour	**9001 SKR2UH13** *(1)*	0.090
		1	–	–	Multi-colour	**9001 SKR2UH5** *(1)*	0.090

109214

9001 SKR24BH13

Mushroom head pushbuttons

Shape of head	Type of push	Diameter mm	Type of contact "N/O"	"N/C"	"C/O"	Colour	Reference	Weight kg
	Spring return	Ø 35	–	–	1	Black	**9001 SKR24BH13**	0.095
						Red	**9001 SKR24RH13**	0.095
		Ø 35 Snap in Knob	–	1	–	Red	**9001 SKR4RH6**	0.095
		Ø 57	–	–	1	Black	**9001 SKR25BH13**	0.102
						Red	**9001 SKR25RH13**	0.102
		Ø 57 Snap in Knob	–	1	–	Red	**9001 SKR5RH6**	0.102

Emergency stop mushroom head pushbuttons

Shape of head	Type of push	Diameter mm	Type of contact "N/C" l. break	"N/C"	"C/O"	Colour	Reference	Weight kg
	3 positions: Mom. -push: maint. -neutral: Mom. -pull							
		Ø 41	1	1	–	Black	**9001 SKR8BH25**	0.159
						Red	**9001 SKR8RH25**	0.159
	2 positions: Maint. -push: Maint. -pull							
		Ø 41	–	–	1	Black	**9001 SKR9BH13**	0.159
						Red	**9001 SKR9RH13**	0.159
			–	1	–	Red	**9001 SKR9RH6**	0.159
	Push-pull	Ø 35	–	1	–	Red	**9001 SKR9R20H6**	0.159
		Ø 57	–	1	–	Red	**9001 SKR9R21H6**	0.164
	Spring return	Ø 35 *(2)*	–	1	–	Red	**9001 SKR4R05H6**	0.159
		Ø 57 *(2)*	–	1	–	Red	**9001 SKR5R05H6**	0.164
	Late break	Ø 41 *(2)*	1	1	–	Red	**9001 SKR8R05H25**	0.159

109215

9001 SKR5R05H6

(1) Supplied with 7 different coloured caps: black, green, red, yellow, blue, white and orange, ready for clipping-in.
(2) Marked "EMERGENCY STOP".

General: pages 1/188 and 1/189
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/210 to 1/213

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK, with screw clamp terminal

109218

9001 SKP35LGG9

Pilot lights with BA 9s base mounted (super bright LED included)

Shape of head	Supply voltage V	Colour	Reference	Weight kg
	≂ 24	Green	**9001 SKP35LGG9**	0.082
		Red	**9001 SKP35LRR9**	0.082
		Amber	**9001 SKP35LYA9**	0.082
		Blue	**9001 SKP35LLL9**	0.082
		White	**9001 SKP35LWW9**	0.082
	≂ 48	Green	**9001 SKP36LGG9**	0.082
		Red	**9001 SKP36LRR9**	0.082
		Amber	**9001 SKP36LYA9**	0.082
		Blue	**9001 SKP36LLL9**	0.082
		White	**9001 SKP36LWW9**	0.082
	≂ 120	Green	**9001 SKP38LGG9**	0.082
		Red	**9001 SKP38LRR9**	0.082
		Amber	**9001 SKP38LYA9**	0.082
		Blue	**9001 SKP38LLL9**	0.082
		White	**9001 SKP38LWW9**	0.082

Pilot lights with BA 9s, incandescent bulb (bulb included)

Shape of head	Supply	Supply voltage V	Colour	Reference	Weight kg
	Direct supply for BA 9s bulb (included)	≂ 12	Green	**9001 SKP32G9**	0.082
			Red	**9001 SKP32R9**	0.082
			Amber	**9001 SKP32A9**	0.082
			Blue	**9001 SKP32L9**	0.082
		≂ 24	Green	**9001 SKP35G9**	0.082
			Red	**9001 SKP35R9**	0.082
			Amber	**9001 SKP35A9**	0.082
			Blue	**9001 SKP35L9**	0.082
		≂ 48	Green	**9001 SKP36G9**	0.082
			Red	**9001 SKP36R9**	0.082
			Amber	**9001 SKP36A9**	0.082
			Blue	**9001 SKP36L9**	0.082
		≂ 120	Green	**9001 SKP38G9**	0.082
			Red	**9001 SKP38R9**	0.082
			Amber	**9001 SKP38A9**	0.082
			Blue	**9001 SKP38L9**	0.082
	Via integral transformer for BA 9s 6 V bulb (included)	∿ 120	Green	**9001 SKP1G9**	0.181
			Red	**9001 SKP1R9**	0.181
			Amber	**9001 SKP1A9**	0.181
			Blue	**9001 SKP1L9**	0.181
		∿ 230	Green	**9001 SKP7G9**	0.181
			Red	**9001 SKP7R9**	0.181
			Amber	**9001 SKP7A9**	0.181
			Blue	**9001 SKP7L9**	0.181
		∿ 380	Green	**9001 SKP5G9**	0.181
			Red	**9001 SKP5R9**	0.181
			Amber	**9001 SKP5A9**	0.181
			Blue	**9001 SKP5L9**	0.181
		∿ 600	Green	**9001 SKP6G9**	0.181
			Red	**9001 SKP6R9**	0.181
			Amber	**9001 SKP6A9**	0.181
			Blue	**9001 SKP6L9**	0.181

109219

9001 SKP38R9

109220

9001 SKP7L9

1.7

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pages 1/188 and 1/189

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pages 1/210 to 1/213

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK, with screw clamp terminal

109217

9001 SKS43FB

Selector switches (contact actuation sequence, see page 1/211)

Shape of head	Mount on side	Contact block (order separately)	Contact status 1 - closed 0 - open	Number and type of positions	Reference	Weight kg
Long handle, black	1 or 2	9001KA2		2 stay put	**9001 SKS11FB**	0.059
	1 or 2	9001KA2		2 spring return from right to left	**9001 SKS34FB**	0.059
	1 or 2	9001KA1		3 stay put	**9001 SKS43FB**	0.059
	1 or 2	9001KA1		3 spring return from left to center	**9001 SKS63FB**	0.059
	1 or 2	9001KA1		3 spring return to center	**9001 SKS53FB**	0.059
	Side 1	9001KA1		4 stay put	**9001 SKS88FB**	0.059
	Side 2	9001KA1				

Illuminated pushbuttons, spring return, flush push (super bright LED included)

Shape of head	Supply	Type of contact "C/O"	Supply voltage V	Colour	Reference	Weight kg
Full guard in plastic						
	BA 9s base mounted	1	≂ 24	Red	**9001 SK1L35LRR**	0.181
				Green	**9001 SK1L35LGG**	0.181
				Amber	**9001 SK1L35LYA**	0.181
		1	≂ 48	Red	**9001 SK1L36LRR**	0.181
				Green	**9001 SK1L36LGG**	0.181
				Amber	**9001 SK1L36LYA**	0.181
		1	≂ 120	Red	**9001 SK1L38LRR**	0.181
				Green	**9001 SK1L38LGG**	0.181
				Amber	**9001 SK1L38LYA**	0.181

109221

9001 SK1L35LGG

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Dimensions: pages 1/210 to 1/213

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK, with screw clamp terminal

Illuminated pushbuttons, spring return, projecting push

Shape of head	Type of contact			Supply voltage V	Colour	Reference	Weight kg
	"N/O" late break	"N/C"	"C/O"				
BA 9s base mounted LED (included)							
	–	–	–	≂ 24	Red	**9001 SK2L35LRR**	0.181
	Order contact block separately				Green	**9001 SK2L35LGG**	0.181
					Amber	**9001 SK2L35LYA**	0.181
	–	–	–	≂ 48	Red	**9001 SK2L36LRR**	0.181
	Order contact block separately				Green	**9001 SK2L36LGG**	0.181
					Amber	**9001 SK2L36LYA**	0.181
	–	–	–	≂ 120	Red	**9001 SK2L38LRR**	0.181
	Order contact block separately				Green	**9001 SK2L38LGG**	0.181
					Amber	**9001 SK2L38LYA**	0.181
Direct supply for BA 9s incandescent bulb (included)							
	–	–	1	≂ 24	Red	**9001 SK2L35RH13**	0.181
					Green	**9001 SK2L35GH13**	0.181
					Amber	**9001 SK2L35AH13**	0.181
					Blue	**9001 SK2L35LH13**	0.181
					White	**9001 SK2L35WH13**	0.181
	–	–	1	≂ 48	Red	**9001 SK2L36RH13**	0.181
					Green	**9001 SK2L36GH13**	0.181
					Amber	**9001 SK2L36AH13**	0.181
					Blue	**9001 SK2L36LH13**	0.181
					White	**9001 SK2L36WH13**	0.181
	–	–	1	≂ 120	Red	**9001 SK2L38RH13**	0.181
					Green	**9001 SK2L38GH13**	0.181
					Amber	**9001 SK2L38AH13**	0.181
					Blue	**9001 SK2L38LH13**	0.181
					White	**9001 SK2L38WH13**	0.181
Via integral transformer for BA 9s incandescent bulb (included)							
	–	–	1	∿ 230	**Red**	**9001 SK2L7RH13**	0.226
					Green	**9001 SK2L7GH13**	0.226
					Amber	**9001 SK2L7AH13**	0.226
					Blue	**9001 SK2L7LH13**	0.226
					White	**9001 SK2L7WH13**	0.226

109222

9001 SK2L36GH13

1.7

General: pages 1/188 and 1/189
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/210 to 1/213

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK, with screw clamp terminal

9001 SKR9P35LGG

9001 SKR8P35LRR

9001 SKR11UH13H13

Illuminated mushroom head pushbuttons (super bright LED, included)

Shape of head	Diameter mm	Supply voltage V	Type of contact "N/O" l.break	Type of contact "N/O"	Type of contact "C/O"	Colour	Reference	Weight kg
2 position stay put pushbuttons. Direct supply for BA 9s incandescent bulb (included)								
	Ø 41	≂ 24	Order contact block separately			Green	**9001 SKR9P35LGG**	0.226
						Red	**9001 SKR9P35LRR**	0.226
		≂ 48	Order contact block separately			Green	**9001 SKR9P36LGG**	0.226
						Red	**9001 SKR9P36LRR**	0.226
		≂ 120	Order contact block separately			Green	**9001 SKR9P38LGG**	0.226
						Red	**9001 SKR9P38LRR**	0.226
3 positions pushbuttons (pull: spring return, center: stay put, push: spring return)								
	Ø 41	≂ 24	Order contact block separately			Green	**9001 SKR8P35LGG**	0.226
						Red	**9001 SKR8P35LRR**	0.226
		≂ 48	Order contact block separately			Green	**9001 SKR8P36LGG**	0.226
						Red	**9001 SKR8P36LRR**	0.226
		≂ 120	Order contact block separately			Green	**9001 SKR8P38LGG**	0.226
						Red	**9001 SKR8P38LRR**	0.226

Mechanically interlocked pushbuttons

Shape of head	Type of push	Type of contact "N/O" l. break	Type of contact "N/O"	Type of contact "C/O"	Colour	Reference	Weight kg
	Both maintained	–	–	1	Multi-colour	**9001 SKR11UH13H13** *(1)*	0.290
	One spring return and one latching	–	–	1	Multi-colour	**9001 SKR12UH13H13** *(1)*	0.290

Illuminated "Push to test" pushbuttons, spring return, projecting push (super bright LED included)

Shape of head	Supply voltage V	Type of contact "N/O" l. break	Type of contact "N/O"	Type of contact "C/O"	Colour	Reference	Weight kg
Direct supply							
	≂ 24	–	–	1	Green	**9001 SKT35LGG31**	0.195
					Red	**9001 SKT35LRR31**	0.195
					Amber	**9001 SKT35LYA31**	0.195
	≂ 48	–	–	1	Green	**9001 SKT36LGG31**	0.195
					Red	**9001 SKT36LRR31**	0.195
					Amber	**9001 SKT36LYA31**	0.195
	≂ 120	–	–	1	Green	**9001 SKT38LGG31**	0.195
					Red	**9001 SKT38LRR31**	0.195
					Amber	**9001 SKT38LYA31**	0.195

(1) Supplied with 7 different coloured caps: black, green, red, yellow, blue, white and orange, ready for clipping-in.

1.7

General: pages 1/186 and 1/187
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/210 to 1/213

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK, with screw clamp terminal

109226

9001 SK46J35LYFA

Illuminated selector switches with long handle (super bright LED included)

Shape of head	Supply	Mount on side	Contact block (1)	Contact status 1 - closed 0 - open	Supply voltage V	Number and type of positions	Colour	Reference	Weight kg
	Supplied with 24 V light module	1 or 2	9001KA2	0 1	≂ 24	2 stay put	Green	**9001 SK11J35LGFG**	0.190
							Red	**9001 SK11J35LRFR**	0.190
							Amber	**9001 SK11J35LYFA**	0.190
		1 or 2	9001KA2	0 1	≂ 24	2 spring return from right to left	Green	**9001 SK34J35LGFG**	0.190
							Red	**9001 SK34J35LRFR**	0.190
							Amber	**9001 SK34J35LYFA**	0.190
		1 or 2	9001KA1	1 0 0 0 1	≂ 24	3 stay put	Green	**9001 SK43J35LGFG**	0.190
							Red	**9001 SK43J35LRFR**	0.190
							Amber	**9001 SK43J35LYFA**	0.190
		Side 2	9001KA1	1 0 0 0 1 0 0 0 1	≂ 24	3 stay put	Green	**9001 SK46J35LGFG**	0.190
							Red	**9001 SK46J35LRFR**	0.190
		Side 1	9001KA1				Amber	**9001 SK46J35LYFA**	0.190
		1 or 2	9001KA1	1 0 0 0 1	≂ 24	3 spring return to center	Green	**9001 SK53J35LGFG**	0.190
							Red	**9001 SK53J35LRFR**	0.190
							Amber	**9001 SK53J35LYFA**	0.190
		1 or 2	9001KA1	1 0 0 0 1	≂ 24	3 spring return from left to center	Green	**9001 SK63J35LGFG**	0.190
							Red	**9001 SK63J35LRFR**	0.190
							Amber	**9001 SK63J35LYFA**	0.190
		Side 2	9001KA1	1 0 0 0 0 0 0 1 0 0 0 0 1 0 0 0 1 0	≂ 24	4 stay put	Green	**9001 SK88J35LGFG**	0.190
							Red	**9001 SK88J35LRFR**	0.190
		Side 1	9001KA1				Amber	**9001 SK88J35LYFA**	0.190

Illuminated mushroom head pushbuttons, push-pull, Ø 41 red

Shape of head	Supply	Type of contact			Supply voltage V	Reference	Weight kg
		"N/C" l. break	"N/C"	"C/O"			
2 position stay put pushbuttons							
	Direct supply for BA 9s bulb *(2)*	1	1	–	≂ 24	**9001 SKR9P35RH25**	0.226
					≂ 120	**9001 SKR9P38RH25**	0.226
	Via integral transformer for BA 9s bulb *(2)*	1	1	–	≂ 230	**9001 SKR9P7RH25**	0.226
3 position pushbuttons (pull: spring return, center: stay put, push: spring return)							
	Direct supply for BA 9s bulb *(2)*	1	1	–	≂ 24	**9001 SKR8P35RH25**	0.226
					≂ 120	**9001 SKR8P38RH25**	0.226
	Via integral transformer for BA 9s bulb *(2)*	1	1	–	≂ 230	**9001 SKR8P7RH25**	0.226

(1) Order and install listed contact block for noted contact sequence.
Other contact sequences are available. Please consult your Regional Sales Office.
(2) Incandescent bulb, included.

General: pages 1/186 and 1/187
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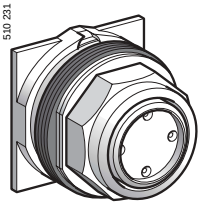
Dimensions: pages 1/210 to 1/213

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights

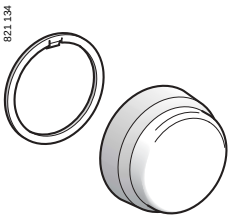
Separate components, accessories and spare parts



9001 KR1U

Heads for spring return pushbuttons - unmarked

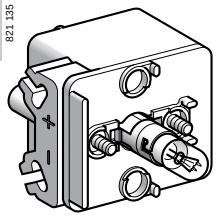
Shape of head	Type of push	Colour	Reference	Weight kg
For the metal range				
	Flush	Multi-colour *(1)*	**9001 KR1U**	0.087
	Projecting	Multi-colour *(1)*	**9001 KR3U**	0.090
	Recessed (high guard)	Multi-colour *(1)*	**9001 KR2U**	0.087
For the plastic range				
	Flush	Multi-colour *(1)*	**9001 SKR1U**	0.050
	Projecting	Multi-colour *(1)*	**9001 SKR3U**	0.050
	Recessed (high guard)	Multi-colour *(1)*	**9001 SKR2U**	0.050



9001 KU●

Accessories for heads 9001 KR●U

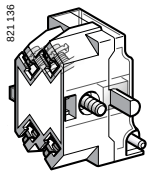
Description	Application	Colour	Reference	Weight kg
Rubber boots	Pushbuttons	Black	**9001 KU1**	0.027
		Green	**9001 KU5**	0.027
		Red	**9001 KU2**	0.027
		Clear	**9001 KU7**	0.027
Rod for spring return wobblestick	Pushbuttons	Chromium plated	**9001 K8**	0.120



9001 KM●

Light blocks for pilot lights and illuminated pushbuttons

Supply	Light source	Type	Supply voltage V	Colour	Reference	Weight kg
Direct supply	BA 9s bulb (included)	Incandescent	⎓ 24	–	**9001 KM35**	0.050
			⎓ 120	–	**9001 KM38**	0.050
			⎓ 230	–	**9001 KM25**	0.050
Via integral transformer	BA 9s 6 V bulb (included)	Incandescent	~ 120	–	**9001 KM1**	0.130
			~ 230	–	**9001 KM7**	0.130
			⎓ 380 - 480	–	**9001 KM5**	0.130
Shallow depth	24 V bulb	Incandescent	⎓ 24 - 28	–	**9001 KM55**	0.115
		LED	⎓ 24 - 28	Red	**9001 KM55LR**	0.115
				Green	**9001 KM55LG**	0.115
				Yellow	**9001 KM55LY**	0.115
	120 V bulb	Incandescent	⎓ 110 - 120	–	**9001 KM58**	0.115
		LED	⎓ 110 - 120	Red	**9001 KM58LR**	0.115
				Green	**9001 KM58LG**	0.115
				Yellow	**9001 KM58LY**	0.115



9001 KA1

Contact blocks with protected terminals *(2)*

Description		Type of contact "N/O"	"N/C"	"C/O"	Reference	Weight kg
Standard contact blocks	–	–	–	1	**9001 KA1**	0.027
		1	–	–	**9001 KA2**	0.023
		–	1	–	**9001 KA3**	0.023
Late break contact blocks	–	–	–	1	**9001 KA4**	0.027
		–	1	–	**9001 KA5**	0.023
Early break contact blocks	–	1	–	–	**9001 KA6**	0.023
Logic reed contact blocks	Hermetically sealed	1	–	–	**9001 KA41**	0.045
		–	1	–	**9001 KA42**	0.045
		–	–	1	**9001 KA43**	0.045
Power reed contact blocks	Hermetically sealed	1	–	1	**9001 KA51**	0.045
		–	1	–	**9001 KA52**	0.045
		–	–	1	**9001 KA53**	0.045

(1) Head supplied with set of 7 different coloured caps: black, green, red, yellow, blue, white, orange, ready for clipping-in.
(2) For mounting position of contacts related to H●● suffix on pushbutton or switch reference, see page 1/211.

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General: pages 1/188 and 1/189
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Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30
Harmony® style 9
Pushbuttons, switches and pilot lights
Separate components, accessories and spare parts

821 139

9001 KN300

821 141

9001 KN201

821 143

9001 KN379

Aluminium legend plates for metal range

Unmarked

Description	Background colour	Reference	Weight kg
Size 1 (40 x 43 mm)	Black	**9001 KN200**	0.005
	Red	**9001 KN200R**	0.005
Size 2 (44 x 50 mm)	Black	**9001 KN300**	0.005
	Red	**9001 KN300R**	0.005

Marked

Description	Legend plate colour	Marking	Reference	Weight kg
English text (40 x 43 mm)	Black or red background	START	**9001 KN201**	0.005
		STOP (red background)	**9001 KN202**	0.005
		ON	**9001 KN203**	0.005
		OFF (red background)	**9001 KN204**	0.005
		EMERGENCY STOP (red background)	**9001 KN205**	0.005
		FORWARD	**9001 KN206**	0.005
		REVERSE	**9001 KN207**	0.005
		CLOSE	**9001 KN208**	0.005
		OPEN	**9001 KN209**	0.005
		DOWN	**9001 KN210**	0.005
		UP	**9001 KN211**	0.005
		SLOW	**9001 KN213**	0.005
		HIGH	**9001 KN214**	0.005
		LOW	**9001 KN215**	0.005
		RESET	**9001 KN233**	0.005
		OFF-ON	**9001 KN245**	0.005
		OPEN-CLOSE	**9001 KN246**	0.005
		HAND-OFF-AUTO	**9001 KN260**	0.005
		PULL TO START/PUSH TO STOP	**9001 KN279**	0.005
English text (44 x 50 mm)	Black	PULL TO START/PUSH TO STOP	**9001 KN379**	0.005
French text (40 x 43 mm)	Black or red background	MARCHE	**9001 KN201F**	0.005
		ARRET (red background)	**9001 KN202F**	0.005
		AVANT	**9001 KN206F**	0.005
		ARRIERE	**9001 KN207F**	0.005
		FERME	**9001 KN208F**	0.005
		OUVERT	**9001 KN209F**	0.005
		BAS	**9001 KN210F**	0.005
		HAUT	**9001 KN211F**	0.005
		VITE	**9001 KN214F**	0.005
		LENT	**9001 KN215F**	0.005
		REARMEMENT	**9001 KN223F**	0.005

Plastic legend plates for plastic range

Unmarked

Description	Background colour	Reference	Weight kg
Size 1 (57 x 57 mm)	White	**9001 KN100WP**	0.005
	Black	**9001 KN100BP**	0.005

Marked

Description	Legend plate colour	Marking	Reference	Weight kg
English text (57 x 57 mm)	White	START	**9001 KN101WP**	0.005
		STOP	**9001 KN102WP**	0.005
		ON	**9001 KN103WP**	0.005
		OFF	**9001 KN104WP**	0.005
		EMERGENCY STOP	**9001 KN105WP**	0.005
		FORWARD	**9001 KN106WP**	0.005
		REVERSE	**9001 KN107WP**	0.005
		CLOSE	**9001 KN108WP**	0.005

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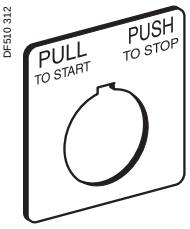
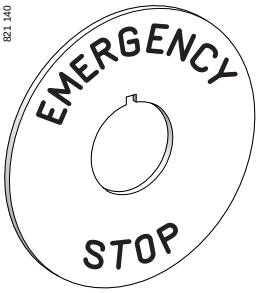
General: pages 1/188 and 1/189
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30
Harmony® style 9
Pushbuttons, switches and pilot lights
Separate components, accessories and spare parts



9001 KN179WP



9001 KN8330

9001 G22

9001 ●31

Plastic legend plates for plastic range (continued)

Marked

Description	Legend plate colour	Marking	Reference	Weight kg
English text (57 x 57 mm)	White background	OPEN	**9001 KN109WP**	0.005
		DOWN	**9001 KN110WP**	0.005
		UP	**9001 KN111WP**	0.005
		SLOW	**9001 KN113WP**	0.005
		HIGH	**9001 KN114WP**	0.005
		LOW	**9001 KN115WP**	0.005
		RESET	**9001 KN133WP**	0.005
		OPEN-CLOSE	**9001 KN146WP**	0.005
		OFF-ON	**9001 KN145WP**	0.005
		HAND-OFF-AUTO	**9001 KN160WP**	0.005
		PULL TO START/PUSH TO STOP	**9001 KN179WP**	0.005
French text (57 x 57 mm)	White background	MARCHE	**9001 KN101WPF**	0.005
		ARRET (red background)	**9001 KN102WPF**	0.005
		AVANT	**9001 KN106WPF**	0.005
		ARRIERE	**9001 KN107WPF**	0.005
		FERME	**9001 KN108WPF**	0.005
		OUVERT	**9001 KN109WPF**	0.005
		BAS	**9001 KN110WPF**	0.005
		HAUT	**9001 KN111WPF**	0.005
		VITE	**9001 KN114WPF**	0.005
		LENT	**9001 KN115WPF**	0.005
		TIRER POUR MARCHE / POUSSER POUR ARRET	**9001 KN179WPF**	0.005

Ø 90 emergency stop legend plate (plastic)

Description	Legend plate colour	Marking	Reference	Weight kg
English text	Yellow	EMERGENCY STOP	**9001 KN8330**	0.005

Caps and knobs

Description	Application	Color	Reference	Weight kg
Ø 41 mushroom knob with set screw	For non-illuminated pushbutton	Red	**9001 R94**	0.005
Ø 57 mushroom knob with set screw	For non-illuminated pushbutton	Red	**9001 K93R**	0.005
Ø 41 mushroom knob	For illuminated pushbutton	Red	**9001 R22**	0.005
Ø 57 mushroom knob	For illuminated pushbutton	Red	**9001 R21**	0.005
Ø 41 lens caps	Mushroom head illuminated pushbutton	Yellow	**9001 Y22**	0.005
		Green	**9001 G22**	0.005
Standard lens	For pilot light	Red	**9001 R9**	0.005
		Green	**9001 G9**	0.005
		Blue	**9001 L9**	0.005
		Yellow	**9001 Y9**	0.005
		White	**9001 W9**	0.005
		Clear	**9001 C9**	0.005
Lens caps “Fresnel lens”	For pilot light	Red	**9001 R31**	0.005
		Green	**9001 G31**	0.005
		Blue	**9001 L31**	0.005
		Yellow	**9001 Y31**	0.005
		White	**9001 W31**	0.005
		Clear	**9001 C31**	0.005
Standard knob	For selector switch	Black	**9001 B11**	0.005
		Red	**9001 R8**	0.005
		Green	**9001 G8**	0.005
		Blue	**9001 L8**	0.005
		Yellow	**9001 Y8**	0.005
		White	**9001 W8**	0.005
Long knob	For selector switch	Black	**9001 B25**	0.005
		Red	**9001 R24**	0.005
		Green	**9001 G24**	0.005
		Blue	**9001 L24**	0.005
		Yellow	**9001 Y24**	0.005
		White	**9001 W24**	0.005

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General: pages 1/188 and 1/189
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/210 to 1/215

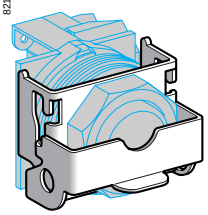
Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights

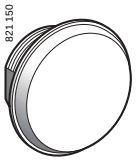
Separate components, accessories and spare parts

821 148



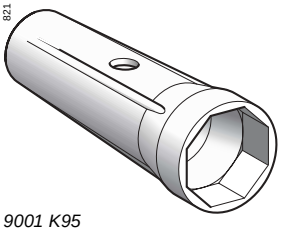
9001 K6

821 150



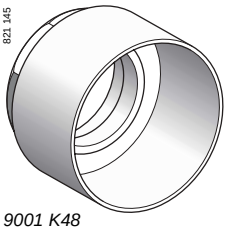
9001 K52

821 146



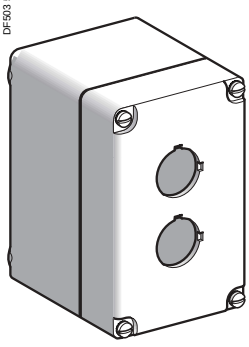
9001 K95

821 145



9001 K48

DF503 599



9001 KY2

Other accessories

Description	Application	Diameter mm	Colour	Sold in lots of	Unit reference	Weight kg
Super bright LED bulbs	24 or 120 V	–	Red	–	**6508805210**	0.010
			Green	–	**6508805212**	0.010
			Amber	–	**6508805211**	0.010
			Blue	–	**6508805213**	0.010
			White	–	**6508805214**	0.010
Bulbs ≂ 14 V	Pilot light with BA 9s base mounted LED	–	Red	1	**6508805204**	0.010
			Yellow	1	**6508805205**	0.010
			Green	1	**6508805206**	0.010
Incandescent bulbs	6 V - 1.2 W	–	–	10	**DL1 CB006**	0.002
	24 V - 2 W	–	–	10	**DL1 CE024**	0.002
	120…130 V 2.4 W	–	–	10	**DL1 CE130**	0.002
Neon bulbs	120…130 V	–	–	10	**DL1 CF110**	0.002
	230…240 V	–	–	10	**DL1 CF220**	0.002
Closing plates	–	–	Grey	–	**9001 K51**	0.020
	–	–	Metal	1	**9001 K52**	0.028
Screwdriver *(1)*	–	–	–	–	**9001 K69**	0.150
Tightening wrench	Fixing nut	–	–	1	**9001 K95**	0.064
	Boot	–	–	1	**9001 K1**	0.150
Guards:	Mushroom head pushbutton	Ø 35	–	1	**9001 K48**	0.028
		Ø 41	–	1	**9001 K56YM**	0.036
		Ø 60	–	1	**9001 K685**	0.030
Set of 7 different coloured caps	Pushbutton	–	Black, green, red, yellow, blue, white, orange	1	**9001 T8U**	0.005
Bulb extractor	–	–	–	1	**XBF X13**	0.005
Padlock attachment	For selector switch	–	–	–	**9001 K7**	0.150
	For pushbutton	–	–	–	**9001 K6**	0.150
	For Emergency stop	–	–	–	**9001 K62**	0.150
Alternate action module	Push on - Push off module *(2)*	–	–	–	**9001 K85**	0.025

Enclosures

Type	N° of 30 mm holes	NEMA ratings	Reference	Weight kg
Aluminium	1	1, 3, 4, 6, 12, 13	**9001 KY1**	1.170
	2	1, 3, 4, 6, 12, 13	**9001 KY2**	1.279
	3	1, 3, 4, 6, 12, 13	**9001 KY3**	1.597
	4	1, 3, 4, 6, 12, 13	**9001 KY4**	1.846
Stainless steel	1	1, 3, 4, 4X, 13	**9001 KYSS1**	1.061
	2	1, 3, 4, 4X, 13	**9001 KYSS2**	1.370
	3	1, 3, 4, 4X, 13	**9001 KYSS3**	1.715

(1) Screwdriver with special tip for mounting contact blocks.
(2) N/O circuits require KA4 or KA6 contact blocks.

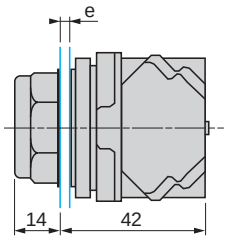
General: pages 1/186 and 1/187
General: pages 1/188 and 1/189
Characteristics: pages 1/190 and 1/191
Dimensions: pages 1/210 to 1/215

Control and signalling units Ø 30
Harmony® style 9
Pushbuttons, switches and pilot lights

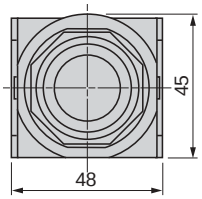
Dimensions

Pushbuttons

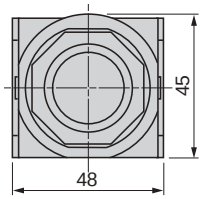
Flush push 9001 KR1●●●, 9001 SKR1●●●



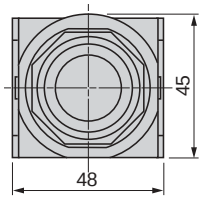
e: panel thickness 1 to 6 mm



Projecting push 9001 KR3●●●, 9001 SKR3●●●

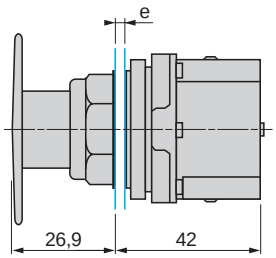


Projecting push with high guard 9001 KR2●●●, 9001 SKR2●●●

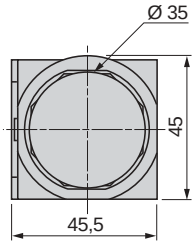


Mushroom head pushbuttons

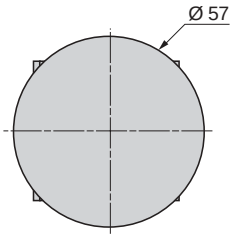
Spring return 9001 KR24●H13, 9001 SKR24●H13



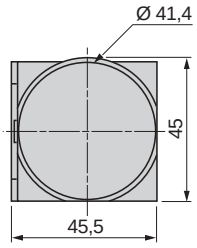
e: panel thickness 1 to 6 mm



9001 KR25●H13, 9001 SKR25●H13, 9001 KR5R05H6, 9001 SKR5R05H6

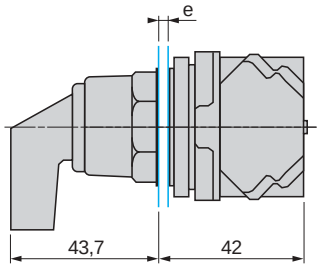


Push-pull 9001 KR9R●●●, 9001 SKR9R●●●

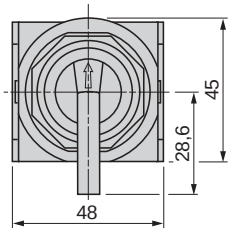


Selector switches

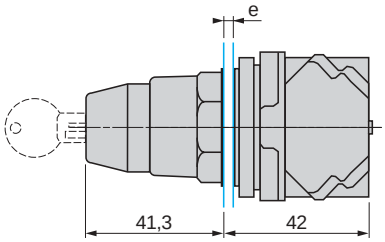
Long handle 9001 KS●●FBH●● and 9001 SKS●●FBH●●



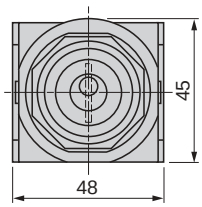
e: panel thickness 1 to 6 mm



Key switches 9001 KS●●K●●● (for the chromium metal bezel range only)



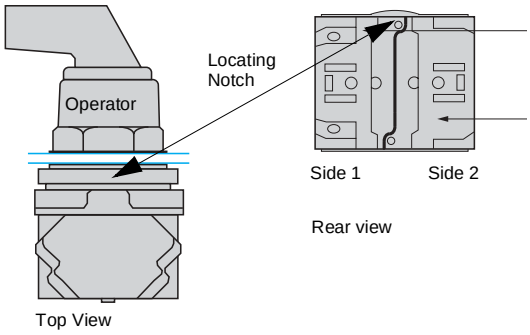
e: panel thickness 1 to 6 mm



Control and signalling units Ø 30
Harmony® style 9
Pushbuttons, switches and pilot lights

Contact mounting

Mounting position of contacts related to suffix of pushbutton or switch reference



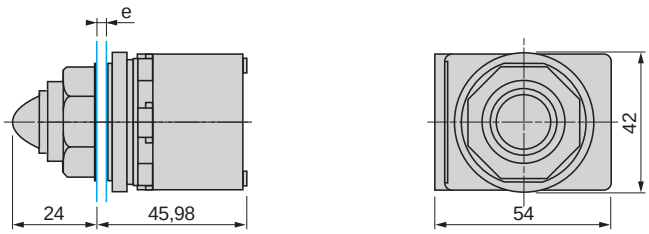
Suffix	H1	H2	H5	H6	H7	H8	H9	H13	H25	H28	H36
Side 1	KA1	KA1	KA2	KA3	KA2	KA3	KA4	–	KA5	KA1	–
Side 2	–	KA1	–	–	KA2	KA3	KA1	KA1	KA3	KA3	KA2

References with H●● suffix will have contacts mounted as shown.

Dimensions (continued)

Pilot lights

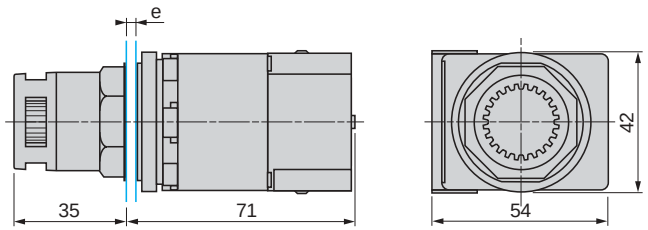
With BA 9s bulb 9001 KP●●● and 9001 SKP●●●



e: panel thickness 1 to 6 mm

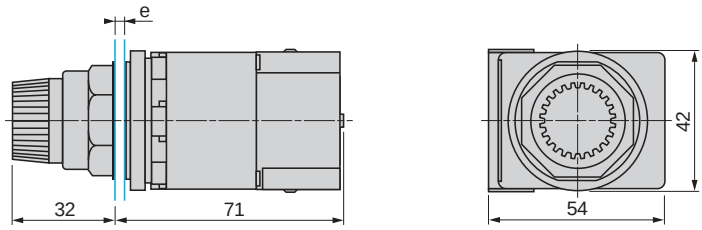
Illuminated pushbuttons, spring return

Flush push 9001 K3L●●●●●H13



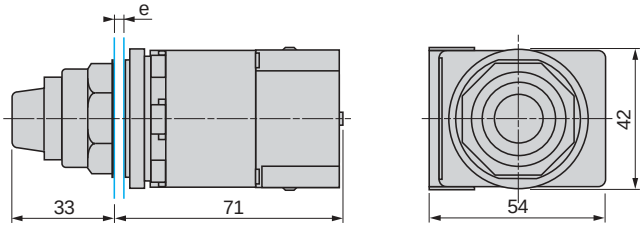
e: panel thickness 1 to 6 mm

Projecting push 9001 K2L●●●●●H13 and 9001 SK2L●●●●●H13



e: panel thickness 1 to 6 mm

"Push to test", projecting push 9001 KT●●●●●31 and 9001 SKT●●●●●31



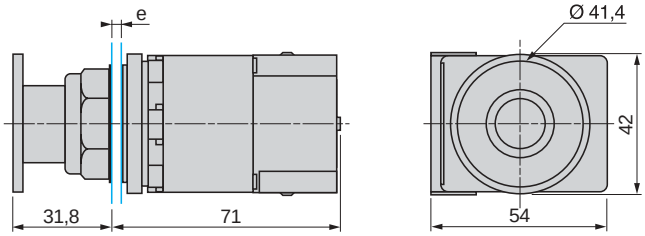
e: panel thickness 1 to 6 mm

Control and signalling units Ø 30
Harmony® style 9
Pushbuttons, switches and pilot lights

Dimensions (continued)

Illuminated mushroom head pushbuttons

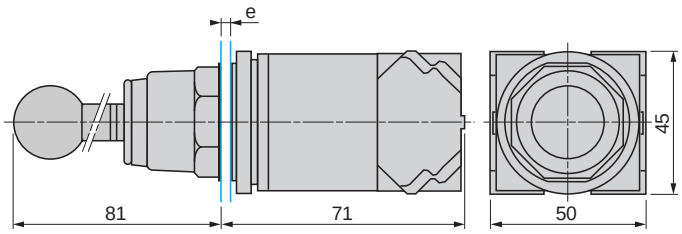
9001 KR●P●●● and 9001 SKR●P●●●



e: panel thickness 1 to 6 mm

Joystick controllers (for the chromium metal bezel range only)

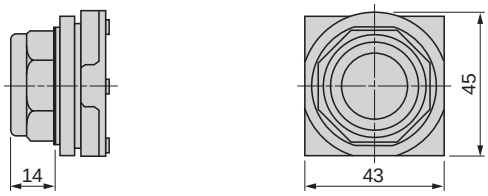
9001 K●●H●



e: panel thickness 1 to 6 mm

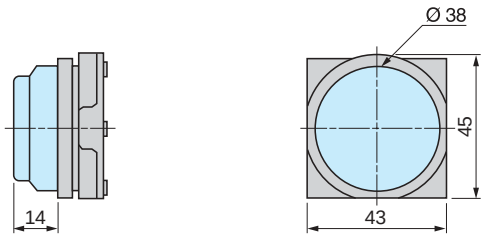
Heads for spring return pushbuttons

9001 KR●U and 9001 SKR●U



Boots for pushbuttons

9001 KU●

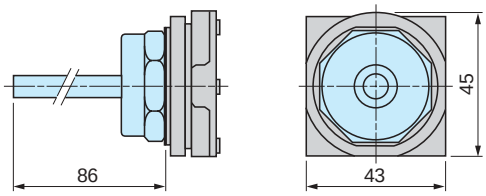


1

Dimensions (continued)

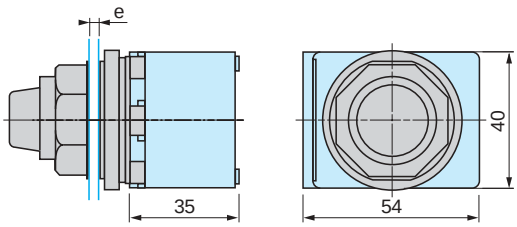
Rod for wobblestick

9001 K8



Light blocks for pilot lights and illuminated pushbuttons

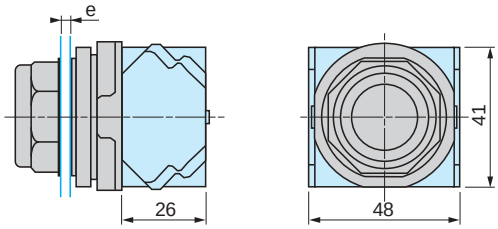
9001 KM●



e: panel thickness 1 to 6 mm

Contact blocks for pushbuttons (including illuminated)

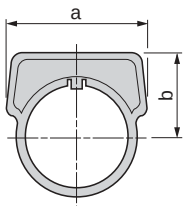
9001 KA●



e: panel thickness 1 to 6 mm

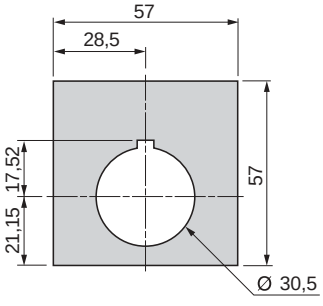
Legend plates

Aluminium plates 9001 KN●●●



	a	b
9001 KN2●●	41,3	24,6
9001 KN3●●	44,5	31,4

Plastic plates 9001 KN1●●●

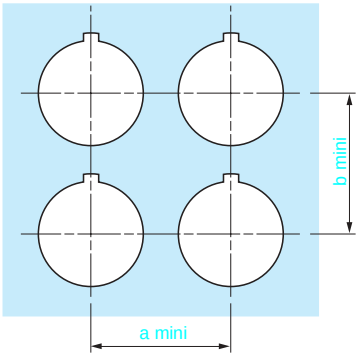


1.7

Control and signalling units Ø 30
Harmony® style 9
Pushbuttons, switches and pilot lights

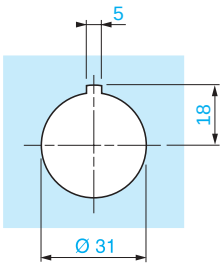
Dimensions (continued)

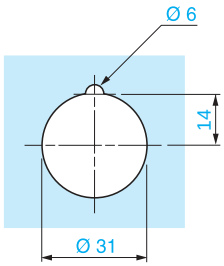
Panel cut-out



Individual cut-outs detail

2 alternatives





Type of 9001 K unit	Legend plate	a	b
All units except Ø 57 mushroom head pushbuttons	9001 KN2●●	57,2	44,5
	9001 KN3●●	57,2	50,8
Ø 57 mushroom head pushbuttons	9001 KN2●●	57,2	57,2
	9001 KN3●●	57,2	57,2

Contents

2 - Control stations, enclosures and installation system

Control stations and enclosures

Selection guide . . . . . page 2/2

■ XAL control stations for Harmony® style 5, Ø 22 control and signalling units with double insulated bezel

- □ Complete stations (screw clamp terminal connections). . . . . *page 2/8*
- □ Stations for user assembly: empty enclosures . . . . . *page 2/12*
- □ Stations for user assembly: electrical blocks. . . . . *page 2/13*
- □ Stations for user assembly: heads. . . . . *page 2/14*
- □ Stations for user assembly: accessories . . . . . *page 2/23*

■ XAL E control stations for Harmony® style 7, "Series E" monolithic standard Ø 22 control and signalling units

- □ Complete stations . . . . . *page 2/32*
- □ Empty enclosures . . . . . *page 2/32*

■ Insulated, metal and flush mounting control station enclosures

- □ With cut-outs for Ø 22 control and signalling units . . . . . *page 2/36*
- □ Undrilled or with cut-outs Ø 22 control and signalling units. . . . . *page 2/38*

■ Key operated control stations . . . . . *page 2/43*

■ Emergency stop and fire alarm stations . . . . . *page 2/44*

Installation system

■ Profil front panels

- □ for Harmony® style 4 and style 5 pushbuttons, switches and pilot lights. . . . . *page 2/47*
- □ Separate components . . . . . *page 2/48*

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■ Tego Dial for Human-Machine interfaces

- □ Dialboard front panel and Dialpack control consoles. . . . . *page 2/58*
- □ Plates for Ø 22 control and signalling units . . . . . *page 2/58*
- □ Plates for Ø 16 and Ø 30 control and signalling units. . . . . *page 2/59*
- □ Solid plates . . . . . *page 2/59*
- □ Plates for other units, pre-assembled kits . . . . . *page 2/60*
- □ Accessories . . . . . *page 2/61*
- □ Connections. . . . . *page 2/64*
- □ Dialfix fixed and rotating suspension arms . . . . . *page 2/65*
- □ Dialmove moving suspension arms. . . . . *page 2/67*

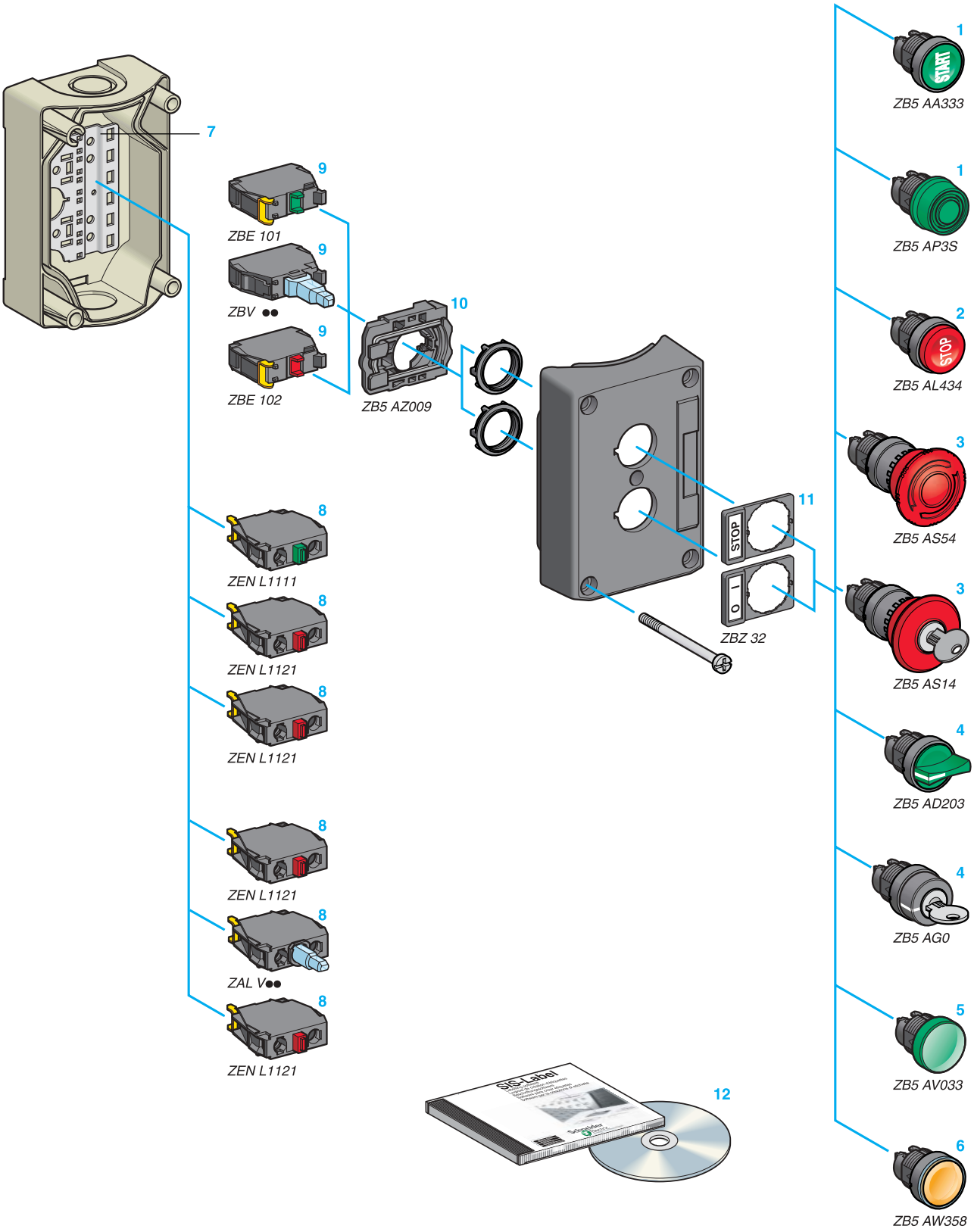
Control stations and enclosures

Applications	Control stations, complete or for user assembly			Empty enclosures	
Features	Empty, drilled for user assembly, or complete For control and signalling units Harmony style 5		Empty, drilled for user assembly, or complete For monolithic control and signalling units Harmony style 7	Elbowed, empty, drilled For mounting on vertical support	Empty, drilled or undrilled
Material	Polycarbonate		Polypropylene	Aluminium alloy	Zinc or aluminium alloy
Colour	Yellow lid Light grey base	Dark grey lid Light grey base	Light grey lid Light grey base	Dark grey or yellow lid (enclosure with 1 cut-out) Light grey base	**XAP M**: □ blue lid □ Blue base **XAP J**: □ yellow lid □ blue base
Number of cut-outs for Ø 22 control and signalling units	1, 2, 3, 4 or 5	1, 2 or 3 (complete enclosures) 1 to 5 (empty enclosures)	1, 2 or 3 (complete enclosures) 1, 2 or 3 (empty enclosures)	1 to 7	1, 2, 3, 4, 6, 8 or 12
Degree of protection	IP 65	IP 65	IP 40	IP 65	IP 65
Function	Emergency stop	Start or Stop Start-Stop with pilot light Movement control	Start or Stop Movement control	–	–
Cable entries	Knock-outs			Via opening in rear of enclosure	Drilled
Type references	**XAL K**	**XAL D**	**XAL E**	**XAM W●**	**XAP M, XAP J**
Page(s)	2/9 and 2/12	2/8, 2/10 to 2/12	2/32	2/36	2/37 and 2/38

Empty enclosures		Flush mounting enclosures	Key operated control stations	Emergency stop and fire alarm stations	Pendant control stations
Empty, drilled	Empty, drilled or undrilled	Front plate	With key lock	Emergency stop station: conforms to NF C 15-100 Fire alarm stations: □ buildings type: semi-recessed mounting □ industry type: wall mounting	Stations: □ complete “ready for use” or □ variable composition
Aluminium alloy or sheet steel	Polyester	Brushed aluminium	Zinc alloy	Emergency stop station: zinc alloy Fire alarm stations: □ buildings type: plastic □ industry type: zinc alloy	Polypropylene or polyester (depending on model)
Blue lid and base	Coloured grey throughout	Unpainted aluminium	Grey	Red cover and base	Yellow
8, 16, 24, 30 or 40	1, 2, 4, 8 or 16	1 to 5	–		Stations: □ complete “ready for use”: 1 to 8 □ variable composition: 1 to 12
IP 54	IP 65	IP 65	IP 54	Emergency stop stations: IP 54 Fire alarm stations: □ buildings type: IP 40 □ industry type: IP 54	IP 65
–	–	–	Start-Stop	Emergency stop and fire alarm	Complete stations “ready for use”: Emergency stop, control of single-speed and/or 2-speed motors Variable composition stations
Drilled	Undrilled	Knock-outs	Tapped for cable gland		Via cable sleeve
XB2 S	**XAP A**	**XAP E**	**XAP S**	**XAS E, XAS P**	**XAC**
2/37	2/36	2/38	2/43	2/44	6/2 and 6/3

Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel



Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel

XAL D and XAL K control stations are available in two forms:
- Complete.
- For customer assembly

These control stations use the plastic bezel pushbuttons, switches and pilot lights of the Harmony style 5 range, which offers a wide choice of circular and square types of head.

Complete stations

Pre-assembled

These are complete, ready to install, stations fitted with 1 to 3 buttons to cater for the most commonly encountered functions:
- **Start or Stop,** with:
  - 1 flush spring return pushbutton,
  - 1 red, spring return, mushroom head pushbutton.
- **Emergency stop,** with:
  - 1 red, latching, mushroom head pushbutton 3 (standard or trigger action), either push-pull or turn to release, with or without key.
- **Start-Stop,** with:
  - 2 flush spring return pushbuttons,
  - 1 flush spring return pushbutton 1 + 1 projecting spring return pushbutton 2,
  - 1 2-position selector switch 4 + 1 pilot light with integral red LED, if required.
- **Two functions,** with:
  - 2 flush spring return pushbuttons 1.
- **Three functions,** with:
  - 3 flush spring return pushbuttons 1,
  - 2 flush spring return pushbuttons 1 + 1 projecting spring return pushbutton 2,
  - 2 flush spring return pushbuttons 1 + 1 red, latching, mushroom head pushbutton 3.

These pushbuttons, switches and pilot lights comprise plastic heads from the Harmony style 5 range and electrical blocks (contact or light) 8 that are mounted in the back of the enclosure.

Stations for customer assembly

For customer assembly

These stations are for assembly by the user and offer a choice of 2 assembly methods:
- **Box method**

Identical to the pre-assembled versions. The electrical blocks 8 are mounted on a metal mounting plate in the back of the enclosure 7.
- **Station method**

The electrical blocks 9 are mounted directly beneath the heads using a body/fixing collar 10.

It is possible to assemble stations with 1 to 5 heads, each of which can be combined with 3 electrical blocks 8 or 9 (contact or light).

The XAL range offers a wide choice of head types for:
- Spring return pushbuttons 1 or 2, either marked or unmarked.
- Spring return mushroom head pushbuttons.
- Latching mushroom head pushbuttons 3.
- Selector switches with standard or long handle and key switches 4.
- Toggle switches.
- Pilot lights 5.
- Illuminated spring return pushbuttons 6.
- Illuminated selector switches with standard handle.

Accessories

For heads

Markings can be customised by using legend holders 11 which can either be fitted with pre-marked legends or legends engraved by the user. Alternatively, paper legends (protected), prepared using "SIS Label" software 12, or peel-off legends (supplied on sheet for marking by laser printer) can be used.

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel

Environment characteristics

Protective treatment	Standard version		"TH"
Ambient air temperature around the device	For storage	**°C**	- 40…+ 70
	For operation	**°C**	- 25…+ 70 unless otherwise stated
Electric shock protection			Conforming to IEC 60536: class II
Degree of protection			Conforming to IEC 60529: IP 65
			Conforming to NEMA: NEMA type 4X and 13
High pressure cleaning resistance		**Pa**	70 x 10^5 (70 bar); distance: 0.1 m Temperature: 55 °C
Mechanical shock protection	Conforming to EN 50102		With non illuminated heads: IK 03
			With illuminated heads: IK 05
Conformity to standards			IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-4, IEC/EN 60947-5-5, EN 418 (trigger action Emergency Stop, see pages 2/9 and 2/16), JIS C 4520, UL 508, CSA C22-2 n° 14
Product certifications	UL Listed, CSA		Standard single contacts with screw clamp terminals: A600; R300 Light blocks with screw clamp terminals
Terminal referencing			Conforming to EN 50005 and EN 50013
Material and colours			XAL D: polycarbonate, light grey RAL 7035 and dark grey RAL 7016
			XAL K: polycarbonate, light grey RAL 7035 and yellow RAL 1021
Cable entries			Knock-out entries for n° 13 (CM12, Pg 13.5) cable gland and tapped ISO 20

Contact function characteristics

Mechanical characteristics

Contact operation	N/C or N/O		Slow break
Positive operation	Conforming to IEC/EN 60947-5-1 Appendix K		All functions incorporating a N/C contact are positive opening operation
Operating travel (to change electrical state)	Pushbutton	**mm**	Changing N/C state: 1.5 Changing N/O state: 2.6 Total travel: 4.3
Operating force	Pushbutton	**N**	Changing N/C state: 3.5 Changing N/O state: 3.8
	Additional contact only (extra to change state)	**N**	Single N/C contact: 2 Single N/O contact: 2.3
	Emergency stop with N/C + N/O	**N**	Standard push-pull: 45 Trigger action push-pull: 50 Standard turn to release (with or without key): 40 Trigger action turn to release (with or without key): 44
Operating torque (to change electrical state)	Selector switches	**N.m**	N/O contact: 0.14
	Additional contact only	**N.m**	N/O contact: 0.05
Mechanical durability (in millions of operating cycles)	Spring return pushbutton		5
	Non illuminated selector switch		3
	Illuminated selector switch		1
	Toggle switch		0.5
	Emergency stop pushbutton		0.3
Vibration resistance	Conforming to IEC 60068-2-6		Frequency: 12…500 Hz: 5 gn
Shock resistance	Conforming to IEC 60068-2-27		All functions except mushroom head pushbutton, spring return: □ half sine wave acceleration 11 ms: 50 gn □ half sine wave acceleration 18 ms: 30 gn Mushroom head pushbutton, spring return: □ half sine wave acceleration 11 ms: 10 gn

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Contact function characteristics (continued)

Electrical characteristics

Cabling capacity	Conforming to IEC/EN 60947-1	**mm²** **mm²**	Screw clamp terminals Min.: 1 x 0.22 without cable end Max.: 2 x 1.5 with cable end Cross head screws (Pozidriv or Philips type 1), slotted for flat 4 and 5.5 mm screwdriver Tightening torque: 0.8 N.m (1.2 N.m max.)		
Contact material			Silver alloy (Ag/Ni)		
Nominal thermal current	Conforming to IEC/EN 60947-5-1	**A**	Standard blocks with screw clamp terminals: 10		
Short-circuit protection	Conforming to IEC/EN 60947-5-1	**A**	Standard blocks with screw clamp terminals: 10 (gG cartridge fuse conforming to IEC 269-1)		
Rated insulation voltage	Conforming to IEC/EN 60947-1	**V**	Standard blocks with screw clamp terminals: Ui = 600 degree of pollution 3		
Rated impulse withstand voltage	Conforming to IEC/EN 60947-1	**kV**	Standard blocks with screw clamp terminals: Uimp = 6		
Rated operational characteristics Conforming to IEC/EN 60947-5-1	a.c. supply: utilisation category AC-15		A 600: Ue = 600 V and Ie = 1.2 A or Ue = 240 V and Ie = 3 A or Ue = 120 V and Ie = 6 A		
	d.c. supply: utilisation category DC-13		Q 600: Ue = 600 V and Ie = 0.1 A or Ue = 250 V and Ie = 0.1 A or Ue = 125 V and Ie = 0.22 A		
Electrical durability Conforming to IEC/EN 60947-5-1 Appendix C Operating rate: 3600 operating cycles/hour Load factor: 0.5	a.c. supply for 1 million operating cycles: utilisation category AC-15	**V** **A**	24 4	120 3	230 2
	d.c. supply for 1 million operating cycles: utilisation category DC-13	**V** **A**	24 0.5	110 0.2	
Electrical reliability	Failure rate. Conforming to IEC/EN 60947-5-4		At 17 V and 5 mA, $\lambda < 10^{-8}$ At 5 V and 1 mA, $\lambda < 10^{-6}$		

Specific characteristics of light functions with integral LED

Mechanical characteristics

Vibration resistance	Conforming to IEC 60068-2-6		Frequency: 12…500 Hz: 5 gn
Shock resistance	Conforming to IEC 60068-2-27		Half sine wave acceleration 11 ms: 50 gn Half sine wave acceleration 18 ms: 30 gn

Electrical characteristics

Cabling capacity	Conforming to IEC/EN 60947-1	**mm²** **mm²**	Screw clamp terminals Min.: 1 x 0.22 without cable end Max.: 2 x 1.5 with cable end Cross head screws (Pozidriv or Philips type 1), slotted for flat 4 and 5.5 mm screwdriver Tightening torque: 0.8 N.m (1.2 N.m max.)
Rated insulation voltage	Conforming to IEC/EN 60947-1	**V**	Pilot light blocks with integral LED: Ui = 250, degree of pollution 3
Rated impulse withstand voltage	Conforming to IEC/EN 60947-1	**kV**	Pilot light blocks with integral LED: Uimp = 4
Voltage limits	At nominal voltage	**V**	24 V: 19.2…30 ⎓; 21.6…26.4 ∿ 48…120 V: 40…132 ∿ 240 V: 195…264 ∿
Current consumption	For all colours	**mA**	⎓ 12 V supply blocks: 18 ⎓ 24 V supply blocks: 18 ∿ 120 V supply blocks: 14 ∿ 240 V supply blocks: 14
Service life	At nominal voltage and at an ambient temperature of 25 °C	**H**	100,000
Surge withstand	Conforming to IEC 6100-5-1	**kV**	1
Resistance to fast transients	Conforming to IEC 6100-4-4	**kV**	2
Resistance to electromagnetic fields	Conforming to IEC 6100-4-3	**V/m**	10
Resistance to electrostatic discharges	Conforming to IEC 6100-4-2	**kV**	8/6
Direct parallel connection across inductive load e.g. contactor coil or solenoid	Maximum power of load	**VA**	For applications involving high powers (≥ 30 VA), a **ZBZ V●** suppressor must be connected across the light block terminals (see page 2/13)
Electromagnetic emission	Conforming to IEC 55011		Class B

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Complete stations (screw clamp terminal connections)

Start or Stop function

Light grey base “RAL 7035”, dark grey lid “RAL 7016”, lid fixing screws and nut material: stainless steel type A4, AISI 316.

Description	Type of push	Type of contact N/O	Type of contact N/C	Marking	Reference	Weight kg
Marking on pushbutton						
1 spring return pushbutton	Flush green	1	–	I	**XAL D102**	0.135
				Marche	**XAL D104**	0.156
				Start	**XAL D103**	0.156
		1	1	I	**XAL D102E**	0.165
	Flush red	–	1	O	**XAL D112**	0.156
				Arrêt	**XAL D117**	0.156
				Stop	**XAL D114**	0.165
		1	1	O	**XAL D112E**	0.165
				Stop	**XAL D114E**	0.165
	Projecting red	–	1	O	**XAL D115**	0.157
				Arrêt	**XAL D118**	0.157
				Stop	**XAL D116**	0.157
Marking on legend holder and legend below head						
1 spring return pushbutton	Flush green	1	–	Marche	**XAL D101**	0.157
				Start	**XAL D101H29**	0.157
	Flush red	–	1	Arrêt	**XAL D111**	0.157
				Stop	**XAL D111H29**	0.157
1 mushroom head pushbutton Ø 40 mm spring return	Red	–	1	Arrêt	**XAL D164**	0.182

815189
XAL D102

815190
XAL D115

815191
XAL D101

815192
XAL D111

815193
XAL D164

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Complete stations (screw clamp terminal connections)

Emergency stop function

Light grey base “RAL 7035”, dark grey lid “RAL 7016”, lid fixing screws and nut material: stainless steel type A4, AISI 316.

Description	Type	Type of contact N/O	Type of contact N/C	Reference	Weight kg
Unmarked					
1 mushroom head pushbutton Ø 40 mm, red Turn to release	Trigger action	–	2	**XAL K178F** *(1)*	0.194
		1	1	**XAL K178E** *(1)*	0.194
		1	2	**XAL K178G** *(1)*	0.194
	Standard	–	1	**XAL K174** *(1)*	0.178
		–	2	**XAL K174F** *(1)*	0.188
		1	1	**XAL K174E** *(1)*	0.188
		1	2	**XAL K174G** *(1)*	0.197
1 mushroom head pushbutton Ø 40 mm, red Key release (key n° 455)	Trigger action	–	2	**XAL K188F** *(1)*	0.188
		1	1	**XAL K188E** *(1)*	0.188
		1	2	**XAL K188G** *(1)*	0.188
	Standard	–	1	**XAL K184** *(1)*	0.178
		–	2	**XAL K184F** *(1)*	0.188
		1	1	**XAL K184E** *(1)*	0.188
		1	2	**XAL K184G** *(1)*	0.197
1 mushroom head pushbutton Ø 40 mm, red Push-pull	Standard	–	1	**XAL K194** *(1)*	0.183
Marked “Emergency stop" on legend holder and legend below head					
1 mushroom head pushbutton Ø 40 mm, red Turn to release	Standard	–	1	**XAL K1741** *(1)*	0.185

815196

XAL K174

815197

XAL K184

815195

XAL K194

(1) Mushroom for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and to Machinery Directive 98/37/EC.
Mushroom for trigger action Emergency stop pushbuttons conform to standard EN 418.
Please consult your Regional Sales Office for full details of these standards and directives.

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Complete stations (screw clamp terminal connections)

2

815203

XAL D224

815202

XAL D211H29

815201

XAL D134

815200

XAL D144

815199

XAL D363B

Start Stop function

Light grey base “RAL 7035”, dark grey lid “RAL 7016”, lid fixing screws and nut material: stainless steel type A4, AISI 316.

Description	Type of push	Type of contact N/O	Type of contact N/C	Marking	Reference	Weight kg
Marking on pushbutton *(1)*						
2 spring return pushbuttons	1 flush green 1 flush red	1 –	– 1	I O	**XAL D213**	0.233
				Marche Arrêt	**XAL D224**	0.233
				Start Stop	**XAL D215**	0.233
		1 1	1 1	I O	**XAL D213E**	0.252
	1 flush green 1 projecting red	1 –	– 1	I O	**XAL D214**	0.234
				Start Stop	**XAL D225**	0.234
Marking on legend holder and legend below head						
2 spring return pushbuttons	1 flush green 1 flush red	1 –	– 1	Marche Arrêt	**XAL D211**	0.233
				Start Stop	**XAL D211H29**	0.233
	1 flush green 1 flush green	1 1	– –	Ouverture Fermeture	**XAL D241**	0.233
1 selector switch 2-position stay put	Standard handle	1	–	O-I	**XAL D134**	0.163
		1	–	Arrêt-Marche	**XAL D132**	0.163
	Key switches key n° 455 key withdrawal from left-hand position	1	–	O-I	**XAL D144**	0.187
				Arrêt-Marche	**XAL D142**	0.196
		1	1	O-I	**XAL D144E**	0.196

Description	Type of push	Type of contact N/O	Type of contact N/C	Marking	Pilot light supply V	Reference	Weight kg
With pilot light and marking on pushbutton *(1)*							
2 spring return pushbuttons and 1 pilot light with integral red LED Protected LED	1 flush green 1 flush red	1 –	– 1	I O	⎓ 24	**XAL D363B**	0.261
					∿ 120	**XAL D363G**	0.261
					∿ 230	**XAL D363M**	0.261
With pilot light and marking on legend holder and legend below head							
2 spring return pushbuttons and 1 pilot light with integral red LED	1 flush green 1 flush red	1 –	– 1	Marche Arrêt	⎓ 24	**XAL D361B**	0.261
					∿ 230	**XAL D361M**	0.261

(1) Push supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Complete stations (screw clamp terminal connections)

XAL D222

XAL D339

XAL D334

XAL D321

Two function

Light grey base “RAL 7035”, dark grey lid “RAL 7016”, lid fixing screws and nut material: stainless steel type A4, AISI 316.

Description	Type of push	Type of contact N/O	Type of contact N/C	Marking	Reference	Weight kg
Marking on pushbutton *(1)*						
2 spring return pushbuttons	1 flush white 1 flush black	1 1	– –	⇧ ⇩	**XAL D222**	0.233
				→ ⇦	**XAL D223**	0.233
		1 1	1 1	⇧ ⇩	**XAL D222E**	0.233

Three function (light grey base “RAL 7035”, dark grey lid “RAL 7016”)

Description	Type of push	Type of contact N/O	Type of contact N/C	Marking	Reference	Weight kg
Marking on pushbutton *(1)*						
3 spring return pushbuttons	1 flush green 1 flush red 1 flush green	1 – 1	– 1 –	I O II	**XAL D339**	0.298
	1 flush white 1 flush red 1 flush black	1 – 1	– 1 –	⇧ O ⇩	**XAL D324**	0.298
				⇧ Stop ⇩	**XAL D326**	0.298
				→ O ⇦	**XAL D334**	0.298
		1 1 1	1 1 1	⇧ O ⇩	**XAL D324E**	0.317
	1 flush white 1 flush red 1 flush black	1 – 1	– 1 –	⇧ O ⇩	**XAL D325**	0.299
2 spring return pushbuttons + 1 latching mushroom head pushbutton Ø 30 mm	1 flush white 1 mushroom head red *(2)* 1 flush black	1 – 1	– 1 –	⇧ O ⇩	**XAL D328**	0.317
Marking on legend holder and legend below head						
3 spring return pushbuttons	1 flush green 1 flush red 1 flush green	1 – –	– 1 –	Avant Arrêt Arrière	**XAL D311**	0.299
				Montée Arrêt Descente	**XAL D321**	0.299

(1) Push supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.
(2) Standard turn to release.

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: empty enclosures

815211

XAL D02

Empty enclosures (lid fixing screws and nut material: stainless steel type A4, AISI 316)

Description	Number of ways	Reference	Weight kg
Light grey base "RAL 7035" Dark grey lid "RAL 7016"	1	**XAL D01**	0.136
	2	**XAL D02**	0.193
	3	**XAL D03**	0.238
	4	**XAL D04**	0.278
	5	**XAL D05**	0.322
Light grey base "RAL 7035" Yellow lid "RAL 1021" For Emergency stop function	1	**XAL K01**	0.136
	2	**XAL K02** ▲	0.193
	3	**XAL K03** ▲	0.238
	4	**XAL K04** ▲	0.278
	5	**XAL K05** ▲	0.322

CSA + UL certified *(1)*

Light grey base "RAL 7035" Dark grey lid "RAL 7016"	1	**XAL D01H7**	0.136
	2	**XAL D02H7**	0.205
	3	**XAL D03H7**	0.238

(1) Volt-free commoning/earth terminal included.

▲ Available : 1st quarter 2005.

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Control stations and enclosures

XAL control stations for Harmony® style 5
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With double insulated bezel
Stations for user assembly: electrical blocks

815218

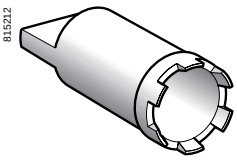
ZEN L1111

815217

ZAL VB●

815213

ZB5 SZ3


815212

ZB5 AZ905

815214

ZBE 101

815215

ZBV B●

815220

ZBV V●

815216

ZB5 AZ009

Electrical blocks and accessories for mounting on a plate in back of enclosure

Description	Description	Colour	Sold in lots of	Unit reference	Weight kg
Electrical blocks with screw clamp terminal connections					
Standard contact blocks *(1)*	N/O contact	–	5	**ZEN L1111**	0.015
	N/C contact	–	5	**ZEN L1121**	0.015
Light blocks with integral LED *(1)* Protected LED	⎓ 24 V	White	5	**ZAL VB1**	0.015
		Green	5	**ZAL VB3**	0.015
		Red	5	**ZAL VB4**	0.015
		Yellow	5	**ZAL VB5**	0.015
		Blue	5	**ZAL VB6**	0.015
	∿ 48…120 V	White	5	**ZAL VG1**	0.015
		Green	5	**ZAL VG3**	0.015
		Red	5	**ZAL VG4**	0.015
		Yellow	5	**ZAL VG5**	0.015
		Blue	5	**ZAL VG6**	0.015
	∿ 230…240 V	White	5	**ZAL VM1**	0.015
		Green	5	**ZAL VM3**	0.015
		Red	5	**ZAL VM4**	0.015
		Yellow	5	**ZAL VM5**	0.015
		Blue	5	**ZAL VM6**	0.015

Description	For use with	Sold in lots of	Unit reference	Weight kg
Accessories for electrical blocks				
Blanking plug	Ø 22 mm units	10	**ZB5 SZ3**	0.008
Nut	Head fixing	10	**ZB5 AZ901**	0.002
Volt-free terminal	Commoning/earth	10	**XAL Z09**	0.003
Bezel tool	For tightening nut ZB5 AZ901	1	**ZB5 AZ905**	0.016

Electrical blocks and accessories for mounting beneath heads

Description	Description	Colour	Sold in lots of	Unit reference	Weight kg
Electrical blocks with screw clamp terminal connections *(2)* (for use with body/fixing collar ZB5 AZ009)					
Standard contact blocks	N/O contact	–	5	**ZBE 101**	0.011
	N/C contact	–	5	**ZBE 102**	0.011
Light blocks with integral LED *(3)* Protected LED	⎓ 24 V	White	5	**ZBV B1**	0.017
		Green	5	**ZBV B3**	0.017
		Red	5	**ZBV B4**	0.017
		Yellow	5	**ZBV B5**	0.017
		Blue	5	**ZBV B6**	0.017
	∿ 48…120 V	White	5	**ZBV G1**	0.017
		Green	5	**ZBV G3**	0.017
		Red	5	**ZBV G4**	0.017
		Yellow	5	**ZBV G5**	0.017
		Blue	5	**ZBV G6**	0.017
	∿ 230…240 V	White	5	**ZBV M1**	0.017
		Green	5	**ZBV M3**	0.017
		Red	5	**ZBV M4**	0.017
		Yellow	5	**ZBV M5**	0.017
		Blue	5	**ZBV M6**	0.017

Description	For use with		Sold in lots of	Unit reference	Weight kg
Accessories for electrical blocks					
LED suppressors	Electrical light blocks with integral LED	∿ 120 V	1	**ZBZ VG**	0.010
		∿ 230 V	1	**ZBZ VM**	0.010
Body/fixing collar	Electrical blocks (contact or light)		10	**ZB5 AZ009**	0.006

(1) A maximum of 3 electrical blocks may be fitted per associated head.
(2) For electrical blocks for printed circuit board connection: please consult your Regional Sales Office.
*(3) To order a "high luminosity" version, add the letter **S** to the end of the reference (example: **ZBV B4S** for a red, 24 V, high luminosity block).*

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: heads

ZB5 AA0

ZB5 AA5

ZB5 AP2S

ZB5 AL3

ZB5 CA2

ZB5 CA5

Heads for spring return pushbuttons - unmarked

Shape of head	Type of push	Colour of cap	Reference	Weight kg
	Without cap *(1)*	–	**ZB5 AA0**	0.022
	Flush, with set of 6 coloured caps	6 colours *(2)*	**ZB5 AA9**	0.027
	Flush	White	**ZB5 AA1**	0.018
		Black	**ZB5 AA2**	0.018
		Green	**ZB5 AA3**	0.018
		Red	**ZB5 AA4**	0.018
		Yellow	**ZB5 AA5**	0.018
		Blue	**ZB5 AA6**	0.018
		Grey	**ZB5 AA8**	0.018
	Flush with transparent cap, for insertion of legend *(3)*	White	**ZB5 AA18**	0.018
		Green	**ZB5 AA38**	0.018
		Red	**ZB5 AA48**	0.018
		Yellow	**ZB5 AA58**	0.018
		Blue	**ZB5 AA68**	0.018
	Booted (coloured silicone) Can be replaced without dismantling the head	White	**ZB5 AP1S**	0.014
		Black	**ZB5 AP2S**	0.014
		Green	**ZB5 AP3S**	0.014
		Red	**ZB5 AP4S**	0.014
		Yellow	**ZB5 AP5S**	0.014
		Blue	**ZB5 AP6S**	0.014
	Projecting	White	**ZB5 AL1**	0.019
		Black	**ZB5 AL2**	0.019
		Green	**ZB5 AL3**	0.019
		Red	**ZB5 AL4**	0.019
		Yellow	**ZB5 AL5**	0.019
		Blue	**ZB5 AL6**	0.019
	Flush (high guard)	White	**ZB5 AA14**	0.020
		Black	**ZB5 AA24**	0.020
		Green	**ZB5 AA34**	0.020
		Red	**ZB5 AA44**	0.020
		Yellow	**ZB5 AA54**	0.020
		Blue	**ZB5 AA64**	0.020
	Recessed (high guard)	White	**ZB5 AA16**	0.019
		Black	**ZB5 AA26**	0.019
		Green	**ZB5 AA36**	0.019
		Red	**ZB5 AA46**	0.019
		Yellow	**ZB5 AA56**	0.019
		Blue	**ZB5 AA66**	0.019
	Flush	White	**ZB5 CA1**	0.019
		Black	**ZB5 CA2**	0.019
		Green	**ZB5 CA3**	0.019
		Red	**ZB5 CA4**	0.019
		Yellow	**ZB5 CA5**	0.019
		Blue	**ZB5 CA6**	0.019
	Projecting	White	**ZB5 CL1**	0.021
		Black	**ZB5 CL2**	0.021
		Green	**ZB5 CL3**	0.021
		Red	**ZB5 CL4**	0.021
		Yellow	**ZB5 CL5**	0.021
		Blue	**ZB5 CL6**	0.021

(1) Cap to be ordered separately, see page 2/28.
(2) Head supplied with 6 different coloured caps (white, black, green, red, yellow, blue).
(3) For legend ordering information, see page 2/27.

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: heads

ZB5 AA331

ZB5 AA432

ZB5 AL232

ZB5 AC24

ZB5 AC2

Heads for spring return pushbuttons - marked

Shape of head	Type of push	Marking Text	Marking Colour	Colour of cap	Reference	Weight kg
	Flush *(1)*	I	White	Green	**ZB5 AA331**	0.018
			Black	White	**ZB5 AA131**	0.018
		II	White	Green	**ZB5 AA336**	0.018
			Black	White	**ZB5 AA136**	0.018
		START	White	Green	**ZB5 AA333**	0.018
			Black	White	**ZB5 AA133**	0.018
		ON	White	Green	**ZB5 AA341**	0.018
			Black	White	**ZB5 AA141**	0.018
		MARCHE	White	Green	**ZB5 AA342**	0.018
			Black	White	**ZB5 AA142**	0.018
			White	Black	**ZB5 AA245**	0.018
			Black	White	**ZB5 AA145**	0.018
		O	White	Red	**ZB5 AA432**	0.018
				Black	**ZB5 AA232**	0.018
		ARRET	White	Red	**ZB5 AA433**	0.018
				Black	**ZB5 AA233**	0.018
		STOP	White	Red	**ZB5 AA434**	0.018
				Black	**ZB5 AA234**	0.018
		OFF	White	Red	**ZB5 AA435**	0.018
				Black	**ZB5 AA235**	0.018
		UP	Black	White	**ZB5 AA343**	0.018
		DOWN	White	Black	**ZB5 AA344**	0.018
		↑	White	Black	**ZB5 AA335**	0.018
			Black	White	**ZB5 AA334**	0.018
	Projecting *(1)*	O	White	Red	**ZB5 AL432**	0.019
				Black	**ZB5 AL232**	0.019
		ARRET	White	Red	**ZB5 AL433**	0.019
				Black	**ZB5 AL233**	0.019
		STOP	White	Red	**ZB5 AL434**	0.019
				Black	**ZB5 AL234**	0.019
		OFF	White	Red	**ZB5 AL435**	0.019
				Black	**ZB5 AL235**	0.019
	Flush *(1)*	I	White	Green	**ZB5 CA331**	0.019
		O	White	Red	**ZB5 CA432**	0.019
		+	White	Black	**ZB5 CA2934**	0.019
		↑	White	Black	**ZB5 CA2912**	0.019
		R	White	Blue	**ZB5 CA6939**	0.019

Mushroom heads for spring return pushbuttons

Shape of head	Diameter of push mm	Colour of push	Reference	Weight kg
	30	Black	**ZB5 AC24**	0.027
		Green	**ZB5 AC34**	0.027
		Red	**ZB5 AC44**	0.027
		Yellow	**ZB5 AC54**	0.027
		Blue	**ZB5 AC64**	0.027
	40	Black	**ZB5 AC2**	0.046
		Green	**ZB5 AC3**	0.046
		Red	**ZB5 AC4**	0.046
		Yellow	**ZB5 AC5**	0.046
		Blue	**ZB5 AC6**	0.046

(1) Push supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

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Characteristics : pages 2/6 and 2/7
Dimensions : pages 2/30 and 2/31

Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: heads

ZB5 AS844

ZB5 AS934

ZB5 AT44

ZB5 AS54

Mushroom heads for latching pushbuttons

(Emergency stop: colour red)

Shape of head	Type of push	Diameter of push mm	Colour of push	Reference	Weight kg
	Trigger action Push-pull	40	Red	**ZB5 AT84** *(1)*	0.050
	Trigger action Turn to release	30	Red	**ZB5 AS834** *(1)*	0.042
		40	Red	**ZB5 AS844** *(1)*	0.046
	Trigger action Key release (Key n° 455) *(3)*	30	Red	**ZB5 AS934** *(1)*	0.068
		40	Red	**ZB5 AS944** *(1) (2)*	0.071
		60	Red	**ZB5 AS964** *(1)*	0.092
	Trigger action Key release (Key n° 455)	40	Red	**ZB5 AS944D** *(1)*	0.071
	Push-pull	30	Black	**ZB5 AT24** *(1)*	0.044
			Red	**ZB5 AT44** *(1)*	0.044
		40	Black	**ZB5 AT2** *(1)*	0.049
			Red	**ZB5 AT4** *(1)*	0.049
	Turn to release	30	Black	**ZB5 AS42** *(1)*	0.040
			Red	**ZB5 AS44** *(1)*	0.040
		40	Black	**ZB5 AS52** *(1)*	0.044
			Red	**ZB5 AS54** *(1)*	0.044
			Yellow	**ZB5 AS55** *(1)*	0.044
	Key release (key n° 455) *(3)*	30	Black	**ZB5 AS72** *(1)*	0.040
			Red	**ZB5 AS74** *(1)*	0.040
		40	Black	**ZB5 AS12** *(1)*	0.044
			Red	**ZB5 AS14** *(1) (2)*	0.044
	Key release (key n° 4A185)	40	Red	**ZB5 AS14D** *(1)*	0.044

(1) Mushroom heads for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5, EN 418 and to Machinery Directive 98/37/EC.
Please consult your Regional Sales Office for full details of these standards and directives.

(2) Other key numbers:
*- key n° 421E: add suffix **12** to the reference.*
*- key n° 458A: add suffix **10** to the reference.*
*- key n° 520E: add suffix **14** to the reference.*
*- key n° 3131A: add suffix **20** to the reference.*
*Example: For a Ø 40 mushroom head for a trigger action, latching pushbutton, with release by key n° 421E, the reference becomes: **ZB5 AS94412**.*

(3) For specific keys with other numbers, please consult your Regional Sales Office.

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: heads

ZB5 AD●

Heads for selector switches *(1)*

Shape of head	Type of operator	Number and type of positions		Reference	Weight kg
	Standard handle, black	2 - stay put		**ZB5 AD2**	0.024
		2 - spring return from right to left		**ZB5 AD4**	0.024
		3 - stay put		**ZB5 AD3**	0.024
		3 - spring return to centre		**ZB5 AD5**	0.024
		3 - spring return from left to centre		**ZB5 AD7**	0.024
		3 spring return from right to centre		**ZB5 AD8**	0.024
	Standard handle, white	2 - stay put		**ZB5 AD201**	0.024
		2 - spring return from right to left		**ZB5 AD401**	0.024
		3 - stay put		**ZB5 AD301**	0.024
		3 - spring return to centre		**ZB5 AD501**	0.024
		3 - spring return from left to centre		**ZB5 AD701**	0.024
		3 spring return from right to centre		**ZB5 AD801**	0.024
	Standard handle, green	2 - stay put		**ZB5 AD203**	0.024
		2 - spring return from right to left		**ZB5 AD403**	0.024
		3 - stay put		**ZB5 AD303**	0.024
		3 - spring return to centre		**ZB5 AD503**	0.024
		3 - spring return from left to centre		**ZB5 AD703**	0.024
		3 spring return from right to centre		**ZB5 AD803**	0.024

(1) Can only be used for actuation of end row (side) mounted contacts.

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: heads

ZB5 AD●●●

Heads for selector switches *(1) (continued)*

Shape of head	Type of operator	Number and type of positions		Reference	Weight kg
	Standard handle, red	2 - stay put		**ZB5 AD204**	0.024
		2 - spring return from right to left		**ZB5 AD404**	0.024
		3 - stay put		**ZB5 AD304**	0.024
		3 - spring return to centre		**ZB5 AD504**	0.024
		3 - spring return from left to centre		**ZB5 AD704**	0.024
		3 spring return from right to centre		**ZB5 AD804**	0.024
	Standard handle, yellow	2 - stay put		**ZB5 AD205**	0.024
		2 - spring return from right to left		**ZB5 AD405**	0.024
		3 - stay put		**ZB5 AD305**	0.024
		3 - spring return to centre		**ZB5 AD505**	0.024
		3 - spring return from left to centre		**ZB5 AD705**	0.024
		3 spring return from right to centre		**ZB5 AD805**	0.024
	Standard handle, blue	2 - stay put		**ZB5 AD206**	0.024
		2 - spring return from right to left		**ZB5 AD406**	0.024
		3 - stay put		**ZB5 AD306**	0.024
		3 - spring return to centre		**ZB5 AD506**	0.024
		3 - spring return from left to centre		**ZB5 AD706**	0.024
		3 spring return from right to centre		**ZB5 AD806**	0.024

ZB5 AJ3

	Long handle, black	2 - stay put		**ZB5 AJ2**	0.025
		2 - spring return from right to left		**ZB5 AJ4**	0.025
		3 - stay put		**ZB5 AJ3**	0.025
		3 - spring return to centre		**ZB5 AJ5**	0.025
		3 - spring return from left to centre		**ZB5 AJ7**	0.025
		3 spring return from right to centre		**ZB5 AJ8**	0.025

(1) Can only be used for actuation of end row (side) mounted contacts.

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: heads

ZB5 AD●●

ZB5 AG●

Heads for selector switches *(1) (continued)*

Shape of head	Type of operator	Number and type of positions *(2)*		Reference	Weight kg
	Knurled knob, black	2 - stay put		**ZB5 AD29**	0.027
		2 - spring return from right to left		**ZB5 AD49**	0.027
		3 - stay put		**ZB5 AD39**	0.027
		3 - spring return to centre		**ZB5 AD59**	0.027
		3 - spring return from left to centre		**ZB5 AD79**	0.027
		3 spring return from right to centre		**ZB5 AD89**	0.027
	Key switch with key n° 455 *(4)*	2 - stay put		**ZB5 AG2** *(3)*	0.050
				ZB5 AG4 *(3)*	0.050
		2 - spring return from right to left		**ZB5 AG6** *(3)*	0.050
		3 - stay put		**ZB5 AG0** *(3)*	0.050
				ZB5 AG3 (3)	0.050
				ZB5 AG5 *(3)*	0.050
				ZB5 AG9 *(3)*	0.050
				ZB5 AG09 *(3)*	0.050
		3 - spring return from left to centre		**ZB5 AG1** *(3)*	0.050
		2 - spring return to centre		**ZB5 AG7** *(3)*	0.050
		3 spring return from right to centre		**ZB5 AG8** *(3)*	0.050
				ZB5 AG08 *(3)*	0.050

(1) Can only be used for actuation of end row (side) mounted contacts.
(2) The symbol ⚷ indicates key withdrawal position(s).
(3) Other key numbers:
*- key n° 421E: add suffix **12** to the reference,*
*- key n° 458A: add suffix **10** to the reference,*
*- key n° 520E: add suffix **14** to the reference,*
*- key n° 3131A: add suffix **20** to the reference.*
Example:
*For a switch head with key n° 421E, 2-position stay put with key withdrawal from the left-hand position, the reference becomes : **ZB5 AG212**.*
(4) For specific keys with other numbers, please consult your Regional Sales Office.

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: heads

815308

ZB5 AG●●

Heads for selector switches *(1) (continued)*

Shape of head	Type of operator	Number and type of positions *(2)*		Reference	Weight kg
	Key switch with key n° 8D1	2 - stay put		**ZB5 AG2D**	0.050
				ZB5 AG02D	0.050
				ZB5 AG4D	0.050
		2 - spring return from right to left		**ZB5 AG6D**	0.050
		3 - stay put		**ZB5 AG0D**	0.050
				ZB5 AG3D	0.050
				ZB5 AG5D	0.050
				ZB5 AG9D	0.050
				ZB5 AG09D	0.050
				ZB5 AG03D	0.050
				ZB5 AG04D	0.050
		3 - spring return from left to centre		**ZB5 AG06D**	0.050
				ZB5 AG1D	0.050
				ZB5 AG07D	0.050
		3 spring return from right to centre		**ZB5 AG8D**	0.050
				ZB5 AG08D	0.050
				ZB5 AG05D	0.050
		2 - spring return to centre		**ZB5 AG7D**	0.050

Heads for toggle switches

Shape of head	Description	Lever	Type of position	Reference	Weight kg
	2-position	Black	Stay put	**ZB5 AD28**	0.023
			Spring return	**ZB5 AD48**	0.023
		White	Stay put	**ZB5 AD2801**	0.023
		Red	Stay put	**ZB5 AD2804**	0.023
		Blue	Stay put	**ZB5 AD2806**	0.023

815307

ZB5 AD28

(1) Can only be used for actuation of end row (side) mounted contacts.
(2) The symbol ⚷ indicates key withdrawal position(s).

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: heads

ZB5 AV053

Heads for pilot lights

Shape of head	For use with body comprising light source type	Colour of lens	Reference	Weight kg
With plain lens				
	With integral LED Protected LED	White	**ZB5 AV013**	0.017
		Green	**ZB5 AV033**	0.017
		Red	**ZB5 AV043**	0.017
		Yellow	**ZB5 AV053**	0.017
		Blue	**ZB5 AV063**	0.017
	With integral LED Protected LED	White	**ZB5 CV013**	0.020
		Green	**ZB5 CV033**	0.020
		Red	**ZB5 CV043**	0.020
		Yellow	**ZB5 CV053**	0.020
		Blue	**ZB5 CV063**	0.020
		5 colours *(1)*	**ZB5 CV003**	0.028
With plain lens, for insertion of legend *(2)*				
	With integral LED Protected LED	White	**ZB5 AV013E**	0.017
		Green	**ZB5 AV033E**	0.017
		Red	**ZB5 AV043E**	0.017
		Yellow	**ZB5 AV053E**	0.017
		Blue	**ZB5 AV063E**	0.017
With grooved lens *(3)*				
	With integral LED Protected LED	White	**ZB5 AV013S**	0.017
		Green	**ZB5 AV033S**	0.017
		Red	**ZB5 AV043S**	0.017
		Yellow	**ZB5 AV053S**	0.017
		Blue	**ZB5 AV063S**	0.017

ZB5 AW313

ZB5 AW363

ZB5 AW143

ZB5 CW313

Heads for spring return illuminated pushbuttons

Shape of head	Type of push	Colour	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED Protected LED				
	Flush, plain lens	White	**ZB5 AW313**	0.017
		Green	**ZB5 AW333**	0.017
		Red	**ZB5 AW343**	0.017
		Yellow	**ZB5 AW353**	0.017
		Blue	**ZB5 AW363**	0.017
	Flush, grooved lens *(3)*	White	**ZB5 AW313S**	0.016
		Green	**ZB5 AW333S**	0.016
		Red	**ZB5 AW343S**	0.016
		Yellow	**ZB5 AW353S**	0.016
		Blue	**ZB5 AW363S**	0.016
	Flush for insertion of legend *(1)*	White	**ZB5 AA18**	0.018
		Green	**ZB5 AA38**	0.018
		Red	**ZB5 AA48**	0.018
		Yellow	**ZB5 AA58**	0.018
		Blue	**ZB5 AA68**	0.018
	Projecting	White	**ZB5 AW113**	0.018
		Green	**ZB5 AW133**	0.018
		Red	**ZB5 AW143**	0.018
		Yellow	**ZB5 AW153**	0.018
		Blue	**ZB5 AW163**	0.018
	Flush for insertion of legend *(1)*	White	**ZB5 CW313**	0.023
		Green	**ZB5 CW333**	0.023
		Red	**ZB5 CW343**	0.023
		Yellow	**ZB5 CW353**	0.023
		Blue	**ZB5 CW363**	0.023

(1) Head supplied with 5 different coloured lenses (white, green, red, yellow, blue) for insertion of legend.
For legend ordering information: see page 2/27.
(2) For legend ordering information: see page 2/27.
(3) For use in bright ambient light conditions (outdoors in sunlight, for example). For heads with grooved lens, the use of "high luminosity" LEDs is recommended, see page 1/83.

Other versions Heads for flush pushbuttons with illuminated ring.
Please consult your Regional Sales Office.

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: heads

815328

ZB5 AK1213

815329

ZB5 AK1463

103547

ZB5 AW743

Heads for illuminated selector switches with standard handle *(1)*

Shape of head	Number and type of positions	Colour of handle	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED Protected LED				
	2 - stay put	White	**ZB5 AK1213**	0.021
		Green	**ZB5 AK1233**	0.021
		Red	**ZB5 AK1243**	0.021
		Yellow	**ZB5 AK1253**	0.021
		Blue	**ZB5 AK1263**	0.021
	2 - spring return from right to left	White	**ZB5 AK1413**	0.021
		Green	**ZB5 AK1433**	0.021
		Red	**ZB5 AK1443**	0.021
		Yellow	**ZB5 AK1453**	0.021
		Blue	**ZB5 AK1463**	0.021
	3 - stay put	White	**ZB5 AK1313**	0.021
		Green	**ZB5 AK1333**	0.021
		Red	**ZB5 AK1343**	0.021
		Yellow	**ZB5 AK1353**	0.021
		Blue	**ZB5 AK1363**	0.021
	3 - spring return to centre	White	**ZB5 AK1513**	0.021
		Green	**ZB5 AK1533**	0.021
		Red	**ZB5 AK1543**	0.021
		Yellow	**ZB5 AK1553**	0.021
		Blue	**ZB5 AK1563**	0.021
	3 spring return from right to centre	White	**ZB5 AK1813**	0.021
		Green	**ZB5 AK1833**	0.021
		Red	**ZB5 AK1843**	0.021
		Yellow	**ZB5 AK1853**	0.021
		Blue	**ZB5 AK1863**	0.021
	3 - spring return from left to centre	White	**ZB5 AK1713**	0.021
		Green	**ZB5 AK1733**	0.021
		Red	**ZB5 AK1743**	0.021
		Yellow	**ZB5 AK1753**	0.021
		Blue	**ZB5 AK1763**	0.021

Heads for Ø 40 illuminated, latching, mushroom head pushbuttons *(2)*

Only for use with bodies comprising a light source with integral "high luminosity" LED *(3)*

Protected LED

Shape of head	Type of push	Colour of push	Reference	Weight kg
	Turn to release	White	**ZB5 AW713**	0.022
		Green	**ZB5 AW733**	0.022
		Red	**ZB5 AW743**	0.022
		Yellow	**ZB5 AW753**	0.022
		Blue	**ZB5 AW763**	0.022

(1) NEMA type 13.
(2) Use electrical blocks type ZBE 10● specifically designed for "mounting beneath heads", see page 2/13.
(3) "High luminosity" LED, see page 2/13.

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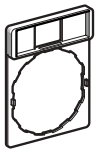
Control stations and enclosures

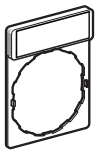
XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: accessories

815331



ZBZ 32

815332



ZBY ●101

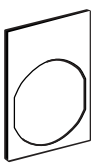
815333

ZBY 2107

Standard (30 x 40 mm) legend holders for 8 x 27 mm legends

Description	Legend		Sold in lots of	Unit reference	Weight kg
	Colour	Marking			
Without legend	–	–	10	**ZBZ 32**	0.001
With blank legend (for engraving)	Black or red background	–	10	**ZBY 2101**	0.002
	White or yellow background	–	10	**ZBY 4101**	0.002
With 8 x 27 mm legend (with International marking)	Black or red background	O (black background)	1	**ZBY 2146**	0.002
		O (red background)	1	**ZBY 2931**	0.002
		I	1	**ZBY 2147**	0.002
		II	1	**ZBY 2148**	0.002
		O-I	1	**ZBY 2178**	0.002
		I-II	1	**ZBY 2179**	0.002
		I-O-II	1	**ZBY 2186**	0.002
		AUTO	1	**ZBY 2115**	0.002
		STOP	1	**ZBY 2304**	0.002
With 8 x 27 mm legend (with French language marking) Black or red background *(1)*		ARRET (red background)	1	**ZBY 2104**	0.002
		ARRET (black background)	1	**ZBY 0104**	0.002
		ARRET GENERAL	1	**ZBY 2129**	0.002
		ARRET REARMEMENT	1	**ZBY 2133**	0.002
		ARRET D'URGENCE	1	**ZBY 2130**	0.002
		ARRET-MARCHE	1	**ZBY 2166**	0.002
		ARRIERE	1	**ZBY 2106**	0.002
		AUTO CYCLE-CYCLE	1	**ZBY 2198**	0.002
		AUTO CYCLE-MAIN	1	**ZBY 2199**	0.002
		AUTO-MAIN	1	**ZBY 2164**	0.002
		AUTO-O-MAIN	1	**ZBY 2185**	0.002
		AVANT	1	**ZBY 2105**	0.002
		AVANT-O-ARRIERE	1	**ZBY 2184**	0.002
		C-P-C-NORMAL	1	**ZBY 2165**	0.002
		CYCLE-MAIN	1	**ZBY 2197**	0.002
		DECLENCHEMENT	1	**ZBY 2132**	0.002
		DEFAUT (black background)	1	**ZBY 2134**	0.002
		DEFAUT (red background)	1	**ZBY 2135**	0.002
		DEPART CYCLE	1	**ZBY 2195**	0.002
		DESCENTE	1	**ZBY 2108**	0.002
		DROITE	1	**ZBY 2109**	0.002
		ENCLENCHEMENT	1	**ZBY 2131**	0.002
		EN SERVICE	1	**ZBY 2111**	0.002
		FERMETURE	1	**ZBY 2114**	0.002
		GAUCHE	1	**ZBY 2110**	0.002
		HORS SERVICE	1	**ZBY 2112**	0.002
		HORS-EN	1	**ZBY 2167**	0.002
		LENT	1	**ZBY 2127**	0.002
		MAIN	1	**ZBY 2116**	0.002
		MARCHE	1	**ZBY 2103**	0.002
		MONTEE	1	**ZBY 2107**	0.002
		OUVERTURE	1	**ZBY 2113**	0.002
		PHASE / PHASE	1	**ZBY 2196**	0.002
		REARMEMENT (red background)	1	**ZBY 2123**	0.002
		REARMEMENT (black background)	1	**ZBY 0123**	0.002
		SOUS TENSION	1	**ZBY 2126**	0.002
		VITE	1	**ZBY 2128**	0.002

522035



ZAL Y4

Legends for engraving (30 x 42 mm) for marking text

Description	Colour	Sold in lots of	Unit reference	Weight kg
Legends for engraving for marking 2 lines of text	Black or red background	10	**ZAL Y2**	0.001
	White or yellow background	10	**ZAL Y4**	0.001

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: accessories

2

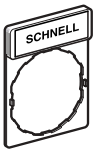
815334

ZBY 2303

Standard (30 x 40 mm) legend holders for 8 x 27 mm legends *(continued)*

Description	Legend		Reference	Weight
	Colour	Marking		kg
With legend (with English language marking)	Black or red background *(1)*	AUTO-HAND	**ZBY 2364**	0.002
		AUTO-O-HAND	**ZBY 2385**	0.002
		CLOSE	**ZBY 2314**	0.002
		DOWN	**ZBY 2308**	0.002
		EMERGENCY STOP	**ZBY 2330**	0.002
		FAST	**ZBY 2328**	0.002
		FORWARD	**ZBY 2305**	0.002
		HAND	**ZBY 2316**	0.002
		HAND-OFF-AUTO	**ZBY 2387**	0.002
		INCH	**ZBY 2321**	0.002
		LEFT	**ZBY 2310**	0.002
		OFF	**ZBY 2312**	0.002
		OFF-ON	**ZBY 2367**	0.002
		ON	**ZBY 2311**	0.002
		OPEN	**ZBY 2313**	0.002
		POWER ON	**ZBY 2326**	0.002
		RESET (red background)	**ZBY 2323**	0.002
		RESET (black background)	**ZBY 2322**	0.002
		REVERSE	**ZBY 2306**	0.002
		RIGHT	**ZBY 2309**	0.002
		RUN	**ZBY 2334**	0.002
		SLOW	**ZBY 2327**	0.002
		START	**ZBY 2303**	0.002
		STOP-START	**ZBY 2366**	0.002
		UP	**ZBY 2307**	0.002

815335



ZBY 2228

With legend (with German language marking)	Black or red background *(1)*	AB	**ZBY 2208**	0.002
		AUF	**ZBY 2207**	0.002
		AUS	**ZBY 2204**	0.002
		AUS-EIN	**ZBY 2266**	0.002
		AUS-IN BETRIEB	**ZBY 2267**	0.002
		AUS-RÜCKSTELLUNG	**ZBY 2233**	0.002
		AUSSCHALTEN	**ZBY 2232**	0.002
		AUTO-HAND	**ZBY 2364**	0.002
		AUTO-O-HAND	**ZBY 2385**	0.002
		AUTOZYKL-HAND	**ZBY 2299**	0.002
		AUTOZYKL-1 ZYKL	**ZBY 2298**	0.002
		C-P-C-NORMAL	**ZBY 2265**	0.002
		EIN	**ZBY 2203**	0.002
		EINSCHALTEN	**ZBY 2231**	0.002
		HAND	**ZBY 2316**	0.002
		LANGSAM	**ZBY 2227**	0.002
		LINKS	**ZBY 2210**	0.002
		NOT-AUS (red background)	**ZBY 2230**	0.002
		NOT-AUS (yellow background)	**ZBY 22420001**	0.002
		NOT-HALT	**ZBY 2229**	0.002
		ÖFFNEN	**ZBY 2213**	0.002
		RECHTS	**ZBY 2209**	0.002
		RÜCKSTELLUNG	**ZBY 2223**	0.002
		SCHLIESSEN	**ZBY 2214**	0.002
		SCHNELL	**ZBY 2228**	0.002
		SPANNUNG EIN	**ZBY 2226**	0.002
		STEUERUNG AUS	**ZBY 2212**	0.002
		STEUERUNG EIN	**ZBY 2211**	0.002
		STÖRUNG (black background)	**ZBY 2234**	0.002
		STÖRUNG (red background)	**ZBY 2235**	0.002
		VOR	**ZBY 2205**	0.002
		VOR-O-ZURÜCK	**ZBY 2284**	0.002
		ZURÜCK	**ZBY 2206**	0.002
		ZYKLUS-HAND	**ZBY 2297**	0.002
		ZYKLUS-START	**ZBY 2295**	0.002

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

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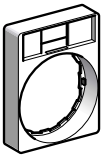
Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: accessories

815337



ZBZ 34

815338

ZBY ●H101

815339

ZBY 02178

815340

ZBY 0●104

30 x 40 mm legend holders (flush mounting with bezel) for 8 x 27 mm legends

Description	For use with	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	Circular heads	–	10	**ZBZ 34**	0.003
	Square heads	–	10	**ZBC Z34**	0.002
With blank legend	Circular heads	Black or red background	10	**ZBY 2H101**	0.004
		White or yellow background	10	**ZBY 4H101**	0.004
	Square heads	Black or red background	10	**ZBC Y2H101**	0.002
		White or yellow background	10	**ZBC Y4H101**	0.002

Legends for engraving

Description mm	For use with	Colour	Sold in lots of	Unit reference	Weight kg
8 x 27	30 x 40 mm legend holder	Black or red background	10	**ZBY 0101**	0.001
		White or yellow background	10	**ZBY 0102**	0.001

Sheets of peel-off legends (with backing board and protective transparent cover)

Description	For use with	Sold in lots of	Unit reference	Weight kg
Sheet of 76 8 x 27 mm legends	30 x 40 mm legend holder **ZBZ 32** and **ZBZ 34**	10	**ZBY 4100**	0.043

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34)

Colour	Marking		Reference	Weight kg
Black or red background *(1)*	International	O (black background)	**ZBY 02146**	0.001
		O (red background)	**ZBY 02931**	0.001
		I	**ZBY 02147**	0.001
		II	**ZBY 02148**	0.001
		O-I	**ZBY 02178**	0.001
		I-II	**ZBY 02179**	0.001
		I-O-II	**ZBY 02186**	0.001
		AUTO	**ZBY 02115**	0.001
		STOP	**ZBY 02304**	0.001
	French	ARRET (red background)	**ZBY 02104**	0.001
		ARRET (black background)	**ZBY 00104**	0.001
		ARRET GENERAL	**ZBY 02129**	0.001
		ARRET REARMEMENT	**ZBY 02133**	0.001
		ARRET D'URGENCE	**ZBY 02130**	0.001
		ARRET-MARCHE	**ZBY 02166**	0.001
		ARRIERE	**ZBY 02106**	0.001
		AUTO CYCLE-CYCLE	**ZBY 02198**	0.001
		AUTO CYCLE-MAIN	**ZBY 02199**	0.001
		AUTO-MAIN	**ZBY 02164**	0.001
		AUTO-O-MAIN	**ZBY 02185**	0.001
		AVANT	**ZBY 02105**	0.001
		AVANT-O-ARRIERE	**ZBY 02184**	0.001
		C-P-C-NORMAL	**ZBY 02165**	0.001
		CYCLE-MAIN	**ZBY 02197**	0.001
		DECLENCHEMENT	**ZBY 02132**	0.001
		DEFAUT (black background)	**ZBY 02134**	0.001
		DEFAUT (red background)	**ZBY 02135**	0.001
		DEPART CYCLE	**ZBY 02195**	0.001
		DESCENTE	**ZBY 02108**	0.001
		DROITE	**ZBY 02109**	0.001
		ENCLENCHEMENT	**ZBY 02131**	0.001
		EN SERVICE	**ZBY 02111**	0.001
		FERMETURE	**ZBY 02114**	0.001
		GAUCHE	**ZBY 02110**	0.001
		HORS SERVICE	**ZBY 02112**	0.001
		HORS-EN	**ZBY 02167**	0.001
		LENT	**ZBY 02127**	0.001
		MAIN	**ZBY 02116**	0.001
		MARCHE	**ZBY 02103**	0.001
		MONTEE	**ZBY 02107**	0.001
		OUVERTURE	**ZBY 02113**	0.001
		PHASE / PHASE	**ZBY 02196**	0.001

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

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Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: accessories

815341

ZBY 02303

815342

ZBY 02228

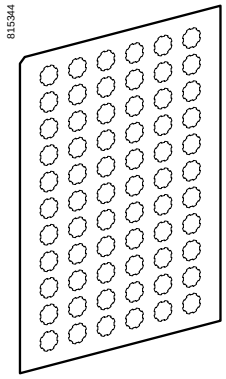
8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34) *(continued)*

Colour	Marking		Reference	Weight kg
Black or red background *(1)*	French (continued)	REARMEMENT (red background)	**ZBY 02123**	0.001
		REARMEMENT (black background)	**ZBY 00123**	0.001
		SOUS TENSION	**ZBY 02126**	0.001
		VITE	**ZBY 02128**	0.001
	English	AUTO-HAND	**ZBY 02364**	0.001
		AUTO-O-HAND	**ZBY 02385**	0.001
		CLOSE	**ZBY 02314**	0.001
		DOWN	**ZBY 02308**	0.001
		EMERGENCY STOP	**ZBY 02330**	0.001
		FAST	**ZBY 02328**	0.001
		FORWARD	**ZBY 02305**	0.001
		HAND	**ZBY 02316**	0.001
		HAND-OFF-AUTO	**ZBY 02387**	0.001
		INCH	**ZBY 02321**	0.001
		LEFT	**ZBY 02310**	0.001
		OFF	**ZBY 02312**	0.001
		OFF-ON	**ZBY 02367**	0.001
		ON	**ZBY 02311**	0.001
		OPEN	**ZBY 02313**	0.001
		POWER ON	**ZBY 02326**	0.001
		RESET (red background)	**ZBY 02323**	0.001
		RESET (black background)	**ZBY 02322**	0.001
		REVERSE	**ZBY 02306**	0.001
		RIGHT	**ZBY 02309**	0.001
		RUN	**ZBY 02334**	0.001
		SLOW	**ZBY 02327**	0.001
		START	**ZBY 02303**	0.001
		STOP-START	**ZBY 02366**	0.001
		UP	**ZBY 02307**	0.001
	German	AB	**ZBY 02208**	0.001
		AUF	**ZBY 02207**	0.001
		AUS	**ZBY 02204**	0.001
		AUS-EIN	**ZBY 02266**	0.001
		AUS-IN BETRIEB	**ZBY 02267**	0.001
		AUS-RÜCKSTELLUNG	**ZBY 02233**	0.001
		AUSSCHALLEN	**ZBY 02232**	0.001
		AUTO-HAND	**ZBY 02364**	0.001
		AUTO-O-HAND	**ZBY 02385**	0.001
		AUTOZYKL-HAND	**ZBY 02299**	0.001
		AUTOZYKL- 1 ZYKL	**ZBY 02298**	0.001
		C-P-C-NORMAL	**ZBY 02265**	0.001
		EIN	**ZBY 02203**	0.001
		EINSCHALTEN	**ZBY 02231**	0.001
		HAND	**ZBY 02316**	0.001
		LANGSAM	**ZBY 02227**	0.001
		LINKS	**ZBY 02210**	0.001
		NOT-AUS (red background)	**ZBY 02230**	0.001
		NOT-AUS (yellow background)	**ZBY 022420001**	0.001
		NOT-HALT	**ZBY 02229**	0.001
		ÖFFNEN	**ZBY 02213**	0.001
		RECHTS	**ZBY-02209**	0.001
		RÜCKSTELLUNG	**ZBY-02223**	0.001
		SCHLIESSEN	**ZBY-02214**	0.001
		SCHNELL	**ZBY-02228**	0.001
		SPANNUNG EIN	**ZBY-02226**	0.001
		STEUERUNG AUS	**ZBY-02212**	0.001
		STEUERUNG EIN	**ZBY-02211**	0.001
		STÖRUNG (black background)	**ZBY-02234**	0.001
		STÖRUNG (red background)	**ZBY-02235**	0.001
		VOR	**ZBY-02205**	0.001
		VOR-O-ZURÜCK	**ZBY-02284**	0.001
		ZURÜCK	**ZBY-02206**	0.001
		ZYKLUS-HAND	**ZBY-02297**	0.001
		ZYKLUS-START	**ZBY-02295**	0.001

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: accessories



ZBY 1●●●

Legends for pushbuttons, switches and pilot lights XB5 A

Description	Marking		Sold in lots of	Unit reference	Weight kg
Sheets of 66 circular peel-off transparent self-adhesive legends	Without		10	**ZBY 1101**	0.017
	International	O	10	**ZBY 1146**	0.017
		I	10	**ZBY 1147**	0.017
		II	10	**ZBY 1148**	0.017
		III	10	**ZBY 1149**	0.017
		AUTO	10	**ZBY 1115**	0.017
		STOP	10	**ZBY 1304**	0.017
		⬆	10	**ZBY 1912**	0.017
	French	ARRET	10	**ZBY 1104**	0.017
		ARRIERE	10	**ZBY 1106**	0.017
		AVANT	10	**ZBY 1105**	0.017
		DESCENTE	10	**ZBY 1108**	0.017
		MAIN	10	**ZBY 1116**	0.017
		MARCHE	10	**ZBY 1103**	0.017
		MONTEE	10	**ZBY 1107**	0.017
	English	HAND	10	**ZBY 1316**	0.017
		OFF	10	**ZBY 1312**	0.017
		ON	10	**ZBY 1311**	0.017
		START	10	**ZBY 1303**	0.017
	German	AB	10	**ZBY 1208**	0.017
		AUF	10	**ZBY 1207**	0.017
		AUS	10	**ZBY 1204**	0.017
		EIN	10	**ZBY 1203**	0.017
Strip of 66 square peel-off transparent self-adhesive legends	Without		10	**ZBC Y1101**	0.017

XBY 2U

"SIS Label" labelling software (for legend sheets ZBY 1101, ZBY 4100 and ZBC Y1101)

Application	Reference	Weight kg
Legend design English, French, German, Italian, Spanish	**XBY 2U**	0.100

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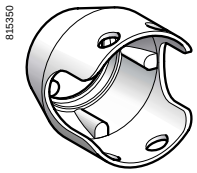
Dimensions : pages 2/30 and 2/31

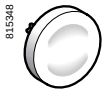
Control stations and enclosures

XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel
Stations for user assembly: accessories



ZBZ 160●

ZBA ●



ZBL ●

ZBA ●33

Metal guards (3)

Description	For use with	Colour	Reference	Weight kg
Padlockable	Ø 40 Emergency stop mushroom head pushbuttons (standard or trigger action)	Chromium plated	**ZBZ 1600**	0.046
		Black	**ZBZ 1602**	0.046
		Red	**ZBZ 1604**	0.046
		Yellow	**ZBZ 1605**	0.046
		Blue	**ZBZ 1606**	0.046

Pushbutton caps - unmarked

For use with	Cap Type	Cap Colour	Sold in lots of	Unit reference	Weight kg
ZB5 AA circular pushbutton heads supplied without cap	Flush	White	10	**ZBA 1**	0.001
		Black	10	**ZBA 2**	0.001
		Green	10	**ZBA 3**	0.001
		Red	10	**ZBA 4**	0.001
		Yellow	10	**ZBA 5**	0.001
		Blue	10	**ZBA 6**	0.001
		6 colours *(1)*	1	**ZBA 9**	0.006
	Projecting	White	10	**ZBL 1**	0.001
		Black	10	**ZBL 2**	0.001
		Green	10	**ZBL 3**	0.001
		Red	10	**ZBL 4**	0.001
		Yellow	10	**ZBL 5**	0.001
		Blue	10	**ZBL 6**	0.001
		6 colours *(1)*	1	**ZBL 9**	0.006

Pushbutton caps - marked (2)

For use with	Type of push	Marking Text	Marking Colour	Colour of cap	Unit reference	Weight kg
ZB5 AA circular pushbutton heads supplied without cap (sold in lots of 10)	Flush	I	White	Green	**ZBA 331**	0.001
			Black	White	**ZBA 131**	0.001
		II	White	Green	**ZBA 336**	0.001
			Black	White	**ZBA 136**	0.001
		III	White	Green	**ZBA 337**	0.001
			Black	White	**ZBA 137**	0.001
		IV	White	Green	**ZBA 338**	0.001
			Black	White	**ZBA 138**	0.001
		START	White	Green	**ZBA 333**	0.001
			Black	White	**ZBA 133**	0.001
		ON	White	Green	**ZBA 341**	0.001
			Black	White	**ZBA 141**	0.001
		MARCHE	White	Green	**ZBA 342**	0.001
			Black	White	**ZBA 142**	0.001
			White	Black	**ZBA 245**	0.001
			Black	White	**ZBA 145**	0.001
		UP	Black	White	**ZBA 343**	0.001
		DOWN	White	Black	**ZBA 344**	0.001
		↑	White	Black	**ZBA 335**	0.001
			Black	White	**ZBA 334**	0.001
		O	White	Red	**ZBA 432**	0.001
				Black	**ZBA 232**	0.001
		ARRET	White	Red	**ZBA 433**	0.001
				Black	**ZBA 233**	0.001
		STOP	White	Red	**ZBA 434**	0.001
				Black	**ZBA 234**	0.001
		OFF	White	Red	**ZBA 435**	0.001
				Black	**ZBA 235**	0.001
			White	Green	**ZBA 346**	0.001
		R	White	Blue	**ZBA 639**	0.001

(1) Set of 6 different coloured caps: white, black, green, red, yellow, blue.
(2) Can be clipped-in at 90° steps, through 360°.
(3) These guards can be used in conjunction with a legend holder, but only those for mounting directly beneath the head. See page 2/63.

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Control stations and enclosures

XAL control stations for Harmony® style 5
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With double insulated bezel
Stations for user assembly: accessories

501578

ZB2 BP01●

815354

ZBV 01●3

Coloured boots

For use with	Colour	Sold in lots of	Unit reference	Weight kg
Coloured boots (can be replaced without dismantling the head)	Black	10	**ZB2 BP012**	0.003
	Green	10	**ZB2 BP013**	0.003
	Red	10	**ZB2 BP014**	0.003
	Yellow	10	**ZB2 BP015**	0.003
	Blue	10	**ZB2 BP016**	0.003

Lens caps

Circular lens caps for light sources with integral LED

Pilot lights	White	10	**ZBV 0113**	0.002
	Green	10	**ZBV 0133**	0.002
	Red	10	**ZBV 0143**	0.002
	Yellow	10	**ZBV 0153**	0.002
	Blue	10	**ZBV 0163**	0.002
	5 different coloured grooved lenses *(1)*	1	**ZBV 0103S**	0.010
Illuminated pushbuttons, with flush push	White	10	**ZBW 9113**	0.002
	Green	10	**ZBW 9133**	0.002
	Red	10	**ZBW 9143**	0.002
	Yellow	10	**ZBW 9153**	0.002
	Blue	10	**ZBW 9163**	0.002
Illuminated pushbuttons, with projecting push	White	10	**ZBW 9313**	0.002
	Green	10	**ZBW 9333**	0.002
	Red	10	**ZBW 9343**	0.002
	Yellow	10	**ZBW 9353**	0.002
	Blue	10	**ZBW 9363**	0.002

Square lens caps for light sources with integral LED

Pilot lights	White	10	**ZBC V0113**	0.002
	Green	10	**ZBC V0133**	0.002
	Red	10	**ZBC V0143**	0.002
	Yellow	10	**ZBC V0153**	0.002
	Blue	10	**ZBC V0163**	0.002
Illuminated pushbuttons, with flush push	White	10	**ZBC W9113**	0.002
	Green	10	**ZBC W9133**	0.002
	Red	10	**ZBC W9143**	0.002
	Yellow	10	**ZBC W9153**	0.002
	Blue	10	**ZBC W9163**	0.002
Illuminated pushbuttons, with projecting push	White	10	**ZBC W9313**	0.002
	Green	10	**ZBC W9333**	0.002
	Red	10	**ZBC W9343**	0.002
	Yellow	10	**ZBC W9353**	0.002
	Blue	10	**ZBC W9363**	0.002

Replacement keys for Emergency stop key release heads and key switches

814651

ZBG 455

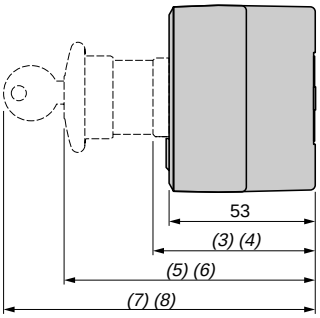
Description	Key number	Reference	Weight kg
Set of 2 keys	455	**ZBG 455**	0.013
	421E	**ZBG 421E**	0.014
	458A	**ZBG 458A**	0.014
	520E	**ZBG 520E**	0.014
	3131A	**ZBG 3131A**	0.014
	4A185	**ZBD A185**	0.014
	LU1	**ZBD LU1**	0.014
	LU2	**ZBD LU2**	0.014
	LU3	**ZBD LU3**	0.014
	LU4	**ZBD LU4**	0.014
	LU5	**ZBD LU5**	0.014
	LU6	**ZBD LU6**	0.014
	LU7	**ZBD LU7**	0.014
	LU8	**ZBD LU8**	0.014
	LU9	**ZBD LU9**	0.014
	LU10	**ZBD LU10**	0.014
	LU11	**ZBD LU11**	0.014
	LU12	**ZBD LU12**	0.014
	LU13	**ZBD LU13**	0.014
	LU14	**ZBD LU14**	0.014
	8D1	**ZBD 8D1**	0.014

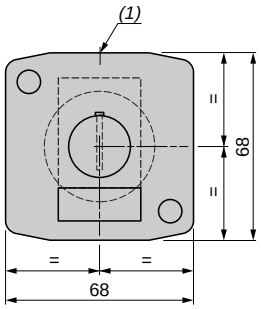
(1) 5 different coloured lenses: white, green, red, yellow and blue.

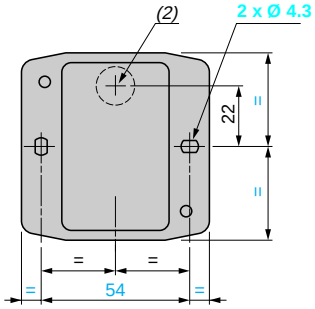
Control stations and enclosures
XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel

Dimensions

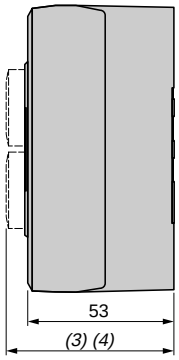
Single-way control stations XAL

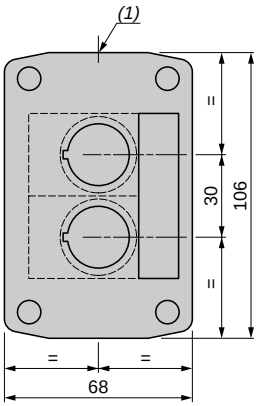


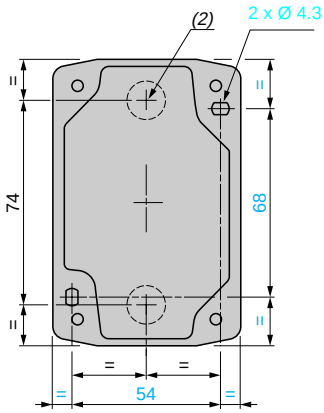




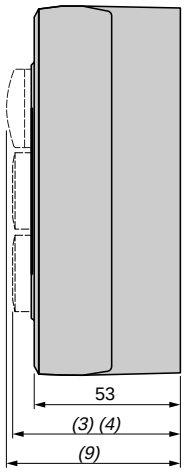
2-way control stations XAL

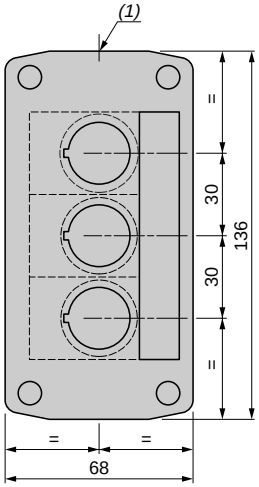


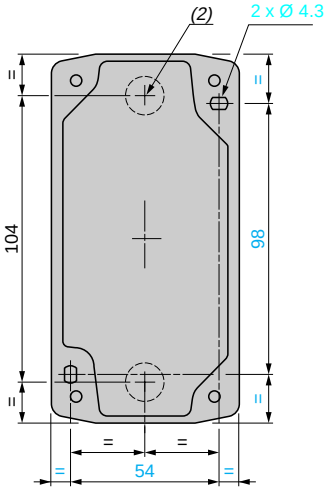




3-way control stations XAL







(1) 2 knock-outs for Pg 13.5 cable gland, maximum capacity 12 mm.
(2) Knock-out for cable entry, maximum capacity 14 mm.

Examples
(3) 62 mm for flush pushbuttons.
(4) 66 mm for projecting pushbuttons.
(5) 91 mm for latching mushroom head Emergency stop pushbuttons.
(6) 74 mm for key switches.
(7) 113 mm for latching mushroom head Emergency stop pushbuttons with key release.
(8) 96 mm for key switches with key inserted.
(9) 64 mm for pilot lights.

General:
pages 2/4 and 2/5

Characteristics:
pages 2/6 and 2/7

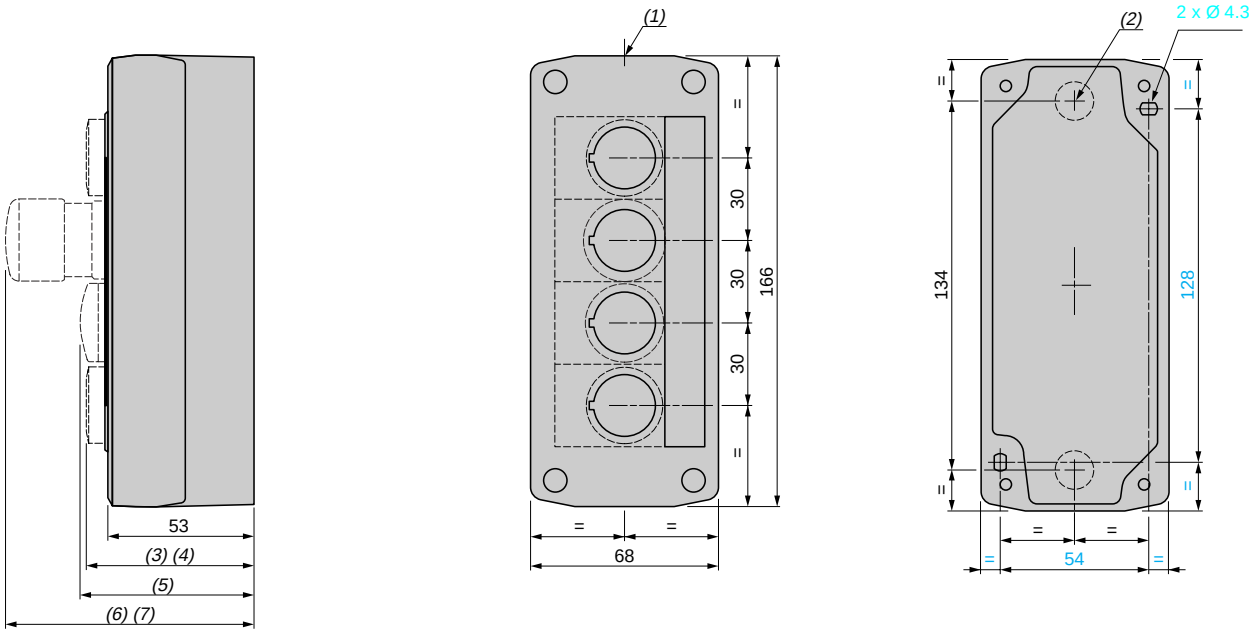
References:
pages 2/8 to 2/29

Control stations and enclosures

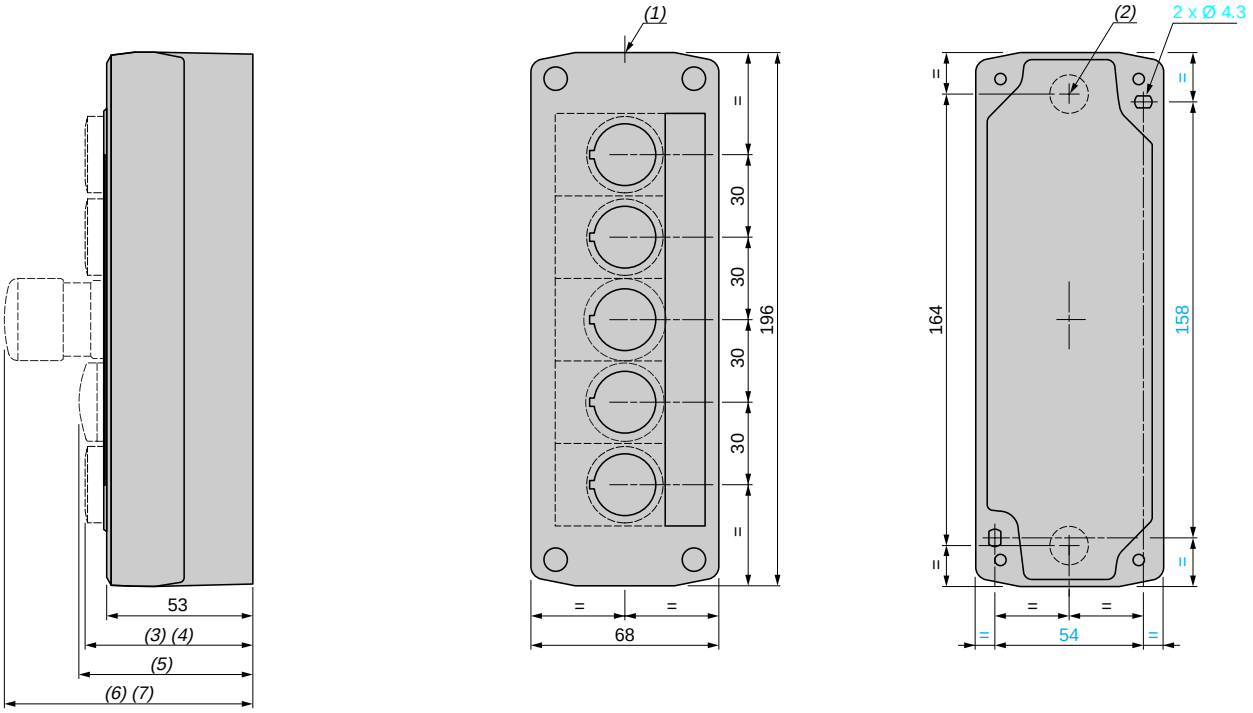
XAL control stations for Harmony® style 5
Ø 22 control and signalling units
With double insulated bezel

Dimensions (continued)

4-way control stations XAL



5-way control stations XAL



(1) 2 knock-outs for Pg 13.5 cable gland, maximum capacity 12 mm.
(2) Knock-out for cable entry, maximum capacity 14 mm.

Examples
(3) 62 mm for flush pushbuttons.
(4) 66 mm for projecting pushbuttons.
(5) 64 mm for pilot lights.
(6) 87 mm for mushroom head pushbuttons.
(7) 78 mm for selector switches.

General: pages 2/4 and 2/5
Characteristics: pages 2/6 and 2/7
References: pages 2/8 to 2/29

Control stations and enclosures

XAL E control stations for Harmony® style 7 “Series E” monolithic standard Ø 22 control and signalling units

Characteristics

Conformity to standards			IEC 947-1
Ambient air temperature	For operation	**°C**	- 25…+ 40
	For storage	**°C**	- 40…+ 60
Electric shock protection	Conforming to IEC 536		Class II
Degree of protection	Conforming to IEC 529		IP 40
Material and colour			PC, light grey RAL 7035
Cable entries			Knock-out entries for n° 13 (CM12, Pg 13.5) cable gland and tapped ISO 20

References

XAL E320

Complete stations

Description	Type of push	Type of contact N/O	Type of contact N/C	Reference	Weight kg
Start or Stop function (light grey RAL 7035 lid and base)					
1 spring return pushbutton	Flush, green	1	–	**XAL E101**	0.133
	Flush, red	–	1	**XAL E112**	0.133
1 2-position stay put selector switch	Standard black handle	1	–	**XAL E130**	0.138
1 Ø 40 mm mushroom head pushbutton	Red, turn to release	–	1	**XAL E160**	0.145
Two functions (light grey RAL 7035 lid and base)					
2 spring return pushbuttons	1 flush, green 1 flush, red	1 –	– 1	**XAL E210**	0.206
	1 flush, green 1 flush, black	1 –	– 1	**XAL E220**	0.206
Three functions (light grey RAL 7035 lid and base)					
3 spring return pushbuttons	1 flush, green 1 flush, red 1 flush, black	1 – 1	– 1 –	**XAL E310**	0.258
	1 flush, green 1 mushroom head 1 flush, black	1 – 1	– 1 –	**XAL E320**	0.270

XAL E02

Empty enclosures

Description	Number of cut-outs	Reference	Weight kg
Base and lid	1	**XAL E01**	0.113
	2	**XAL E02**	0.166
	3	**XAL E03**	0.198
Accessory (for IP 54 degree of protection)			
Seal	1	**XAL E081**	0.003
	2	**XAL E082**	0.005
	3	**XAL E083**	0.007

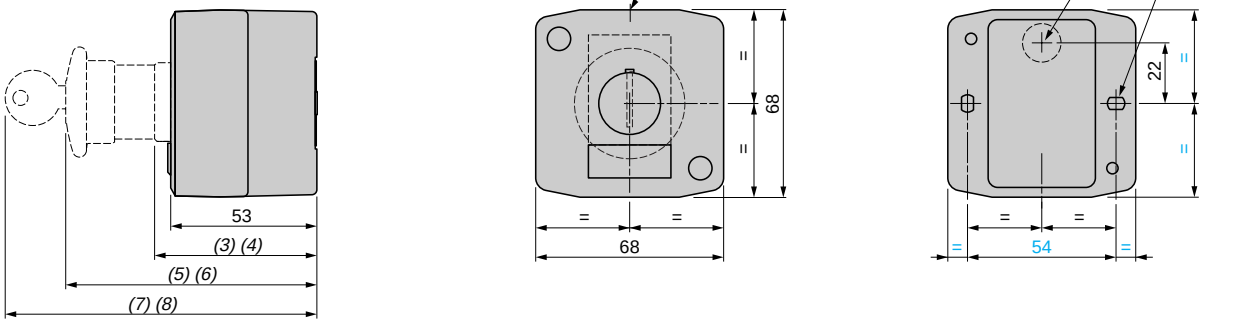
For customer assembly: Other stations can be assembled using adaptable sub-assemblies:
Empty enclosures XAL E0● (see above) and “Series E” monolithic standard pushbuttons, switches and pilot lights, expect pilot lights with integral transformer XB7 EV8● (see pages 1/150 to 1/154).

Control stations and enclosures

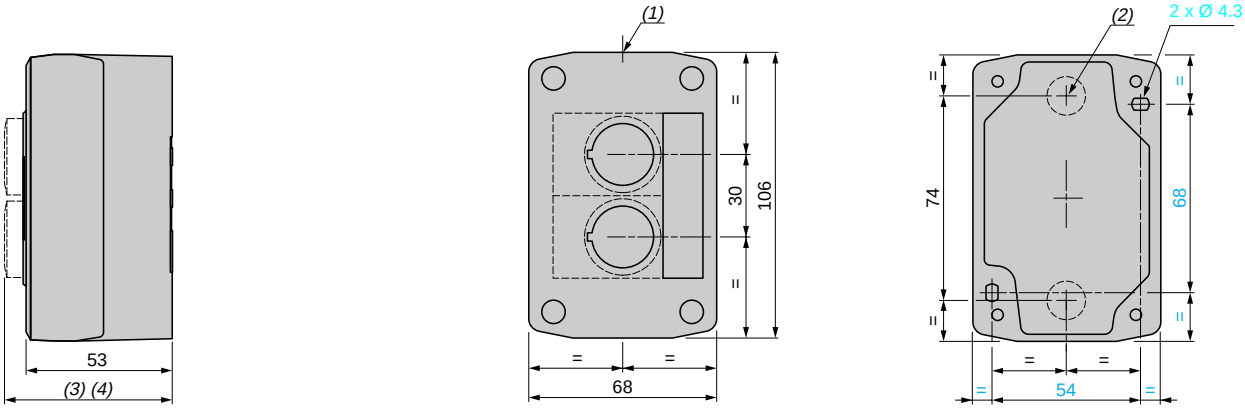
XAL E control stations for Harmony® style 7 “Series E” monolithic standard Ø 22 control and signalling units

Dimensions

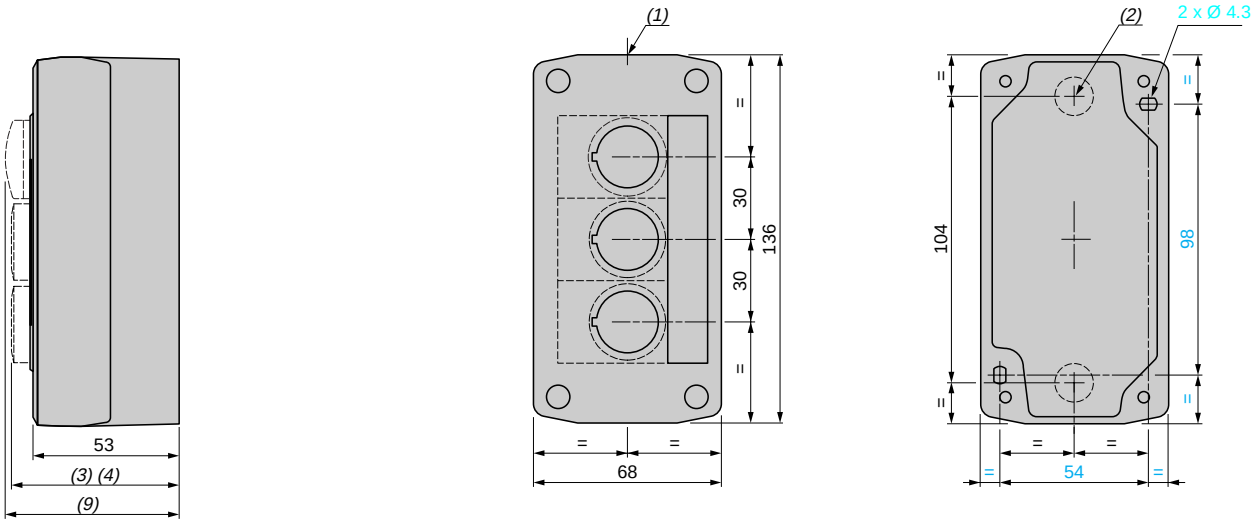
Single-way control stations XAL E1●●



2-way control stations XAL E2●●



3-way control stations XAL E3●●



(1) 2 knock-outs for Pg 13.5 cable gland, maximum capacity 12 mm.
(2) Knock-out for cable entry, maximum capacity 14 mm.

Examples
(3) 62 mm for flush pushbuttons.
(4) 66 mm for projecting pushbuttons.
(5) 91 mm for latching mushroom head Emergency stop pushbuttons.
(6) 74 mm for key switches.
(7) 113 mm for latching mushroom head Emergency stop pushbuttons with key release.
(8) 96 mm for key switches with key inserted.
(9) 64 mm for pilot lights.

Control stations and enclosures
Control station enclosures: insulated, metal and flush mounting

Characteristics

Insulated enclosures XAP A

Material and colour			Glass-reinforced polyester, coloured grey throughout
Product certifications	Special version		CSA ENCLOSURE 4 and 5
Protective treatment	Standard version		“TC” and “TH”
Ambient air temperature	For operation	**°C**	- 25…+ 70
	For storage	**°C**	- 40…+ 70
Degree of protection	Conforming to IEC 529		IP 65
	Conforming to NF C 20-010		IP 657
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class II
Flame resistance			CSTB: M3, NF C 20-455: 850 °C, IEC 92: 960 °C, UL 94: VO
Resistance to chemical agents			Highly resistant to acids, bases, sea water, mineral salts, all solvents, petrol, diesel, oils and greases
Cable entries			Undrilled

Elbowed metal enclosures XAM W

Material and colour			Aluminium alloy **XAM WD**: dark grey RAL 7016 lid, light grey RAL 7035 base **XAM WK01**: yellow RAL 1012 lid, light grey RAL 7035 base
Conformity to standards			IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-4
Protective treatment	Standard version		“TC” and “TH”
Ambient air temperature	For operation	**°C**	- 25…+ 70
	For storage	**°C**	- 40…+ 70
Degree of protection	Conforming to IEC 529		IP 65
Electric shock protection	Conforming to IEC 536		Class I
Flame resistance			CSTB: M3, NF C 20-455: 850 °C, IEC 92: 960 °C, UL 94: VO
Resistance to chemical agents			Good resistance to organic acids, diluted mineral acids, salts, alcohol, acetone, chloride and fluoride solvents, oils and petrol
Cable entries			Via opening in rear of enclosure

Die-cast metal enclosures XAP M

Material and colour			**XAP M1, M2, M3 and M4**: zinc alloy. Blue paint finish **XAP M5**: aluminium alloy. Blue paint finish
Product certifications	Special version		CSA ENCLOSURE 4 and 5, UL ENCLOSURE 1, 3, 4 and 12K
Protective treatment	Standard version		“TC”
	Special version		“TH”
Ambient air temperature	For operation	**°C**	- 25…+ 70
	For storage	**°C**	- 40…+ 70
Degree of protection	Conforming to IEC 529		IP 65
	Conforming to NF C 20-010		IP 657
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class I
Resistance to chemical agents			Special treatments on request
Cable entries			Tapped entries for cable gland (see dimensions, page 2/39)

References:
pages 2/36 to 2/38

Dimensions:
pages 2/39 to 2/41

Control stations and enclosures

Control station enclosures: insulated, metal and flush mounting

Characteristics

Metal enclosures XB2 S

Material and colour			Aluminium alloy or sheet steel. Blue paint finish
Protective treatment	Standard version		"TC"
	Special version		"TH"
Ambient air temperature	For operation	°C	- 25…+ 70
	For storage	°C	- 40…+ 70
Degree of protection	Conforming to IEC 529		IP 54
	Conforming to NF C 20-010		IP 547
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class I
Resistance to chemical agents			Special treatments on request
Cable entries	**XB2 S** in aluminium alloy		Tapped entries for cable gland (see dimensions, page 2/39)
	XB2 S in sheet steel		Undrilled

Flush mounting enclosures XAP E

Material and colour			Anodised aluminium front plate. Insulated protective rear cover
Protective treatment	Standard version		"TC" and "TH"
Ambient air temperature	For operation	°C	- 25…+ 70
	For storage	°C	- 40…+ 70
Degree of protection	Conforming to IEC 529		IP 65
	Conforming to NF C 20-010		IP 657
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class I
Resistance to chemical agents			Good resistance to organic acids, diluted mineral acids, salts, alcohol, acetone, chloride and fluoride solvents, oils and petrol
Cable entries			Through rear cover: knock-out cable entries

References:
pages 2/36 to 2/38

Dimensions:
pages 2/39 to 2/41

Control stations and enclosures

Control station enclosures: insulated, metal and flush mounting

With cut-outs for Ø 22 control and signalling units

XAP A1104

XAP A2108

XAP A3116

References

Insulated enclosures, glass-reinforced polyester (usable depth 83 mm)

Description	Front face dimensions mm	Number of cut-outs	Number of rows		Reference	Weight
			Vertical	Horizontal		kg
Without hinges	85 x 146	1	1	1	**XAP A1110**	0.470
		2	1	2	**XAP A1120**	0.450
		4	2	2	**XAP A1104**	0.460
	85 x 226	8	2	4	**XAP A2108**	0.580
	151 x 241	16	4	4	**XAP A3116**	0.820
With hinges	151 x 241	16	4	4	**XAP A4116**	0.850
Earthing plates sheet steel with earth screw		For XAP A1110			**XAP Z110**	0.080
		For XAP A1120			**XAP Z120**	0.070
		For XAP A1104			**XAP Z104**	0.070
		For XAP A2108			**XAP Z208**	0.110
		For XAP A3116 and A4116			**XAP Z316**	0.160

XAM WD03

XAM WK01

Elbowed metal enclosures for mounting on vertical support

Description	Colour	Number of cut-outs	Reference	Weight kg
Elbowed enclosures metal	Dark grey lid (RAL 7016) Light grey base (RAL 7035)	1	**XAM WD01**	0.465
		2	**XAM WD02**	0.545
		3	**XAM WD03**	0.725
		4	**XAM WD04**	0.725
		5	**XAM WD05**	0.790
		6	**XAM WD06**	0.990
		7	**XAM WD07**	0.990
	Yellow lid (RAL 1012) Light grey base (RAL 7035)	1	**XAM WK01**	0.465

Other versions

Insulated and metal control station enclosures with cut-outs for Ø 30 control and signalling units.
Protective guards and fixing lugs for die-cast metal enclosures.
Insulated and metal control station enclosures pre-fitted with Ø 22 units.
Adjustable floor mounting pedestal (790 mm to 1143 mm) for sheet steel enclosures.
Please consult your Regional Sales Office.

Characteristics: pages 2/34 and 2/35

Dimensions: pages 2/39 to 2/41

Control stations and enclosures

Control station enclosures: insulated, metal and flush mounting

With cut-outs for Ø 22 control and signalling units

XAP M1202

XAP M2203

XAP M2504

XAP M4508

XB2 SL42009

XB2 SL64007

References

Description	Front face dimensions mm	Number of cut-outs	Number of rows		Reference	Weight
			Vertical	Horizontal		kg
Die-cast metal enclosures (blue lid and base)						
Zinc alloy Usable depth 49 mm	80 x 80	1	1	1	**XAP M1201**	0.455
		2	2	1	**XAP M1202**	0.450
	80 x 130	2	1	2	**XAP M2202**	0.610
		3	1	3	**XAP M2203**	0.605
		4	2	2	**XAP M2204**	0.600
	80 x 175	3	1	3	**XAP M3203**	0.870
		4	1	4	**XAP M3204**	0.880
		6	2	3	**XAP M3206**	0.870
Zinc alloy Usable depth 74.5 mm	80 x 80	1	1	1	**XAP M1501**	0.605
		2	2	1	**XAP M1502**	0.600
	80 x 130	2	1	2	**XAP M2502**	0.810
		3	1	3	**XAP M2503**	0.815
		4	2	2	**XAP M2504**	0.810
	80 x 175	3	1	3	**XAP M3503**	1.145
		4	1	4	**XAP M3504**	1.140
		6	2	3	**XAP M3506**	1.130
	80 x 220	6	1	6	**XAP M4506**	1.380
		8	2	4	**XAP M4508**	1.370
Aluminium Usable depth 74.5 mm	85 x 310	8	1	8	**XAP M5508**	0.810
		12	2	6	**XAP M5512**	0.790
Aluminium Usable depth 78 mm	150 x 150	6	3	2	**XB2 SL32009**	0.970
		8	4	2	**XB2 SL42009**	0.960
Die-cast metal enclosures (yellow lid, blue base)						
Zinc alloy Usable depth 49 mm	80 x 80	1	1	1	**XAP J1201**	0.455
Zinc alloy Usable depth 74.5 mm	80 x 80	1	1	1	**XAP J1501**	0.605
Sheet steel enclosures						
Usable depth 115 mm	200 x 200	8	4	2	**XB2 SL42007**	3.100
	200 x 260	16	4	4	**XB2 SL44007**	3.900
	260 x 260	24	6	4	**XB2 SL64007**	4.700
	260 x 320	30	6	5	**XB2 SL65007**	5.500
	320 x 320	40	8	5	**XB2 SL85007**	6.200

Other versions

Insulated and metal control station enclosures with cut-outs for Ø 30 control and signalling units.
Protective guards and fixing lugs for die-cast metal enclosures.
Insulated and metal control station enclosures pre-fitted with Ø 30 units.
Adjustable floor mounting pedestal (790 mm to 1143 mm) for sheet steel enclosures.
Please consult your Regional Sales Office.

Characteristics: pages 2/34 and 2/35
Dimensions: pages 2/39 to 2/41

Control stations and enclosures

Control station enclosures: insulated, metal and flush mounting

Undrilled or with cut-outs for Ø 22 control and signalling units

XAP A1100

XAP A2100

XAP A3100

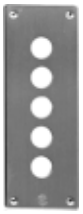
XAP M11

XAP M31

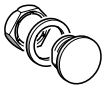
XAP E301

XAP E302

XAP E303



XAP E305



ZB2 SZ2

ZB2 SZ3
ZB2 SZ4

References

Insulated enclosures, undrilled

Description		Front face dimensions (mm)	Reference	Weight kg
Usable depth 83 mm	Without hinges	85 x 146	**XAP A1100**	0.470
		85 x 226	**XAP A2100**	0.600
		151 x 241	**XAP A3100**	0.860
	With hinges	151 x 241	**XAP A4100**	0.890
Earthing plates with earth screw	For XAP A1100	–	**XAP Z100**	0.080
	For XAP A2100	–	**XAP Z200**	0.130
	For XAP A3100 and A4100	–	**XAP Z300**	0.200

Die-cast metal enclosures, undrilled

Description	Material	Front face dimensions (mm)	Reference	Weight kg
Blue lid and base	Zinc alloy Usable depth 49 mm	80 x 80	**XAP M11**	0.460
		80 x 130	**XAP M21**	0.620
		80 x 175	**XAP M31**	0.900
	Zinc alloy Usable depth 74.5 mm	80 x 80	**XAP M14**	0.610
		80 x 130	**XAP M24**	0.830
		80 x 175	**XAP M34**	1.160
		80 x 220	**XAP M44**	1.410
	Aluminium Usable depth 74.5 mm	85 x 310	**XAP M54**	0.850
	Aluminium Usable depth 78 mm	150 x 150	**XB2 SA220095**	0.970
Yellow lid, blue base	Zinc alloy Usable depth 49 mm	80 x 80	**XAP J11**	0.460
	Zinc alloy Usable depth 74.5 mm	80 x 80	**XAP J14**	0.610
		80 x 175	**XAP J34**	1.160

Flush mounting enclosures for Ø 22 control and signalling units

Description	Material	Number of cut-outs	Front face dimensions (mm)	Reference	Weight kg
Front plates with fixing screws	Aluminium, anodised	1	72 x 72	**XAP E301**	0.050
		2	72 x 105	**XAP E302**	0.075
		3	72 x 138	**XAP E303**	0.095
		4	72 x 171	**XAP E304**	0.115
		5	72 x 204	**XAP E305**	0.135
Protective rear covers	Insulated	For front plate XAP E301		**XAP E901**	0.040
		For front plate XAP E302		**XAP E902**	0.050
		For front plate XAP E303		**XAP E903**	0.060
		For front plate XAP E304		**XAP E904**	0.070
		For front plate XAP E305		**XAP E905**	0.080

Separate components

Description		Colour	Unit reference	Weight kg
Blanking plugs with seal and fixing nut for cut-outs Ø $22.3^{+0.4}_{0}$ mm	Insulated	Black	**ZB2 SZ3**	0.005
		Grey	**ZB2 SZ4**	0.005
	Metal	Blue	**ZB2 SZ2**	0.020
Seal (IP 65 degree of protection) (sold in lots of 7)	For mounting Ø 22 control and signalling units in XAM W● enclosures		**ZB2 BZ004**	0.001

Other versions

Protective guards and fixing lugs for metal enclosures.
Flush mounting enclosures, undrilled or with Ø 30 cut-outs.
Flush mounting enclosures pre-fitted with Ø 22 units.
Please consult your Regional Sales Office.

Characteristics:
pages 2/34 and 2/35

Dimensions:
pages 2/39 and 2/41

Control stations and enclosures

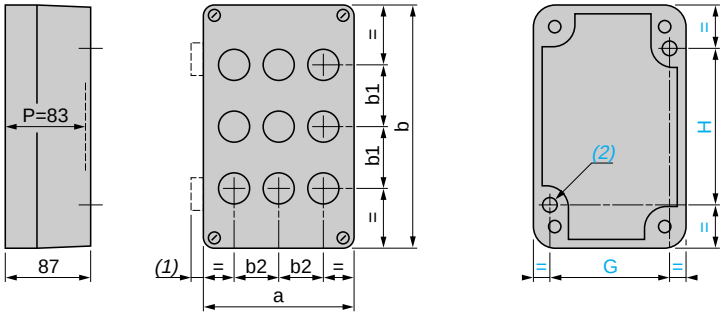
Control station enclosures: insulated, metal and flush mounting

With cut-outs for Ø 22 control and signalling units

Dimensions

Insulated enclosures with cut-outs

XAP A



XAP	a	b	b1	b2	G	H
A1110	85	146	–	–	70	105
A1120	85	146	40	–	70	105
A1104	85	146	40	30	70	105
A2108	85	226	40	30	70	180
A3116, A4116	151	241	40	30	135	200

Drill cable entries to suit.

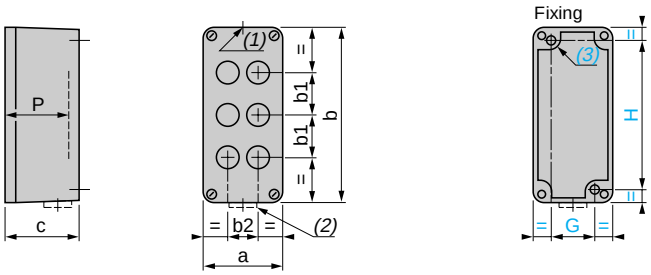
(1) 11 mm for XAP A4●●● enclosures with hinges.

(2) 2 x Ø 5.6 holes, depth 12.

P = Usable depth

Die-cast metal enclosures with cut-outs

XAP J, XAP M



XAP	a	b	b1	b2	c	G	H	P
J1201	80	80	–	–	51.5	50	65	49
J1501	80	80	–	–	77	50	65	74.5
M1201, M1202	80	80	–	–	51.5	50	65	49
M1501	80	80	–	–	77	50	65	74.5
M1502	80	80	–	30	77	50	65	74.5
M2202	80	130	40	–	51.5	50	115	49
M2203	80	130	30	–	51.5	50	115	49
M2204	80	130	40	30	51.5	50	115	49
M2502	80	130	40	–	77	50	115	74.5
M2503	80	130	30	–	77	50	115	74.5
M2504	80	130	40	30	77	50	115	74.5
M3203	80	175	40	–	51.5	50	160	49
M3204	80	175	30	–	51.5	50	160	49
M3206	80	175	40	30	51.5	50	160	49
M3503	80	175	40	–	77	50	160	74.5
M3504	80	175	30	–	77	50	160	74.5
M3506	80	175	40	30	77	50	160	74.5
M4506	80	220	30	–	77	50	205	74.5
M4508	80	220	40	30	77	50	205	74.5
M5508	85	310	30	–	77	55	295	74.5
M5512	85	310	40	30	77	55	295	74.5

(1) 1 hole, without blanking plug, for cable gland with 14 mm maximum clamping capacity, except:
- *XAP M3●●● and XAP M4●●●: maximum capacity 18 mm,*
- *XAP M5●●●: maximum capacity 24 mm.*

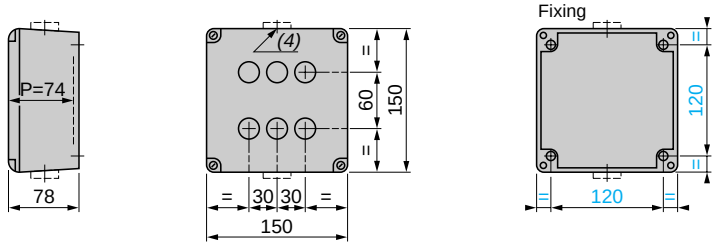
(2) 1 hole, with blanking plug (protrusion 6 mm), for cable gland with 14 mm maximum clamping capacity, except:
- *XAP M3●●●: maximum capacity 18 mm,*
- *XAP M4●●● and XAP M5●●●: undrilled.*

(3) 2 x Ø 5.6 holes, depth 20.

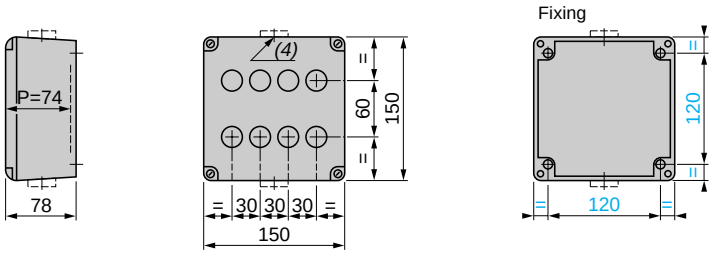
(4) 2 holes, with blanking plugs (protrusion 7.5 mm), for cable glands with 12 mm maximum clamping capacity.

P = Usable depth

XB2 SL32009



XB2 SL42009



Characteristics:
pages 2/34 and 2/35

References:
pages 2/36 to 2/38

Control stations and enclosures

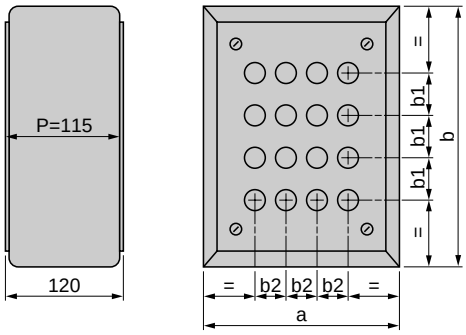
Control station enclosures: insulated, metal and flush mounting

Undrilled or with cut-outs for Ø 22 control and signalling units

Dimensions

Sheet steel enclosures

XB2 SL

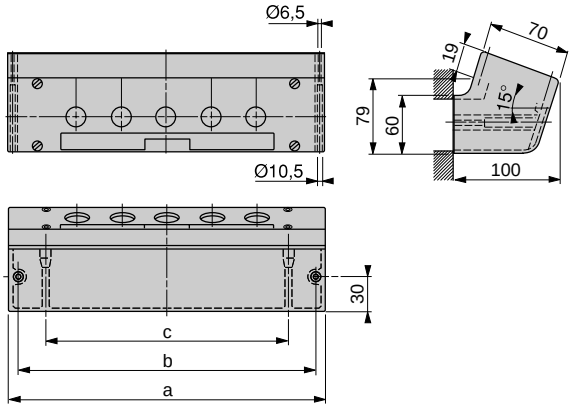


XB2	a	b	b1	b2
SL42007	200	200	40	30
SL44007	200	260	40	30
SL64007	260	260	40	30
SL65007	260	320	40	30
SL85007	320	320	40	30

Enclosures supplied without fixing points or cable entries. In both cases drill to suit.
The depth of the enclosures enables all types of Ø 22 units to be mounted.
P = Usable depth

Elbowed enclosures

XAM W●

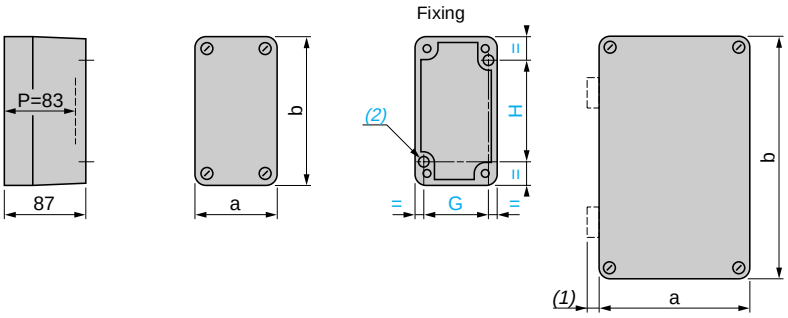


	a	b	c
XAM WD01	90	74	50
XAM WD02	135	119	95
XAM WD03	180	164	140
XAM WD04	180	164	140
XAM WD05	225	209	185
XAM WD06	290	274	230
XAM WD07	290	274	230
XAM WK01	90	74	50

Insulated enclosures, undrilled

XAP A1100, XAP A2100

XAP A3100, XAP A4100



XAP	a	b	G	H
A1110	85	146	70	105
A2100	85	226	70	180
A3100	151	241	135	200
A4100	151	241	135	200

Drill cable entries to suit.

(1) 11 mm for XAP A4●●● enclosures with hinges.

(2) 2 x Ø 5.6 holes, depth 12.

P = Usable depth

Characteristics:
pages 2/34 and 2/35

References:
pages 2/36 to 2/38

Control stations and enclosures

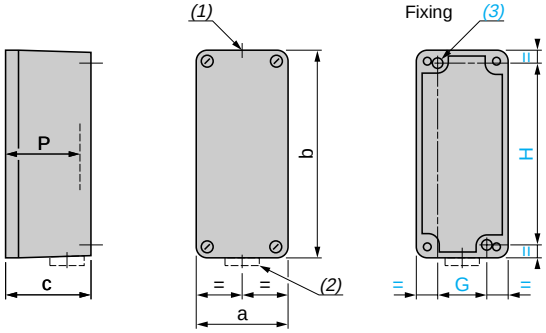
Control station enclosures: insulated, metal and flush mounting

Undrilled or with cut-outs for Ø 22 control and signalling units

Dimensions

Die-cast metal enclosures, undrilled

XAP J●●, XAP M●●



XAP	a	b	c	G	H	P
J11	80	80	51.5	50	65	49
J14	80	80	77	50	65	74.5
J34	80	175	77	50	160	74.5
M11	80	80	51.5	50	65	49
M14	80	80	77	50	65	74.5
M21	80	130	51.5	50	115	49
M24	80	130	77	50	115	74.5
M31	80	175	51.5	50	160	49
M34	80	175	77	50	160	74.5
M44	80	220	77	50	205	74.5
M54	85	310	77	55	295	74.5

(1) 1 hole, without blanking plug, for cable gland with 14 mm maximum clamping capacity, except:
- *XAP J34, M31, M34 and M44: maximum capacity 18 mm,*
- *XAP M54: maximum capacity 24 mm.*

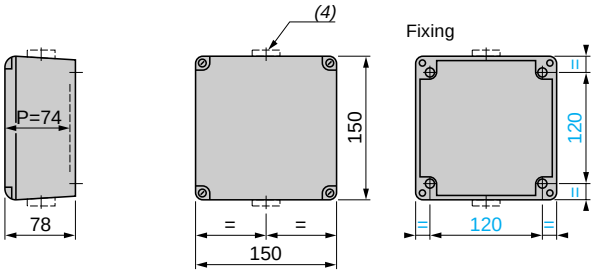
(2) 1 hole, with blanking plug (protrusion 6 mm), for cable gland with 14 mm maximum clamping capacity, except:
- *XAP J34, M31 and M34: maximum capacity 18 mm,*
- *XAP M44, M54: undrilled.*

(3) 2 x Ø 5.6 holes, depth 20.

(4) 2 holes, with blanking plug (protrusion 7.5 mm), for cable glands with 12 mm maximum clamping capacity.

P = Usable depth

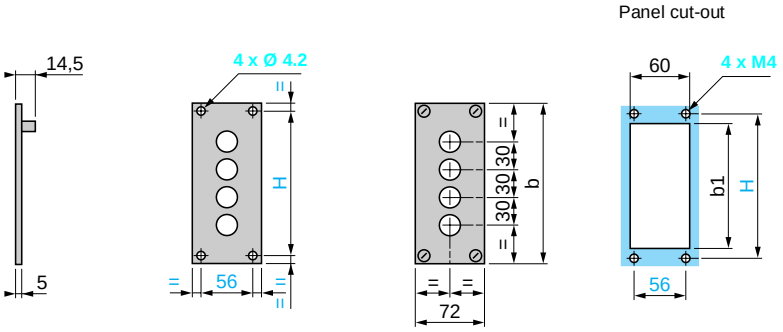
XB2 SA220095



Flush mounting enclosures

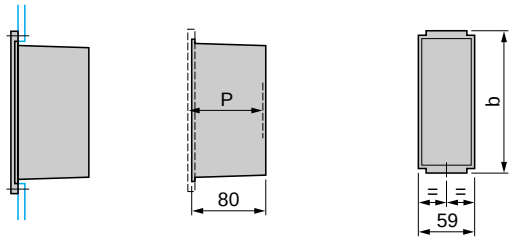
XAP E30●

Front plates with cut-outs for Ø 22 control and signalling units



For Ø 22 control and signalling units			
Front plate			
XAP	b	b1	H
E301	72	44	56
E302	105	77	89
E303	138	110	122
E304	171	143	155
E305	204	176	188

Mounting of front plate and protective rear cover on support panel



Protective rear cover for front plate XAP E30●		
XAP	b	P
E901	52	82.5
E902	85	82.5
E903	118	82.5
E904	151	82.5
E905	184	82.5

P = Usable depth

Characteristics:
pages 2/34 and 2/35

References:
pages 2/36 to 2/38

Control stations and enclosures
Key operated control stations

Operating principle

These control stations are fitted with a key operated lock and are designed to provide a starting or authorisation sequence by using the key.
To prevent unauthorised operation (shorting of the contact block) or tampering, the stations are fitted with a special lock featuring a pre-determined key position (other than its withdrawal position) that only allows removal of the front cover by the key holder.
The control stations are supplied with 2 keys.

Environment

Conformity to standards			IEC 947-5-1, EN 60947-5-1
Protective treatment	Standard version		"TC"
	Special version		"TH"
Ambient air temperature	For operation	**°C**	- 25…+ 70
	For storage	**°C**	- 40…+ 70
Electric shock protection	Conforming to IEC 536		Class I
Degree of protection	Conforming to IEC 529		IP 54
	Conforming to EN 50102		IK 08
Cable entries			1 tapped entry for cable gland and 1 entry through the rear (Ø 17 mm knock-out), with rubber cable grommet (see dimensions on next page)

Contact block characteristics

Nominal thermal current	Conforming to IEC 947-5-1	**A**	10
Rated insulation voltage			Ui = 600 V, degree of pollution 3 conforming to IEC 947-1
Rated impulse withstand voltage			Uimp = 6 kV conforming to IEC 947-1
Contact	Type		1 N/O slow break contact
	Material		Silver alloy (Ag/Ni)
Resistance across terminals		**mΩ**	⩽ 25
Terminal referencing			Conforming to EN 50013 and EN 50050
Short-circuit protection	Conforming to IEC 947-5-1		10 A cartridge fuse type gG

Rated operational power

Conforming to IEC 947-5-1.
Utilisation categories AC-15 and DC-13.
Operating rate: 3600 operating cycles/hour.
Load factor: 0.5

AC-15: A600			
Ue (V)	600	240	120
Ie (A)	1.2	3	6
DC-13: Q600			
Ue (V)	600	250	125
Ie (A)	0.1	0.27	0.55

d.c. supply ⎓
Power broken in W for 1 million operating cycles

Voltage (V)	24	48	120
⎓ (W)	65	48	40

Connection			Screw clamp terminals, cross head screws slotted for 4 and 5.5 mm screwdrivers Maximum clamping capacity: 1 x 2.5 mm^2 or 2 x 1.5 mm^2 with or without cable end Tightening torque: 0.8 Nm

Control stations and enclosures
Key operated control stations

References

XAP S11111N

XAP S21111

XAP S21331

XAP S24431

XAP SZ12

Control stations with 1 N/O contact per function

Description	Key withdrawal	Marking			Mounting	Reference	Weight kg
2 position, stay put	Left-hand position	**O**		**I**	Surface	**XAP S11111N**	0.830
					Flush	**XAP S14111N**	0.890
2 position, spring return from right to left	Left-hand position			→	Surface	**XAP S11221N**	0.830
					Flush	**XAP S14221N**	0.890
2 position, stay put + 2 spring return buttons	Left-hand position	↑		↓	Surface	**XAP S21111**	1.080
		O		**I**	Flush	**XAP S24111**	1.190
3 position, stay put	Centre position	↑	**O**	↓	Surface	**XAP S11331N**	0.850
					Flush	**XAP S14331N**	0.910
3 position, spring return from left and right to centre	Centre position	↑	**O**	↓	Surface	**XAP S11431N**	0.850
					Flush	**XAP S14431N**	0.910
3 position, stay put + 1 spring return button	Centre position		**Stop O**		Surface	**XAP S21331**	1.070
		←		→	Flush	**XAP S24331**	1.180
3 position, spring return from left and right to centre + 1 spring return button	Centre position		**Stop O**		Surface	**XAP S21431**	1.070
		←		→	Flush	**XAP S24431**	1.180

100 x 100 front plates (for XAP S11●●●N control stations)

Description	Marking			Reference	Weight kg
2 position, stay put	**O**		**I**	**XAP SZ11**	0.045
2 position			→	**XAP SZ12**	0.045
3 position	↑	**O**	↓	**XAP SZ13**	0.045

Other versions XAP S control stations with front plate without fixing hole (fixing by enclosure).
XAP S control stations with specific markings and/or key numbers.
Please consult your Regional Sales Office.

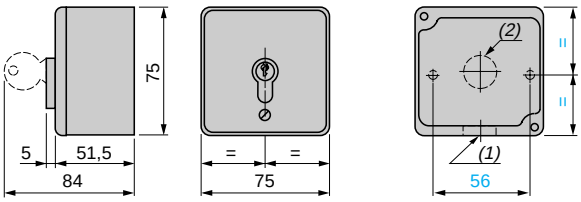
Accessories (for control stations XAP S11●●●N and XAP S14●●●N)

Description	Key number	Reference		Weight (kg)	
		Key only	2 keys + barrel *(1)*	Key only	2 keys + barrel
Keys	Number to be stated	**XAP SZ50**	**XAP SZ15**	0.011	0.140
	BC1011	**XAP SZ01**	**XAP SZ16**	0.011	0.140
	BC1025	**XAP SZ02**	**XAP SZ17**	0.011	0.140
	BC1029	**XAP SZ03**	**XAP SZ18**	0.011	0.140
	BC1031	**XAP SZ04**	**XAP SZ19**	0.011	0.140
	BC1069	**XAP SZ05**	**XAP SZ20**	0.011	0.140

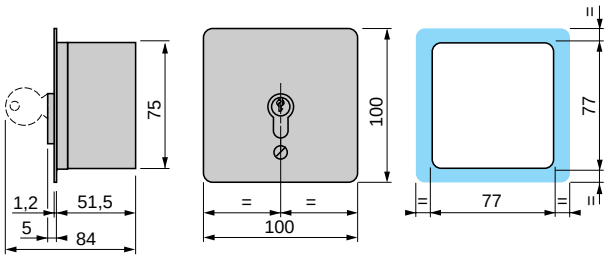
(1) For barrels with other key numbers, please consult your Regional Sales Office.

Dimensions, mounting

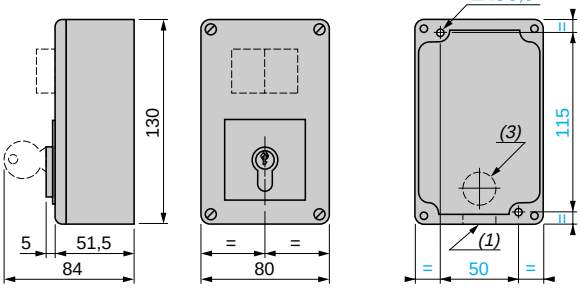
XAP S11●●●N



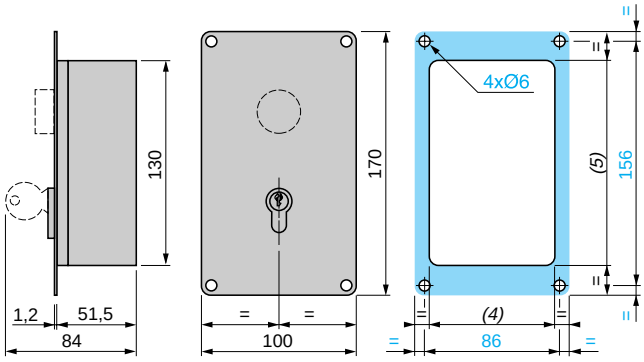
XAP S14●●●N Panel cut-out



XAP S21●●● Fixing



XAP S24●●● Panel cut-out



(1) 1 tapped entry for 12 mm maximum capacity cable gland.
(2) Knock-out: cable entry through rear, Ø 17 mm.
(3) Optional: cable entry through rear.
(4) 81 mm min.
(5) 131 mm min.

Control stations and enclosures
Emergency stop and fire alarm stations

Environment

Conformity to standards		All models		IEC 337-1, NF C 63-140, VDE 0660-200, CSA C 22-2 n° 14.
		XAS E35		NF C 15-100 (537-2)
Product certifications	Standard version	XAS E, XAS P		NEMKO
Protective treatment	Standard version	XAS P, XAS E		"TC"
Ambient air temperature	For operation		**°C**	- 25…+ 70
	For storage		**°C**	- 40…+ 70
Vibration resistance		XAS E35		15 gn (40…500 Hz) conforming to IEC 68-2-6
Electric shock protection		XAS E		Class I conforming to IEC 526 and NF C 20-030
		XAS P		Class II conforming to IEC 526 and NF C 20-030
Degree of protection		XAS E		IP 54
		XAS P		IP 40
Cable entries				See dimensions, page 2/45

Contact block characteristics

Nominal thermal current	**A**	10 conforming to IEC 337-1, NF C 63-140, VDE 0660-200
Nominal insulation voltage	**V**	500 conforming to IEC 158-1, NF C 20-040, VDE 0110
Insulation category		Group C conforming to NF C 20-040 and VDE 0110
Contact operation		Slow break
Terminal referencing		Conforming to CENELEC EN 50013
Short-circuit protection		10 A cartridge fuse type g or N conforming to IEC 337-1B, VDE 0660-200

Rated operational power

Conforming to IEC 337-1. Utilisation categories AC-11 and DC-11.
Operating rate: 3600 operating cycles/hour.
Load factor: 0.5.

a.c. supply ∿ 50-60 Hz
Power broken in VA
∩∩∩ Inductive circuit

Voltage V	24	48	127	220
XAS P●●	200	400	650	700
XAS E●●	200	550	750	650

d.c. supply ⎓
Power broken in W
∩∩∩ Inductive circuit

Voltage V	24	48	120
XAS P●●	65	48	40
XAS E●●	85	70	65

Connection

Screw clamp terminals.
Clamping capacity: min. 1 x 0.5 mm², max. 1 x 2.5 mm² or 2 x 1.5 mm²

References

XAS P1●

XAS E11

Emergency stop stations

Description	Release	Contacts	Reference	Weight kg
Conforming to standard NF C 15-100 Manually operated after breaking glass *(1)*	With hammer and access key	N/C	**XAS E32**	1.060
		N/C + N/O	**XAS E35**	1.075

Fire alarm stations

Description	Application	Contact state *(1)* Closed	Open	Reference	Weight kg
"Buildings" type Double insulated semi-recessed mounting (Ø 60 mm cut-out) using fixing clamps	Automatically operated as glass broken	1	–	**XAS P11**	0.140
		–	1	**XAS P12**	0.140
"Industry" type Zinc alloy Wall mounted using screw fixings Hammer and access key included	Automatically operated as glass broken	1	–	**XAS E11**	1.060
		–	1	**XAS E12**	1.060
		2	–	**XAS E13**	1.075
		–	2	**XAS E14**	1.075
		1 +	1	**XAS E15**	1.075
	Manually operated after breaking glass	1	–	**XAS E21**	1.060
		–	1	**XAS E22**	1.060
		2	–	**XAS E23**	1.075
		–	2	**XAS E24**	1.075
		1 +	1	**XAS E25**	1.075

(1) Contact state:
- *for automatically operated stations: after breaking the glass,*
- *for manually operated stations: after breaking the glass and pressing the button.*

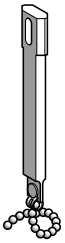
Other versions

Two-hand control station on adjustable height plinth.
Please consult your Regional Sales Office.

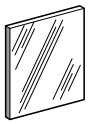
References (continued)

ZB2 BE10●

XEN L21●●


XAS X01

XAS X09


XAS X02

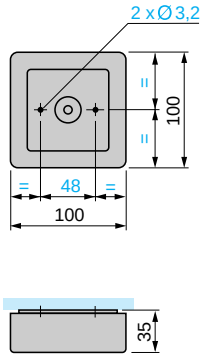
Separate components and spare parts

Description	Application	Contact	Reference	Weight kg
Contact blocks slow break *(1)*	For XAS P1●	Closed	**ZB2 BE102**	0.015
		Open	**ZB2 BE101**	0.015
	For XAS E1● *(2)*	Closed	**XEN L2121**	0.013
		Open	**XEN L2111**	0.013
	For XAS E2●, XAS E3● *(2)*	Closed	**XEN L2111**	0.013
		Open	**XEN L2121**	0.013
Hammer	For XAS P or XAS E	–	**XAS X01**	0.090
Glass	For XAS P or XAS E	–	**XAS X02**	0.014
Access key	For XAS E	–	**XAS X09**	0.016

(1) The contact states (closed or open) for XAS P and XAS E1● control stations are after breaking the glass and for XAS E2● control stations, after breaking the glass and pressing the button.
(2) For control stations with 2 contacts, use 2 single contact blocks.
Examples: for XAS E13, use 2 x XEN L2121; for XAS E25 or E35, use 1 x XEN L2121 + 1 x XEN L2111.

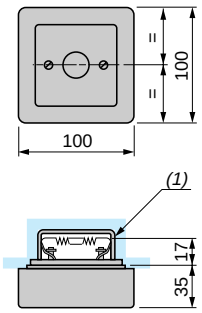
Dimensions

XAS P●●
Screw fixing



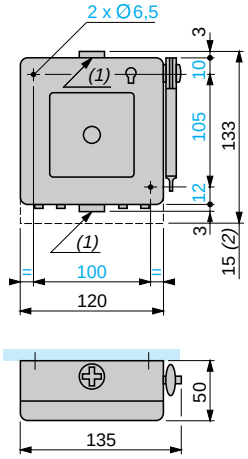
For fixing, open cover.

XAS P●●
Fixing by clamps in Ø 60 cut-out for semi-recessed mounting



For fixing, open cover.
(1) Semi-recessed mounting.

XAS E●●
Screw fixing, cover opened for access



(1) 1 tapped entry for 12 mm maximum capacity cable gland.
(2) Allowance for opening cover.

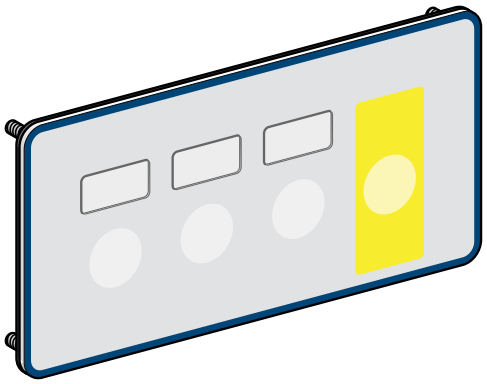
Installation system

Profil front panels for Harmony® style 4 and style 5 pushbuttons, switches and pilot lights

Description

Profil is a modular front panel solution for standard Human-Machine Interface applications.
The front panels are made of aluminium and are covered with a polyester membrane. Three sizes are available for fitting of 4, 8 or 12 metal or plastic Ø 22 mm control and signalling units.
The front panel is held in position by threaded inserts. The rear panel comprises a printed circuit board onto which the contact blocks are fitted and a connector provides the electrical connection between the module and the rest of the installation.
This simple and aesthetic solution simplifies the installation of a dialogue block by reducing both drilling and cabling operations.
It is particularly suitable for small and medium sized groups of machines.
When the Profil front panel is mounted directly on the machine, it incorporates a location for the Emergency stop unit and ensures a degree of protection of IP 65.

Profil front panels are available in three forms

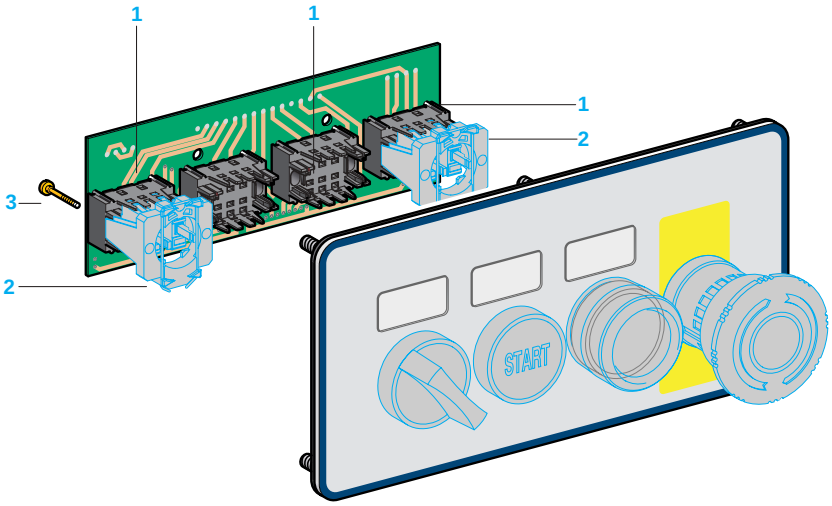


Front panel only

■ for mounting dialogue components using traditional wiring,

or

■ for implementation of printed circuit by the user.

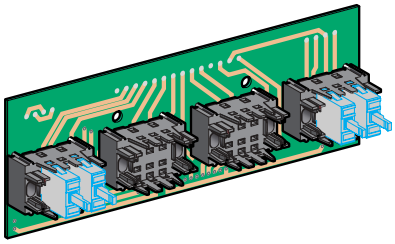


Front panel + printed circuit board

with corresponding adaptors 1 for the Ø 22 mm ranges of pushbuttons, switches, pilots, contact blocks and light blocks.

Connection by screw terminal connector.

Use at least one support pillar 2 with its 2 fixing screws 3 for every 2 dialogue components, and also beneath each Emergency stop unit.



Printed circuit board only

with soldered adaptor, screw terminal connector or 4 I/4 O connector for AS-Interface bus.

For quantities of units in excess of a few hundred, the front panels can be customised, for example: colours, logo, specific markings. Please consult your Regional Sales Office.

Characteristics : page 2/47
References : pages 2/47 and 2/48
Dimensions : page 2/49

Installation system

Profil front panels for Harmony® style 4 and style 5 pushbuttons, switches and pilot lights

Characteristics

Conforming to standards			IEC 60947-1, IEC 60947-5-1, UL 508, CSA C-22-2 n° 14
Product certifications			CSA, UL
CE marking			Profil front panels have been designed to comply with European LV directives
Shock protection Conforming to IEC/EN 61140	Panel fitted with **XB4 B** units		Class I
	Panel fitted with **XB5 A** units		Class II
Degree of protection			IP 65
Ambient air temperature around the device	Operation	**°C**	- 25…+ 70
	Storage	**°C**	- 40…+ 70
Vibration resistance Conforming to IEC 60068-2-6	Panel fitted with **XB4 B** or **XB5 A** units		15 gn for all units except mushroom head pushbuttons (frequency 10 to 500 Hz)
			5 gn for mushroom head pushbuttons (frequency 10 to 500 Hz)
Electric shock resistance Conforming to IEC 60068-2-27	Panel fitted with **XB4 B** or **XB5 A** units		All functions except mushroom head pushbuttons (half sine wave acceleration 11 ms): 50 gn
			Mushroom head pushbuttons (half sine wave acceleration 11 ms: 10 gn
Rated operational current (Ie) Supply via connector	Per circuit comprising 4 units	**A**	1 at ≂ 30 V
	Total (3 circuits each comprising 4 units)	**A**	3 at ≂ 30 V
Cabling capacity	Using screw connector	**mm²**	1.5
	Connector for AS-Interface	**mm²**	1.5
AS-Interface profile S7.0	Outputs for 4 pilot lights		⎓ 24 V, 1.2 W, 50 mA per output
	Inputs for 4 N/C or 4 N/O contacts		24 V, 5 mA

References

821035

KT4 F

821036

KT8 F

821037

KT12 F

Description	Number of holes for dialogue units	Reference	Weight kg
Front panels			
Front panels only with location for Emergency stop unit	4	**KT4 F**	0.242
	8	**KT8 F**	0.340
	12	**KT12 F**	0.430
Front panels only without location for Emergency stop unit	4	**KT4 G**	0.242
	8	**KT8 G**	0.340
	12	**KT12 G**	0.430
Front panels with location for Emergency stop unit + printed circuit board with soldered adaptor	4	**KT4 EHC**	0.312
	8	**KT8 EHC**	0.466
	12	**KT12 EHC**	0.624

Description	Maximum number of associated dialogue units	Reference	Weight kg
Printed circuit board only			
Printed circuit board with soldered adaptor	4	**KT4 BHC**	0.146
	8	**KT8 BHC**	0.230
	12	**KT12 BHC**	0.312
Printed circuit board only with integral 4 I/4 O interface for AS-Interface line	4	**KT4 BHS**	0.230

Presentation : page 2/46

Dimensions : page 2/49

Installation system

Profil front panels for Harmony® style 4 and style 5 pushbuttons, switches and pilot lights

Separate components

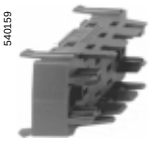
ZBE 701

ZBV B●7

ZB4 BZ009

ZBE BZ009 + ZB4 BZ079

ZB5 AZ009



ZBZ 01●

XBY 2U

Separate components

Contact blocks for printed circuit board

Description	Type of contact N/O	Type of contact N/C	Sold in lots of	Unit reference	Weight kg
Standard contact blocks	1	–	10	**ZBE 701**	0.002
	–	1	10	**ZBE 702**	0.002
Special contact blocks (for low power switching and with dust protection)	1	–	10	**ZBE 7016**	0.003
	–	1	10	**ZBE 7026**	0.003

Light blocks for printed circuit board

Description	Supply voltage V	Colour of LED	Sold in lots of	Unit reference	Weight kg
Integral LED	≂ 24	White	5	**ZBV B17**	0.004
		Green	5	**ZBV B37**	0.004
		Red	5	**ZBV B47**	0.004
		Yellow	5	**ZBV B57**	0.004
		Blue	5	**ZBV B67**	0.004

Fixing collars with electrical blocks (contact or light)

For use with	Sold in lots of	Unit reference	Weight kg
XB4 B dialogue units	10	**ZB4 BZ009**	0.038
XB5 A dialogue units	10	**ZB5 AZ009**	0.006

Accessories for printed circuit board mounting

Description	For use with	Sold in lots of	Unit reference	Weight kg
Support pillar for printed circuit board *(1)*	XB4 B units	10	**ZB4 BZ079**	0.003
	XB5 A units	10	**ZB5 AZ079**	0.006

Adaptor (socket) for printed circuit board

For use with	Thickness of printed circuit board	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	1.6 mm ± 0.2	10	**ZBZ 010**	0.008
	2.2 mm ± 0.2	10	**ZBZ 011**	0.008
	3.2 mm ± 0.2	10	**ZBZ 012**	0.008
Fixing screws for mounting printed circuit board on support pillar	Mounting electrical blocks using adaptor ZBZ 010	10	**ZBZ 006**	0.011

Other accessories

Description	For use with	Sold in lots of	Unit reference	Weight kg
Blank legend strip	4 dialogue units (1 row)	10	**KTL**	–
Sheet of 76 8 x 27 mm legends	For sticking onto strip KTL	10	**ZBY 4100**	0.043
"SIS Label" labelling software for use with legend strip KTL	English, French, German, Italian, Spanish	1	**XBY 2U**	0.100

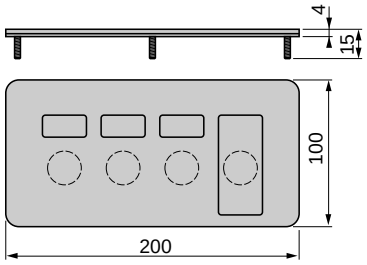
(1) Use at least one support pillar with its 2 fixing screws for every 2 dialogue units fitted (and beneath each Emergency stop unit).

Presentation : page 2/46
Characteristics : page 2/47
Dimensions : page 2/49

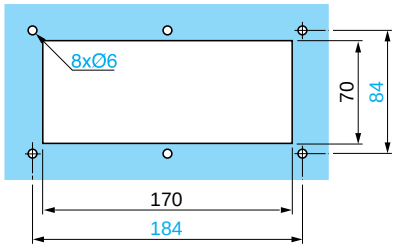
Installation system

Profil front panels for Harmony® style 4 and style 5 pushbuttons, switches and pilot lights

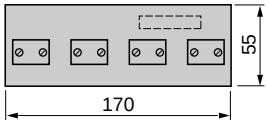
Front panel
KT4 F



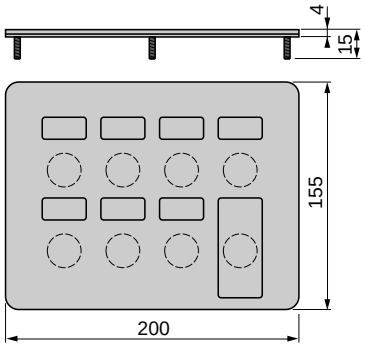
Support cut-out



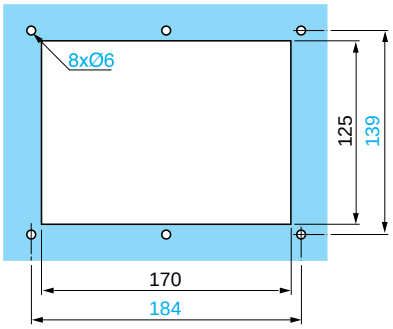
Printed circuit board
KT4 BHC



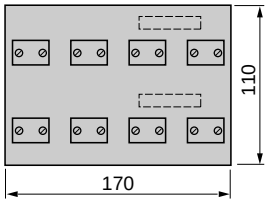
Front panel
KT8 F



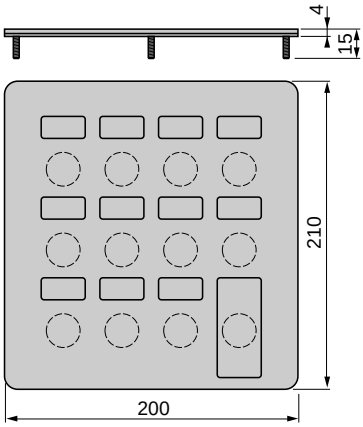
Support cut-out



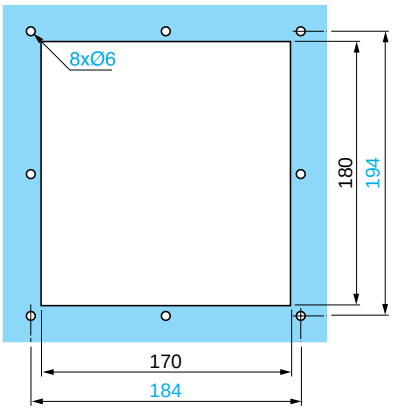
Printed circuit board
KT8 BHC



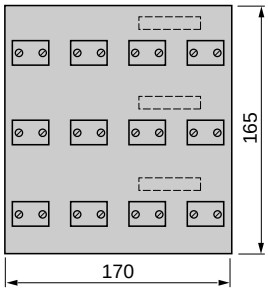
Front panel
KT12 F



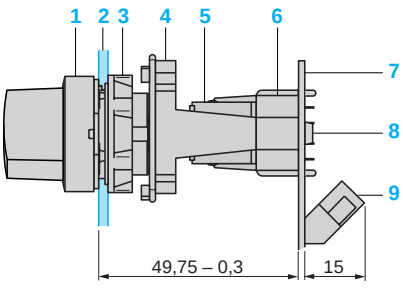
Support cut-out



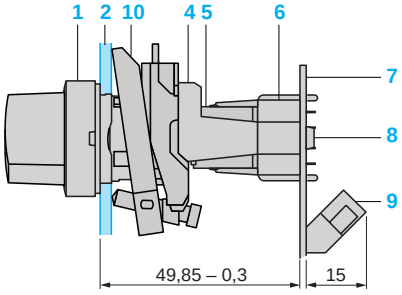
Printed circuit board
KT12 BHC



Mounting detail for printed circuit board
XB5 A



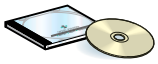
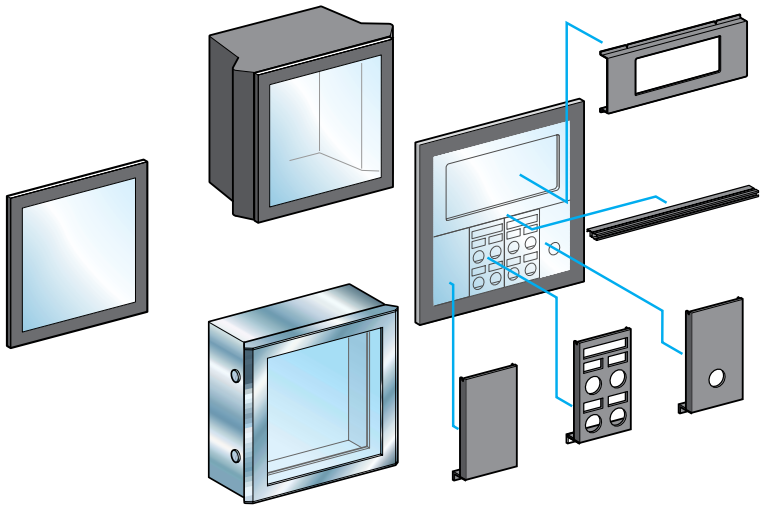
XB4 B



1 Head ZB5 A or ZB4 B
2 Panel (Profil front panel)
3 Fixing nut for head
4 Support pillar
5 Electrical block ZBE 70●/ZBV B●7
6 Adaptor socket ZBZ 01●
7 Printed circuit board
8 Fixing screw ZBZ 006
9 Connector (included with printed circuit board)
10 Fixing collar ZB4 BZ009

Presentation : page 2/46
Characteristics : page 2/47
References : pages 2/47 and 2/48

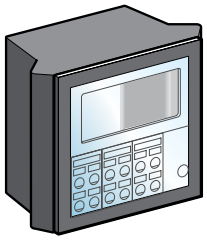
Installation system
Tego Dial for Human-Machine interfaces

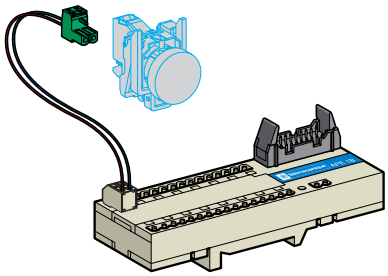
Functions	Define	Assemble
		

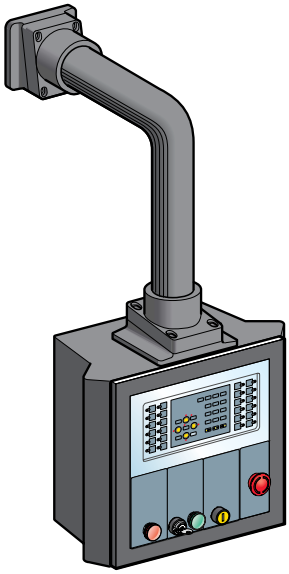
Product type		Software	Dialboard front panels					Dialpack control console			Solid plates	Plates with cut-outs	
For Human-Machine Interfaces		All types	All types								Special types	Ø 16, 22 and 30 units	
Number of modules *(1)*	Height H	–	3	6	9	9	9	3	6	9	9	1 to 7	1 to 3
	Width W	–	4	4	2	4	6	4	4	4	6	1 to 4	1 to 4
Type		On CD-Rom	–										
Models		–	–					Steel or stainless steel type 304			–		
Set-up accessories		–	Tool kit, cross-pieces, brackets, wiring guide, ducting clips										
References		APD 1C	APD 1B					APD 1P			APD 1V	APD 1D	
Pages		2/61	2/58								2/59	2/58 and 2/59	

(1) H = 50 mm, L = 75 mm.

	Connect	Build into machines







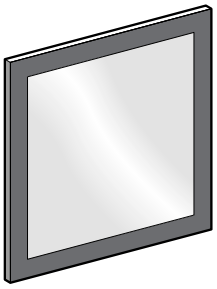
	Pre-assembled kits		Connecting cables for pushbutton controls	Interfaces for Dialbase PLC or AS-Interface Line	Dialfix fixed arms	Dialmove moving arms
Display units Terminals Keypads	Magelis XBT P and Ø 22 pushbutton controls		Ø 16 and 22	–	–	
1 to 7	6		–		–	
1 to 6	4		–		–	
	Dialboard	Dialpack	–		Complete kit	Components to be assembled
□ DIN display units □ Magelis terminals □ XBL C● keypads □ Various display units	–		2-way connector	□ HE10 connector 8I/8O or 16I □ 230 V □ AS-Interface	□ Straight fixed arm, 500 or 1000 mm in length □ Elbowed fixed arm, 500 mm in length	□ Straight tubes □ Right-angled joints □ Rotating or tilted joints □ Straight or elbowed fixings, fixed or rotating
			Self-stripping connectors		–	
APD 1A	**APD 1Z**		**APE 1C**	**APE 1B** **APE 1F**	**APD 1F**	**APD 1M**
2/59 and 2/60	2/60		2/64		2/65	2/67

Installation system
Tego Dial for Human-Machine interfaces

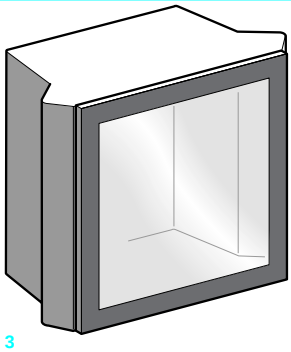
Presentation

The modular Tego Dial system is used to define Human-Machine interfaces. It facilitates the installation of Ø 22, 16 and 30 mm control and signalling units, DIN format display units, Magelis terminals and display units, XBL keypads and other products.
Tego Dial simplifies an HMI application by:
- definition of the application by Tego Dial Design software,
- quick assembly of control, signalling and display units, through the use of modular elements,
- standard connections from the control and signalling units to PLCs, buses and other products,
- easy integration of the dialogue application into the machine, control panel, enclosure or machine housing, either directly or using suspension arms.

Description



1



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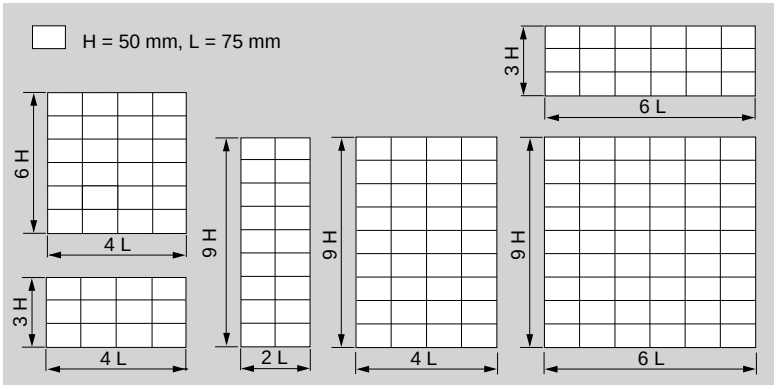

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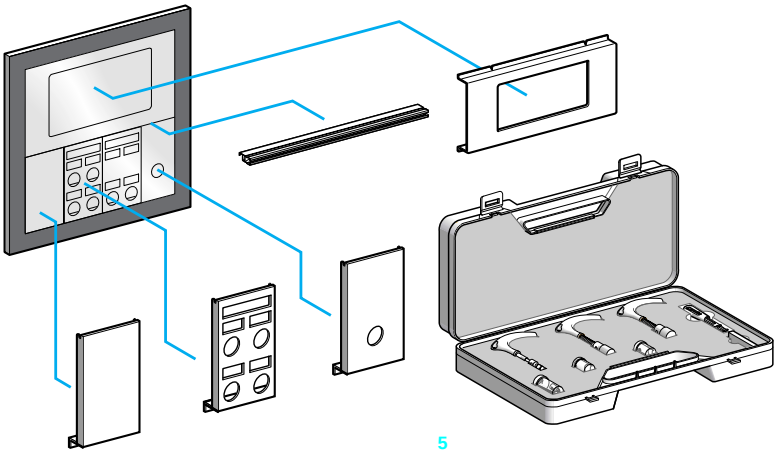


5

4

■ **Tego Dial Design definition software**
This software on CD-ROM facilitates graphical definition of the dialogue application in relation to the control units, pilot lights and display units necessary for the device.
It selects the correct Tego Dial components that are required for the application and also features a legend design and printing function, for both the front panel and the connections.

■ **Dialboard front panels** 1
The front panels basically comprise a grey, RAL 7016, painted aluminium frame which is covered by a polycarbonate film.
Six sizes are available 2 based on a modular pattern of height H = 50 mm and width W = 75 mm. The sizes are 3H x 4W, 3H x 6W, 6H x 4W, 9H x 2W, 9H x 4W and 9H x 6W

■ **Dialpack control consoles** 3
Four control consoles are available in the following modular sizes: 3H x 4W, 6H x 4W, 9H x 4Wand 9H x 6W.
The Dialpack console is an assembly comprising a Dialboard type front panel and a folded and welded sheet steel enclosure, painted in textured grey RAL 7016.
The front panel is hinged and can be opened to 120°. Closing is by a 1/4 turn device, with stop and locking by Ronis key n° 455. Double bar or CNOMO triangular key locks are also available. A customising component in 2 versions - yellow or unpainted - enhances the Dialpak unit and makes it more ergonomic. A Dialpack S version in stainless steel type 304 is available for corrosive environments. This version conforms to enclosure standard EN 50298.

■ **Plates and cross-pieces** 4
A range of modular dimensioned plates facilitates the installation of all combinations of control and signalling units, operator dialogue terminals and other devices. These plates are attached directly to the framework of the front panel.
The plates, made from sheet steel and painted grey RAL 7016, are designed for the following product ranges:
- Ø 22, Ø 16 and Ø 30 control and signalling units,
- DIN format display units,
- operator terminals and displays (Magelis and others),
- keypads,
- other units: joystick controllers, cam switches, etc.

Cross-pieces aid vertical mounting of several rows of plates.
Cut-outs in the plates are dimensioned to suit the dialogue or display units that are to be installed. Some plate versions for Ø 22 units are available with knock-outs, which need to be removed before mounting the product. Other versions incorporate cut-outs for clip-in mounting of the transparent polycarbonate legend holders included with the plate.
Alternatively, solid plates are also available for mounting any special equipment required.

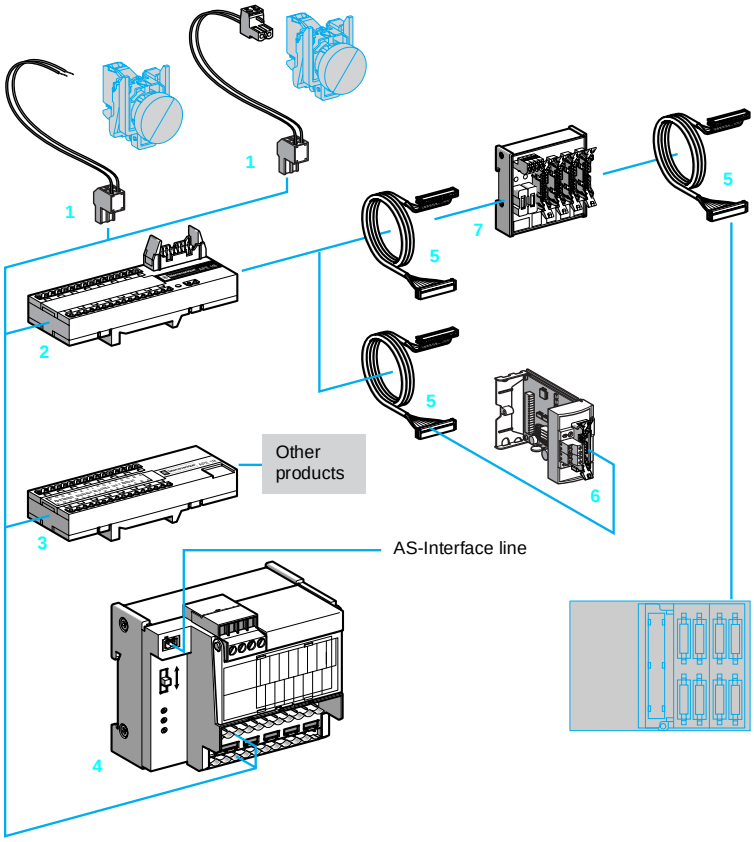
■ **Tool Kit** 5
The installation of dialogue and display units requires cut-outs to be made through the polycarbonate film. To simplify this operation, the plate is marked with cut-out guides and a tool kit is available, comprising cutting tools and replacement blades.

■ **Pre-assembled kits**
Dialboard and Dialpack with pre-assembled plates and cross-pieces are available.

Characteristics : pages 2/54 to 2/57
References : pages 2/58 to 2/61
Dimensions, schemes : pages 2/68 to 2/73

Installation system
Tego Dial for Human-Machine interfaces

Standard connections



Tego Dial offers a range of interface components and cabling accessories that simplify connection of control and signalling units to PLCs, buses and other products.
The main components which make up this range are:
- prefabricated connection cables and self-stripping connectors 1, on 5 mm pitch, for connecting control and signalling units to Dialbase interfaces,
- Dialbase 8I/8O or 16I interfaces 2, with integrated commons, for connecting control and signalling units to PLCs via prefabricated Telefast connection cables 5,
- an active splitter block 7 for connecting a Dialbase 8I/8O interface to PLCs with a connection modularity greater than 8I/8O,
- a Dialbase 230 V interface 3 for connecting control and signalling units to any product up to 230V,
- a Dialbase AS-Interface 4I/4O module 4, with integrated commons for connecting control and signalling units to the AS-Interface line.

The selection guide on page 2/62 indicates the type and quantity of components (Dialbase interfaces, active splitter block, Telefast connection cables) required to connect the control and signalling units to various types of PLC. The most efficient connection is achieved using the Dialbase 8I/8O interface and the Telemecanique TSX Micro PLC card TSX DMZ16DTK 6.

Dialfix and Dialmove suspension arms

The Dialpack control console can be fitted directly using four adjustable lugs, AE3-FX122. However, for improved ergonomy, it is usually mounted on a suspension arm. This can be either fixed (Dialfix) or moving (Dialmove).

Dialfix fixed arms
Two versions are available:
- a straight fixed arm kit, comprising a straight Ø 70 mm tube, 500 or 1000 mm in length, and a pair of clamps (one for each end). Depending on which way round the clamps are fitted, an inclination of +/- 15° from the neutral position can be achieved.
- an elbowed (90°) fixed arm kit, 500 mm in length. This kit also includes the pair of clamps described above.

Arms for corrosive environments
These arms, in 304 type stainless steel, provide 350° rotation on the Dialpack fixing side. Two versions are available:
- straight arm kit, length 1000 mm.
- 90° elbowed arm kit, length 500 mm.

Dialmove moving arms
This arm enables an extensive choice of mounting configurations. The cabling runs through the elements which have removable side covers for easy access.
Various configurations can be achieved by combining the following components:
- straight tubes (100 to 1000 mm long),
- 90° joint,
- wall fixing brackets (straight or elbowed, fixed or mobile),
- straight fixing plates (one fixed, one rotating) for Dialpack,
- 15° tilted joints,
- rotating joint allowing -90° to +90° rotation in the same plane.

Characteristics : pages 2/54 to 2/57
References : pages 2/58 to 2/61
Dimensions, schemes : pages 2/68 to 2/73

Installation system
Tego Dial for Human-Machine interfaces
Dialboard front panels and Dialpack control consoles

Environment

Product type			Dialboard APD 1B●●	Dialpack APD 1P●●	Dialpack APD 1P●●S
Protective treatment			"TC"		"TH"
Ambient air temperature	Storage	°C	- 25…+ 55		
	Assembly	°C	- 5…+ 40		
Operating conditions			For indoor use only		
Vibration resistance	Conforming to Bureau VERITAS		5…100 Hz, 0.7 gn		
Resistance to mechanical shock	Conforming to IEC 68-2-27		11 ms (half sine wave), 15 gn (acceleration)		
Resistance to external mechanical impact	Conforming to EN-50-102		IK9		
Degree of protection	IEC 529 - DIN40050 NFC 20-010		IP 55 (Dialboard mounted in its cut-out)	IP 65	
Resistance to incandescent wire	Conforming to IEC 695-2-1	°C	960		
Maximum thermal resistance		W	–	**1P34** 50 / **1P64** 100 / **1P94** 160	**1P345** 40 / **1P645** 90 / **1P945** 130 / **1P965** 160
Product certifications			UL, CSA BV (pending)		

Mechanical characteristics

Material	Front panel film		Polycarbonate (Vinyl-acrylic Co-polymer protection)		
	Frame		Aluminium	Aluminium (outside of Dialpack)	Aluminium (inside of Dialpack)
	Door		–	Aluminium + polycarbonate	Stainless steel type 304 + polycarbonate
	Rear console		–	Sheet steel, folded and welded	Stainless steel type 304
Paint finish	Frame		Textured, 100 % polyester powder over chromate primer		Clear anodising (inside of Dialpack)
	Rear console		–	Textured 100 % polyester over zinc phosphate primer	–
Colour	Frame		Grey RAL 7016		–
	Rear console		–	Grey RAL 7016	–
Door opening			–	Hinged, 120° opening	Hinged, 120° opening (can be lifted off hinges)
Closure system			–	1/4-turn device with stop, Ronis key n° 455	1/4-turn device with stainless steel stop, double bar key
Plates/frame earth continuity			Via construction + screw		
Earthing			By screw on frame	M6 studs + earth cable	
Permissible load			25 kg evenly distributed		
Sealing gasket			Polyurethane continuous seal		
Fixing			By clamps (included)	Drilled (positions premarked)	Drilled

Characteristics of front panel film: resistance to chemical products *(1)*

Chemical products			Immersion in the product		Depositing of drips	
Family	**Type**	**Concentration/pH**	**External panel**	**Internal panel**	**External panel**	**Internal panel**
Solvents	Trichlo	100 %	Not resistant	Not resistant	Resistant	Not resistant
	Acetone	100 %	Not resistant	Not resistant	Resistant	Not resistant
	Balthane	100 %	Not resistant	Not resistant	Resistant	Not resistant
Hydrocarbons	Petrol	100 %	Resistant	Resistant 24 H	Resistant	Resistant
Cutting oil	40R oil	100 %	Resistant	Resistant	Resistant	Resistant
Alcohol	Methanol	100 %	Not resistant	Not resistant	Resistant	Resistant
	Ethanol	100 %	Not resistant	Not resistant	Resistant	Resistant
Miscellaneous	White spirit	100 %	Resistant	Resistant	Resistant	Resistant
Acids	Chlorine	30 %	Resistant	Resistant	Resistant	Resistant
	Lactic acid	pH4	Resistant	Resistant	Resistant	Resistant
Others	Sulphur	pH13	Resistant	Resistant	Resistant	Resistant
	Industrial detergent	pH10	Resistant	Resistant	Resistant	Resistant

(1) Information given is typical. Special conditions (temperature, dilution rates, mixing of products, etc) may cause results to vary. Please consult your Regional Sales Office which will be happy to provide samples for your tests.

Presentation : page 2/52 References : page 2/64 Dimensions : page 2/68

Installation system
Tego Dial for Human-Machine interfaces
Dialbase interfaces and active splitter

Environment

Product types			APE 1B24●, 1R1628, 1FASI1	APE 1PAD21	APE 1PR21
Protective treatment			"TC"	–	–
Degree of protection (against direct contact)	Conforming to IEC 529		IP 20	IP 20	IP 20
Product certifications	UL, CSA		Yes	Yes	Pending
	BV		Pending	Pending	Pending
	AS-Interface (for **APE 1FASI1** only)		N° 179	–	–
Resistance to incandescent wire	Conforming to IEC 695-2-1	**°C**	750: extinction < 30 s	–	–
Resistance to mechanical shock	Conforming to IEC 68-2-27	**ms**	11 (half sine wave)	–	–
		gn	15 (acceleration)	–	–
Vibration resistance	Conforming to Bureau VERITAS	**Hz**	5…100	–	–
		gn	0.7 (acceleration)	–	–
Resistance to electrostatic discharge	Conforming to IEC 1000-4-2		Level 3	–	–
Resistance to radiated fields	Conforming to IEC 1000-4-3	**MHz**	Level 3	–	–
Resistance to fast transients	Conforming to IEC 1000-4-4		Level 3	–	–
Electrical surge withstand	Conforming to IEC 1000-4-5	**kV**	1 at 2 Ω (series mode), 2 at 12 Ω (common mode)	–	–
Ambient air temperature					
Operation	Conforming to IEC 1131-2	**°C**	- 5…+ 60	–	–
	Conforming to IEC 998-2-3/999-8-8	**°C**	–	< 60	< 55
Storage	Conforming to IEC 1131-2	**°C**	- 40…+ 80	–	–
Insulation voltage	Terminals/mounting rails	**kV**	2 (for 1 minute)	–	4 (for 1 minute)
	Conforming to IEC 998-1	**kV**	–	0.5	0.5
Permissible voltage	Conforming to IEC 998-2-3	**kV** (c)	–	< 0.25	< 0.25
Permissible current	Conforming to IEC 998-2	**A**	–	< 9	< 12
Resistance to withdrawal of cable		**N**	–	30	50 (for 2.5 mm²)
Installation category	Conforming to IEC 664		II	–	–
Degree of pollution	Conforming to IEC 664		2	–	–
Mounting	Standard mounting rail or support supplied		Height of standard ⊓ mounting rail 7.5 or 15 mm	–	–

Connectors

Base type	APE 1B24M	APE 1B24E	APE 1B230	APE 1R1628	APE 1FASI1	APE 1PAD21	APE 1PR21
Number of channels and functions	8 inputs and 8 outputs	16 inputs	–	16 I + 16 O in 2 x 8 I/8 O	4 inputs 4 solid state outputs	–	–
Number of active ways	–	–	16, volt-free	–	–	2	2
Connector type, component side	2-way, 5 mm pitch per channel	2-way, 5 mm pitch per channel	Up to 16-way, 5 mm pitch	2 x HE 10, 20-way	2-way, 5 mm pitch per channel	2-way, 5 mm pitch per channel	2-way, 5 mm pitch
Connector type / number of ways, PLC side	1 x HE 10, 20-way	1 x HE 10, 20-way	–	2 x HE 10, 20-way	–	–	–
Connector type, AS-Interface side	–	–	–	–	2 x 2-way, 5 mm pitch	–	–
Connection, cable side	–	–	–	–	–	Manual, cannot be disconnected	Spring, can be disconnected
Compatible cable	–	–	–	–	–	AWG-18-1007 or HO5VK 0.75 mm² *(1)*	0.14 to 2.5 mm² *(1)* 0.2 to 2.5 mm² *(2)*

(1) Flexible cable, multicore, copper
(2) Rigid cable.

Presentation : pages 2/52 and 2/53
References : page 2/64
Dimensions, schemes : pages 2/70 and 2/73

Installation system
Tego Dial for Human-Machine interfaces
Dialbase active splitter

Supply characteristics

Base type				APE 1B24M	APE 1B24E	APE 1B230	APE 1R1628	APE 1FASI1
Connector type	Accessory plug			2-way, 5 mm pitch *(1)*	2-way, 5 mm pitch *(1)*	–	–	–
	Supply plug			–	–	–	4-way, 5 mm pitch *(1)*	2 x 4-way, 5 mm pitch *(1)* inputs via AS-Interface line, outputs via external ⎓ 24 V supply
Supply indicator			–	Green LED on inputs		–	Green LED on inputs Green LED on outputs	Green LED on inputs (via AS-Interface line) Green LED on outputs (external)
Supply voltage		⎓	**V**	Separate inputs and outputs 19 to 30 conforming to DIN, IEC 1131 (Un = 24)		≤ 250 ∿	Inputs and outputs 19 to 30 conforming to DIN, IEC 1131 (Un = 24)	Inputs: via AS-Interface line Outputs: external 19 to 30 (conforming to DIN)
Maximum permissible supply current	Inputs		**A**	1	2	–	0.9	< 0.25 (via AS-Interface line)
	Outputs		**A**	1	–	–	1.8	4 (external)
Maximum current from accessory plug		⎓	**A**	1 (less current drawn by inputs)	2 (less current drawn by inputs)	–	–	–
Voltage drop at supply fuse		⎓	**V**	–	–	–	0.3	0.2
Supply overload and short-circuit protection	Inputs	⎓	**A**	1 upstream per APE 1R1628 or PLC supply *(2)*	2 upstream per PLC supply *(2)* or per accessory plug *(2)*	–	1 per “quick-blow” fuse (included)	0.2 per current limiter (via AS-Interface line)
	Outputs	⎓	**A**	1 upstream per APE 1R1628 or PLC supply *(2)*	–	–	2 per “quick-blow” fuse (included)	4 per HPC" quick-blow" fuse (included) (external)

Input and output circuit characteristics (active side)

Maximum permissible current		⎓	**A**	0.5 per channel	0.5 per channel	8 per way	0.5 per channel (1 A max. per group of 8 channels) *(3)*	Inputs: type II 1131-2 Outputs: 0.5 per channel, auto-protected
Maximum length of supply connection cables, for 1 volt voltage drop *(4)*	AWG 22 *(5)*		**m**	17.5 (1 A)	35 (1 A) - 18 (2 A)	–	–	–
	AWG 26 *(6)*		**m**	7.5 (1 A)	15 (1 A) - 10 (1.8 A)	–	–	–
	AWG 28 *(7)*		**m**	5 (1 A)	10 (1 A)	–	–	–

(1) Compatible with 5.08 mm pitch.
(2) “Quick-blow” fuse (5 x 20 or 10 x 38) not included.
(3) Output channels auto-protected against short-circuits and overloads ≥ 0.75 A.
(4) For n volts tolerance, multiply length by n.
(5) AWG 22, c.s.a. 0.324 mm², connection cables TSXCDP●●●3 and ABF A●●●.
(6) AWG 26, c.s.a. 0.13 mm², connection cables ABF ●●●
(7) AWG 28, c.s.a. 0.008 mm², connection cables TSXCDP●●●2 and ABF H●●●.

Presentation : pages 2/52 and 2/53
References : page 2/64
Dimensions, schemes : page 2/70

Installation system
Tego Dial for Human-Machine interfaces
Dialfixe and Dialmove suspension arms

Dialfix suspension arms APD 1F●●● and APD 1S●K●

Reference		APD 1F●K●		APD 1S●K●	APD 1FSF1
Component		**Tube**	**Clamp**	**Stainless steel arm**	**Support foot**
Material		Aluminium 6060, treated	CFA glass fibre reinforced polyamide	Stainless steel type 304	Sheet steel, folded and welded
Paint finish		100 % polyester powder	Tinted throughout	–	100 % polyester powder
Colour		Grey RAL 7016	Grey RAL 7016	Satin finish stainless steel	Grey RAL 7016
Tube/clamp fixing		By 2 screws, Ø 4.2 (included) + 4 HCM6 screws (included)	–	By 2 screws (included)	–
Clamp fixing on Dialpack or support		–	By 4 M6 screws (included)	By 4 screws (included)	–
Earth continuity and earth connection		By cable (included)	–	By construction	By construction
Permanent permissible load		8 kg at 1 m, 16 kg at 0.5 m	8 kg at 1 m, 16 kg at 0.5 m	12 kg at 1 m, 24 kg at 0.5 m	8 kg at 1 m, 16 kg at 0.5 m
Fleeting permissible overload		30 kg at 1 m, 60 kg at 0.5 m	30 kg at 1 m, 60 kg at 0.5 m	40 kg at 1 m, 80 kg at 0.5 m	30 kg at 1 m, 60 kg at 0.5 m
Degree of protection of mounted assembly conforming to standards	IEC 529	IP 55	IP 55	IP 65	IP 55
	DIN 40050	IP 55	IP 55	IP 65	IP 55
	NF C 20-010	IP 55	IP 55	IP 65	IP 55
Continuous sealing gasket		Polychloroprene	Polychloroprene	Nitrile elastomer	Polybutadiene nitrile acrylic
Protective treatment		"TC"	"TC"	–	"TC"
Product certifications		BV (pending)	BV (pending)	BV (pending)	BV (pending)

Dialmove suspension arms APD-1M●●●

Component		Tubes **APD 1M●●●** except **APD 1M1FDR** and **APD 1M1RDR**	Tube **APD 1M1FDR**	Tube **APD 1M1RDR**	Cover for **APD 1M●●●**
Material		Aluminium	Aluminium	Aluminium-bronze	ABS
Paint finish		100 % polyester powder	100 % polyester powder	100 % polyester powder	Tinted throughout
Colour		Grey RAL 7016	Grey RAL 7016	Grey RAL 7016	Grey RAL 7016
Earth continuity		By construction	By construction	By construction	–
Earthing		By construction	By construction	By construction	–
Maximum permissible distance of load		1600 mm	600 mm	850 mm	–
Permanent permissible load		30 kg	15 kg	15 kg	–
Degree of protection of mounted assembly conforming to standards	IEC 529	IP 55 (assembly mounted)	IP 55 (assembly mounted)	IP 55 (assembly mounted)	IP 44 (cover on tubes)
	DIN 40050	IP 55 (assembly mounted)	IP 55 (assembly mounted)	IP 55 (assembly mounted)	IP 44 (cover on tubes)
	NF C 20-010	IP 55 (assembly mounted)	IP 55 (assembly mounted)	IP 55 (assembly mounted)	IP 44 (cover on tubes)
Fixing components sealing gasket		NBR 50-60 SHORE seal	NBR 50-60 SHORE seal	–	–
Protective treatment		"TC"	"TC"	"TC"	"TC"
Maximum number of cables *(1)*		4 x Ø 13 mm	4 x Ø 13 mm	4 x Ø 13 mm	–
Maximum room for connectors		60 x 25 mm	60 x 25 mm	60 x 25 mm	–
Product certifications		BV (pending)	BV (pending)	BV (pending)	BV (pending)

(1) Total number in the two spaces on either side of the arm.

Presentation : pages 2/53 and 2/66
References : pages 2/65 and 2/67
Dimensions, schemes : pages 2/71 and 2/72

Installation system

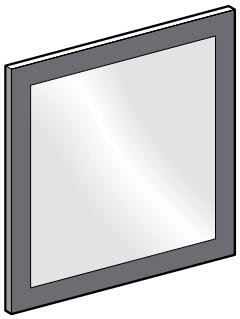
Tego Dial for Human-Machine interfaces

Dialboard front panels and Dialpack control consoles

Plates for Ø 22 control and signalling units

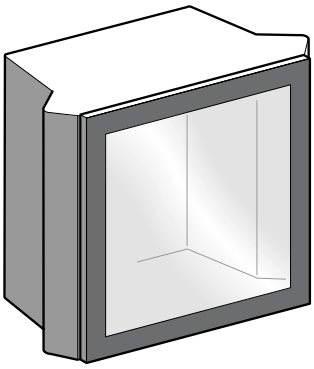
2

816751



APD 1B●●

816750



APD 1P●●

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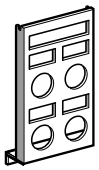

APD 1D2431●

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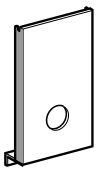

APD 1D21310

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APD 1D2221●

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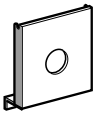

APD 1D21210

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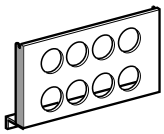
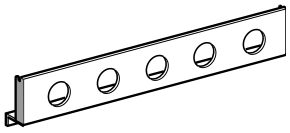


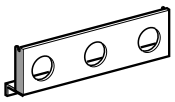
APD 1D28220

816745



APD 1D25140

816743



APD 1D23120

Dialboard front panels

Number of modules H	Number of modules W	Reference	Weight kg
3	4	**APD 1B34**	0.600
	6	**APD 1B36**	0.800
6	4	**APD 1B64**	1.200
9	2	**APD 1B92**	1.150
9	4	**APD 1B94**	1.500
	6	**APD 1B96**	1.850

Dialpack control consoles (front panel included)

Number of modules H	Number of modules W	Material	Key supplied	Reference	Weight kg
3	4	Sheet steel	N° 455	**APD 1P34**	3.300
		Stainless steel type 304	Double bar	**APD 1P34S**	5.900
6	4	Sheet steel	N° 455	**APD 1P64**	4.750
		Stainless steel type 304	Double bar	**APD 1P64S**	7.300
9	4	Sheet steel	N° 455	**APD 1P94**	6.000
		Stainless steel type 304	Double bar	**APD 1P94S**	9.200
	6	Sheet steel	N° 455	**APD 1P96**	8.500
		Stainless steel type 304	Double bar	**APD 1P96S**	13.000

Plates for Ø 22 control and signalling units

No. of modules H	No. of modules W	Finish *(1)*	No. of units	Pitch between units Horiz. mm	Pitch between units Vertical mm	No. of legend holders *(2)*	Reference	Weight kg
3	1	Drilled	4	37.5	55.5	3	**APD 1D24310**	0.120
	1	Knock-outs	4	37.5	55.5	3	**APD 1D24311**	0.130
	1	Drilled	1	–	–	0	**APD 1D21310**	0.130
2	1	Drilled	2	37.5	–	2	**APD 1D22210**	0.085
	1	Knock-outs	2	37.5	–	2	**APD 1D22211**	0.095
	1	Drilled	1	–	–	0	**APD 1D21210**	0.095
2	2	Drilled *(3)*	8	30	40	0	**APD 1D28220**	0.160
1	4	Drilled *(3) (4)*	5	56.25	–	0	**APD 1D25140**	0.230
1	2	Drilled *(3) (4)*	3	57	–	0	**APD 1D23120**	0.120

(1) The plates are supplied either pre-drilled or with knock-outs, depending on the reference. For the latter version, the required knock-outs must be removed in order to mount Ø 22 control and signalling units.
(2) Legend holders included with plates.
(3) Side covers included with plates.
(4) The selector switches must be mounted horizontally.

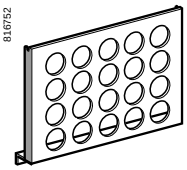
Installation system

Tego Dial for Human-Machine interfaces

Plates for Ø 16 and Ø 30 control and signalling units

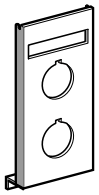
Solid plates and plates for other units

816752



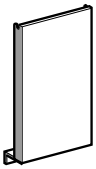
APD 1D1X220

816753



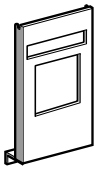
APD 1D32310

816754



APD 1V21

816755



APD 1A21D44

Plates for Ø 16 and Ø 30 control and signalling units

Units		No. of modules		Finish	Pitch between units		No. of legend holders *(2)*	Reference	Weight
Ø	No.	H	W		Horiz.	Vertical			
					mm	mm			kg
16	5	1	2	Drilled *(1)*	24	–	–	**APD 1D15120**	0.120
	12	2	1	Drilled *(1)*	24	19	–	**APD 1D1X210**	0.085
	20	2	2	Drilled *(1)*	24	19	–	**APD 1D1X220**	0.160
30	2	3	1	Drilled *(1)*	–	60	1	**APD 1D32310**	0.120

Solid plates

Number of modules		Reference	Weight
H	W		kg
1	1	**APD 1V11**	0.064
	2	**APD 1V12**	0.130
	4	**APD 1V14**	0.250
2	1	**APD 1V21**	0.100
	2	**APD 1V22**	0.195
	4	**APD 1V24** *(3)*	0.565
3	1	**APD 1V31**	0.135
	2	**APD 1V32**	0.255
	4	**APD 1V34** *(3)*	0.680
4	1	**APD 1V41**	0.200
	4	**APD 1V44** *(3)*	0.830
	6	**APD 1V46** *(3)*	1.320
5	1	**APD 1V51**	0.235
	4	**APD 1V54** *(3)*	0.950
	6	**APD 1V56** *(3)*	1.500
6	1	**APD 1V61**	0.270
	4	**APD 1V64** *(3)*	1.180
	6	**APD 1V66** *(3)*	1.670
7	4	**APD 1V74** *(3)*	1.310
	6	**APD 1V76** *(3)*	1.850

Plates for DIN format display units

Type of DIN products		No. of modules		No. of products	No. of legend holders *(2)*	Reference	Weight
Height	width	H	W				
mm	mm						kg
24	48	1	2	2 *(1)*	–	**APD 1A12D24**	0.115
		2	1	1	1	**APD 1A21D24**	0.085
		2	1	1	1	**APD 1A21D44**	0.065
72	72	2	1	1	–	**APD 1A21D77**	0.080
48	96	2	2	1	–	**APD 1A22D49**	0.160
24	48	3	1	2 *(1)*	2	**APD 1A31D24**	0.120
48	48	3	1	2 *(1)*	1	**APD 1A31D44**	0.100
96	48	3	1	1	0	**APD 1A31D94**	0.100

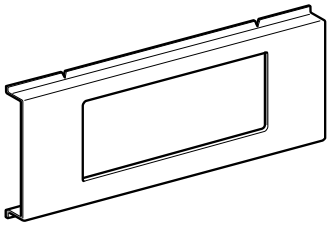
(1) Side covers included with plates.
(2) Legend holders included with plates.
(3) This plate must be mounted on the first row at the top of Dialboard unit APD 1B●● or of the door of Dialpack unit APD 1P●●.

Installation system

Tego Dial for Human-Machine interfaces

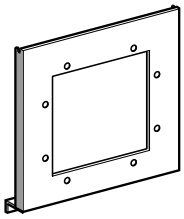
Plates for other units, pre-assembled kits

816756



APD 1A34H00

816757

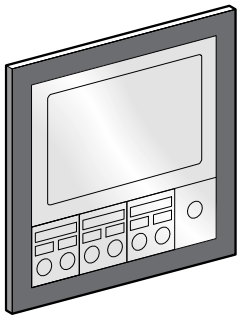


APD 1A32C12

816758

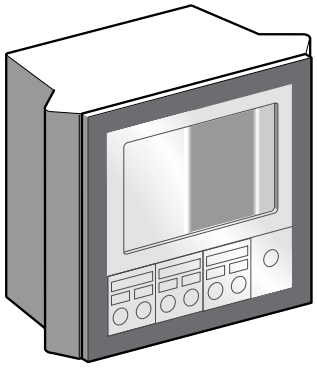
APD 1A21XDA

816759



APD 1ZB64PA

816760



APD 1ZP64PA

Plates for Magelis operator terminals and display units *(1)*

Product type	No. of modules H	No. of modules W	No. of products	Reference	Weight kg
XBT H	3	4	1	**APD 1A34H00**	0.550
XBT HM	3	4	1	**APD 1A34HM0**	0.545
XBT P, XBT PM	4	4	1	**APD 1A44P00**	0.580
XBT F032	4	4	1	**APD 1A44F32**	0.630
XBT E	5	4	1	**APD 1A54E00**	0.560
XBT F033/034/FC044/ FC064/FC084, TXBT F034 *(3)*	5	4	1	**APD 1A54F33** *(4)*	0.560
	5	6	1	**APD 1A56F33**	1.000
XBT F01	6	4	1	**APD 1A64F1**	0.778
XBT F02, TXBT F02 *(3)*	7	4	1	**APD 1A74F2** *(4)*	0.650
	7	6	1	**APD 1A76F2**	1.025

Plates for various operator terminals and display units *(1)*

Product type	No. of modules H	No. of modules W	No. of products	Reference	Weight kg
T CCX17●OL●	5	4	1	**APD 1A5417L**	0.730
Siemens OP3, PILZ PX 30	3	4	1	**APD 1A34S03**	0.580
Siemens OP5, PILZ PXT 305	4	4	1	**APD 1A44S05**	0.650
Siemens OP07	4	4	1	**APD 1A44S07**	0.650
Siemens OP17	5	4	1	**APD 1A54S17**	0.600
Siemens OP25 and OP27	5	4	1	**APD 1A54S25**	0.600
Lauer PCS090	4	4	1	**APD 1A44L90**	0.650
Lauer PCS095	5	4	1	**APD 1A54L95**	0.600
Omron NT20S	3	4	1	**APD 1A34O20**	0.560

Plates for keypads

Product type	No. of modules H	No. of modules W	No. of products	Reference	Weight kg
XBL C1012/C5012R581	3	2	1	**APD 1A32C12**	0.215
XBL C1016	3	2	1	**APD 1A32C16**	0.205
XBL C1020	3	2	1	**APD 1A32C20**	0.195

Plates for various other products

Product type	No. of modules H	No. of modules W	No. of products	No. of legend holders *(2)*	Reference	Weight kg
Joystick controller XDA ●11 Mini-vario VN12, VN20 Vario V0 to V2, K cam switch	2	1	1	1	**APD 1A21XDA**	0.090
Joystick controller XDA ●11 Mini-vario VN12, VN20 Vario V0 to V2 K cam switch	3	1	1	1	**APD 1A31XDA**	0.130

Pre-assembled kits for Magelis XBT P (size 6H x 4W)

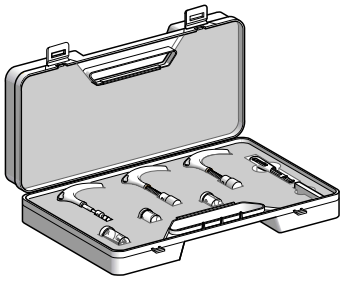
Type	Composition: Support	Plate: Display	Plate: Buttons	Cross-piece	Reference	Weight kg
Dialboard kit	Dialboard APD 1B64	APD 1A44P00	1 x APD 1D21210 3 x APD 1D22211	1	**APD 1ZB64PA**	2.180
Dialpack kit	Dialboard APD 1P64	APD 1A44P00	1 x APD 1D21210 3 x APD 1D22211	1	**APD 1ZP64PA**	5.730

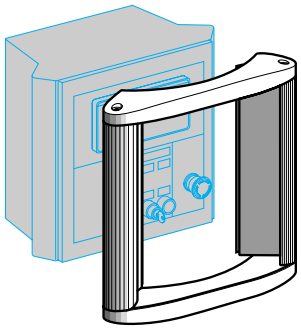
(1) This plate must be mounted on the first row at the top of Dialboard unit APD 1B●● or of the door of Dialpack unit APD 1P●●
(2) Legend holders included with plates.
(3) A TXBT cannot be fitted in Dialpack consoles ***APD 1P●4.***
(4) These plates are not compatible with Dialboard front panels and Dialpack ***APD 1●●6*** *terminals.*

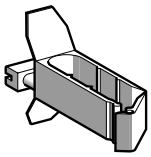
Installation system
Tego Dial for Human-Machine interfaces
Accessories

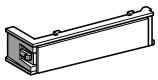
816763

APD 1T4

DF565346

APD 1KT1

DF565347

APD 1L●●●

816765

APE 1G1

816761

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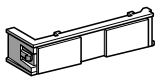
816768

APD 1S1P2

816766

XAP P9110

816767

XAP P9111
APD 1YST6

816762

AE3 FX122

Cross-pieces

Description	Use	No. of modules W	Reference	Weight kg
Plate support cross-pieces	Dialboard	2	**APD 1T2**	0.045
	Dialboard or Dialpack	4	**APD 1T4**	0.085
		6	**APD 1T6**	0.125

Tego Dial Design

Description	Language	Version	Medium	Reference	Weight kg
Definition software	English and French	02	CD-Rom	**APD 1C00M**	0.100

Tools

Description	Use	Reference	Weight kg
Tool kit	For making Ø 22, 16, 5 and other size cut-outs	**APD 1KT1**	1.130
1 replacement blade	Ø 22 cut-out tool	**APD 1KT2**	0.009
	Ø 16 cut-out tool	**APD 1KT16**	0.023
1 pack of 10 replacement blades	Stanley knife	**APD 1KTCU**	0.050

Customising components for Dialpack

Description	For Dialpack Reference	Finish	Reference	Weight kg
Customising components/gripping handles	APD 1P34	Yellow	**APD 1L34Y**	0.820
		Unpainted	**APD 1L340**	0.820
	APD 1P64	Yellow	**APD 1L64Y**	1.120
		Unpainted	**APD 1L640**	1.120
	APD 1P94	Yellow	**APD 1L94Y**	1.420
		Unpainted	**APD 1L940**	1.420

Accessories

Description	Use	Material	Sold in lots of	Unit reference	Weight kg
Wire guide	Dialboard and Dialpack	Black polyamide	10	**APE 1G1**	0.005
Ducting support *(1)*	Dialboard and Dialpack	Black polyamide	10	**APE 1G2**	0.006
Self-adhesive Ø 60 yellow sticker, Emergency Stop	Ø 22 plates APD 1D21●1●	–	10	**APD 1YARJ**	0.002

Replacement legend holder

Description		Use	Sold in lots of	Unit reference	Weight kg
Legend holder	1 function	Plate	10	**APD 1S1P1**	0.045
	2 functions	Plate	10	**APD 1S1P2**	0.045

Separate locks for Dialpack APD 1P●●

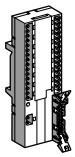
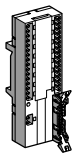
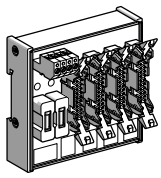
Description	Use	Sold in lots of	Unit reference	Weight kg
Lock with double bar key		1	**XAP P9110**	0.100
Lock with triangular key	CNOMO n° 8	1	**XAP P9111**	0.100
	CNOMO n° 6.5	1	**APD 1YST6**	0.100

Fixing lugs for Dialpack APD 1P●●

Description	Use	Material	Sold in lots of	Unit reference	Weight kg
Rotatable fixing lugs	–	Steel	4	**AE3 FX122**	0.080

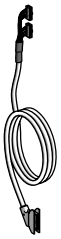
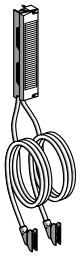
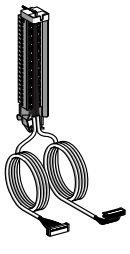
(1) Recommended ducting: ***AK2 GD2525*** *and* ***AK2 GD2550*** *with cover* ***AK2 CD25****.*

Installation system
Tego Dial for Human-Machine interfaces
Connections

PLCs					Components required for connection to the PLC			
Brand	Type	Modularity of connection to the PLC	PLC terminal blocks	Compatible PLC cards	Tego Dialbase		Telefast cables	Splitter block
					APE 1B24M 8 I/8 O	APE 1B24E 16 I	ABF H20H●●0 or TSXCDP●●3	APE 1R1628
								
Telemecanique	TSX Micro	8 I + 8 O	–	TSXDMZ16DTK	**1**	**–**	**–**	**–**
		16 I +16 O	–	TSXDMZ64DTK	**1** *(1)*	**–**	**1**	**1**
		16 I	–	TSXDMZ64DTK/DMZ28DTK	**–**	**1**	**–**	**–**
Telemecanique	TSX premium	16 I +16 O	–	TSXDEY16FK/32D2K/64D2K, TSXDSY32T2K/64T2K	**1** *(1)*	**–**	**1**	**1**
		16 I	–	TSXDEY16FK/32D2K/64D2K	**–**	**–**	**1**	**–**
Telemecanique	TSX 47-107	16 I + 16 O	–	TSXBLK71 + TSXDET32●●, TSXBLK91 + TSXDST3292	**1** *(1)*	**–**	**1**	**1**
		16 I	–	TSXBLK71 + TSXDET32●●	**–**	**–**	**1**	**–**
Modicon	Compact 984/A120	16 I +16 O	–	DA0216, DAP216/217, DE0216, DEP217/220	**1** *(1)*	**–**	**1**	**1**
		16 I	–	DE0216, DEP217, DEP220	**1**	**–**	**–**	**–**
Modicon	Quantum	32 I + 32 O	–	DDI353/853, DD0353	**1** *(1)*	**–**	**1**	**1**
		32 I	–	DDI353/853	**–**	**1**	**–**	**–**
April	Series 1000	32 I + 32 O	–	IDB3224, QDB/QPA3205	**1** *(1)*		**1**	**1**
		32 I	–	IDB3224	**–**	**–**	**1**	**–**
Siemens	95U and 100U	8 I + 8 O	Included with cable	4218MA12, 4318MA11, 4418MA11, 4518MA11	**1** *(1)*	**–**	**–**	**–**
		16 I + 16 O	6EP5●●●●1AA00	4828MA13	**1** *(1)*	**–**	**1**	**1**
		8 I + 8 I	Included with cable	4218MA12, 4318MA11		**1**	**–**	**–**
		16 I	6EP5●●●●1AA00	4228MA11, 4828MA13	**–**	**1**	**–**	**–**
Siemens	115U	8 I + 8 O	6EP5●●●●1AA00	4207LA11, 4307LA12, 4417LA11, 4517LA11/21	**1**	**–**	**–**	**–**
	135/155U	8 I + 8 O	6EP5●●●●1AA00	4204UA14, 4304UA14, 4414UA14, 4514UA14	**–**	**–**	**–**	**–**
	115U	8 I	6EP5●●●●1AA00	4207LA11, 4307LA12, 4517LA21	**–**	**1**	**–**	**–**
	135/155U	8 I	6EP5●●●●1AA00	4204UA14	**–**	**–**	**–**	**–**
Siemens	S7-300	8 I + 8 O	6ES79213AB00-0AA0	3211B●0●-0AA0, 3221B●0●-0AA0	**1**	**–**	**–**	**–**
	S7-400	8 I + 8 O	6ES79214AB00	4211B●0●-0AA0, 4221B●0●-0AA0	**1**	**–**	**–**	**–**
	S7-300	8 I	6ES79213AB00	3211B●0●-0AA0	**1**	**–**	**–**	**–**
	S7-400	8 I	6ES79214AB00	4211B●0●-0AA0	**1**	**–**	**–**	**–**
Allen Bradley	SLC500	16 I + 16 O	–	1746OB16, 1746IB16	**1** *(1)*	**–**	**1**	**1**
		32 I + 32 O	–	1746IB32, 1746OB32/V32	**1** *(1)*	**–**	**1**	**1**
		16 I	–	1746IB16	**–**	**1**	**–**	**–**
		32 I	–	1746IB32	**–**	**–**	**1**	**–**

(1) For connection of a second Dialbase APE 1B24M, use 2 x ABF H20H●●0 or TSXDP●●3. connecting cables.

Telefast cables for connection to the PLC

ABF H20H●●0 or TSX CDP●●●	ABF H20H●●1	ABF H28H●●0	ABF S16H●●0	ABF H40H●●0	ABF H40H●●1	ABF R16H●●0	ABF R16H●●1	ABF M16H●●0	ABF H16H●●0	ABF H32H●●0	ABF M32H●●0	ABF A32H●●0
												
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2	–	–	–	–	–	–	–	–	–	–	–	–
1	–	–	–	–	–	–	–	–	–	–	–	–
–	2	–	–	–	–	–	–	–	–	–	–	–
–	1	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	2	–	–	–	–
–	–	–	–	–	–	–	–	1	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	2	–
–	–	–	–	–	–	–	–	–	–	–	1	–
–	–	–	–	–	–	–	–	–	–	–	–	2
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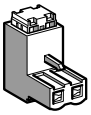
Installation system
Tego Dial for Human-Machine interfaces
Connectors

819529



APE 1PAD21

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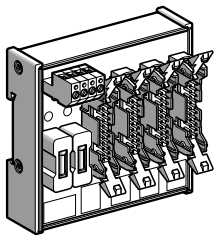

APE 1R1628

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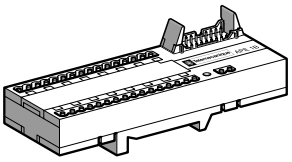

APE 1B24●

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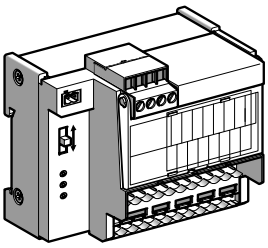

APE 1FASI1

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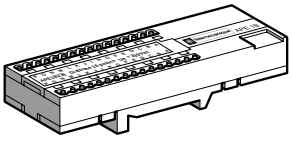


APE 1B230

Connectors and cables for control and signalling units

Description	For units	Wire c.s.a.	Cable length	Sold in lots of	Unit reference	Weight
		mm²	mm			kg
Self-stripping connector 2-way, 5 mm pitch	Ø 22	0.75	–	1	**APE 1PAD21**	0.003
Spring terminal connections 2-way, 5 mm pitch	Ø 22	0.2 to 2.5	–	10	**APE 1PRE21**	0.003
Cable with 1 connector 2-way, 5 mm pitch	Ø 22	0.75	500 *(1)*	1	**APE 1C2150**	0.120
Cable with 2 self-stripping connectors 2-way, 5 mm pitch	Ø 22	0.75	500 *(1)*	1	**APE 1C2250**	0.130
Cable with 2 self-stripping connectors 2-way, 5 mm pitch and 2-way Faston connector	Ø 16	0.75	500 *(1)*	1	**APE 1C1250**	0.130

Active splitter

Description	Voltage Us	Output type	Reference	Weight kg
Active splitter HE10 16 I/16 O in 2 x 8 I/8 O	24 V Ue 30 V max	Tungsten filament 2.6 W pilot light	**APE 1R1628**	0.130

Dialbase for PLC and AS-Interface line connections

Description	Connector type to		Voltage Ue	Number of inputs	Number of outputs	Reference	Weight
	Components	PLC or AS-Interface line					
			⎓ V				kg
Dialbase 24 V-8I/8O	2-way, 5 mm pitch per channel	PLC HE10, 20-way	24	8 channels	8 channels	**APE 1B24M**	0.080
Dialbase 24 V-16I	2-way, 5 mm pitch per channel	PLC HE10, 20-way	24	16 channels	–	**APE 1B24E**	0.080
Dialbase AS-Interface 4I/4O	2-way, 5 mm pitch per channel	AS-Interface line 2 x 2-way, 5 mm pitch	24	4 channels, supplied via AS-interface line	4 solid state channels external supply	**APE 1FASI1**	0.240

Dialbase for connection to other products (operating part)

Description	Connector type to components and other products	Voltage Ue	Number of ways	Reference	Weight
		V			kg
Dialbase 230 V	2 to 16-way, 5 mm pitch, modular	⎓ 5…130 ∿ 5…240	16-way, volt-free	**APE 1B230**	0.075

(1) The length of the cable can be reduced if necessary.

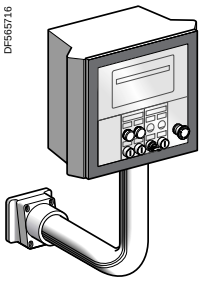
Presentation : page 2/53
Selection : pages 2/62 and 2/63
Characteristics : pages 2/55 and 2/56
Dimensions, schemes : pages 2/70 and 2/73

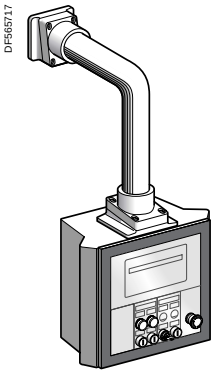
Installation system
Tego Dial for Human-Machine interfaces
Dialfix fixed and rotating suspension arms

Description	Material	Tube		Rotation, Dialpack side	Number of clamps (included)	Inclination per clamp	Reference	Weight
		Max. int. Ø	L *(1)*					
		mm	mm					kg
Dialfix fixed suspension arms for normal industrial environments								
Fixed 90° elbowed arm kit	Painted alu./ polyamide	60	500	*(2)*	2	0°, +15°, -15°	**APD 1F5KC**	3.750
500 mm straight arm kit	Painted alu./ polyamide	60	500	*(2)*	2	0°, +15°, -15°	**APD 1F5KD**	3.350
1000 mm straight arm kit	Painted alu./ polyamide	60	1000	*(2)*	2	0°, +15°, -15°	**APD 1F10KD**	5.150
Floor fixing support foot *(3)*	Painted sheet steel	60	–	–	0	–	**APD 1FSF1**	1.550
Dialfix rotating suspension arms for corrosive environments								
90° elbowed arm kit	Stainless steel 304	40	500	350° *(2)*	2	APD 1S1RIR	**APD 1S5KC**	6.550
1000 mm straight arm kit	Stainless steel 304	40	1000	350° *(2)*	2	APD 1S1RIR	**APD 1S10KD**	7.200
Tilted joint	Stainless steel 304	40	–	–	–	–	**APD 1S1RIR**	0.700

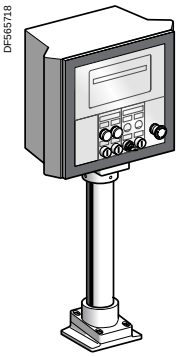
Mounting examples

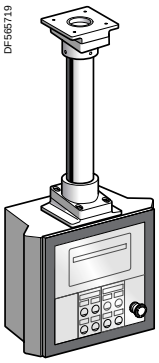
APD 1F5KC
Dialfix, fixed 90° elbowed arm kit



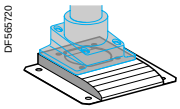


APD 1F●KD
Dialfix, fixed straight arm kit

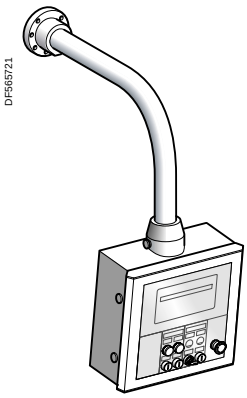




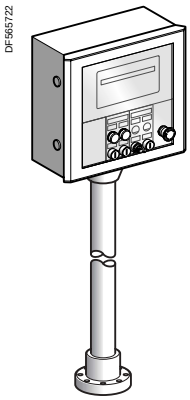
APD 1FSF1
Floor fixing support foot



APD 1S5KC with **APD 1S1RIR**
Dialfix, rotating 90° elbowed arm kit



APD 1S10KD
Dialfix, rotating straight arm kit



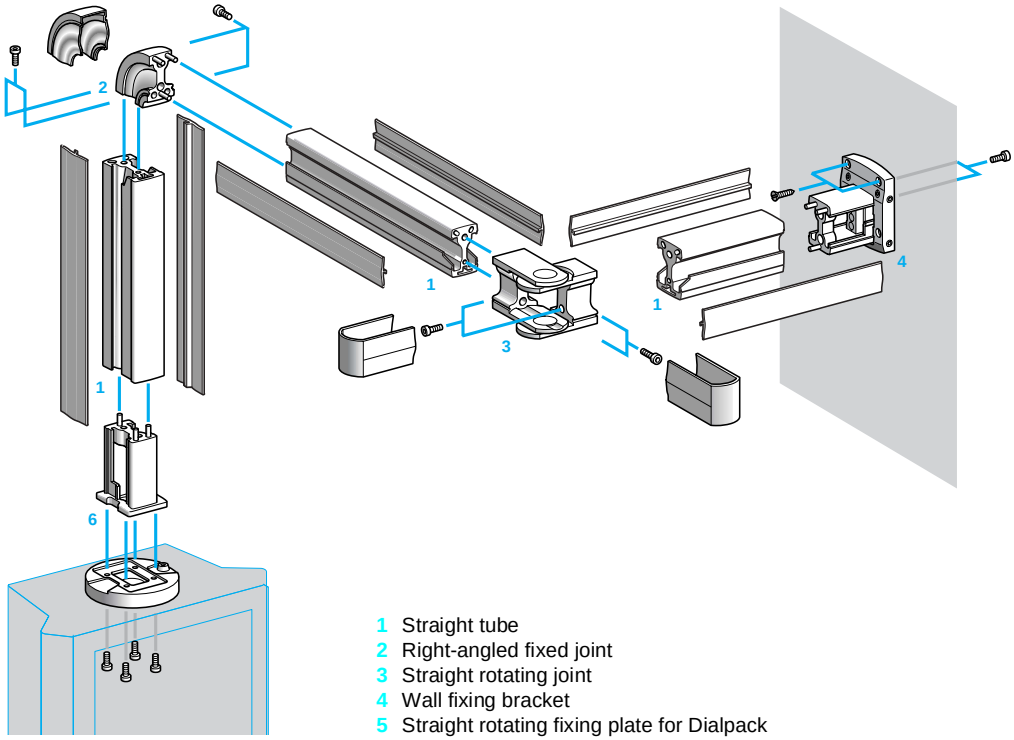
(1) Cut to required length.
(2) 360° mounting option, then fixed in operation. Reinforcement plate included.
(3) Compatible with Dialfix ***APD 1F●●●●*** *and Dialmove* ***APD 1M1FDF****.*

Presentation : page 2/53
Characteristics : page 2/57
Dimensions : page 2/71

Installation system
Tego Dial for Human-Machine interfaces
Dialmove moving suspension arms

Presentation

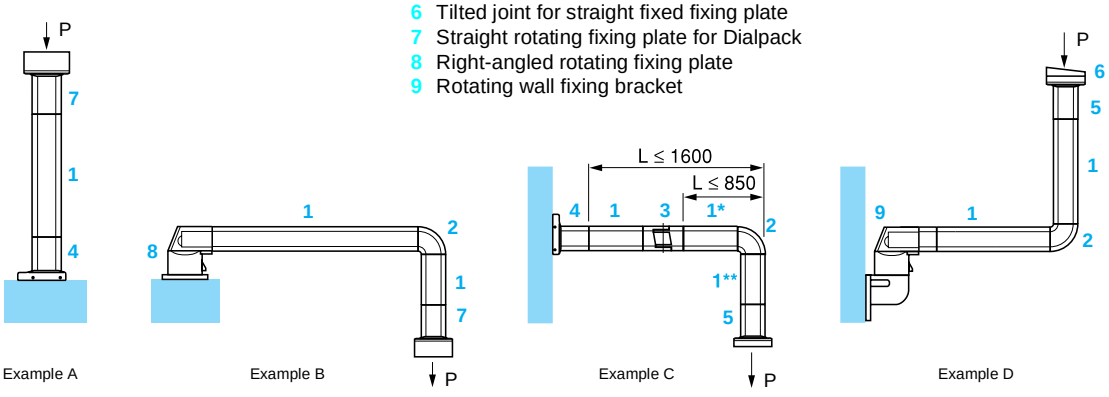
By using combinable modular elements, Dialmove moving suspension arms allow total configuration freedom.
The exploded view shown below details the modular elements, their connection, fixing method and cable covers.



1 Straight tube
2 Right-angled fixed joint
3 Straight rotating joint
4 Wall fixing bracket
5 Straight rotating fixing plate for Dialpack

Mounting examples

1 Straight tube
2 Right-angled fixed joint (can be fitted either way up)
3 Straight rotating joint
4 Wall fixing bracket
5 Straight fixed fixing plate for Dialpack
6 Tilted joint for straight fixed fixing plate
7 Straight rotating fixing plate for Dialpack
8 Right-angled rotating fixing plate
9 Rotating wall fixing bracket

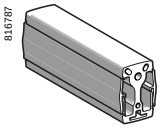


Example A Example B Example C Example D

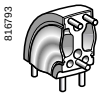
Example of load limit calculation

■ Examples A and B: the load is limited by component 7
Maximum weight = 15 kg.
■ Example C: the load is limited by component 3
- if 1* = 750 mm and 1** = 250 mm, maximum weight = 15 kg - weight of (1* + 1** + 2 + 5) = 4.5 kg
- if 1* = 100 mm and 1** = 250 mm, maximum weight = 15 kg - weight of (1* + 1** + 2 + 5) = 10 kg
■ Example D: the load is limited by component 9, if 1 = 1000 mm, maximum weight = 30 kg - weight of (1 + 1 + 2 + 5 + 6) = 12 kg.

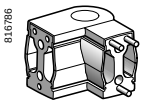
Installation system
Tego Dial for Human-Machine interfaces
Dialmove moving suspension arms



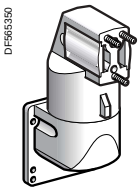
APD 1M025L



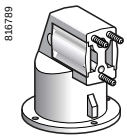
APD 1M1EF0



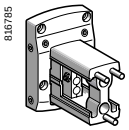
APD 1M1RDR



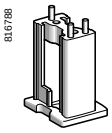
APD 1M1FMR



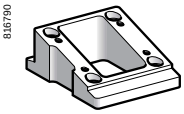
APD 1M1FER



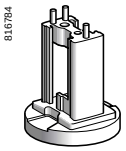
APD 1M1FM0



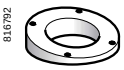
APD 1M1FDF



APD 1M1RIF



APD 1M1FDR



APD 1M1RIR

Dialmove moving suspension arms

Description	Usable length	Effect on angle	Angular movement from…to	Sold in lots of	Unit reference	Weight
	mm					kg
Straight tubes	100	–	–	1	**APD 1M010L**	0.900
	250	–	–	1	**APD 1M025L**	2.240
	500	–	–	1	**APD 1M050L**	4.370
	750	–	–	1	**APD 1M075L**	6.320
	1000	–	–	5	**APD 1M100L**	8.430
	1250	–	–	5	**APD 1M125L**	10.600
	1500	–	–	5	**APD 1M150L**	12.800
Right-angled fixed joint	102	90°	–	1	**APD 1M1EF0**	0.730
Straight rotating joint *(1)*	150 (when straight)	–	+90°…-90°	1	**APD 1M1RDR**	3.480
Rotating wall fixing bracket *(2)*	149	–	+160°…-160°	1	**APD 1M1FMR**	7.900
Right-angled rotating fixing plate *(2)*	85	90°	+160°…-160°	1	**APD 1M1FER**	5.700
Wall fixing bracket *(2)*	133	–	–	1	**APD 1M1FM0**	1.700
Straight fixed fixing plate for Dialpack	130	–	–	1	**APD 1M1FDF**	1.070
Tilted joint for straight fixed fixing plate	25	15°	–	1	**APD 1M1RIF**	0.296
Straight rotating fixing plate for Dialpack *(3)*	155	–	+160°…-160°	1	**APD 1M1FDR**	1.930
Tilted joint for straight rotating fixing plate	20	15°	–	1	**APD 1M1RIR**	0.442
Reinforcement plate for Dialpack	–	–	–	1	**APD 1MYP1**	0.600

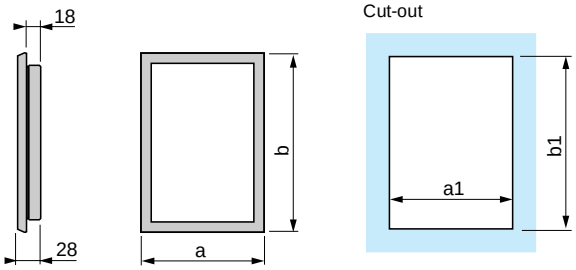
(1) Weight limit 15 kg at horizontal distance of 850 mm.
(2) Weight limit 30 kg at horizontal distance of 1600 mm.
(3) Weight limit 15 kg at horizontal distance of 600 mm.

Presentation : pages 2/53 and 2/66
Characteristics : page 2/57
Dimensions : page 2/72

Installation system
Tego Dial for Human-Machine interfaces
Dialboard, Dialpack

Dialboard front panels

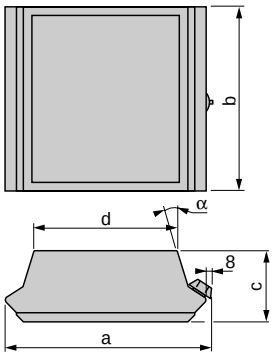
APD 1B●●



APD	a	b	a1 ± 1	b1 ± 1
1B34	359	201	334	175
1B36	509	201	484	175
1B64	359	351	334	325
1B92	209	501	184	475
1B94	359	501	334	475
1B96	509	501	484	475

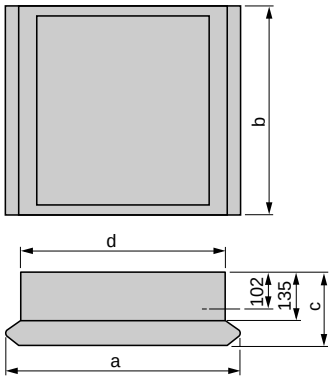
Dialpack control consoles

APD 1P●●



APD	a	b	c	d	α	no. of locks
1P34	401	204	151	278	13°	1
1P64	401	354	151	278	13°	1
1P94	401	504	151	278	13°	1
1P96	501	504	200	428	8°	2

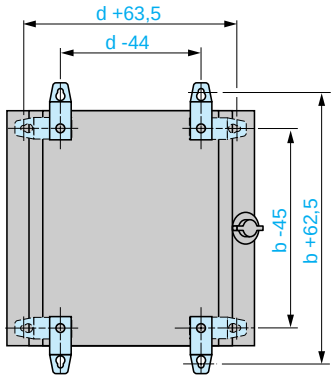
APD 1P●●S



APD	a	b	c	d	no. of locks
1P34S	440	250	177	400	1
1P64S	440	400	177	400	2
1P94S	440	550	177	400	2
1P96S	590	550	177	550	2

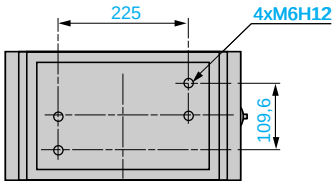
APD 1P●●

Fixing using lugs AE3 FX122 (rear view)

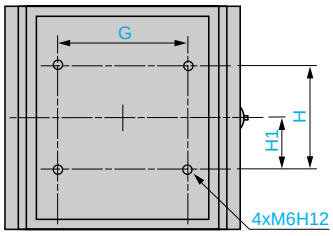


Fixing accessories for mounting (Plates, tubes, etc...)

APD 1P34



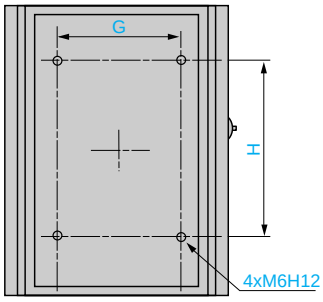
APD 1P64, APD 1P64S and APD 1P34S



APD	G	H	H1	Plates *(1)*
1P94	225	171.6	105.5	–
1P64S	325	225	62.5	AM3 PA43
1P34S	325	100	25	–

(1) Compatible Telequick mounting plates.

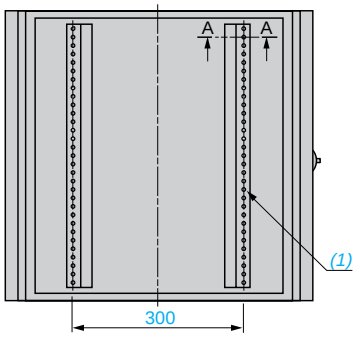
APD 1P94, APD 1P94S and APD 1P96S



APD	G	H	Plates *(1)*
1P94	225	321.6	–
1P94S	325	325	AM3 PA44
1P96S	325	325	AM3 PA44

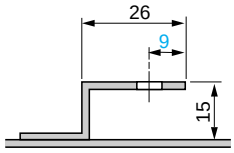
(1) Compatible Telequick mounting plates.

APD 1P96



(1) Ø 6.5 at intervals of 15 mm.

Detail A



Plates *(1)*
AM1 PA030, PA130, PA230, PA330, PA430

(1) Compatible Telequick mounting plates.

Presentation : page 2/52
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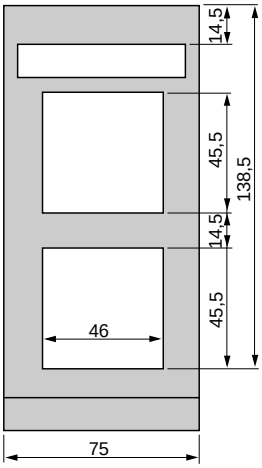
References : page 2/58

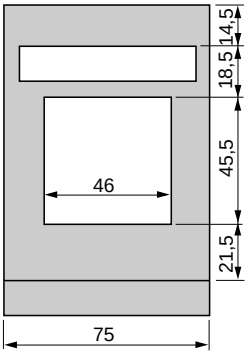
Installation system
Tego Dial for Human-Machine interfaces
Plates for other products

Plates for DIN 48 x 48 display units

APD 1A31D44

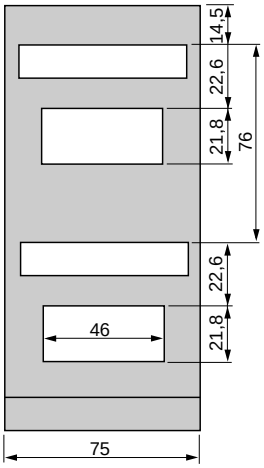


APD 1A21D44

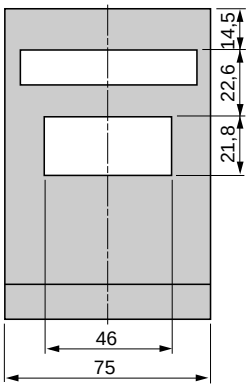


Plates for DIN 24 x 48 display units

APD 1A31D24

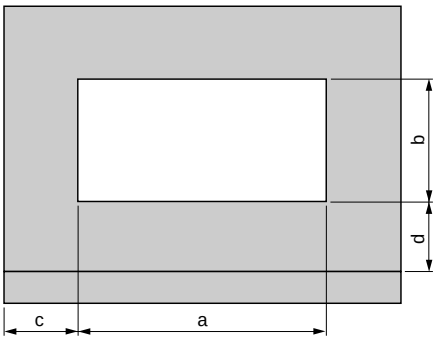


APD 1A21D24



Plates for DIN 48 x 96 display units

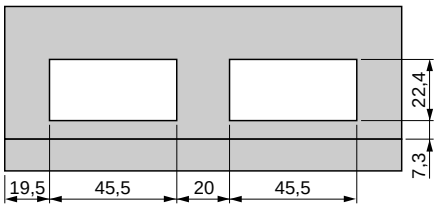
APD 1A●●●●



APD	a	b	c	d
1A21D77	68.5	68.5	3.15	10
1A22D49	93	46	28.5	27
1A31D96	92.8	45.5	29.6	27.5
1A34H00	186	92	54.5	24.2
1A34HM0	191	94	55	23.2
1A34O20	178	100	61.5	16.9

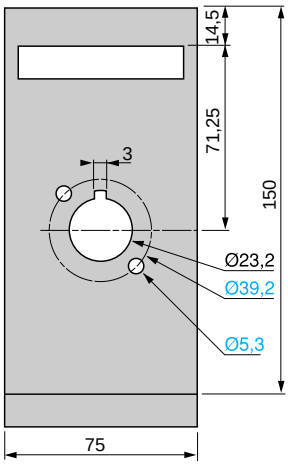
APD	a	b	c	d
1A34S03	138	68	81.5	36.2
1A44F32	187	137	57	26.7
1A44L90	194	128	53.5	31.2
1A44P00	237	135	32	27.6
1A44S05	110	158	95.5	16.2
1A44S07	134	170	83.5	10.2
1A44S267	204	148	48.5	21.2
1A5417L	209	135	46	77.7
1A54E00	265.5	184	13.5	31
1A54F33	285	211	8	21.4
1A54L95	204	188	48.5	26.2
1A54S17	231.5	195.5	34.8	22.5
1A54S25	283	179	9	30.7
1A56F33	285	211	83	21
1A64F1	209	243	46	23.7
1A74F2	285	309	8	23.4
1A76F2	285	309	83	23

APD 1A12D24

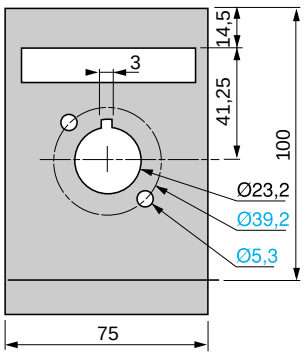


Plates for XDA joystick controllers, Vario or K cam switch

APD 1A31XDA



APD 1A21XDA



Presentation :
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References :
pages 2/58 to 2/60

Installation system

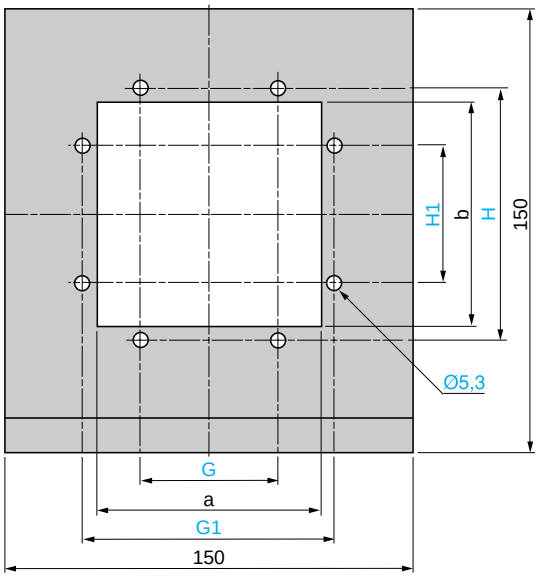
Tego Dial for Human-Machine interfaces

Plates for other products

Dialbase and active splitter

Plates for keypads XBL C1016 and XBL C1020

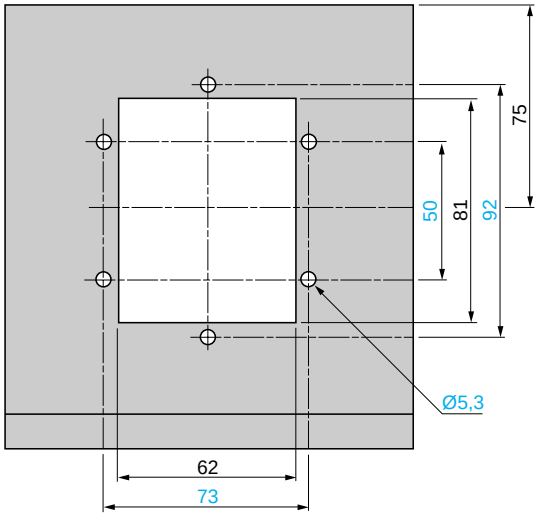
APD 1A32C16, APD 1A32C20



APD	a	b	G	G1	H	H1
1A32C16	81	81	50	92	92	50
1A32C20	97.5	78.5	57	114	95	38

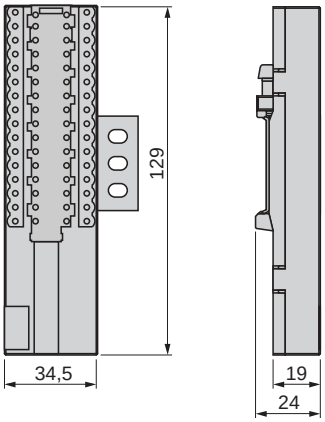
Plates for keypads XBL C1012 and XBL C5012R581

APD 1A32C12



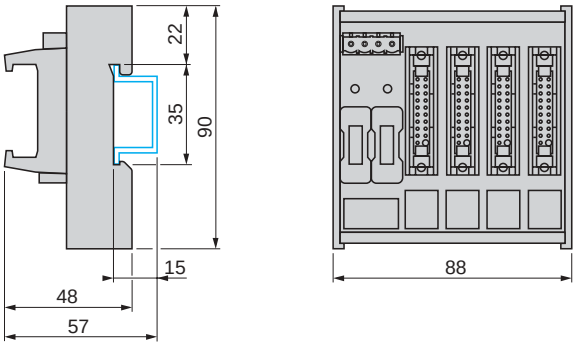
Dialbase

APE 1B24●, APE 1B230



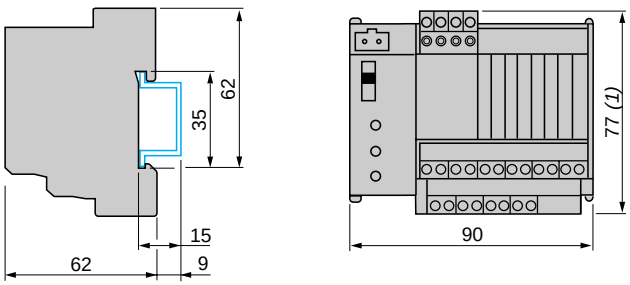
Active splitter

APE 1R1628



Dialbase

APE 1FASI1

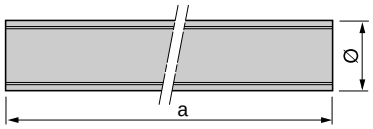


(1) Connector fitted

Presentation : page 2/52
Characteristics : pages 2/55 and 2/56
References : pages 2/60 and 2/64

Installation system
Tego Dial for Human-Machine interfaces
Dialfix fixed suspension arms, clamp

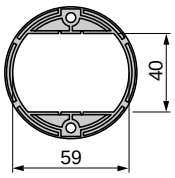
Fixed suspension arms - Dialfix straight
APD 1F●KD, APD 1S10KD



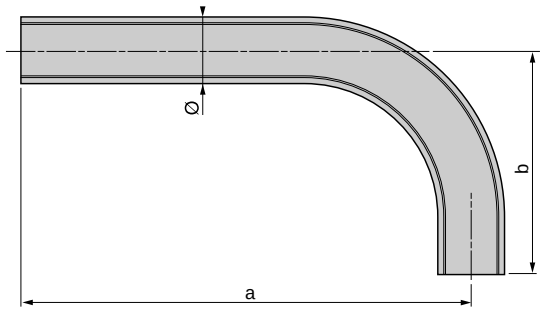
	a	Ø
APD 1F5KD	500 *(1)*	70
APD 1F10KD	1000 *(1)*	70
APD 1S10KD	1000 *(1)*	48

(1) Cut to required length.

Available cross-section for cable outlet
APD 1F●●●●

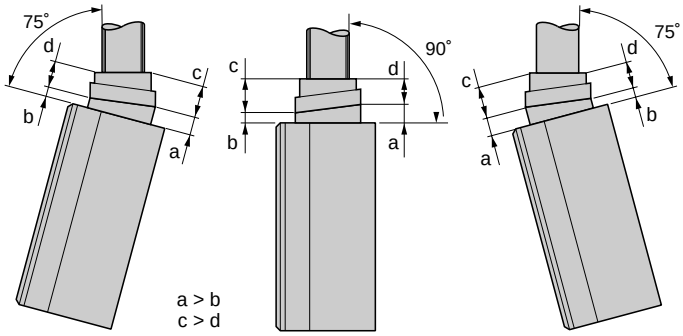


Fixed suspension arms - Dialfix elbowed
APD 1F5KC, APD 1S5KC

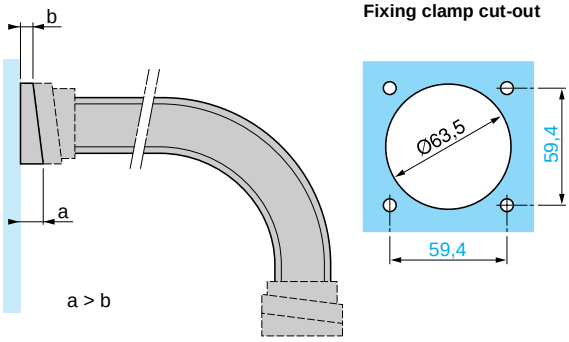


	a	b	Ø
APD 1F5KC	465	250	70
APD 1S5KC	500	350	48

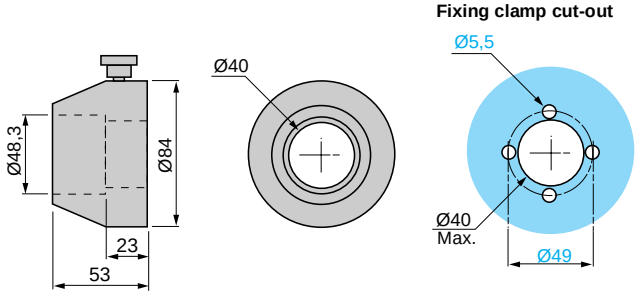
Orientation of Dialpack in relation to positioning of clamp parts
APD 1F●K●



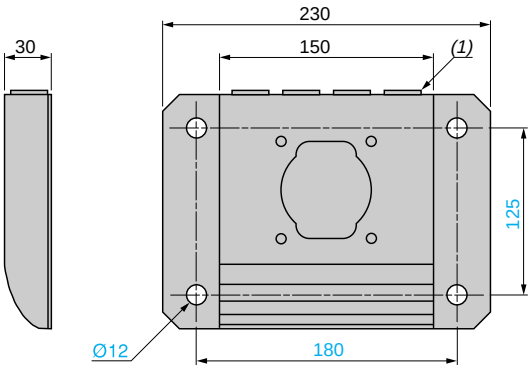
Mounting arm and clamp
APD 1F5KC



Rotating fixing clamp for Dialpack
APD 1S5KC, APD 1S10KD

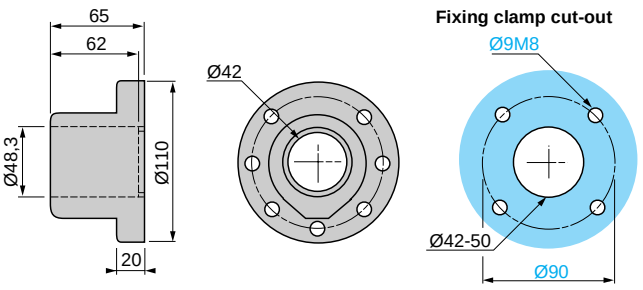


Floor fixing support foot
APD 1FSF1

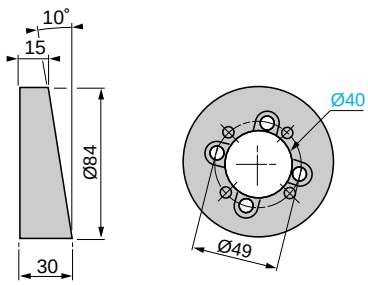


(1) 4 cable ways, maximum Ø 13 mm.

Wall and floor fixing clamp
APD 1S5KC, APD 1S10KD



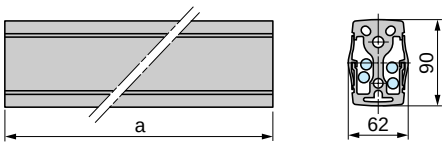
Tilted joint
APD 1S1RIR



Presentation : pages 2/53 and 2/66
Characteristics : page 2/57
References : pages 2/65

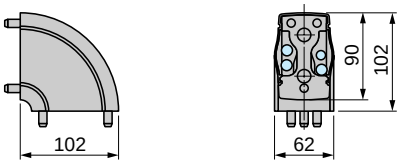
Installation system
Tego Dial for Human-Machine interfaces
Dialmove moving suspension arms

Straight tubes
APD 1M●●●●

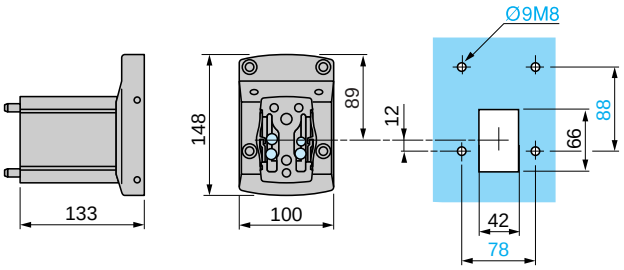


APD	a	APD	a
1M010L	100	**1M100L**	1000
1M025L	250	**1M125L**	1250
1M050L	500	**1M150L**	1500
1M075L	750		

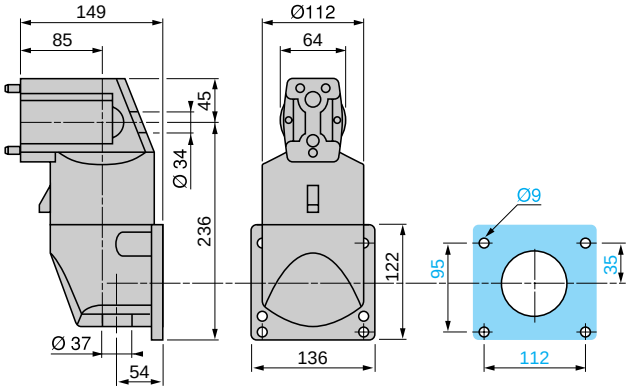
Right-angled fixed joint
APD 1M1EFO



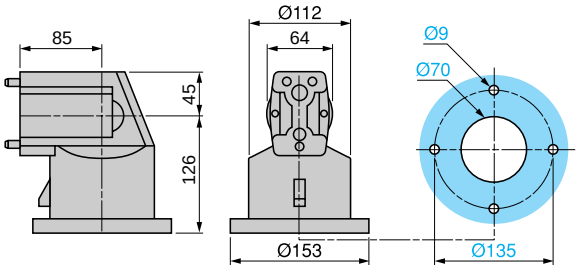
Wall fixing bracket
APD 1M1FMO



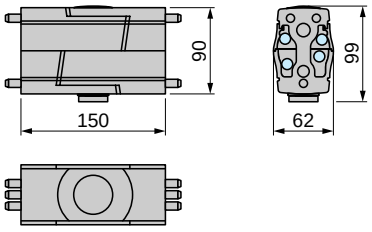
Rotating wall fixing bracket
APD 1M1FMR



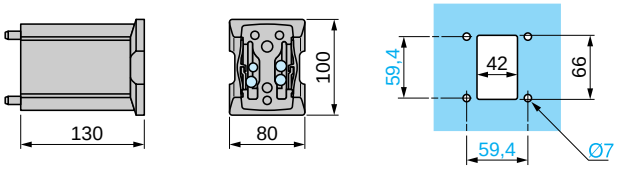
Right-angled rotating fixing plate
APD 1M1FER



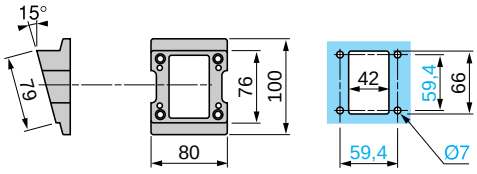
Straight rotating joint
APD 1M1RDR



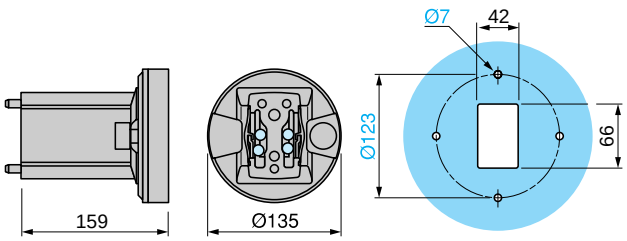
Straight fixed fixing plate for Dialpack
APD 1M1FDF



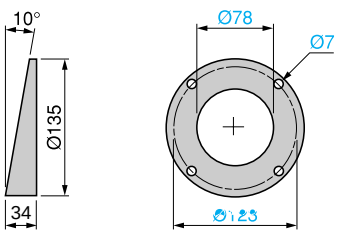
Tilted joint for straight fixed fixing plate
APD 1M1RIF



Straight rotating fixing plate for Dialpack
APD 1M1FDR



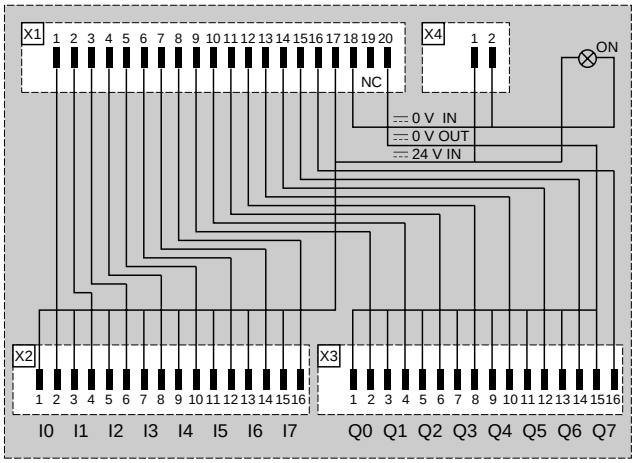
Tilted joint for straight rotating fixing plate
APD 1M1RIR



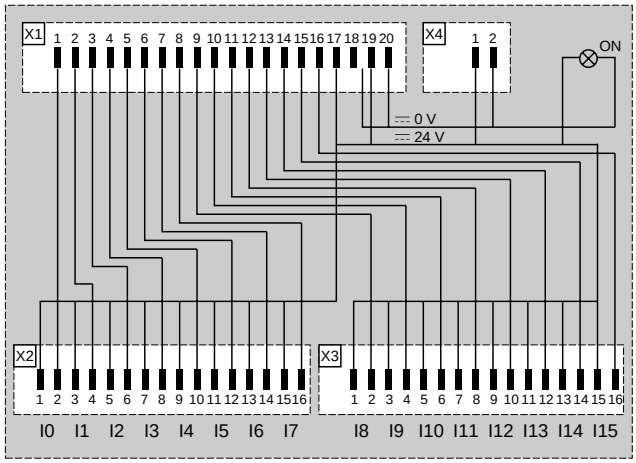
Presentation : pages 2/53 and 2/66
Caractéristiques : page 2/57
References : page 2/67

Installation system
Tego Dial for Human-Machine interfaces
Dialbase and active splitter

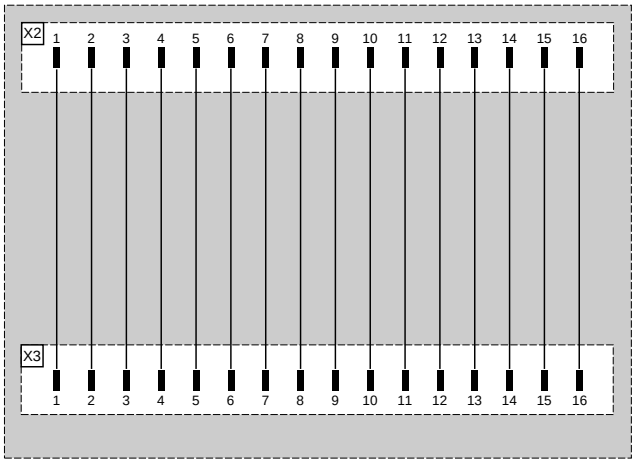
Dialbase APE 1B24M



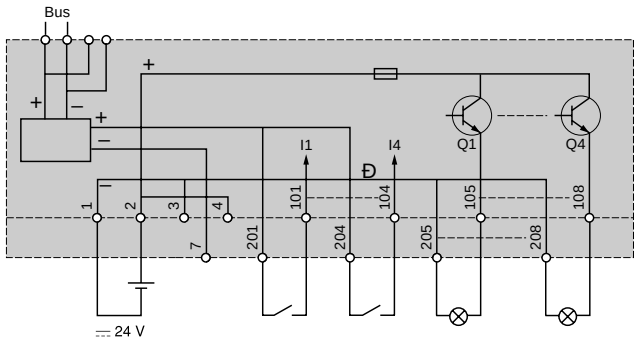
Dialbase APE 1B24E



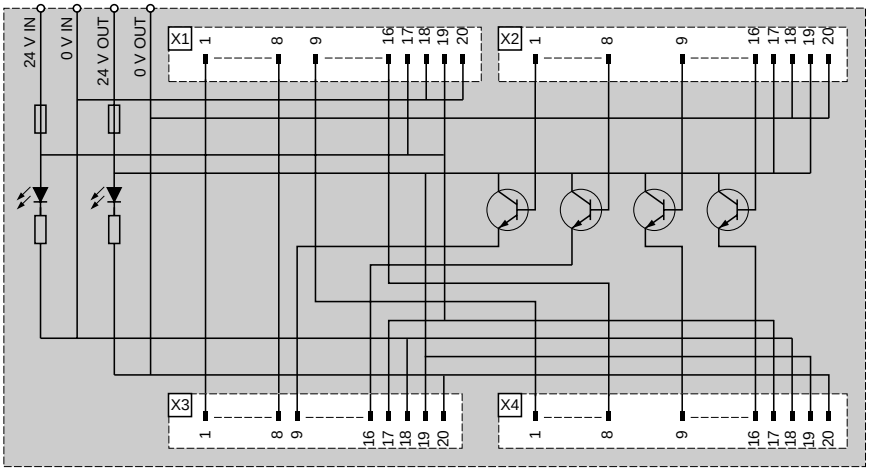
Dialbase APE 1B230



Dialbase APE 1FASI1



Active splitter APE 1R1628



Contents

3 - Cam switches

Selection guide . . . . . page 3/2

Complete switches, 10 A

■ Front mounting by Ø 16 or Ø 22 mm hole, with 30 x 30 mm front plate . . . . . *page 3/8*

Complete switches, 12 and 20 A

■ Front mounting, "multi-fixing" or by Ø 22 mm hole, with 45 x 45 mm front plate

- □ Switches . . . . . *page 3/20*
- □ Stepping switches . . . . . *page 3/23*
- □ Reversing and changeover switches . . . . . *page 3/29*
- □ Ammeter switches . . . . . *page 3/32*
- □ Voltmeter switches . . . . . *page 3/32*

Adaptable sub-assemblies, 12 and 20 A

■ Bodies (contact blocks + fixing plate)

- □ Switches . . . . . *page 3/34*
- □ Changeover switches . . . . . *page 3/39*
- □ Encoded output switches . . . . . *page 3/41*
- □ Paralelling switches . . . . . *page 344*
- □ Stepping switches . . . . . *pages 3/46 and 3/59*
- □ Ammeter switches . . . . . *page 3/56*
- □ Voltmeter switches . . . . . *page 3/57*
- □ Multi-circuit switches . . . . . *page 3/60*
- □ Reversing switches . . . . . *page 3/61*
- □ Star-delta switches and reversing star-delta switches . . . . . *page 3/62*
- □ Pole change switches and reversing pole change switches . . . . . *page 3/63*

■ Operating heads

- □ For “multi-fixing” or Ø 22 mm hole, front mounting bodies . . . . . *page 3/66*
- □ For 4 hole, rear mounting bodies . . . . . *page 3/67*

■ Legends

- □ For multi-fixing heads . . . . . *page 3/68*
- □ For Ø 22 mm hole mounting heads with plastic bezel . . . . . *page 3/69*
- □ For Ø 22 mm hole mounting heads with chromium plated metal bezel . . . . . *page 3/70*
- □ Legend holders for heads . . . . . *page 3/71*

Switches, 10 and 16 A, mounted in plastic enclosure

■ Emergency stop switches . . . . . *page 3/78*

■ OFF-ON switches . . . . . *page 3/79*

Complete switches, 12 A with key operated lock

■ Front mounting by 6 screws Ø 5.2 mm, with 55 x 100 mm front plate

- □ Stepping switches, 2 to 5 step . . . . . *page 3/80*
- □ Start selector switches . . . . . *page 3/84*
- □ Changeover switches . . . . . *page 3/85*

Complete switches, 32 to 150 A

■ With 64 x 64 mm front plate (32 to 63 A ratings) and 88 x 88 mm front plate (115 and 150 A ratings) . . . . . *page 3/88*

Cam switches
Type K

Applications		**Used in building control panels and consoles, type K cam switches allow control of processes and utilities in industry and buildings and direct control for simple machines.**	
Functions			
	Off-On/On-Off switches	**1 to 4-pole**	**1 to 6-pole**
	Stepping switches	**2 to 4-position, 1 and 2-pole**	**2 to 12-position, 1 to 4-pole**
	Changeover switches	**1 to 4-pole**	**1 to 5-pole**
	Measurement switches	**Voltmeter and ammeter**	**Voltmeter and ammeter**
	Reversing switches	–	**2 and 3-pole**
	Reversing star-delta switches	–	**–**
	Pole change switches	–	**2 and 3-speed**

Conventional rated thermal current (Ith) **Rated insulation voltage (Ui)**		**10 A** 440 V	**12 A** 690 V
Electrical operating characteristics		AC-15 - A300 240 V - 3 A	AC-3 - 3-phase 230 V - 1.1 kW - 4.6 A AC-15 230 V - 3 A
Front plate degree of protection		IP 65	IP 40 IP 65 (with seal)
Product composition		Complete switches	Complete switches Adaptable sub-assemblies Special products (please consult your Regional Sales Office)
Compatibility		Ø 16 and Ø 22 control and signalling units	Ø 22 control and signalling units
Fixing	**Front mounting**	Single Ø 16 or Ø 22 hole	Multi-fixing Single Ø 22 hole
	Rear mounting	–	Screw fixing, 4 holes on 36 mm centres
Front plate dimensions (mm)		30 x 30	45 x 45 60 x 60 (adaptable sub-assemblies)
Operating heads		Black standard handle Metallic legend, black marking	Black and red standard and long handles Key operator Metallic head Metallic legend with black marking or black legend with white marking
Approvals		cULus IEC/EN 60947-3 IEC/EN 60947-5-1	UL-CSA IEC/EN 60947-3 IEC/EN 60947-5-1
Type		**Type K10**	**Type K1/K2**
Cam switch model		**K10 ●**	**K1 ●**
Pages		3/8 to 3/12	3/20 to 3/73 and 3/80 to 3/85

1 to 6-pole	**1 to 6-pole**
2 to 12-position, 1 to 4-pole	**–**
1 to 5-pole	**1 to 4-pole**
–	**–**
2 and 3-pole	**2 and 3-pole**
Star-delta	**Star-delta**
2 and 3-speed	**2-speed**

20 A 690 V	**32 A** 690 V	**50 A** 690 V	**63 A** 690 V	**115 A** 690 V	**150 A** 690 V
AC-3 - 3-phase 230 V - 2.2 kW - 8.3 A AC-15 230 V - 4 A	AC-3 - 3-phase 230 V - 5.5 kW AC-15 230 V - 14 A	AC-3 - 3-phase 230 V - 7.5 kW AC-15 230 V - 16 A	AC-3 - 3-phase 230 V - 11 kW –	AC-3 - 3-phase 230 V - 15 kW –	AC-3 - 3-phase 230 V - 22 kW –
	IP 40				
	Complete switches				
	–				
	By 4 holes on 48 mm centres			By 4 holes on 68 mm centres	
	Screw fixing, 4 holes on 48 mm centres			Screw fixing, 4 holes on 68 mm centres	
	64 x 64			88 x 88	
	Black standard handle Metallic legend, black marking				
	cULus IEC/EN 60947-3				
	Type K30...K150				
K2 ●	**K30 ●**	**K50 ●**	**K63 ●**	**K115 ●**	**K150 ●**
3/20 to 3/73	3/88 to 3/92				

Cam switches
Series K
Functions panorama

Functions		Complete switches 10 A
		See pages
Switches	with 60° switching angle	**3/8**
	with 45° switching angle	–
	with 90° switching angle	–
	ON-OFF with spring return from 30° to “0” position	–
	OFF-ON with spring return from 30° to “0” position	–
	OFF-ON with spring return from 120° to 90°	–
	OFF-ON with spring return from 30° and from 330° to “0” position	–
	with 90° switching angle	–
	OFF-ON with 45° switching angle	–
	OFF-ON with momentary-contact function	–
	paralleling with “0” position	–
OFF-ON changeover switches	with spring return from 240° to 270° and from 120° to 90°	–
Stepping switches	single-pole with or without “0” position	**3/8, 3/9**
	2-pole with or without “0” position	**3/9, 3/10**
	2 to 5 step, single-pole, with or without “0” position	–
	2 to 5 step, 2-pole, with or without “0” position	–
	2 and 3 step, 3-pole, with or without “0” position	–
	2 to 11 step, single-pole, with or without “0” position	–
	2 to 6 step, 2-pole, with or without “0” position	–
	2 to 6 step, 3-pole, with or without “0” position	–
	2 to 5 step, 4-pole, with or without “0” position	–
	2 and 3 step, with “0” position + left-hand position	–
	3 step, without "0" position	–
	4 step, 4-pole, without "0" position	–
	2 step, with "0" position	–
	3 step, 2-pole, with "0" position	–
	5 step, 2-pole, with "0" position	–
Changeover switches	spring return to “0” position	**3/10**
	with or without “0” position	**3/10**
	with spring return from 315° and from 45° to “0” position	–
	1 to 4-pole with “0” position	–
	1 to 4-pole without “0” position	–
	with momentary-contact function	–
	with spring return from 240° to 270° and from 120° to 90°	–
	star-delta	–
	pole change	–
Voltmeter switches	with “0” position	**3/11**
	without “0” position	–
Ammeter switches	with “0” position	**3/11**
	without “0” position	–
Selector switches	BCD encoded output, with “0” position	–
	BCD encoded output, without “0” position	–
	multi-circuit	–
	star-delta	–
Reversing switches	with “0” position	–
	with spring return from 330° and from 30° to “0” position	–
Changeover switches	1-pole, 2-pole, 3-pole with "0" position	–
		–
Pole change switches	for 2-speed motors	–
	for 3-speed motors	–
Start selector switches	3-position with "0" position	–
	4-position with "0" position	–
Starting switches	star-delta	–
	pole change	–

	Complete switches 12 and 20 A	Complete switches 12 A, with key operated lock	Adaptable sub-assemblies 12 and 20 A	Complete switches 32 to 150 A
	See pages	See pages	See pages	See pages
	–	–	–	3/88
	3/20	–	3/34	–
	3/20	–	–	3/89
	3/21	–	3/36	–
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	3/22	–	3/36	–
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	–	–	3/35	–
	–	–	3/36	–
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	–	–	–	–
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	3/27, 3/28	–	–	–
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	3/30, 3/31	–	3/56	–
	3/30, 3/31	–	3/56	–
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	–	–	3/42, 3/43	–
	–	–	3/60	–
	–	–	3/62	–
	–	–	3/61	3/92
	–	–	3/61	–
	–	3/85	–	–
	–			–
	–	–	3/63, 3/64	–
	–	–	3/65	–
	–	3/84	–	–
	–	3/85	–	–
	–	–	–	3/91
	–	–	–	3/92

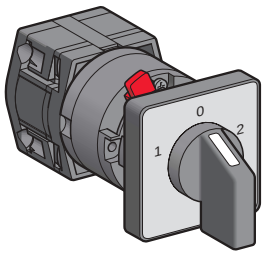
Cam switches
Complete switches, 10 A

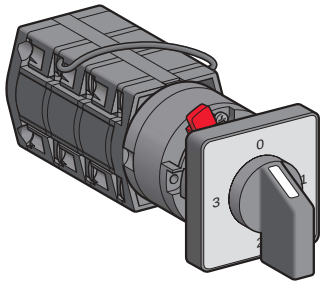
The range of K10 cam switches (10 A rating) comprises only complete switches. These products are more specifically designed for process control applications:
- compact size,
- easy to integrate with other Ø 16 and Ø 22 mm units,
- selection functions.

Complete switches

- **switches**
- **stepping switches**
- **reversing switch**
- **changeover switches**
- **voltmeter switches**
- **ammeter switches**

Front mounting

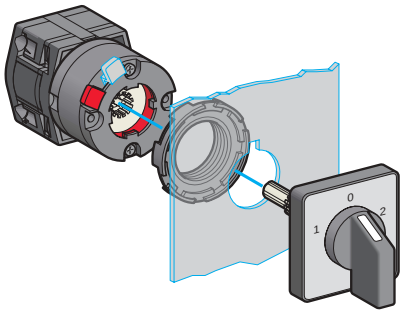




By Ø 16.3 or Ø 22.3 mm hole

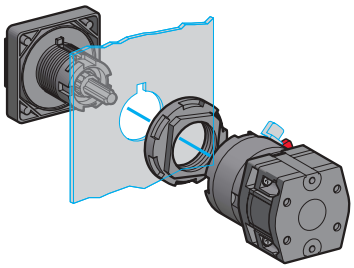
Mounting

Ø 16 or Ø 22 hole fixing

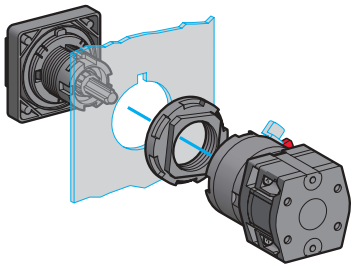


Locking/unlocking of the body-head assembly by spigot

Ø 16 hole fixing



Ø 22 hole fixing



Characteristics: page 3/7
References: pages 3/8 to 3/12
Dimensions: page 3/13

Cam switches
Complete switches, 10 A
Front mounting by Ø 16 or Ø 22 mm hole
With 30 x 30 mm front plate

Environment

Conformity to standards	IEC/EN 60947-3 IEC/EN 60947-5-1
Product certifications	cULus
Protective treatment	Standard version: “TC”
Ambient air temperature	For operation: - 20…+ 55 °C
	For storage: - 40…+ 70 °C
Electric shock protection	Class II, conforming to IEC 60536
Degree of protection	IP 65 conforming to IEC 60529 (operating head) IP 20 (contact block)
Mechanical life	1 million operating cycles

Contact block characteristics

Rated operational characteristics	AC-15, A300	–	240 V	3 A
			120 V	6 A
	AC-21A, AC-1	–	400 V	10 A
	UL/Canada Heavy Duty A300	3-phase	110/120 V	0.75 hp
			220/240 V	1 hp
		single-phase	110/120 V	0.33 hp
			220/240 V	0.75 hp
	AC-23A	3-phase	220/240 V	1.8 kW
		single-phase	110/120 V	0.37 kW
			220/240 V	0.75 kW
	d.c. current Ie resistive load	1 contact	24 V	10 A
			110 V	0.7 A
			220 V	0.3 A
Short-circuit protection	10 A cartridge fuse type gG			
Conventional thermal current (Ith)	10 A			
Rated insulation voltage (Ui)	440 V, degree of pollution 3, conforming to IEC 60947-1			
Contact operation	Slow break			
Terminal referencing	Conforming to CENELEC EN 50013			
Rated impulse withstand voltage (U imp)	4 kV conforming to IEC 60947-1			
Electrical reliability	Failure rate < 1 fault for 100 million operating cycles (⎓ 24 V PLC inputs)			
Connection	Captive screw clamp terminals Clamping capacity: 2 x 1.5 mm^2			

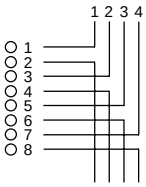
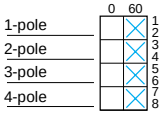
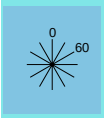
General: page 3/6
References: pages 3/8 to 3/12
Dimensions: page 3/13

Cam switches

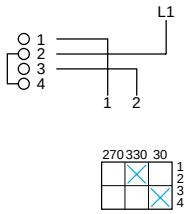
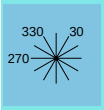
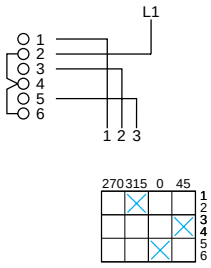
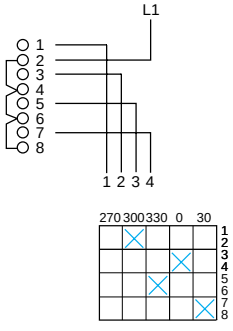
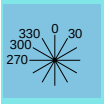
Complete switches, 10 A
Front mounting by Ø 16 or Ø 22 mm hole
With 30 x 30 mm front plate

K10 B002ACH

Switches

Wiring diagram and switching programme	Marking and switch position	Number of poles	Reference	Weight kg
 		1	**K10 A001ACH**	0.030
		2	**K10 B002ACH**	0.035
		3	**K10 C003ACH**	0.045
		4	**K10 D004ACH**	0.045

Stepping switches, single-pole, with “0” position

Wiring diagram and switching programme	Marking and switch position	Number of steps	Reference	Weight kg
		2 + “0” position	**K10 B002QCH**	0.035
		3 + “0” position	**K10 C003QCH**	0.045
		4 + “0” position	**K10 D004QCH**	0.045

K10 D004QCH

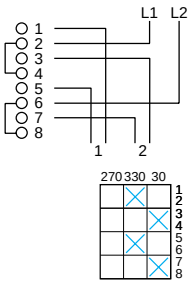
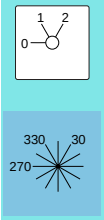
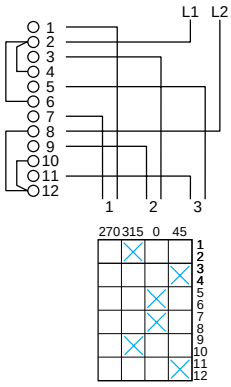
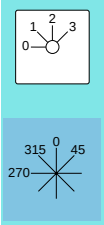
Cam switches

Complete switches, 10 A

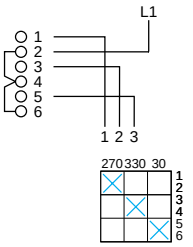
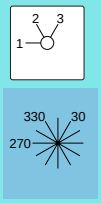
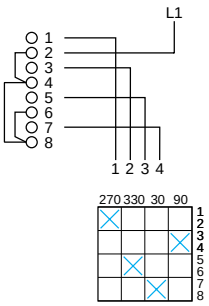
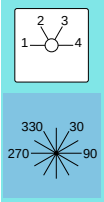
Front mounting by Ø 16 or Ø 22 mm hole
With 30 x 30 mm front plate

K10 D012QCH

Stepping switches, 2-pole, with “0” position

Wiring diagram and switching programme	Marking and switch position	Number of steps	Reference	Weight kg
		2 + “0” position	**K10 D012QCH**	0.045
		3 + “0” position	**K10 F013QCH**	0.055

Stepping switches, single-pole, without “0” position

Wiring diagram and switching programme	Marking and switch position	Number of steps	Reference	Weight kg
		3	**K10 C003NCH**	0.045
		4	**K10 D004NCH**	0.045

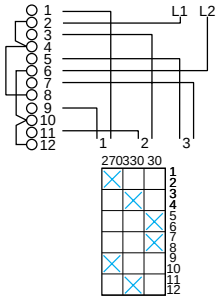
3

Cam switches

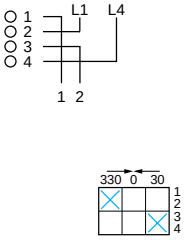
Complete switches, 10 A

Front mounting by Ø 16 or Ø 22 mm hole
With 30 x 30 mm front plate

Stepping switches, 2-pole, without “0” position

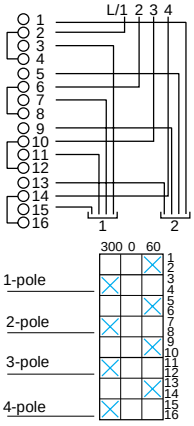
Wiring diagram and switching programme	Marking and switch position	Number of steps	Reference	Weight kg
		3	**K10 F013NCH**	0.055

Changeover switch with spring return to “0” position

Wiring diagram and switching programme	Marking and switch position	Number of poles	Reference	Weight kg
		1	**K10 B006TCH**	0.035

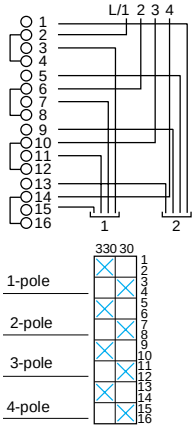
K10 B006TCH

Changeover switches with “0” position

Wiring diagram and switching programme	Marking and switch position	Number of poles	Reference	Weight kg
		1	**K10 B001UCH**	0.035
		2	**K10 D002UCH**	0.045
		3	**K10 F003UCH**	0.055
		4	**K10 H004UCH**	0.065

K10 F003UCH

Changeover switches without “0” position

Wiring diagram and switching programme	Marking and switch position	Number of poles	Reference	Weight kg
		1	**K10 B011UCH**	0.035
		2	**K10 D012UCH**	0.045
		3	**K10 F013UCH**	0.055
		4	**K10 H014UCH**	0.065

General: page 3/6
Characteristics: page 3/7
Dimensions: page 3/13

Cam switches

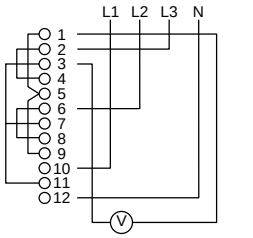
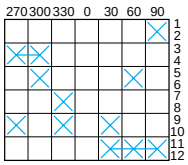
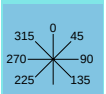
Complete switches, 10 A

Front mounting by Ø 16 or Ø 22 mm hole
With 30 x 30 mm front plate

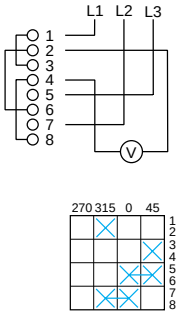
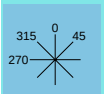
Voltmeter switches

For measurements between 3 phases and between 1 phase and neutral

K10 F027MCH

Wiring diagram and switching programme	Marking and switch position	Reference	Weight kg
 		**K10 F027MCH**	0.055

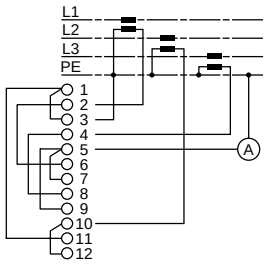
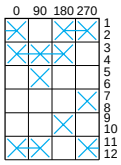
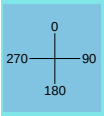
For measurements between 3 phases, with “0” position

		**K10 D024MCH**	0.045

Ammeter switches

For 3 circuits, with “0” position

K10 F003MCH

 		**K10 F003MCH**	0.055

General: page 3/6
Characteristics: page 3/7
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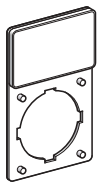
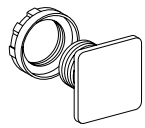
Cam switches

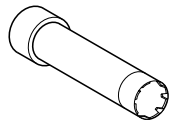
Complete switches, 10 A
Front mounting by Ø 16 or Ø 22 mm hole
With 30 x 30 mm front plate
Accessories



Z227N



Z33



Z201

Legend holders

Description		Sold in lots of	Unit reference	Weight kg
For Ø 22 mm hole fixing	With metallic finish legend	25	**Z227N**	0.060

Accessories

Description	Colour	Sold in lots of	Unit reference	Weight kg
Blanking plug	Black	10	**Z33**	0.060
Nut wrench	–	5	**Z201**	0.020

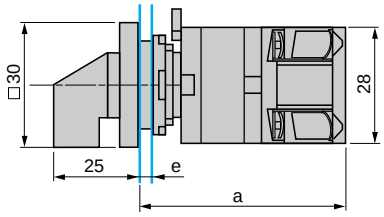
General: page 3/6
Characteristics: page 3/7
Dimensions: page 3/13

Cam switches

Complete switches, 10 A

Front mounting by Ø 16 or Ø 22 mm hole
With 30 x 30 mm front plate

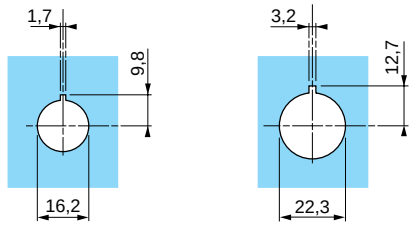
Cam switches, 10 A



	a
K10 A, B	51
K10 C, D	63
K10 F	75
K10 H	87

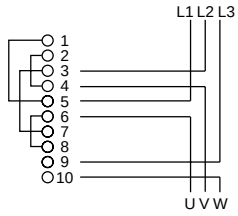
e: support panel thickness 0.5 to 5 mm.

Ø 16 and Ø 22 mm panel cut-outs

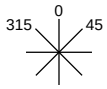


Convention used for switching programme representation

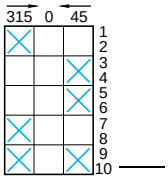
Link positions (factory mounted)



Angular position of switch



Graphic representation of switching positions and spring return to “0” position



Contact terminal reference number

Contact closed

Contact closed in 2 positions and maintained between the 2 positions

Sealed assembly for auto-maintain control

Overlapping contacts

General:
page 3/6

Characteristics:
page 3/7

References:
pages 3/8 to 3/12

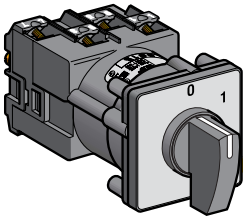
Cam switches
Complete switches and adaptable sub-assemblies, 12 and 20 A

The cam switch range comprises the equally dimensioned and similar looking products of the K1 (12 A rating) series and K2 (20 A rating) series.
Both series feature complete switches and adaptable sub-assemblies for user assembly.

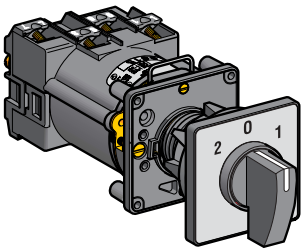
Complete switches

Front mounting

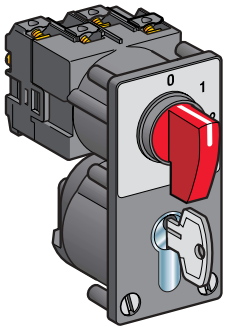
- switches
- stepping switches (2 to 5 step)
- reversing and 1 to 4-pole changeover switches
- ammeter and voltmeter switches



“Multi-fixing”
K1● ●●●●●H, K2● ●●●●●H
See pages 3/20 to 3/27



By Ø 22 mm hole
K1● ●●●●●H, K2● ●●●●●H
See pages 3/20 to 3/27

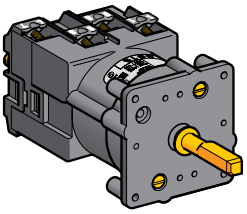


Front mounting by 6 screws Ø 5.2 mm and 55 x 100 mm front plate
K1● ●●●●Z●
See pages 3/80 to 3/85

Switches for user assembly

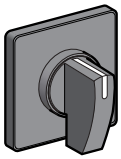
Front mounting

Body sub-assembly

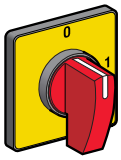


“Multi-fixing”
K1● ●●●●●L, K2● ●●●●●LL
See pages 3/34 to 3/65

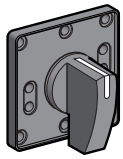
Head sub-assembly
■ **With 45 x 45 mm front plate and 35 mm handle**



With blank legend
K●G 3H
See page 3/66



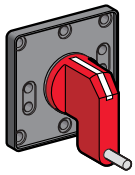
With marked legend
KCG 3H
See page 3/66



Without legend
KDG 3H
See page 3/66

Head sub-assembly
■ **With 45 x 45 mm front plate, 35 mm handle and padlocking device**

With marked legend
KCG 3Y
See page 3/66

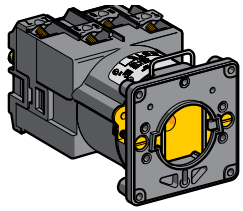


Without legend
KDG 3Y
See page 3/66

Cam switches
Complete switches and adaptable sub-assemblies, 12 and 20 A

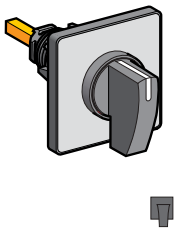
Switches for user assembly (continued)
Front mounting (continued)

Body sub-assembly

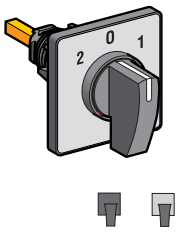


With Ø 22 mm hole
K1● ●●●●●, K2● ●●●●●L
See pages 3/34 to 3/65

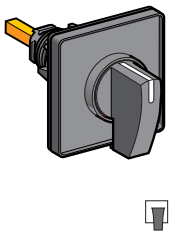
Head sub-assembly
■ **With 45 x 45 mm front plate and 35 mm handle**



With blank legend
K●C 1H
See page 3/66

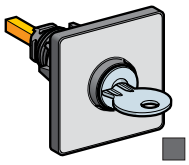


With marked legend *(1)*
K●C 1●●
See page 3/66

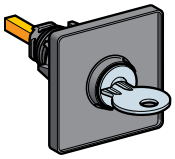


Without legend
KDC 1●●
See page 3/66

Head sub-assembly
■ **With 45 x 45 mm front plate and key operator**

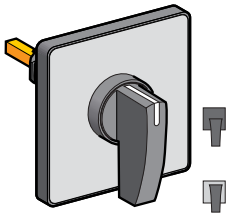


With blank legend
K●C 1●
See page 3/66

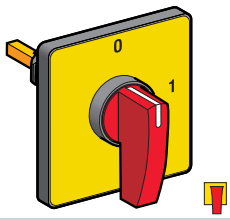


Without legend
KDC 1●
See page 3/66

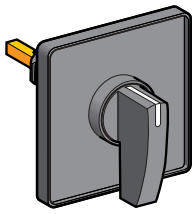
Head sub-assembly
■ **With 60 x 60 mm front plate and 42 mm handle**



With blank legend
K●D 1H
See page 3/66

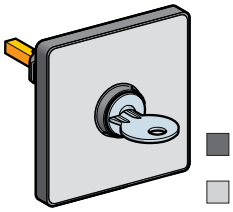


With marked legend
KCD 1●●
See page 3/66

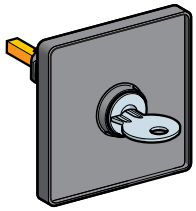


Without legend
KDD 1H
See page 3/66

Head sub-assembly
■ **With 60 x 60 mm front plate and key operator**



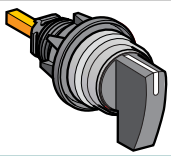
With blank legend
K●D 1●
See page 3/67



Without legend
KDD 1●
See page 3/67

Head sub-assembly
■ **Circular with plastic bezel**

Key operator
K●A 1●
See page 3/67



35 mm handle
K●A 1H
See page 3/67

(1) With or without padlocking device.

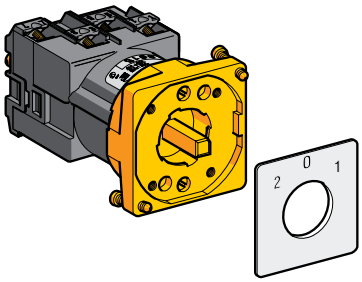
Characteristics: pages 3/18 and 3/19
References: pages 3/20 to 3/67
Dimensions: pages 3/74 to 3/77

Cam switches
Complete switches and adaptable sub-assemblies, 12 and 20 A

Switches for user assembly (continued)

Front mounting (continued)

Body sub-assembly



With Ø 22 mm hole and metal mounting plate
K1● ●●●●K, K2● ●●●●X
See pages 3/34 to 3/65

Head sub-assembly
■ **Circular with metal bezel**

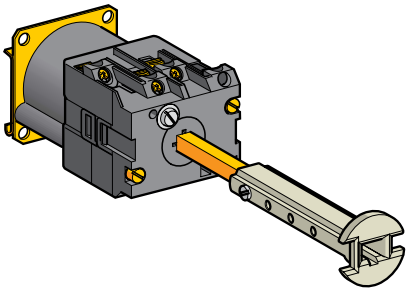
Standard handle
KAX Z1M1●
See page 3/67

Long handle
KAX Z1C1●
See page 3/67

Key operator
KAX Z1S1●●
See page 3/67

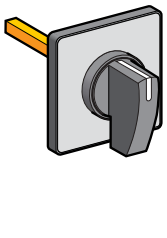
Rear mounting

Body sub-assembly

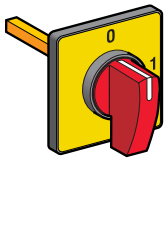


With 4 holes
K1● ●●●●, K2● ●●●●
See pages 3/34 to 3/65

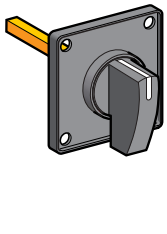
Head sub-assembly
■ **With 45 x 45 mm front plate and 35 mm handle**



With blank legend
K●E 1H
See page 3/67

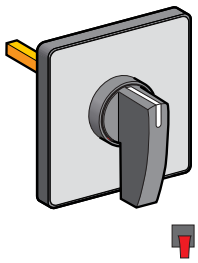


With marked legend *(1)*
KCE 1●
See page 3/67

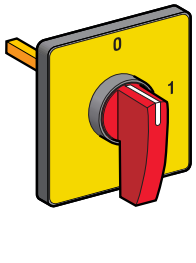


Without legend
KDE 1●
See page 3/67

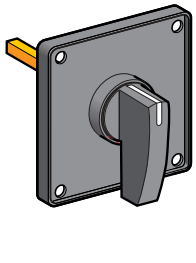
Head sub-assembly
■ **With 60 x 60 mm front plate and 42 mm handle**



With blank legend
K●F 1H
See page 3/67



With marked legend
KCF 1MH
See page 3/67



Without legend
KDF 1H
See page 3/67

(1) With or without padlocking device.

Accessories

Various accessories complement the K1 - K2 cam switch range: legends, legend holders, terminal covers, seals, etc. See pages 3/68 to 3/73.

Switches with specific schemes

If you cannot find a standard switching programme listed in this catalogue to suit your application, please consult your Regional Sales Office.

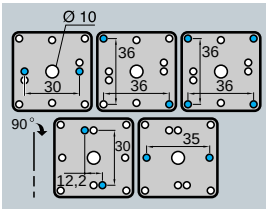
Cam switches
Complete switches and adaptable sub-assemblies, 12 and 20 A

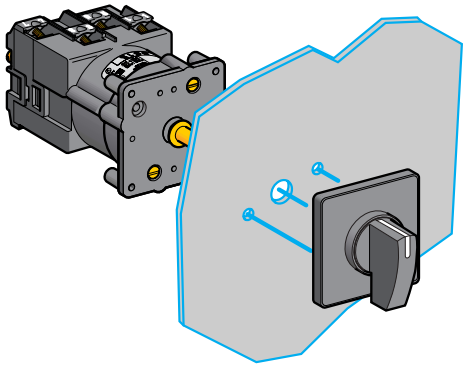
The cam switches are available to suit various mounting and fixing methods.

Fixing

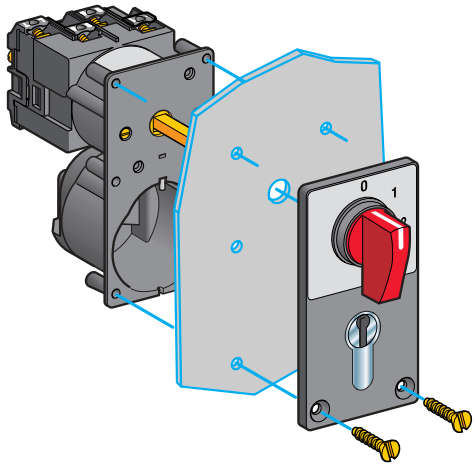
Front mounting

By means of "multi-fixing" front plate, using 2 or 4 screws



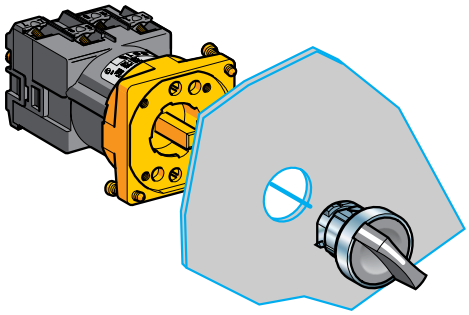


The "multi-fixing" concept enables the switch to be panel mounted using the most commonly used fixing centre dimensions. See drawing to left.

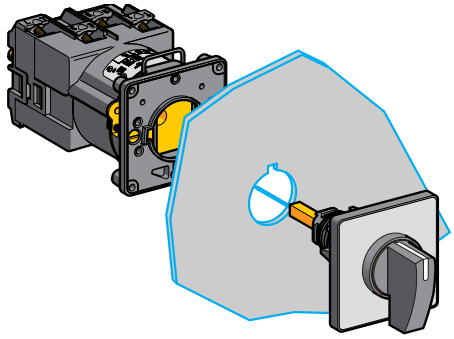


Fixing by 6 screws Ø 5.2 mm and 55 x 100 mm front plate.

By means of single Ø 22 mm hole



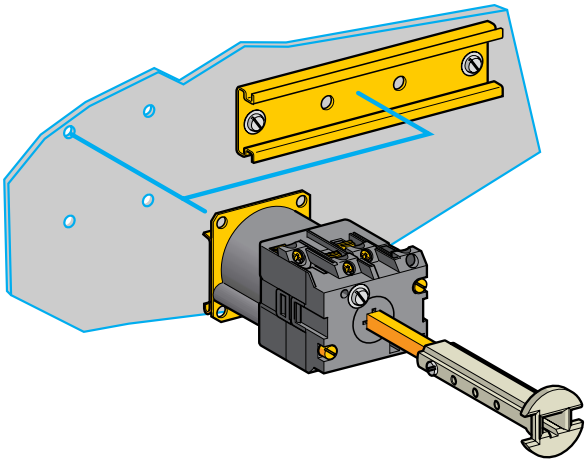
Ø 22.5 mm cut-out.
Head attaches to plate using 1/4 turn bayonet locking and secured on panel by 2 needle screws.



Ø 22.5 mm cut-out with anti-rotation notch.
Head clips into body and secured on panel by fixing nut.

Rear mounting

By means of 4 holes



Switch can be directly mounted on backplate using 4 screws.
For DIN rail mounting, an adaptor is available as an accessory. See page 3/75.

Characteristics: pages 3/18 and 3/19
References: pages 3/20 to 3/67
Dimensions: pages 3/74 to 3/77

Cam switches
Complete switches and adaptable sub-assemblies, 12 to 20 A

Characteristics

Environment

Cam switch type			K 1		K 2	
Conformity to standards	For control circuits		IEC/EN 60947-5-1			
	For power circuits		IEC/EN 60947-3			
Product certifications	UL, CSA A300		240 V 0.33 hp single-phase 2-pole	240 V 1 hp 3-phase	240 V 1 hp single-phase	240 V 3 hp 3-phase 2-pole
Protective treatment	Standard version		"TC"			
Ambient air temperature around the device	For operation	**°C**	- 25…+ 55			
	For storage	**°C**	- 40…+ 70			
Shock resistance	Conforming to IEC 68-2-27		30 gn			
Vibration resistance	Conforming to IEC 68-2-6		5 gn, 10…150 Hz			
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class II			
Degree of protection	Conforming to IEC 529 and NF C 20-010		IP 40, for fixing by front plate and 4 screws IP 65, with additional seal			
			IP 65, for Ø 22 mm hole fixing			
Mechanical life	Operating cycles		1 million			

General:
pages 3/14 to 3/17

References:
pages 3/20 to 3/67

Dimensions:
pages 3/74 to 3/77

Cam switches
Complete switches and adaptable sub-assemblies, 12 to 20 A

Characteristics (continued)

Contact blocks

Cam switch type				K 1	K 2
Rated insulation voltage (Ui)	Conforming to IEC 60947-1 degree of pollution 3		**V**	690	690
Conventional thermal current	Screw clamp terminal connections	In open air (Ith)	**A**	12	20
		In enclosure (Ithe)	**A**	10	16
		Push-on connectors (Ith) (8 A max. per connector)	**A**	12	16
Rated operational characteristics				**Conforming to IEC 947-5-1**	
	~ AC-15			230 V/3 A	230 V/4 A
				400 V/2 A	400 V/3 A
				500 V/1 A	500 V/2 A
				Conforming to IEC 947-3	
	~ AC-3	3-phase		230 V/1.1 kW/4.6 A	230 V/2.2 kW/8.3 A
				400 V/1.5 kW/3.3 A	400 V/4 kW/8 A
				500 V/1.5 kW/2.8 A	500 V/4 kW/6.5 A
				690 V/1.5 KW/1.8 A	690 V/4 kW/4.7 A
		single-phase 2-pole		230 V/0.6 kW	230 V/1.3 kW
				400 V/1.5 kW	400 V/2.2 kW
	~ AC-23 A	3-phase		230 V/1.5 kW/5.6 A	230 V/4 kW/14.6 A
				400 V/2.2 kW/4.8 A	400 V/5.5 kW/10.8 A
				500 V/2.2 kW/3.8 A	500 V/5.5 kW/8.9 A
				690 V/2.2 kW/2.8 A	690 V/5.5 kW/6.4 A
	~ AC-21	3-phase		230 V/4.8 kW	230 V/8 kW
				400 V/8.3 kW	400 V/14 kW
				500 - 660 V/10.5 kW	500 - 660 V/17 kW
Electrical durability (millions of operating cycles)	AC-3 and AC 23			0.5	0.2
	AC-15 and AC -21			1	0.6
Operating rate (operating cycles/h)	AC-3, AC-23 and AC-21			150	150
	AC-15			500	500
Rated conditional short-circuit current			**kA**	10	10
Short-circuit protection	Cartridge fuse			16 A gG	20 A gG
Rated impulse withstand voltage	Conforming to IEC 947-1 (Uimp)		**kV**	6	
	In “isolating” function (Uimp)		**kV**	4	
Contact operation				Slow break with positive opening operation	
Terminal referencing				Conforming to CENELEC EN 50013	
Connection	Captive screw clamp terminals		**mm²**	Solid cable, 1 x 2.5	
				Flexible cable, 1 x 2.5 or 2 x 1.5: with or without cable end	
	2 Faston connectors		**mm**	2.8 x 0.8, please consult your Regional Sales Office.	

3

General: pages 3/14 to 3/17
References: pages 3/20 to 3/67
Dimensions: pages 3/74 to 3/77

Cam switches

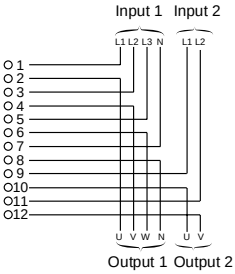
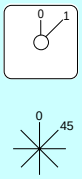
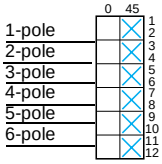
Complete switches, 12 and 20 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

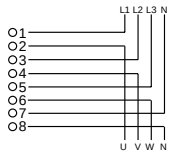
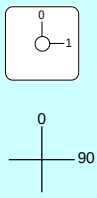
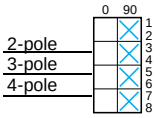
K●● ●●●●LH

K●● ●●●●CH

Switches with 45° switching angle

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith)	Reference	Weight
				A		kg
		“Multi-fixing”	1	12	**K1A 001ALH**	0.103
				20	**K2A 001ALH**	0.103
			2	12	**K1B 002ALH**	0.113
				20	**K2B 002ALH**	0.113
			3	12	**K1C 003ALH**	0.133
				20	**K2C 003ALH**	0.133
			4	12	**K1D 004ALH**	0.138
				20	**K2D 004ALH**	0.138
			5	12	**K1E 005ALH**	0.158
				20	**K2E 005ALH**	0.158
			6	12	**K1F 006ALH**	0.168
				20	**K2F 006ALH**	0.168
		By Ø 22 mm hole	1	12	**K1A 001ACH**	0.123
				20	**K2A 001ACH**	0.123
			2	12	**K1B 002ACH**	0.133
				20	**K2B 002ACH**	0.133
			3	12	**K1C 003ACH**	0.153
				20	**K2C 003ACH**	0.153
			4	12	**K1D 004ACH**	0.158
				20	**K2D 004ACH**	0.158
			5	12	**K1E 005ACH**	0.178
				20	**K2E 005ACH**	0.178
			6	12	**K1F 006ACH**	0.188
				20	**K2F 006ACH**	0.188

Switches with 90° switching angle

		“Multi-fixing”	2	12	**K1B 1002HLH**	0.130
				20	**K2B 1002HLH**	0.130
			3	12	**K1C 003HLH**	0.135
				20	**K2C 003HLH**	0.135
			4	12	**K1D 004HLH**	0.140
				20	**K2D 004HLH**	0.140
		By Ø 22 mm hole	2	12	**K1B 1002HCH**	0.150
				20	**K2B 1002HCH**	0.150
			3	12	**K1C 003HCH**	0.155
				20	**K2C 003HCH**	0.155
			4	12	**K1D 004HCH**	0.160
				20	**K2D 004HCH**	0.160

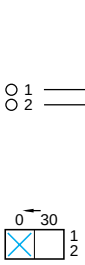
General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: pages 3/74 to 3/77

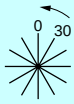
Cam switches

Complete switches, 12 and 20 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

K●● ●●●●LH

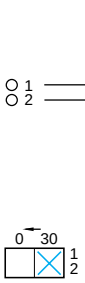


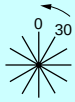


ON-OFF switches with spring return from 30° to “0” position

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith)	Reference	Weight
				A		kg
		“Multi-fixing”	1	12	**K1A 002TLH**	0.105
				20	**K2A 002TLH**	0.105
		By Ø 22 mm hole	1	12	**K1A 002TCH**	0.125
				20	**K2A 002TCH**	0.125

K●● ●●●●CH





OFF-ON switches with spring return from 30° to “0” position

		“Multi-fixing”	1	12	**K1A 001TLH**	0.105
				20	**K2A 001TLH**	0.105
		By Ø 22 mm hole	1	12	**K1A 001TCH**	0.125
				20	**K2A 001TCH**	0.125

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
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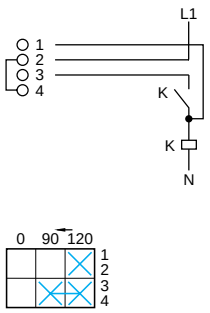
Cam switches

Complete switches, 12 and 20 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

OFF-ON switches with spring return from 120° to 90°

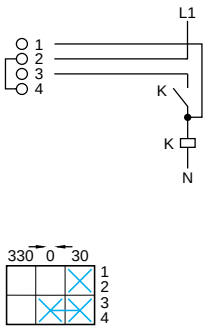
K●● ●●●●LH



Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith)	Reference	Weight
				A		kg
		“Multi-fixing”	1	12	**K1B 003TLH**	0.115
				20	**K2B 003TLH**	0.115
		By Ø 22 mm hole	1	12	**K1B 003TCH**	0.135
				20	**K2B 003TCH**	0.135

OFF-ON switches with spring return from 30° and from 330° to “0” position

K●● ●●●●CH



		“Multi-fixing”	1	12	**K1B 004TLH**	0.115
				20	**K2B 004TLH**	0.115
		By Ø 22 mm hole	1	12	**K1B 004TCH**	0.135
				20	**K2B 004TCH**	0.135

General:
pages 3/14 to 3/17

Characteristics:
pages 3/18 and 3/19

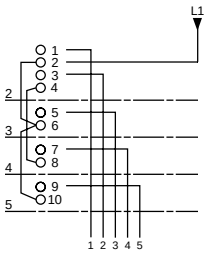
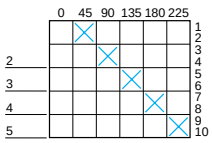
Dimensions:
pages 3/74 to 3/77

Cam switches

Complete switches, 12 and 20 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 to 5 step), single-pole, with “0” position

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
			A		kg
			2 step +“0”		
K●● ●●●●LH 		**“Multi-fixing”**	12	**K1B 002QLH**	0.115
			20	**K2B 002QLH**	0.115
		By Ø 22 mm hole	12	**K1B 002QCH**	0.135
			20	**K2B 002QCH**	0.135
			3 step +“0”		
K●● ●●●●CH 		**“Multi-fixing”**	12	**K1C 003QLH**	0.135
			20	**K2C 003QLH**	0.135
		By Ø 22 mm hole	12	**K1C 003QCH**	0.155
			20	**K2C 003QCH**	0.155
			4 step +“0”		
		“Multi-fixing”	12	**K1D 004QLH**	0.140
			20	**K2D 004QLH**	0.140
		By Ø 22 mm hole	12	**K1D 004QCH**	0.160
			20	**K2D 004QCH**	0.160
			5 step +“0”		
		“Multi-fixing”	12	**K1E 005QLH**	0.160
			20	**K2E 005QLH**	0.160
		By Ø 22 mm hole	12	**K1E 005QCH**	0.180
			20	**K2E 005QCH**	0.180

3

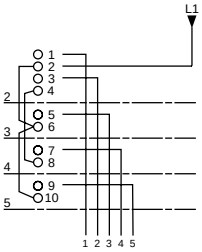
Cam switches

Complete switches, 12 and 20 A

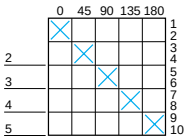
Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

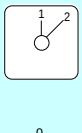
Stepping switches (2 to 5 step), single-pole, without “0” position

K●● ●●●●LH



K●● ●●●●CH



Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
			A		kg
			2 step		
		**“Multi-fixing”**	12	**K1B 002NLH**	0.115
			20	**K2B 002NLH**	0.115
		By Ø 22 mm hole	12	**K1B 002NCH**	0.135
			20	**K2B 002NCH**	0.135
			3 step		
		“Multi-fixing”	12	**K1C 003NLH**	0.135
			20	**K2C 003NLH**	0.135
		By Ø 22 mm hole	12	**K1C 003NCH**	0.155
			20	**K2C 003NCH**	0.155
			4 step		
		“Multi-fixing”	12	**K1D 004NLH**	0.140
			20	**K2D 004NLH**	0.140
		By Ø 22 mm hole	12	**K1D 004NCH**	0.160
			20	**K2D 004NCH**	0.160
			5 step		
		“Multi-fixing”	12	**K1E 005NLH**	0.160
			20	**K2E 005NLH**	0.160
		By Ø 22 mm hole	12	**K1E 005NCH**	0.180
			20	**K2E 005NCH**	0.180

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Dimensions: pages 3/74 to 3/77

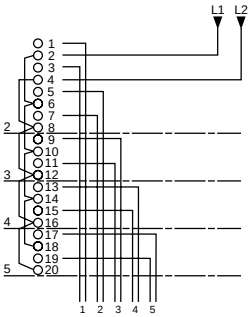
Cam switches

Complete switches, 12 and 20 A

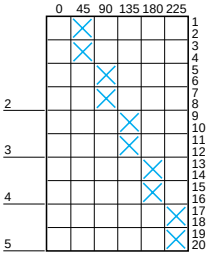
Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 to 5 step), 2-pole, with “0” position

K●● ●●●●LH



K●● ●●●●CH



Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
			A		kg
			2 step +“0”		
		“Multi-fixing”	12	**K1D 012QLH**	0.140
			20	**K2D 012QLH**	0.140
		By Ø 22 mm hole	12	**K1D 012QCH**	0.160
			20	**K2D 012QCH**	0.160
			3 step +“0”		
		“Multi-fixing”	12	**K1F 013QLH**	0.170
			20	**K2F 013QLH**	0.170
		By Ø 22 mm hole	12	**K1F 013QCH**	0.190
			20	**K2F 013QCH**	0.190
			4 step +“0”		
		“Multi-fixing”	12	**K1H 014QLH**	0.195
			20	**K2H 014QLH**	0.195
		By Ø 22 mm hole	12	**K1H 014QCH**	0.215
			20	**K2H 014QCH**	0.215
			5 step +“0”		
		“Multi-fixing”	12	**K1K 015QLH**	0.225
			20	**K2K 015QLH**	0.225
		By Ø 22 mm hole	12	**K1K 015QCH**	0.245
			20	**K2K 015QCH**	0.245

3

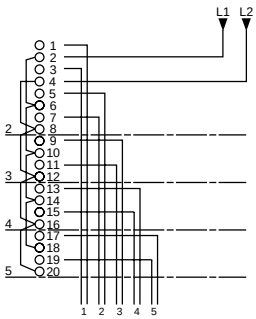
Cam switches

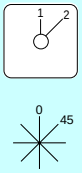
Complete switches, 12 and 20 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 to 5 step), 2-pole, without “0” position

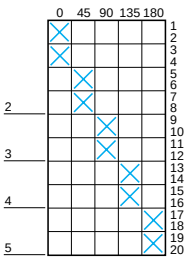
K●● ●●●●LH

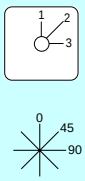




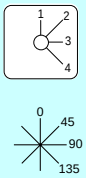
Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
			A		kg
			2 step		
		“Multi-fixing”	12	**K1D 012NLH**	0.140
			20	**K2D 012NLH**	0.140
		By Ø 22 mm hole	12	**K1D 012NCH**	0.160
			20	**K2D 012NCH**	0.160

K●● ●●●●CH

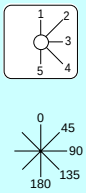




			3 step		
		“Multi-fixing”	12	**K1F 013NLH**	0.170
			20	**K2F 013NLH**	0.170
		By Ø 22 mm hole	12	**K1F 013NCH**	0.190
			20	**K2F 013NCH**	0.190



			4 step		
		“Multi-fixing”	12	**K1H 014NLH**	0.195
			20	**K2H 014NLH**	0.195
		By Ø 22 mm hole	12	**K1H 014NCH**	0.215
			20	**K2H 014NCH**	0.215



			5 step		
		“Multi-fixing”	12	**K1K 015NLH**	0.225
			20	**K2K 015NLH**	0.225
		By Ø 22 mm hole	12	**K1K 015NCH**	0.245
			20	**K2K 015NCH**	0.245

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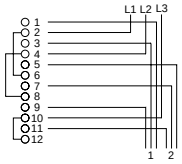
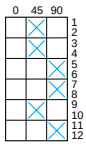
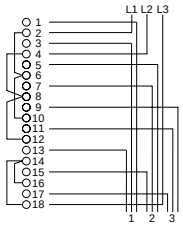
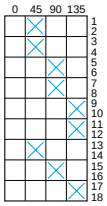
Cam switches

Complete switches, 12 and 20 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 and 3 step), 3-pole, with “0” position

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
			A		kg
			2 step +“0”		
K●● ●●●●LH  		**“Multi-fixing”**	12	**K1F 022QLH**	0.170
			20	**K2F 022QLH**	0.170
		By Ø 22 mm hole	12	**K1F 022QCH**	0.190
			20	**K2F 022QCH**	0.190
			3 step +“0”		
K●● ●●●●CH  		**“Multi-fixing”**	12	**K1I 023QLH**	0.215
			20	**K2I 023QLH**	0.215
		By Ø 22 mm hole	12	**K1I 023QCH**	0.235
			20	**K2I 023QCH**	0.235

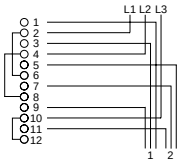
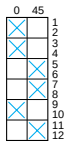
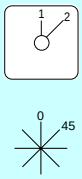
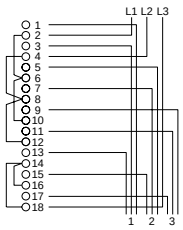
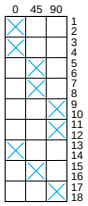
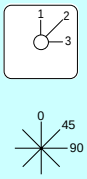
3

Cam switches

Complete switches, 12 and 20 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 and 3 step), 3-pole, without “0” position

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
			A		kg
			2 step		
K●● ●●●●LH  		**“Multi-fixing”**	12	**K1F 022NLH**	0.170
			20	**K2F 022NLH**	0.170
		By Ø 22 mm hole	12	**K1F 022NCH**	0.190
			20	**K2F 022NCH**	0.190
			3 step		
K●● ●●●●CH  		**“Multi-fixing”**	12	**K1I 023NLH**	0.215
			20	**K2I 023NLH**	0.215
		By Ø 22 mm hole	12	**K1I 023NCH**	0.235
			20	**K2I 023NCH**	0.235

3

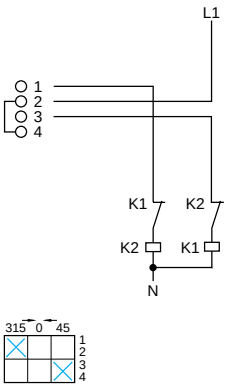
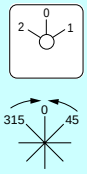
Cam switches

Complete switches, 12 and 20 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

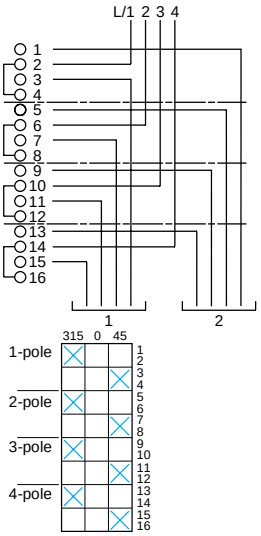
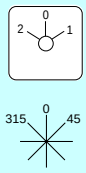
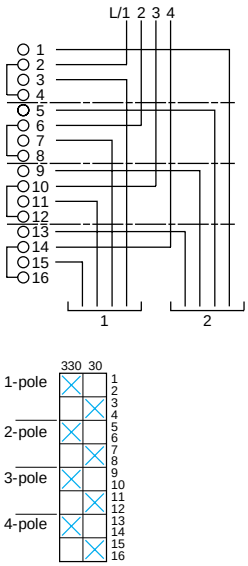
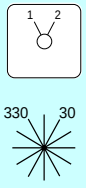
K●● ●●●●LH

Reversing switches with spring return from 315° and from 45° to “0” position

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith)	Reference	Weight
				A		kg
		“Multi-fixing”	1	12	K1B 006TLH	0.115
				20	K2B 006TLH	0.115
		By Ø 22 mm hole	1	12	K1B 006TCH	0.135
				20	K2B 006TCH	0.135

K●● ●●●●CH

Changeover switches, 1 to 4-pole

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith)	Reference	Weight
				With “0” position		
		“Multi-fixing”	1	12	K1B 001ULH	0.115
				20	K2B 001ULH	0.115
			2	12	K1D 002ULH	0.140
				20	K2D 002ULH	0.140
			3	12	K1F 003ULH	0.170
				20	K2F 003ULH	0.170
			4	12	K1H 004ULH	0.195
				20	K2H 004ULH	0.195
		By Ø 22 mm hole	1	12	K1B 001UCH	0.135
				20	K2B 001UCH	0.135
			2	12	K1D 002UCH	0.160
				20	K2D 002UCH	0.160
			3	12	K1F 003UCH	0.190
				20	K2F 003UCH	0.190
			4	12	K1H 004UCH	0.215
				20	K2H 004UCH	0.215
				Without “0” position		
		“Multi-fixing”	1	12	K1B 011ULH	0.115
				20	K2B 011ULH	0.115
			2	12	K1D 012ULH	0.140
				20	K2D 012ULH	0.140
			3	12	K1F 013ULH	0.170
				20	K2F 013ULH	0.170
			4	12	K1H 014ULH	0.195
				20	K2H 014ULH	0.195
		By Ø 22 mm hole	1	12	K1B 011UCH	0.135
				20	K2B 011UCH	0.135
			2	12	K1D 012UCH	0.160
				20	K2D 012UCH	0.160
			3	12	K1F 013UCH	0.190
				20	K2F 013UCH	0.190
			4	12	K1H 014UCH	0.215
				20	K2H 014UCH	0.215

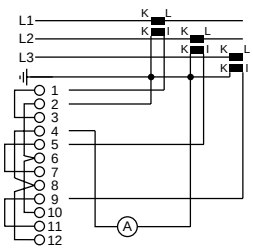
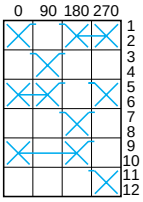
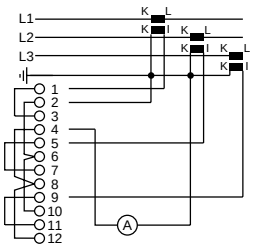
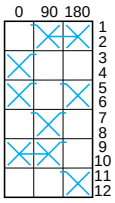
General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: pages 3/74 to 3/77

Cam switches

Complete switches, 12 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Ammeter switches

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
			A		kg
For 3 circuits					
			With “0” position		
K●● ●●●●LH  		**“Multi-fixing”**	12	**K1F 003MLH**	0.170
		By Ø 22 mm hole	12	**K1F 003MCH**	0.190
			Without “0” position		
K●● ●●●●CH  		**“Multi-fixing”**	12	**K1F 013MLH**	0.170
		By Ø 22 mm hole	12	**K1F 013MCH**	0.190

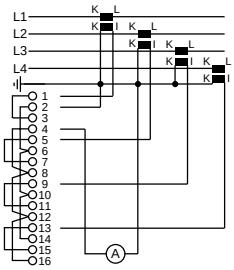
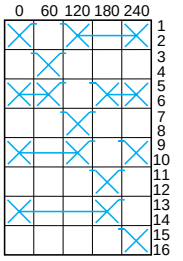
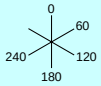
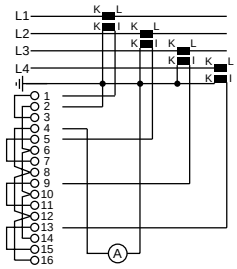
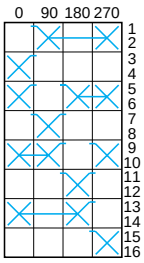
General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: pages 3/74 to 3/77

Cam switches

Complete switches, 12 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Ammeter switches (continued)

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
			A		kg
For 4 circuits					
			With “0” position		
K●● ●●●●LH  		**“Multi-fixing”**	12	**K1H 004MLH**	0.195
		By Ø 22 mm hole	12	**K1H 004MCH**	0.215
			Without “0” position		
 		**“Multi-fixing”**	12	**K1H 014MLH**	0.195
		By Ø 22 mm hole	12	**K1H 014MCH**	0.215

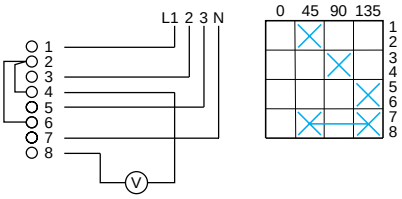
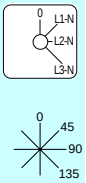
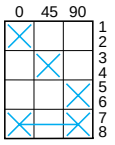
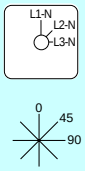
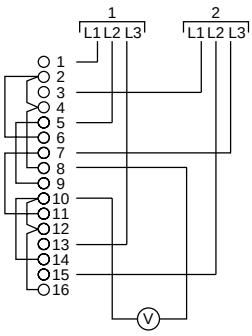
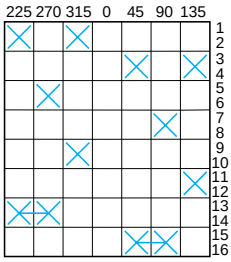
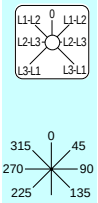
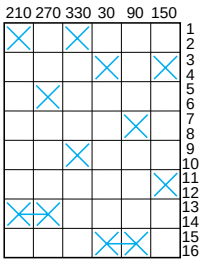
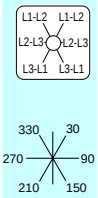
3

Cam switches

Complete switches, 12 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Voltmeter switches

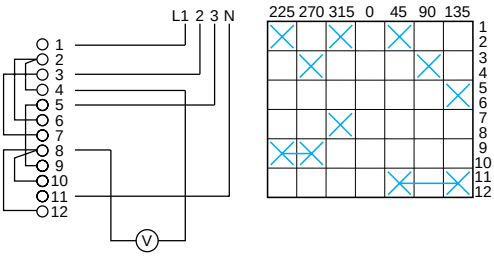
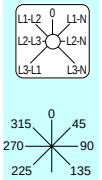
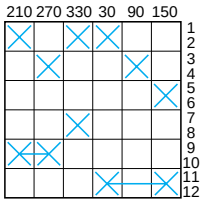
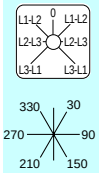
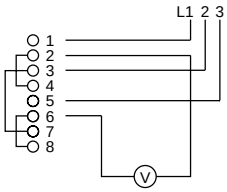
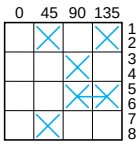
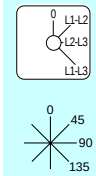
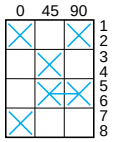
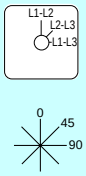
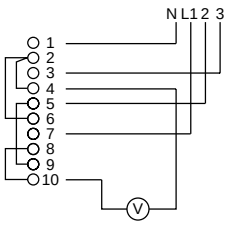
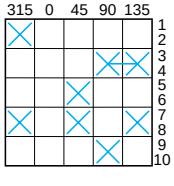
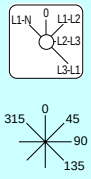
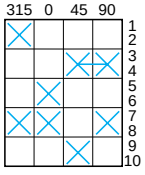
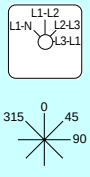
Wiring diagram	Switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
				A		kg
For measurements between 3 phases and neutral						
K●● ●●●●LH				**With “0” position**		
			“Multi-fixing”	12	**K1D 023MLH**	0.140
			By Ø 22 mm hole	12	**K1D 023MCH**	0.160
K●● ●●●●CH				**Without “0” position**		
			“Multi-fixing”	12	**K1D 033MLH**	0.140
			By Ø 22 mm hole	12	**K1D 033MCH**	0.160
For measurements between 3 phases of 2 supplies						
				**With “0” position**		
			“Multi-fixing”	12	**K1H 026MLH**	0.205
			By Ø 22 mm hole	12	**K1H 026MCH**	0.215
				**Without “0” position**		
			“Multi-fixing”	12	**K1H 036MLH**	0.205
			By Ø 22 mm hole	12	**K1H 036MCH**	0.215

Cam switches

Complete switches, 12 A

Front mounting, “multi-fixing” or by Ø 22 mm hole
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Voltmeter switches (continued)

Wiring diagram	Switching programme	Marking and switch position	Front mounting method	Thermal current (Ith) A	Reference	Weight kg
For measurements between 3 phases and between each of the 3 phases and neutral						
K●● ●●●●LH				**With “0” position**		
			“Multi-fixing”	12	**K1F 027MLH**	0.170
			By Ø 22 mm hole	12	**K1F 027MCH**	0.190
				Without “0” position		
K●● ●●●●CH			**“Multi-fixing”**	12	**K1F 037MLH**	0.170
			By Ø 22 mm hole	12	**K1F 037MCH**	0.190
For measurements between 3 phases						
				**With “0” position**		
			“Multi-fixing”	12	**K1D 024MLH**	0.140
			By Ø 22 mm hole	12	**K1D 024MCH**	0.160
				Without “0” position		
			**“Multi-fixing”**	12	**K1D 034MLH**	0.140
			By Ø 22 mm hole	12	**K1D 034MCH**	0.160
For measurements between 3 phases and between 1 phase and neutral						
				**With “0” position**		
			“Multi-fixing”	12	**K1E 025MLH**	0.160
			By Ø 22 mm hole	12	**K1E 025MCH**	0.180
				Without “0” position		
			**“Multi-fixing”**	12	**K1E 035MLH**	0.160
			By Ø 22 mm hole	12	**K1E 035MCH**	0.180

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: pages 3/74 to 3/77

Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

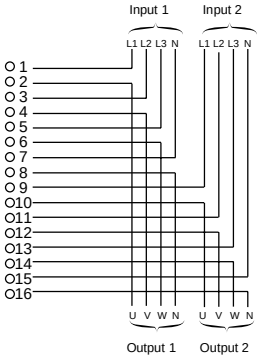
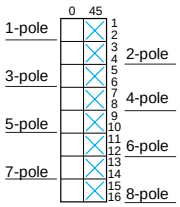
K●● 0●●●L

K●● 0●●●

K●● 5●●●

K●● 0●●●X

Switches

Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
	1-pole					
 		Front	Multi-fixing	**K●A 001AL**		0.091
			By Ø 22 mm hole	**K●A 001A**		0.075
				K●A 001AX	*(2)*	0.153
		Rear		**K●A 501A**		0.115
	2-pole					
		Front	Multi-fixing	**K●B 002AL**		0.101
			By Ø 22 mm hole	**K●B 002A**		0.085
				K●B 002AX	*(2)*	0.163
		Rear		**K●B 502A**		0.125
	3-pole					
		Front	Multi-fixing	**K●C 003AL**		0.121
			By Ø 22 mm hole	**K●C 003A**		0.105
				K●C 003AX	*(2)*	0.183
		Rear		**K●C 503A**		0.140
	4-pole					
		Front	Multi-fixing	**K●D 004AL**		0.126
			By Ø 22 mm hole	**K●D 004A**		0.110
				K●D 004AX	*(2)*	0.188
		Rear		**K●D 504A**		0.150
	5-pole					
		Front	Multi-fixing	**K●E 005AL**		0.146
			By Ø 22 mm hole	**K●E 005A**		0.130
				K●E 005AX	*(2)*	0.208
		Rear		**K●E 505A**		0.165
	6-pole					
		Front	Multi-fixing	**K●F 006AL**		0.156
			By Ø 22 mm hole	**K●F 006A**		0.140
				K●F 006AX	*(2)*	0.218
		Rear		**K●F 506A**		0.175
	7-pole					
		Front	Multi-fixing	**K●G 007AL**		0.176
			By Ø 22 mm hole	**K●G 007A**		0.160
		Rear		**K●G 507A**		0.190
	8-pole					
		Front	Multi-fixing	**K●H 008AL**		0.181
			By Ø 22 mm hole	**K●H 008A**		0.165
		Rear		**K●H 508A**		0.195

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1A 001A**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2A 001A**.*
*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

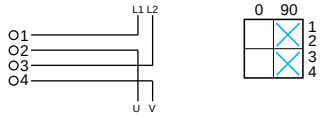
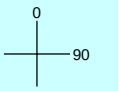
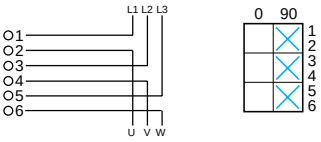
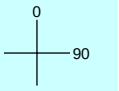
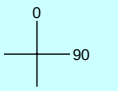
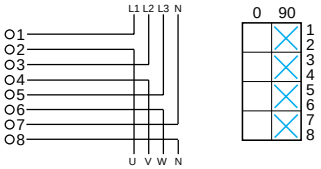
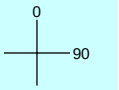
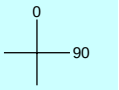
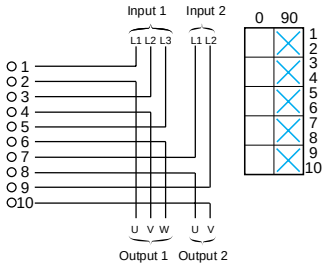
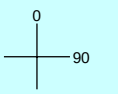
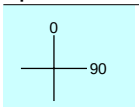
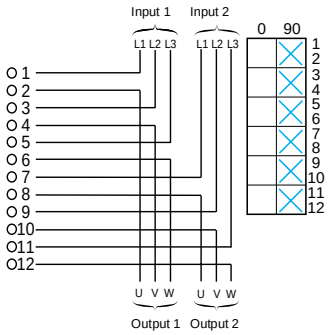
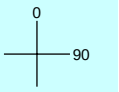
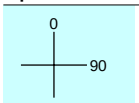
General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

Cam switches

Adaptable sub-assemblies, 12 and 20 A bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Switches (continued)

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)	Weight kg
		2-pole				
K●● 0●●●L			Front	Multi-fixing	**K●B 1002HL**	0.121
				By Ø 22 mm hole	**K●B 1002H**	0.105
					K●B 1002HX *(2)*	0.183
		3-pole				
			Front	Multi-fixing	**K●C 003HL**	0.121
				By Ø 22 mm hole	**K●C 003H**	0.105
					K●C 003HX *(2)*	0.183
			Rear		**K●C 503H**	0.140
		3-pole with neutral wire terminal and Earth terminal				
			Front	Multi-fixing	**K●C 023HL**	0.121
				By Ø 22 mm hole	**K●C 023H**	0.105
					K●C 023HX *(2)*	0.183
			Rear		**K●C 523H**	0.140
K●● 0●●●		**4-pole**				
			Front	Multi-fixing	**K●D 004HL**	0.126
				By Ø 22 mm hole	**K●D 004H**	0.110
					K●D 004HX *(2)*	0.188
			Rear		**K●D 504H**	0.150
		4-pole with neutral wire terminal and Earth terminal				
			Front	Multi-fixing	**K●D 024HL**	0.126
				By Ø 22 mm hole	**K●D 024H**	0.110
					K●D 024HX *(2)*	0.188
			Rear		**K●D 524H**	0.150
		5-pole				
K●● 5●●●			Front	Multi-fixing	**K●E 005HL**	0.146
				By Ø 22 mm hole	**K●E 005H**	0.130
					K●E 005HX *(2)*	0.208
			Rear		**K●E 505H**	0.165
		5-pole with neutral wire terminal and Earth terminal				
			Front	Multi-fixing	**K●E 025HL**	0.146
				By Ø 22 mm hole	**K●E 025H**	0.130
			Rear		**K●E 525H**	0.165
		6-pole				
K●● 0●●●X			Front	Multi-fixing	**K●F 006HL**	0.156
				By Ø 22 mm hole	**K●F 006H**	0.140
					K●F 006HX *(2)*	0.218
			Rear		**K●F 506H**	0.175
		6-pole with neutral wire terminal and Earth terminal				
			Front	Multi-fixing	**K●F 026HL**	0.156
				By Ø 22 mm hole	**K●F 026H**	0.140
			Rear		**K●F 526H**	0.175

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1C 003H**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2C 003H**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

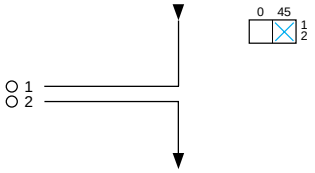
General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

Cam switches

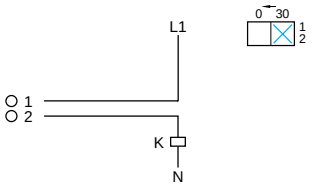
Adaptable sub-assemblies, 12 and 20 A bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

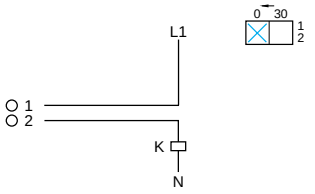
OFF-ON switches

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
K●● 0●●●L			Front	Multi-fixing	K●A 001AL		0.091
				By Ø 22 mm hole	K●A 001A		0.075
					K●A 001AX	(2)	0.153
			Rear		K●A 501A		0.115

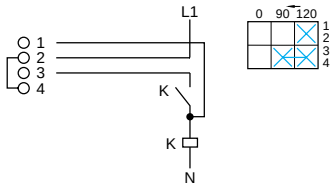
OFF-ON switches with spring return from 30° to “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
K●● 0●●●			Front	Multi-fixing	K●A 001TL		0.091
				By Ø 22 mm hole	K●A 001T		0.075
					K●A 001TX	(2)	0.153
			Rear		K●A 501T		0.115

ON-OFF switches with spring return from 30° to “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
K●● 5●●●			Front	Multi-fixing	K●A 002TL		0.091
				By Ø 22 mm hole	K●A 002T		0.075
					K●A 002TX	(2)	0.153
			Rear		K●A 502T		0.115

OFF-ON switches with spring return from 120° to 90°

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
K●● 0●●●X			Front	Multi-fixing	K●B 003TL		0.101
				By Ø 22 mm hole	K●B 003T		0.085
			Rear		K●B 503T		0.125

(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.
Example ***K1A 001A***.
To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.
Example ***K2A 001A***.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type ***KAX Z1●●●***.

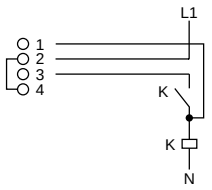
Cam switches

Adaptable sub-assemblies, 12 and 20 A

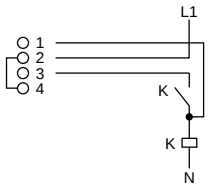
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

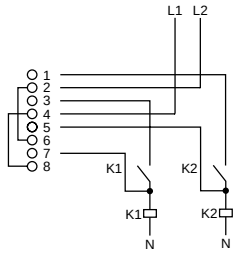
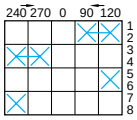
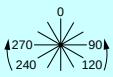
OFF-ON switches with spring return from 30° and from 330° to “0” position

Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)	Weight kg
K●● 0●●●L 		Front	Multi-fixing	**K●B 004TL**	0.101
			By Ø 22 mm hole	**K●B 004T**	0.085
		Rear		**K●B 504T**	0.115

OFF-ON switches with momentary-contact function

Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
K●● 0●●● 		Front	Multi-fixing	**K●B 001DL**		0.101
			By Ø 22 mm hole	**K●B 001D**		0.085
				K●B 001DX	*(2)*	0.163
		Rear		**K●B 501D**		0.125

OFF-ON changeover switches with spring return from 240° to 270° and from 120° to 90°

Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)	Weight kg
K●● 5●●●  *K●● 0●●●X* 		Front	Multi-fixing	**K●D 005TL**	0.126
			By Ø 22 mm hole	**K●D 005T**	0.110
		Rear		**K●D 505T**	0.150

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1B 004T**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2B 004T**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

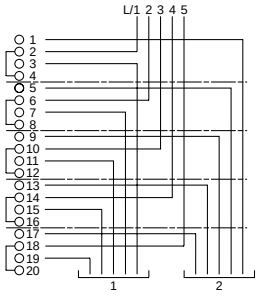
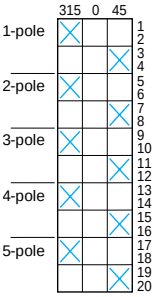
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Changeover switches with “0” position

Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
1-pole						
K●● 0●●●L		Front	Multi-fixing	**K●B 001UL**		0.101
			By Ø 22 mm hole	**K●B 001U**		0.085
				K●B 001UX	*(2)*	0.163
		Rear		**K●B 501U**		0.125
2-pole						
		Front	Multi-fixing	**K●D 002UL**		0.126
			By Ø 22 mm hole	**K●D 002U**		0.110
				K●D 002UX	*(2)*	0.188
		Rear		**K●D 502U**		0.150
3-pole						
K●● 0●●●		Front	Multi-fixing	**K●F 003UL**		0.156
			By Ø 22 mm hole	**K●F 003U**		0.140
				K●F 003UX	*(2)*	0.218
		Rear		**K●F 503U**		0.175
4-pole						
		Front	Multi-fixing	**K●H 004UL**		0.181
			By Ø 22 mm hole	**K●H 004U**		0.165
				K●H 004UX	*(2)*	0.243
		Rear		**K●H 504U**		0.195
5-pole						
K●● 5●●●		Front	Multi-fixing	**K●K 005UL**		0.211
			By Ø 22 mm hole	**K●K 005U**		0.195
				K●K 005UX	*(2)*	0.273
		Rear		**K●K 505U**		0.210

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1B 001U**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2B 001U**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●.***

K●● 0●●●X

Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

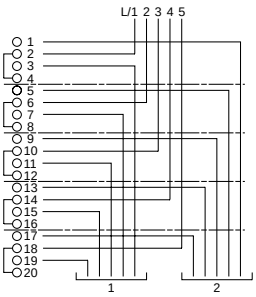
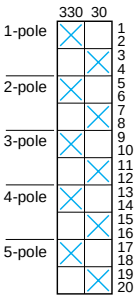
K●● 0●●●L

K●● 0●●●

K●● 5●●●

K●● 0●●●X

Changeover switches without “0” position

Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
1-pole						
		Front	Multi-fixing	**K●B 011UL**		0.101
			By Ø 22 mm hole	**K●B 011U**		0.085
				K●B 011UX	*(2)*	0.163
		Rear		**K●B 511U**		0.125
2-pole						
		Front	Multi-fixing	**K●D 012UL**		0.126
			By Ø 22 mm hole	**K●D 012U**		0.110
				K●D 012UX	*(2)*	0.188
		Rear		**K●D 512U**		0.150
3-pole						
		Front	Multi-fixing	**K●F 013UL**		0.156
			By Ø 22 mm hole	**K●F 013U**		0.140
				K●F 013UX	*(2)*	0.218
		Rear		**K●F 513U**		0.175
4-pole						
		Front	Multi-fixing	**K●H 014UL**		0.181
			By Ø 22 mm hole	**K●H 014U**		0.165
				K●H 014UX	*(2)*	0.243
		Rear		**K●H 514U**		0.195
5-pole						
		Front	Multi-fixing	**K●K 015UL**		0.211
			By Ø 22 mm hole	**K●K 015U**		0.195
				K●K 015UX	*(2)*	0.273
		Rear		**K●K 515U**		0.220

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1B 011U**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2B 011U**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

Cam switches

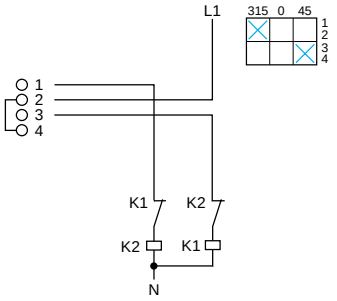
Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Reversing switches

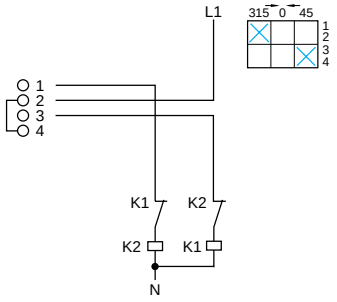
K●● 0●●●L



Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed *(1)*		Weight kg
			Front	Multi-fixing	**K●B 001UL**		0.101
				By Ø 22 mm hole	**K●B 001U**		0.085
					K●B 001UX	*(2)*	0.163
			Rear		**K●B 501U**		0.125

Reversing switches with spring return from 315° and from 45° to “0” position

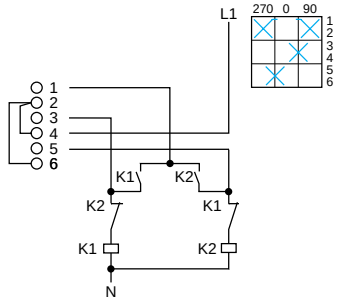
K●● 0●●●



Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed *(1)*		Weight kg
			Front	Multi-fixing	**K●B 006TL**		0.101
				By Ø 22 mm hole	**K●B 006T**		0.085
					K●B 006TX	*(2)*	0.163
			Rear		**K●B 506T**		0.125

Reversing switches with momentary-contact function

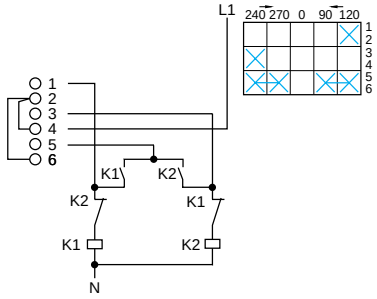
K●● 5●●●



Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed *(1)*		Weight kg
			Front	Multi-fixing	**K●C 002DL**		0.121
				By Ø 22 mm hole	**K●C 002D**		0.105
					K●C 002DX	*(2)*	0.183
			Rear		**K●C 502D**		0.140

Reversing switches with spring return from 240° to 270° and from 120° to 90° position

K●● 0●●●X



Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed *(1)*		Weight kg
			Front	Multi-fixing	**K●C 007TL**		0.121
				By Ø 22 mm hole	**K●C 007T**		0.105
			Rear		**K●C 507T**		0.140

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1B 001U**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2B 001U**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

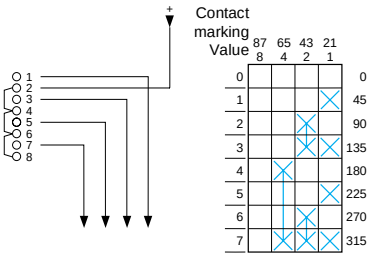
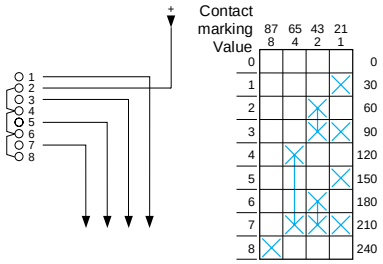
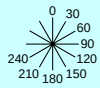
Cam switches

Adaptable sub-assemblies, 12 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

BCD encoded output switches with “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference (1)		Weight kg
K●● 0●●●L		**1 decimal**	Front	Multi-fixing	**K1A 001BL**		0.101
				By Ø 22 mm hole	**K1A 001B**		0.085
					K1A 001BX	(2)	0.163
			Rear		**K1A 501B**		0.125
		2 decimal	Front	Multi-fixing	**K1B 002BL**		0.101
				By Ø 22 mm hole	**K1B 002B**		0.085
					K1B 002BX	(2)	0.163
			Rear		**K1B 502B**		0.125
		3 decimal	Front	Multi-fixing	**K1B 003BL**		0.101
				By Ø 22 mm hole	**K1B 003B**		0.085
					K1B 003BX	(2)	0.163
			Rear		**K1B 503B**		0.125
K●● 0●●●		**4 decimal**	Front	Multi-fixing	**K1C 004BL**		0.121
				By Ø 22 mm hole	**K1C 004B**		0.105
					K1C 004BX	(2)	0.183
			Rear		**K1C 504B**		0.140
		5 decimal	Front	Multi-fixing	**K1C 005BL**		0.121
				By Ø 22 mm hole	**K1C 005B**		0.105
					K1C 005BX	(2)	0.183
			Rear		**K1C 505B**		0.140
K●● 5●●●		**6 decimal**	Front	Multi-fixing	**K1C 006BL**		0.121
				By Ø 22 mm hole	**K1C 006B**		0.105
					K1C 006BX	(2)	0.183
			Rear		**K1C 506B**		0.140
		7 decimal	Front	Multi-fixing	**K1C 007BL**		0.121
				By Ø 22 mm hole	**K1C 007B**		0.105
					K1C 007BX	(2)	0.183
			Rear		**K1C 507B**		0.140
K●● 0●●●X		**8 decimal** 	Front	Multi-fixing	**K1D 008BL**		0.126
				By Ø 22 mm hole	**K1D 008B**		0.110
					K1D 008BX	(2)	0.188
			Rear		**K1D 508B**		0.150

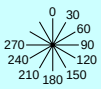
(1) Ith = 12 A.

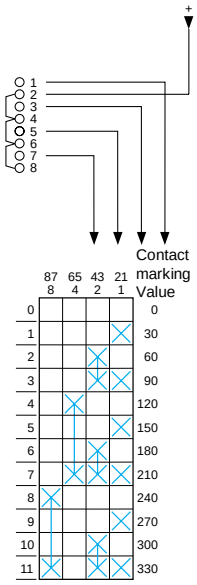
(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

Cam switches
Adaptable sub-assemblies, 12 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

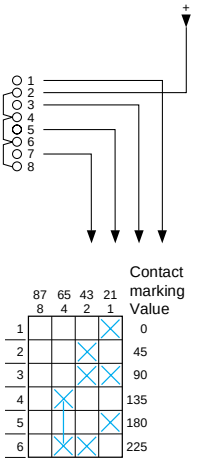
BCD encoded output switches with “0” position (continued)

Wiring diagram and switching programme	Switch position	Mounting method		Reference (1)		Weight kg
	9 decimal					
K●● 0●●●L		Front	Multi-fixing	**K1D 009BL**		0.126
			By Ø 22 mm hole	**K1D 009B**		0.110
				K1D 009BX	*(2)*	0.188
		Rear		**K1D 509B**		0.150
	10 decimal					
		Front	Multi-fixing	**K1D 010BL**		0.126
			By Ø 22 mm hole	**K1D 010B**		0.110
		Rear		**K1D 510B**		0.150
	11 decimal					
K●● 0●●●		Front	Multi-fixing	**K1D 011BL**		0.126
			By Ø 22 mm hole	**K1D 011B**		0.110
		Rear		**K1D 511B**		0.150



BCD encoded output switches without “0” position

Wiring diagram and switching programme	Switch position	Mounting method		Reference (1)		Weight kg
	1 and 2 decimal					
K●● 5●●●		Front	Multi-fixing	**K1B 022BL**		0.101
			By Ø 22 mm hole	**K1B 022B**		0.085
				K1B 022BX	*(2)*	0.163
		Rear		**K1B 522B**		0.125
	3 decimal					
		Front	Multi-fixing	**K1B 023BL**		0.101
			By Ø 22 mm hole	**K1B 023B**		0.085
				K1B 023BX	*(2)*	0.163
		Rear		**K1B 523B**		0.125
	4 decimal					
		Front	Multi-fixing	**K1C 024BL**		0.121
			By Ø 22 mm hole	**K1C 024B**		0.105
				K1C 024BX	*(2)*	0.183
		Rear		**K1C 524B**		0.140
	5 decimal					
K●● 0●●●X		Front	Multi-fixing	**K1C 025BL**		0.121
			By Ø 22 mm hole	**K1C 025B**		0.105
				K1C 025BX	*(2)*	0.183
		Rear		**K1C 525B**		0.140
	6 decimal					
		Front	Multi-fixing	**K1C 026BL**		0.121
			By Ø 22 mm hole	**K1C 026B**		0.105
				K1C 026BX	*(2)*	0.183
		Rear		**K1C 526B**		0.140



(1) Ith = 12 A.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type ***KAX Z1●●●.***

Cam switches

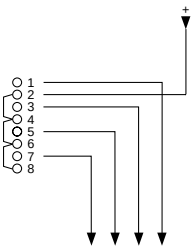
Adaptable sub-assemblies, 12 A

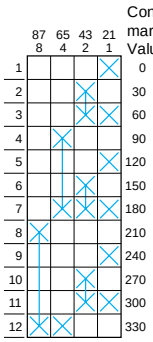
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

BCD encoded output switches without “0” position (continued)

K●● 0●●●L





K●● 0●●●

K●● 5●●●

K●● 0●●●X

Wiring diagram and switching programme	Switch position	Mounting method		Reference (1)		Weight kg
7 decimal						
		Front	Multi-fixing	**K1C 027BL**		0.121
			By Ø 22 mm hole	**K1C 027B**		0.105
				K1C 027BX	*(2)*	0.183
		Rear		**K1C 527B**		0.140
8 decimal						
		Front	Multi-fixing	**K1D 028BL**		0.126
			By Ø 22 mm hole	**K1D 028B**		0.110
				K1D 028BX	*(2)*	0.188
		Rear		**K1D 528B**		0.150
9 decimal						
		Front	Multi-fixing	**K1D 029BL**		0.126
			By Ø 22 mm hole	**K1D 029B**		0.110
				K1D 029BX	*(2)*	0.188
		Rear		**K1D 529B**		0.150
10 decimal						
		Front	Multi-fixing	**K1D 030BL**		0.126
			By Ø 22 mm hole	**K1D 030B**		0.110
				K1D 030BX	*(2)*	0.188
		Rear		**K1D 530B**		0.150
11 decimal						
		Front	Multi-fixing	**K1D 031BL**		0.126
			By Ø 22 mm hole	**K1D 031B**		0.110
		Rear		**K1D 531B**		0.150
12 decimal						
		Front	Multi-fixing	**K1D 032BL**		0.126
			By Ø 22 mm hole	**K1D 032B**		0.110
		Rear		**K1D 532B**		0.150

(1) Ith = 12 A.

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

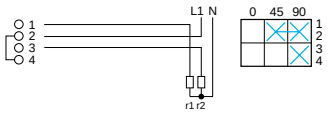
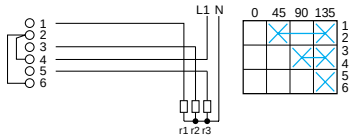
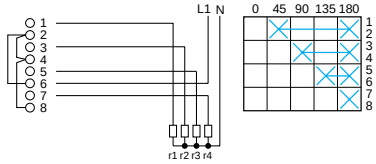
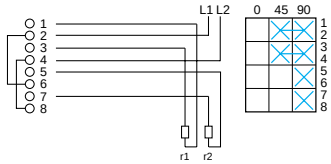
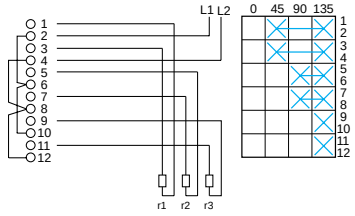
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Paralleling switches with “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
1-pole for 2 loads							
K●● 0●●●L			Front	Multi-fixing	**K●B 002GL**		0.101
				By Ø 22 mm hole	**K●B 002G**		0.085
					K●B 002GX	(2)	0.163
			Rear		**K●B 502G**		0.125
1-pole for 3 loads							
K●● 0●●●			Front	Multi-fixing	**K●C 003GL**		0.121
				By Ø 22 mm hole	**K●C 003G**		0.105
					K●C 003GX	(2)	0.183
			Rear		**K●C 503G**		0.140
1-pole for 4 loads							
			Front	Multi-fixing	**K●D 004GL**		0.126
				By Ø 22 mm hole	**K●D 004G**		0.110
					K●D 004GX	(2)	0.188
			Rear		**K●D 504G**		0.150
2-pole for 2 loads							
K●● 5●●●			Front	Multi-fixing	**K●D 012GL**		0.126
				By Ø 22 mm hole	**K●D 012G**		0.110
					K●D 012GX	(2)	0.188
			Rear		**K●D 512G**		0.150
2-pole for 3 loads							
K●● 0●●●X			Front	Multi-fixing	**K●F 013GL**		0.156
				By Ø 22 mm hole	**K●F 013G**		0.140
					K●F 013GX	(2)	0.218
			Rear		**K●F 513G**		0.175

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1B 002G**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2B 002G**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

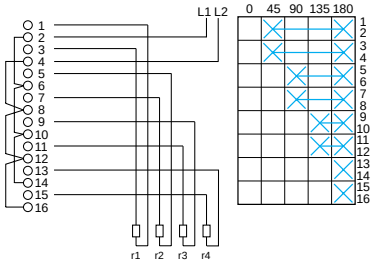
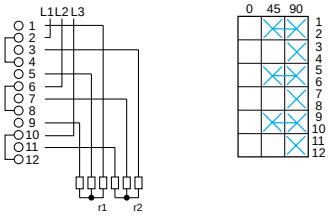
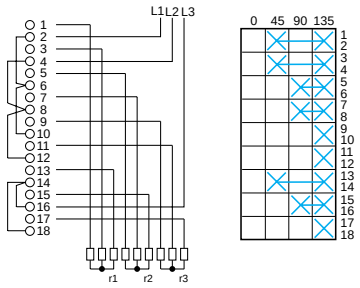
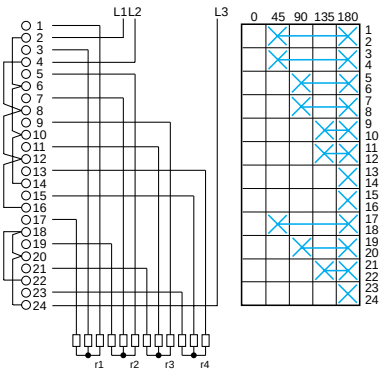
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Paralleling switches with “0” position (continued)

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
2-pole for 4 loads							
K●● 0●●●L			Front	Multi-fixing	**K●H 014GL**		0.181
				By Ø 22 mm hole	**K●H 014G**		0.165
					K●H 014GX	*(2)*	0.243
			Rear		**K●H 514G**		0.195
3-pole for 2 loads							
K●● 0●●●			Front	Multi-fixing	**K●F 022GL**		0.156
				By Ø 22 mm hole	**K●F 022G**		0.140
					K●F 022GX	*(2)*	0.218
			Rear		**K●F 522G**		0.175
3-pole for 3 loads							
K●● 5●●●			Front	Multi-fixing	**K●I 023GL**		0.201
				By Ø 22 mm hole	**K●I 023G**		0.185
					K●I 023GX	*(2)*	0.263
			Rear		**K●I 523G**		0.215
3-pole for 4 loads							
K●● 0●●●X			Front	Multi-fixing	**K●M 024GL**		0.241
				By Ø 22 mm hole	**K●M 024G**		0.225
					K●M 024GX	*(2)*	0.303
			Rear		**K●M 524G**		0.245

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1H 014G**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2H 014G**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

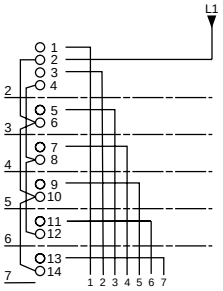
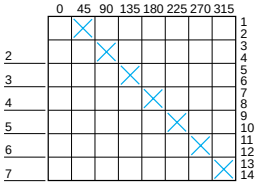
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 11 step), single-pole, with “0” position

Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed *(1)*		Weight kg
	2 step + “0”					
K●● 0●●●L 		Front	Multi-fixing	**K●B 002QL**		0.101
			By Ø 22 mm hole	**K●B 002Q**		0.085
				K●B 002QX	*(2)*	0.163
		Rear		**K●B 502Q**		0.125
	3 step + “0”					
		Front	Multi-fixing	**K●C 003QL**		0.121
			By Ø 22 mm hole	**K●C 003Q**		0.105
				K●C 003QX	*(2)*	0.183
		Rear		**K●C 503Q**		0.140
K●● 0●●● 	**4 step + “0”**					
		Front	Multi-fixing	**K●D 004QL**		0.126
			By Ø 22 mm hole	**K●D 004Q**		0.110
				K●D 004QX	*(2)*	0.188
		Rear		**K●D 504Q**		0.150
	5 step + “0”					
		Front	Multi-fixing	**K●E 005QL**		0.146
			By Ø 22 mm hole	**K●E 005Q**		0.130
				K●E 005QX	*(2)*	0.208
		Rear		**K●E 505Q**		0.165
K●● 5●●●	**6 step + “0”**					
		Front	Multi-fixing	**K●F 006QL**		0.156
			By Ø 22 mm hole	**K●F 006Q**		0.140
				K●F 006QX	*(2)*	0.218
		Rear		**K●F 506Q**		0.175
	7 step + “0”					
K●● 0●●●X		Front	Multi-fixing	**K●G 007QL**		0.176
			By Ø 22 mm hole	**K●G 007Q**		0.160
				K●G 007QX	*(2)*	0.238
		Rear		**K●G 507Q**		0.190

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1B 002Q**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2B 002Q**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

Cam switches

Adaptable sub-assemblies, 12 and 20 AA

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

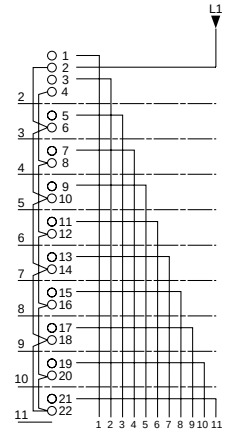
K●● 0●●●L

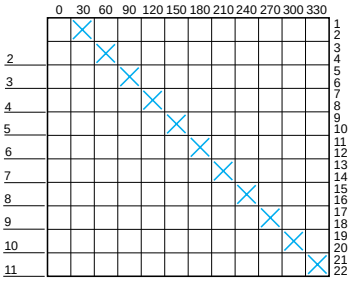
K●● 0●●●

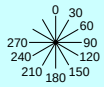
K●● 5●●●

K●● 0●●●X

Stepping switches (2 to 11 step), single-pole, with “0” position (continued)





Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
8 step + “0”						
		Front	Multi-fixing	**K●H 008QL**		0.181
			By Ø 22 mm hole	**K●H 008Q**		0.165
				K●H 008QX	(2)	0.243
		Rear		**K●H 508Q**		0.195
9 step + “0”						
		Front	Multi-fixing	**K●I 009QL**		0.201
			By Ø 22 mm hole	**K●I 009Q**		0.185
				K●I 009QX	(2)	0.263
		Rear		**K●I 509Q**		0.215
10 step + “0”						
		Front	Multi-fixing	**K●K 010QL**		0.211
			By Ø 22 mm hole	**K●K 010Q**		0.195
				K●K 010QX	(2)	0.273
		Rear		**K●K 510Q**		0.220
11 step + “0”						
		Front	Multi-fixing	**K●L 011QL**		0.231
			By Ø 22 mm hole	**K●L 011Q**		0.215
				K●L 011QX	(2)	0.293
		Rear		**K●L 511Q**		0.240

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1H 008Q**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2H 008Q**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

3

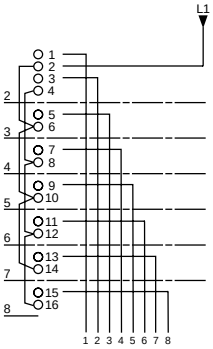
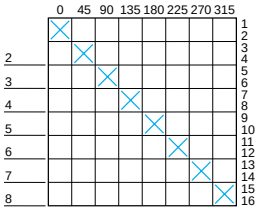
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 12 step), single-pole, without “0” position

Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
2 step						
K●● 0●●●L		Front	Multi-fixing	**K●B 002NL**		0.101
			By Ø 22 mm hole	**K●B 002N**		0.085
				K●B 002NX	*(2)*	0.163
		Rear		**K●B 502N**		0.125
3 step						
		Front	Multi-fixing	**K●C 003NL**		0.121
			By Ø 22 mm hole	**K●C 003N**		0.105
				K●C 003NX	*(2)*	0.183
		Rear		**K●C 503N**		0.140
4 step						
K●● 0●●●		Front	Multi-fixing	**K●D 004NL**		0.126
			By Ø 22 mm hole	**K●D 004N**		0.110
				K●D 004NX	*(2)*	0.188
		Rear		**K●D 504N**		0.150
5 step						
		Front	Multi-fixing	**K●E 005NL**		0.146
			By Ø 22 mm hole	**K●E 005N**		0.130
				K●E 005NX	*(2)*	0.208
		Rear		**K●E 505N**		0.165
6 step						
K●● 5●●●		Front	Multi-fixing	**K●F 006NL**		0.156
			By Ø 22 mm hole	**K●F 006N**		0.140
				K●F 006NX	*(2)*	0.218
		Rear		**K●F 506N**		0.175
7 step						
		Front	Multi-fixing	**K●G 007NL**		0.176
			By Ø 22 mm hole	**K●G 007N**		0.160
				K●G 007NX	*(2)*	0.238
		Rear		**K●G 507N**		0.190
8 step						
K●● 0●●●X		Front	Multi-fixing	**K●H 008NL**		0.181
			By Ø 22 mm hole	**K●H 008N**		0.165
				K●H 008NX	*(2)*	0.243
		Rear		**K●H 508N**		0.195

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1B 002N**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2B 002N**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

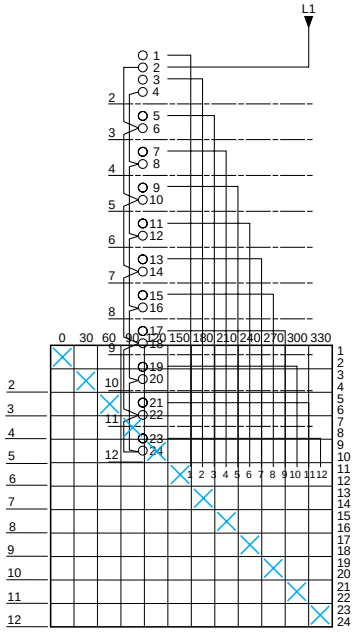
K●● 0●●●L

K●● 0●●●

K●● 5●●●

K●● 0●●●X

Stepping switches (2 to 12 step), single-pole, without “0” position (continued)



Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
9 step						
		Front	Multi-fixing	**K●I 009NL**		0.201
			By Ø 22 mm hole	**K●I 009N**		0.185
				K●I 009NX	(2)	0.263
		Rear		**K●I 509N**		0.215
10 step						
		Front	Multi-fixing	**K●K 010NL**		0.211
			By Ø 22 mm hole	**K●K 010N**		0.195
				K●K 010NX	(2)	0.273
		Rear		**K●K 510N**		0.220
11 step						
		Front	Multi-fixing	**K●L 011NL**		0.231
			By Ø 22 mm hole	**K●L 011N**		0.215
				K●L 011NX	(2)	0.293
		Rear		**K●L 511N**		0.240
12 step						
		Front	Multi-fixing	**K●M 021NL**		0.241
			By Ø 22 mm hole	**K●M 021N**		0.225
				K●M 021NX	(2)	0.303
		Rear		**K●M 521N**		0.245

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1I 009N**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2I 009N**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

Cam switches

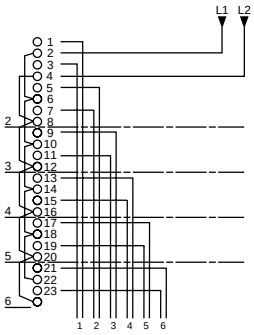
Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

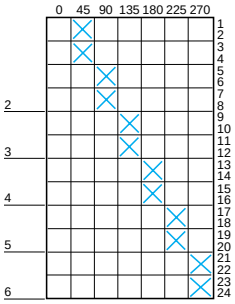
To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 6 step), 2-pole, with “0” position

K●● 0●●●L

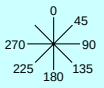


K●● 0●●●



K●● 5●●●

K●● 0●●●X

Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
2 step + “0”						
		Front	Multi-fixing	**K●D 012QL**		0.126
			By Ø 22 mm hole	**K●D 012Q**		0.110
				K●D 012QX	(2)	0.188
		Rear		**K●D 512Q**		0.150
3 step + “0”						
		Front	Multi-fixing	**K●F 013QL**		0.156
			By Ø 22 mm hole	**K●F 013Q**		0.140
				K●F 013QX	(2)	0.218
		Rear		**K●F 513Q**		0.175
4 step + “0”						
		Front	Multi-fixing	**K●H 014QL**		0.181
			By Ø 22 mm hole	**K●H 014Q**		0.165
				K●H 014QX	(2)	0.243
		Rear		**K●H 514Q**		0.195
5 step + “0”						
		Front	Multi-fixing	**K●K 015QL**		0.211
			By Ø 22 mm hole	**K●K 015Q**		0.195
				K●K 015QX	(2)	0.273
		Rear		**K●K 515Q**		0.220
6 step + “0”						
		Front	Multi-fixing	**K●M 016QL**		0.241
			By Ø 22 mm hole	**K●M 016Q**		0.225
				K●M 016QX	(2)	0.303
		Rear		**K●M 516Q**		0.245

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1D 012Q**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2D 012Q**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

Cam switches

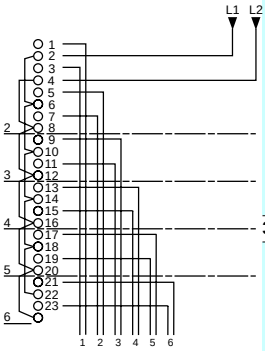
Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

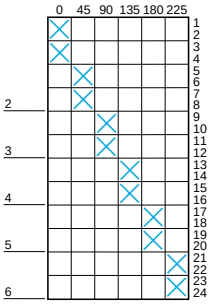
To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 6 step), 2-pole, without “0” position

K●● 0●●●L



K●● 0●●●



K●● 5●●●

K●● 0●●●X

Wiring diagram and switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
2 step						
		Front	Multi-fixing	**K●D 012NL**		0.126
			By Ø 22 mm hole	**K●D 012N**		0.110
				K●D 012NX	*(2)*	0.188
		Rear		**K●D 512N**		0.150
3 step						
		Front	Multi-fixing	**K●F 013NL**		0.156
			By Ø 22 mm hole	**K●F 013N**		0.140
				K●F 013NX	*(2)*	0.218
		Rear		**K●F 513N**		0.175
4 step						
		Front	Multi-fixing	**K●H 014NL**		0.181
			By Ø 22 mm hole	**K●H 014N**		0.165
				K●H 014NX	*(2)*	0.243
		Rear		**K●H 514N**		0.195
5 step						
		Front	Multi-fixing	**K●K 015NL**		0.211
			By Ø 22 mm hole	**K●K 015N**		0.195
				K●K 015NX	*(2)*	0.273
		Rear		**K●K 515N**		0.220
6 step						
		Front	Multi-fixing	**K●M 016NL**		0.241
			By Ø 22 mm hole	**K●M 016N**		0.225
				K●M 016NX	*(2)*	0.303
		Rear		**K●M 516N**		0.245

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1D 012N**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2D 012N**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●**.*

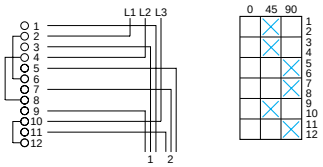
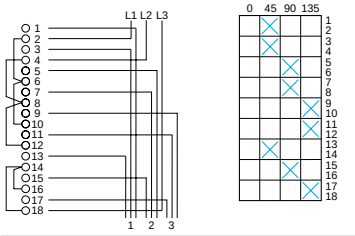
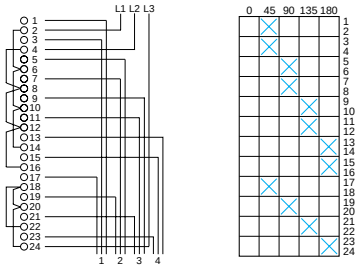
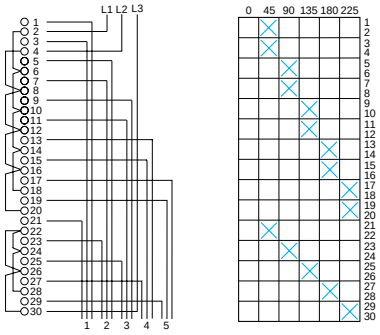
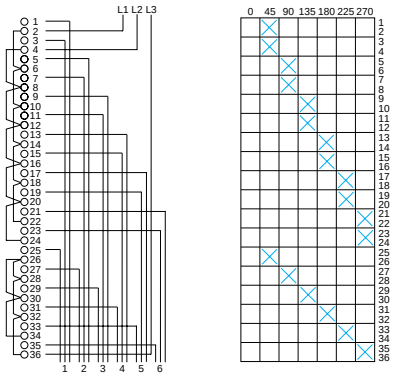
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 6 step), 3-pole, with “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed *(1)*		Weight kg
K●● 0●●●L		**2 step + “0”**	Front	Multi-fixing	**K●F 022QL**		0.156
				By Ø 22 mm hole	**K●F 022Q**		0.140
					K●F 022QX	*(2)*	0.218
			Rear		**K●F 522Q**		0.175
K●● 0●●●		**3 step + “0”**	Front	Multi-fixing	**K●I 023QL**		0.201
				By Ø 22 mm hole	**K●I 023Q**		0.185
					K●I 023QX	*(2)*	0.263
			Rear		**K●I 523Q**		0.215
		**4 step + “0”**	Front	Multi-fixing	**K●M 024QL**		0.241
				By Ø 22 mm hole	**K●M 024Q**		0.225
					K●M 024QX	*(2)*	0.303
			Rear		**K●M 524Q**		0.245
K●● 5●●●		**5 step + “0”**	Front	Multi-fixing	**K●P 025QL**		0.286
				By Ø 22 mm hole	**K●P 025Q**		0.270
					K●P 025QX	*(2)*	0.348
			Rear		**K●P 525Q**		0.285
K●● 0●●●X		**6 step + “0”**	Front	Multi-fixing	**K●S 026QL**		0.321
				By Ø 22 mm hole	**K●S 026Q**		0.305
					K●S 026QX	*(2)*	0.383
			Rear		**K●S 526Q**		0.320

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1F 022Q**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2F 022Q**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

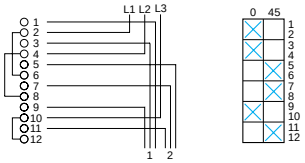
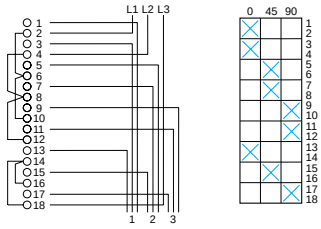
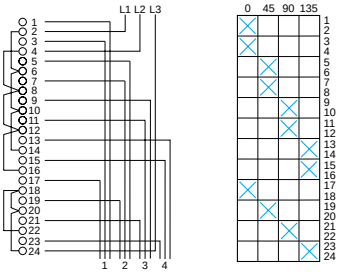
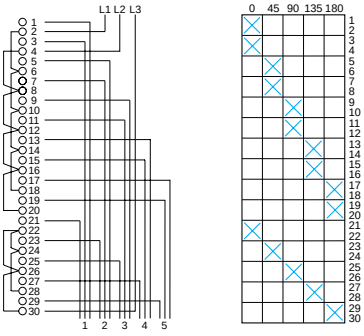
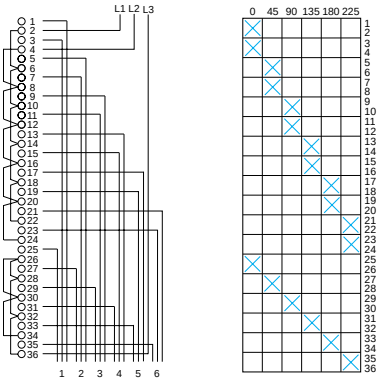
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 6 step), 3-pole, without "0" position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
		2 step					
K●● 0●●●L			Front	Multi-fixing	**K●F 022NL**		0.156
				By Ø 22 mm hole	**K●F 022N**		0.140
					K●F 022NX	(2)	0.218
			Rear		**K●F 522N**		0.175
		3 step					
			Front	Multi-fixing	**K●I 023NL**		0.201
				By Ø 22 mm hole	**K●I 023N**		0.185
					K●I 023NX	(2)	0.263
			Rear		**K●I 523N**		0.215
		4 step					
K●● 0●●●			Front	Multi-fixing	**K●M 024NL**		0.241
				By Ø 22 mm hole	**K●M 024N**		0.225
					K●M 024NX	(2)	0.303
			Rear		**K●M 524N**		0.245
		5 step					
K●● 5●●●			Front	Multi-fixing	**K●P 025NL**		0.286
				By Ø 22 mm hole	**K●P 025N**		0.270
					K●P 025NX	(2)	0.348
			Rear		**K●P 525N**		0.285
		6 step					
K●● 0●●●X			Front	Multi-fixing	**K●S 026NL**		0.321
				By Ø 22 mm hole	**K●S 026N**		0.305
					K●S 026NX	(2)	0.383
			Rear		**K●S 526N**		0.320

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1F 022N**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2F 022N**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●**.*

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Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

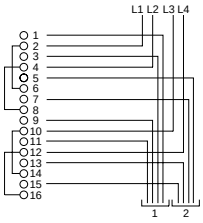
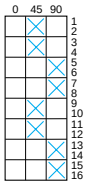
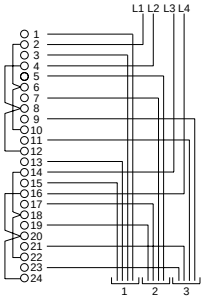
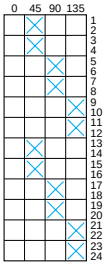
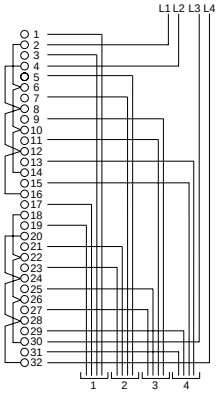
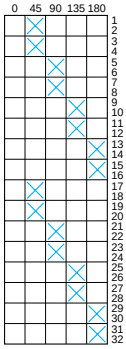
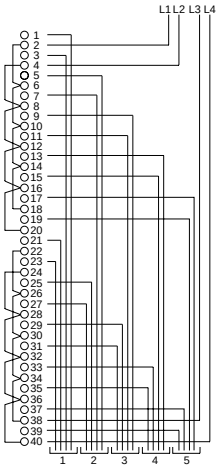
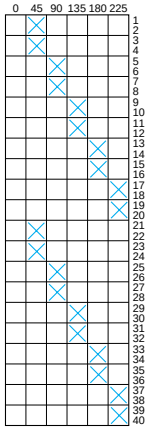
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 5 step), 4-pole, with “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
		2 step + “0”					
			Front	Multi-fixing	**K●H 032QL**		0.181
				By Ø 22 mm hole	**K●H 032Q**		0.165
					K●H 032QX	*(2)*	0.200
			Rear		**K●H 532Q**		0.195
		3 step + “0”					
			Front	Multi-fixing	**K●M 033QL**		0.241
				By Ø 22 mm hole	**K●M 033Q**		0.225
			Rear		**K●M 533Q**		0.245
		4 step + “0”					
			Front	Multi-fixing	**K●Q 034QL**		0.296
				By Ø 22 mm hole	**K●Q 034Q**		0.280
			Rear		**K●Q 534Q**		0.295
		5 step + “0”					
			Front	Multi-fixing	**K●U 035QL**		0.351
				By Ø 22 mm hole	**K●U 035Q**		0.335
			Rear		**K●U 535Q**		0.345

K●● 0●●●L

K●● 0●●●

K●● 5●●●

K●● 0●●●X

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1H 032Q**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2H 032Q**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

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Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

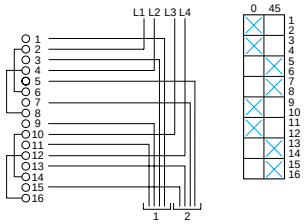
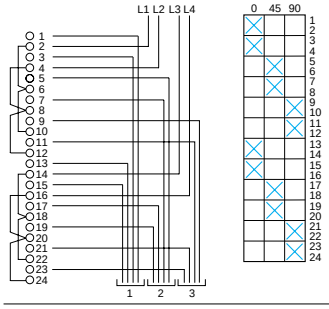
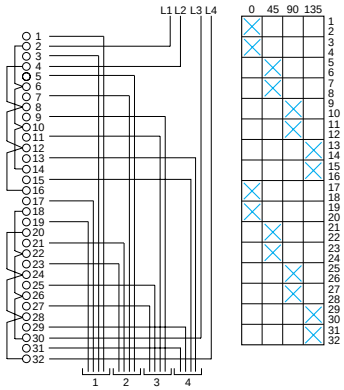
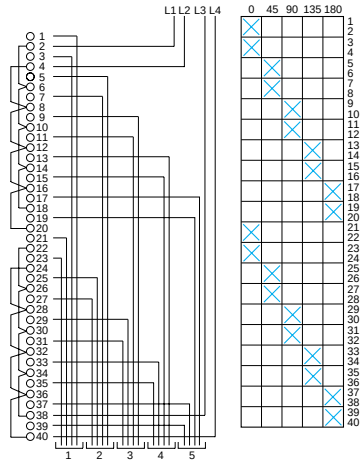
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 5 step), 4-pole, without “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
K●● 0●●●L		**2 step**	Front	Multi-fixing	**K●H 032NL**		0.181
				By Ø 22 mm hole	**K●H 032N**		0.165
					K●H 032NX	(2)	0.200
			Rear		**K●H 532N**		0.195
K●● 0●●●		**3 step**	Front	Multi-fixing	**K●M 033NL**		0.241
				By Ø 22 mm hole	**K●M 033N**		0.225
			Rear		**K●M 533N**		0.245
K●● 5●●●		**4 step**	Front	Multi-fixing	**K●Q 034NL**		0.296
				By Ø 22 mm hole	**K●Q 034N**		0.280
			Rear		**K●Q 534N**		0.295
K●● 0●●●X		**5 step**	Front	Multi-fixing	**K●U 035NL**		0.351
				By Ø 22 mm hole	**K●U 035N**		0.335
			Rear		**K●U 535N**		0.345

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1H 032N**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2H 032N**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

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Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

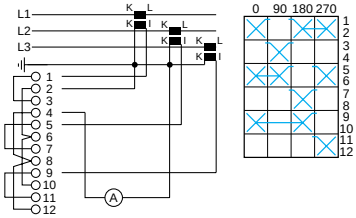
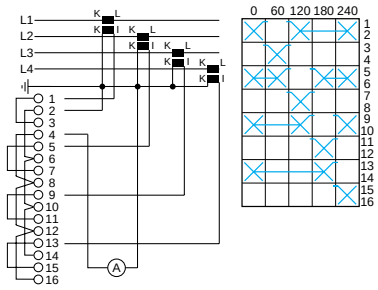
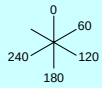
Cam switches

Adaptable sub-assemblies, 12 and 20 A

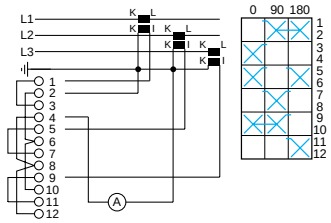
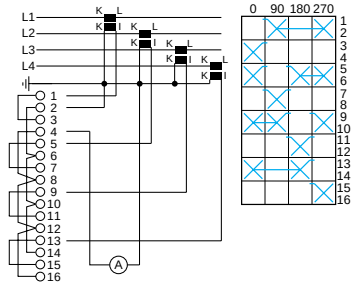
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Ammeter switches with “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
For 3 circuits							
K●● 0●●●L			Front	Multi-fixing	**K●F 003ML**		0.156
				By Ø 22 mm hole	**K●F 003M**		0.140
					K●F 003MX	(2)	0.218
			Rear		**K●F 503M**		0.175
For 4 circuits							
K●● 0●●●			Front	Multi-fixing	**K●H 004ML**		0.181
				By Ø 22 mm hole	**K●H 004M**		0.165
					K●H 004MX	(2)	0.243
			Rear		**K●H 504M**		0.195

Ammeter switches without “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
For 3 circuits							
K●● 5●●●			Front	Multi-fixing	**K●F 013ML**		0.156
				By Ø 22 mm hole	**K●F 013M**		0.140
					K●F 013MX	(2)	0.218
			Rear		**K●F 513M**		0.175
For 4 circuits							
K●● 0●●●X			Front	Multi-fixing	**K●H 014ML**		0.181
				By Ø 22 mm hole	**K●H 014M**		0.165
					K●H 014MX	(2)	0.243
			Rear		**K●H 514M**		0.195

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1F 003M**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2F 003M**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

Cam switches
Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

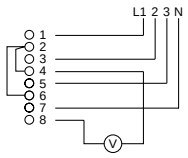
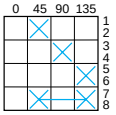
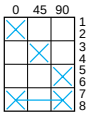
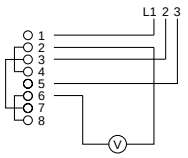
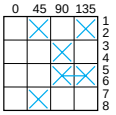
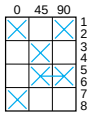
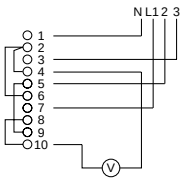
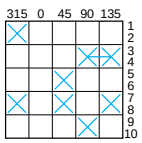
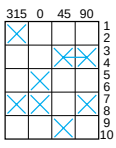
K●● 0●●●L

K●● 0●●●

K●● 5●●●

K●● 0●●●X

Voltmeter switches

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
For measurements between 3 phases and neutral							
With "0" position							
			Front	Multi-fixing	**K●D 023ML**		0.126
				By Ø 22 mm hole	**K●D 023M**		0.110
					K●D 023MX	*(2)*	0.188
			Rear		**K●D 523M**		0.150
Without "0" position							
			Front	Multi-fixing	**K●D 033ML**		0.126
				By Ø 22 mm hole	**K●D 033M**		0.110
			Rear		**K●D 533M**		0.150
For measurements between 3 phases							
With "0" position							
			Front	Multi-fixing	**K●D 024ML**		0.126
				By Ø 22 mm hole	**K●D 024M**		0.110
					K●D 024MX	*(2)*	0.188
			Rear		**K●D 524M**		0.150
Without "0" position							
			Front	Multi-fixing	**K●D 034ML**		0.126
				By Ø 22 mm hole	**K●D 034M**		0.110
			Rear		**K●D 534M**		0.150
For measurements between 3 phases and between 1 phase and neutral							
With "0" position							
			Front	Multi-fixing	**K●E 025ML**		0.146
				By Ø 22 mm hole	**K●E 025M**		0.130
					K●E 025MX	*(2)*	0.208
			Rear		**K●E 525M**		0.165
Without "0" position							
			Front	Multi-fixing	**K●E 035ML**		0.146
				By Ø 22 mm hole	**K●E 035M**		0.130
					K●E 535M		0.165

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1D 023M**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2D 023M**.*
*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

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Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

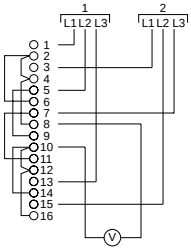
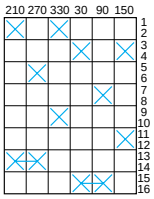
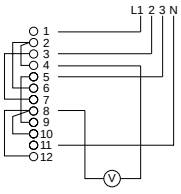
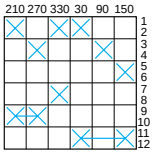
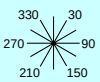
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Voltmeter switches (continued)

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
For measurements between 3 phases of 2 supplies					
With "0" position					
K●● 0●●●L			Front Multi-fixing	**K●H 026ML**	0.181
			By Ø 22 mm hole	**K●H 026M**	0.165
			Rear	**K●H 526M**	0.195
Without "0" position					
K●● 0●●●			Front Multi-fixing	**K●H 036ML**	0.181
			By Ø 22 mm hole	**K●H 036M**	0.165
			Rear	**K●H 536M**	0.195
For measurements between 3 phases and between each of the 3 phases and neutral					
With "0" position					
K●● 5●●●			Front Multi-fixing	**K●F 027ML**	0.156
			By Ø 22 mm hole	**K●F 027M**	0.140
				K●F 027MX (2)	0.218
			Rear	**K●F 527M**	0.175
Without "0" position					
K●● 0●●●X			Front Multi-fixing	**K●F 037ML**	0.156
			By Ø 22 mm hole	**K●F 037M**	0.140
			Rear	**K●F 537M**	0.175

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1H 026M**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2H 026M**.*
*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

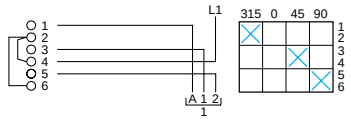
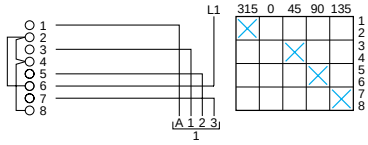
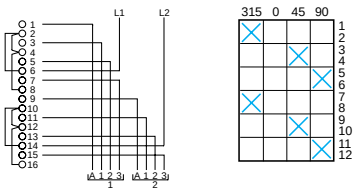
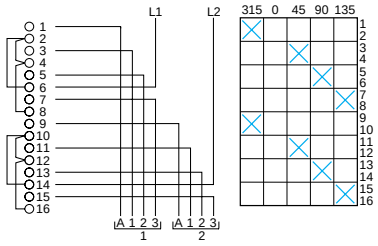
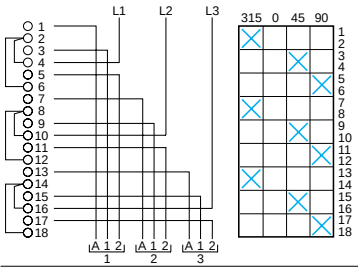
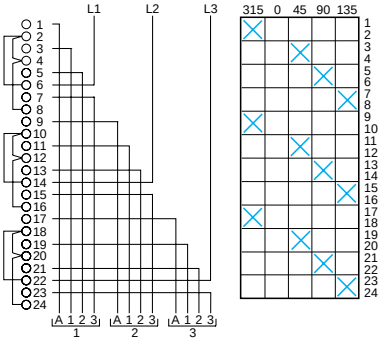
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 and 3 step), with "0" position + left-hand position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
K●● 0●●●L		**1-pole: 2 step to right + 1 step to left**					
			Front	Multi-fixing	**K●C 002LL**		0.121
				By Ø 22 mm hole	**K●C 002L**		0.105
					K●C 002LX	(2)	0.183
			Rear		**K●C 502L**		0.140
		**1-pole: 3 step to right + 1 step to left**					
			Front	Multi-fixing	**K●D 003LL**		0.126
				By Ø 22 mm hole	**K●D 003L**		0.110
					K●D 003LX	(2)	0.188
			Rear		**K●D 503L**		0.150
K●● 0●●●		**2-pole: 2 step to right + 1 step to left**					
			Front	Multi-fixing	**K●F 012LL**		0.156
				By Ø 22 mm hole	**K●F 012L**		0.140
					K●F 012LX	(2)	0.218
			Rear		**K●F 512L**		0.175
		**2-pole: 3 step to right + 1 step to left**					
			Front	Multi-fixing	**K●H 013LL**		0.181
				By Ø 22 mm hole	**K●H 013L**		0.165
					K●H 013LX		0.243
			Rear		**K●H 513L**		0.195
K●● 5●●●		**3-pole: 2 step to right + 1 step to left**					
			Front	Multi-fixing	**K●I 022LL**		0.201
				By Ø 22 mm hole	**K●I 022L**		0.185
			Rear		**K●I 522L**		0.210
		**3-pole: 3 step to right + 1 step to left**					
			Front	Multi-fixing	**K●M 023LL**		0.241
				By Ø 22 mm hole	**K●M 023L**		0.225
			Rear		**K●M 523L**		0.245
K●● 0●●●X							

(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.
Example **K1C 002L**.
To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.
Example **K2C 002L**.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

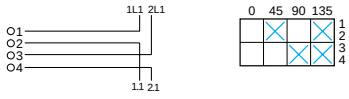
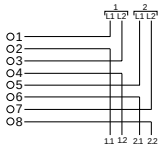
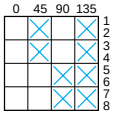
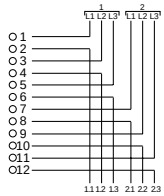
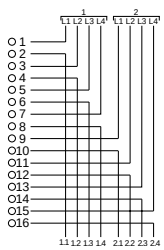
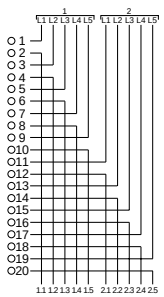
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Multi-circuit switches

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
1-pole							
K●● 0●●●L			Front	Multi-fixing	**K●B 001SL**		0.101
				By Ø 22 mm hole	**K●B 001S**		0.085
					K●B 001SX	(2)	0.163
			Rear		**K●B 501S**		0.125
2-pole							
			Front	Multi-fixing	**K●D 002SL**		0.126
				By Ø 22 mm hole	**K●D 002S**		0.110
					K●D 002SX	(2)	0.188
			Rear		**K●D 502S**		0.150
3-pole							
K●● 0●●●			Front	Multi-fixing	**K●F 003SL**		0.156
				By Ø 22 mm hole	**K●F 003S**		0.140
					K●F 003SX	(2)	0.218
			Rear		**K●F 503S**		0.175
4-pole							
K●● 5●●●			Front	Multi-fixing	**K●H 004SL**		0.181
				By Ø 22 mm hole	**K●H 004S**		0.165
			Rear		**K●H 504S**		0.195
5-pole							
K●● 0●●●X			Front	Multi-fixing	**K●K 005SL**		0.211
				By Ø 22 mm hole	**K●K 005S**		0.195
			Rear		**K●K 505S**		0.220

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1F 003S**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2F 003S**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

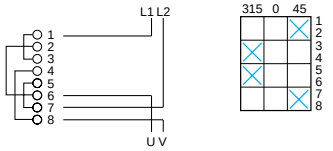
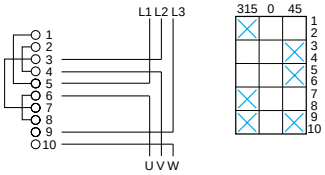
Cam switches

Adaptable sub-assemblies, 12 and 20 A

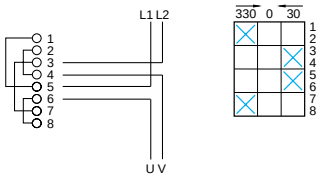
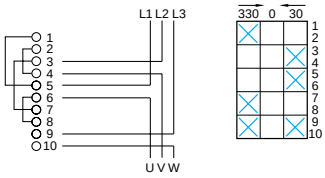
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Reversing switches with “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed *(1)*		Weight kg
2-pole							
K●● 0●●●L			Front	Multi-fixing	**K●D 002WL**		0.126
				By Ø 22 mm hole	**K●D 002W**		0.110
					K●D 002WX	*(2)*	0.188
			Rear		**K●D 502W**		0.150
3-pole							
K●● 0●●●			Front	Multi-fixing	**K●E 003WL**		0.146
				By Ø 22 mm hole	**K●E 003W**		0.130
					K●E 003WX	*(2)*	0.208
			Rear		**K●E 503W**		0.165

Reversing switches with spring return from 330° and from 30° to “0” position

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed *(1)*		Weight kg
2-pole							
K●● 5●●●			Front	Multi-fixing	**K●D 022WL**		0.126
				By Ø 22 mm hole	**K●D 022W**		0.110
					K●D 022WX	*(2)*	0.188
			Rear		**K●D 522W**		0.150
3-pole							
K●● 0●●●X			Front	Multi-fixing	**K●E 023WL**		0.146
				By Ø 22 mm hole	**K●E 023W**		0.130
					K●E 023WX	*(2)*	0.208
			Rear		**K●E 523W**		0.165

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1D 002W**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2D 002W**.*

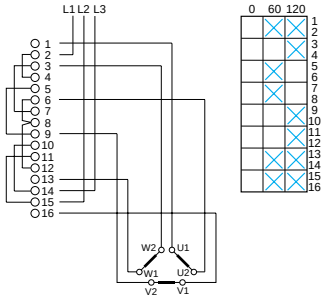
*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

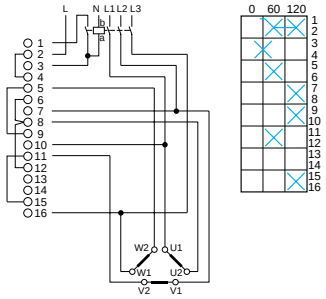
Cam switches
Adaptable sub-assemblies, 12 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

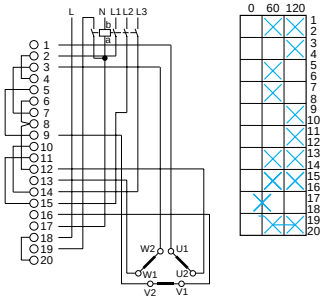
Star-delta switches

Wiring diagram	Switching programme	Switch position	Mounting method		Reference (1)		Weight kg
K●● 0●●●L			Front	Multi-fixing	K2H 001YL		0.181
				By Ø 22 mm hole	K2H 001Y		0.165
					K2H 001YX	(2)	0.243
			Rear		K2H 501Y		0.195

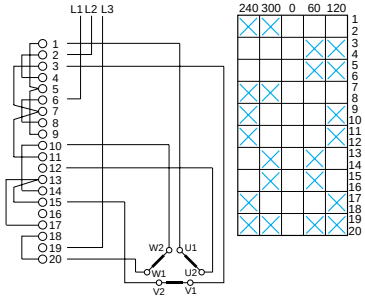
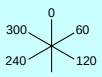
With slave contact, without supply disconnection

K●● 0●●●			Front	Multi-fixing	K2G 003YL		0.176
				By Ø 22 mm hole	K2G 003Y		0.160
					K2G 003YX	(2)	0.238
			Rear		K2G 503Y		0.190

With slave contact, with supply disconnection

K●● 5●●●			Front	Multi-fixing	K2K 004YL		0.211
				By Ø 22 mm hole	K2K 004Y		0.195
					K2K 004YX	(2)	0.273
			Rear		K2K 504Y		0.220

Reversing star-delta switches

Wiring diagram	Switching programme	Switch position	Mounting method		Reference (1)		Weight kg
Without slave contact							
K●● 0●●●X			Front	Multi-fixing	K2K 006YL		0.211
				By Ø 22 mm hole	K2K 006Y		0.195
			Rear		K2K 506Y		0.220

(1) Ith = 20 A.
(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

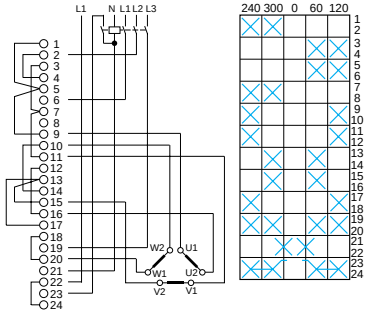
Cam switches
Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Reversing star-delta switches (continued)

With slave contact

K●● 0●●●L

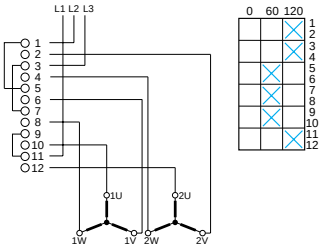


Wiring diagram	Switching programme	Switch position	Mounting method		Reference (2)		Weight kg
			Front	Multi-fixing	K2M 007YL		0.241
				By Ø 22 mm hole	K2M 007Y		0.225
			Rear		K2M 507Y		0.245

Pole change switches for 2-speed motors

For motors with 2 separate windings

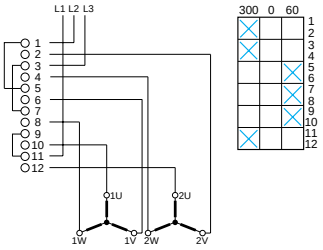
K●● 0●●●

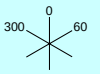


Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
			Front	Multi-fixing	K●F 001PL		0.156
				By Ø 22 mm hole	K●F 001P		0.140
					K●F 001PX	(3)	0.218
			Rear		K●F 501P		0.175

For motors with 2 separate windings, with centre “0” position

K●● 5●●●

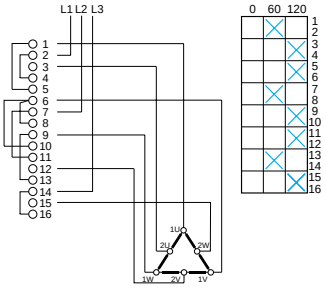




Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
			Front	Multi-fixing	K●F 002PL		0.156
				By Ø 22 mm hole	K●F 002P		0.140
					K●F 002PX	(3)	0.218
			Rear		K●F 502P		0.175

For motors with tapped “Dahlander” windings

K●● 0●●●X



Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
			Front	Multi-fixing	K●H 004PL		0.181
				By Ø 22 mm hole	K●H 004P		0.165
					K●H 004PX	(3)	0.243
			Rear		K●H 504P		0.195

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1F 001P**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2F 001P**.*
(2) Ith = 20 A.
*(3) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

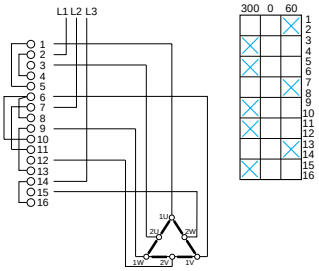
Cam switches

Adaptable sub-assemblies, 12 and 20 A

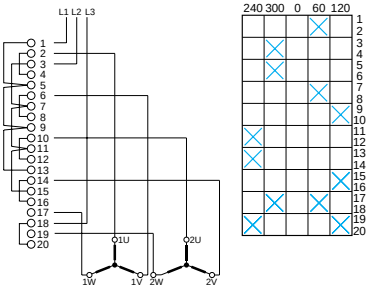
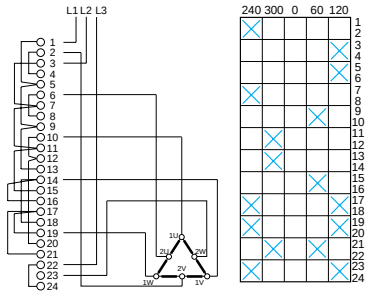
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Pole change switches for 2-speed motors (continued)

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
For motors with tapped "Dahlander" windings, with centre "0" position							
K●● 0●●●L			Front	Multi-fixing	**K●H 005PL**		0.181
				By Ø 22 mm hole	**K●H 005P**		0.165
					K●H 005PX	*(2)*	0.243
			Rear		**K●H 505P**		0.195

Reversing pole change switches for 2-speed motors

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)		Weight kg
For motors with 2 separate windings, with centre "0" position							
K●● 0●●●			Front	Multi-fixing	**K●K 008PL**		0.211
				By Ø 22 mm hole	**K●K 008P**		0.195
			Rear		**K●K 508P**		0.220
For motors with tapped "Dahlander" windings, with centre "0" position							
K●● 5●●●							
		Front	Multi-fixing	**K●M 009PL**		0.241	
			By Ø 22 mm hole	**K●M 009P**		0.225	
		Rear		**K●M 509P**		0.245	
K●● 0●●●X							

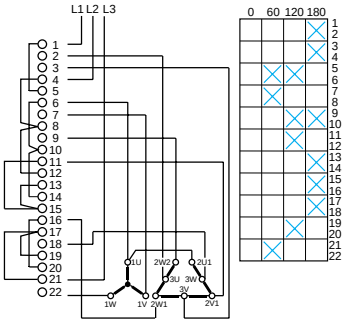
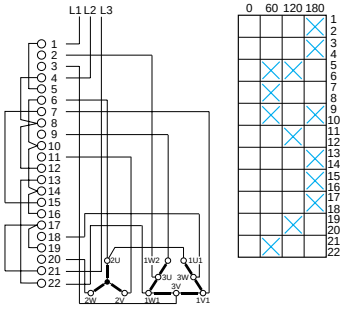
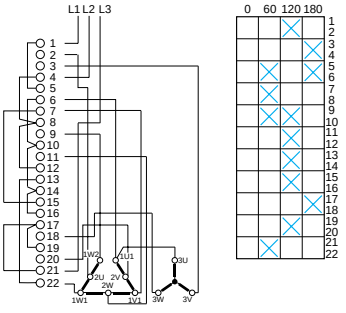
*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1H 005P**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2H 005P**.*

*(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.*

Cam switches
Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Pole change switches for 3-speed motors

Wiring diagram	Switching programme	Switch position	Mounting method		Reference, to be completed (1)	Weight kg
For motors with open tapped "Dahlander" winding and separate winding for low speed						
K●● 0●●●L			Front	Multi-fixing	**K●L 010PL**	0.231
				By Ø 22 mm hole	**K●L 010P**	0.215
			Rear		**K●L 510P**	0.240
For motors with open tapped "Dahlander" winding and separate winding for intermediate speed						
K●● 0●●●			Front	Multi-fixing	**K●L 011PL**	0.231
				By Ø 22 mm hole	**K●L 011P**	0.215
			Rear		**K●L 511P**	0.240
For motors with open tapped "Dahlander" winding and separate winding for high speed						
K●● 5●●●			Front	Multi-fixing	**K●L 012PL**	0.231
				By Ø 22 mm hole	**K●L 012P**	0.215
			Rear		**K●L 512P**	0.240
K●● 0●●●X						

*(1) To order a cam switch with thermal current Ith = 12 A, replace the ● in the reference by **1**.*
*Example **K1L 010P**.*
*To order a cam switch with thermal current Ith = 20 A, replace the ● in the reference by **2**.*
*Example **K2L 010P**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

Cam switches
Adaptable sub-assemblies, 12 and 20 A
Operating heads

To combine with bodies: see pages 3/34 to 3/65

KBG 3H

KCG 3Y

KAC 1H

KCC 1Y

KBC 1●

KBD 1H

Heads for "multi-fixing" front mounting bodies

Description	Switching angle and marking	Type of operator	Background colour of legend	Padlocking device	Reference	Weight kg
With 45 x 45 mm front plate and handle						
With blank legend (for engraving by user)	–	Black handle L = 35 mm	Matt black	Without	**KAG 3H**	0.012
			Metallic	Without	**KBG 3H**	0.012
With marked legend	90°	Red handle L = 35 mm	Yellow	Without	**KCG 3H**	0.012
				With	**KCG 3Y**	0.024
Without legend *(1)*	–	Black handle L = 35 mm	–	Without	**KDG 3H**	0.010
		Red handle L = 35 mm	–	With	**KDG 3Y**	0.022

Heads for Ø 22 mm hole, front mounting bodies

Description	Switching angle and marking	Type of operator	Background colour of legend	Padlocking device	Reference	Weight kg
With 45 x 45 mm front plate and handle						
With blank legend (for engraving by user)	–	Black handle L = 35 mm	Matt black	Without	**KAC 1H**	0.048
			Metallic	Without	**KBC 1H**	0.048
With marked legend	45°	Black handle L = 35 mm	Matt black	Without	**KAC 1H41**	0.012
			Metallic	Without	**KBC 1H41**	0.012
	45°	Black handle L = 35 mm	Matt black	Without	**KAC 1H48**	0.012
			Metallic	Without	**KBC 1H48**	0.012
	60°	Black handle L = 35 mm	Matt black	Without	**KAC 1H61**	0.048
			Metallic	Without	**KBC 1H61**	0.048
	90°	Red handle L = 35 mm	Yellow	Without	**KCC 1LH**	0.048
				With	**KCC 1Y**	0.060
Without legend *(1)*	–	Black handle L = 35 mm	–	Without	**KDC 1H**	0.046
		Red handle L = 35 mm	–	Without	**KDC 1LH**	0.046
With 45 x 45 mm front plate and key operator *(2)*						
With blank legend (for engraving by user)	45° and 90°	Key *(2)*	Matt black	Without	**KAC 1S**	0.063
			Metallic	Without	**KBC 1S**	0.063
	60°	Key *(2)*	Matt black	Without	**KAC 1Z**	0.063
			Metallic	Without	**KBC 1Z**	0.063
Without legend *(1)*	45° and 90°	Key *(2)*	–	Without	**KDC 1S**	0.061
	60°	Key *(2)*	–	Without	**KDC 1Z**	0.061
With 60 x 60 mm front plate and handle						
With blank legend (for engraving by user)	–	Black handle L = 42 mm	Matt black	Without	**KAD 1H**	0.053
			Metallic	Without	**KBD 1H**	0.053
With marked legend	90°	Red handle L = 42 mm	Yellow	Without	**KCD 1MH**	0.053
Without legend *(1)*	–	Black handle L = 42 mm	–	Without	**KDD 1H**	0.053

(1) For separate marked legend ordering information, see pages 3/68 to 3/71.

*(2) Head supplied with "Ronis" 8R1 key. To order a head with a "Ronis" 455 key, add the suffix **R** to the references listed above. Example: reference for Ø 22 mm hole, front mounting 45 x 45 mm operating head with 45° switching angle and matt black legend, becomes **KAC 1SR**. For a head with "Ronis" 8R15 key, use the suffix **R1**.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: pages 3/74 to 3/77

Cam switches
Adaptable sub-assemblies, 12 and 20 A
Operating heads

To combine with bodies: see pages 3/34 to 3/65

KBD 1●

KBA 1H

KBA 1●

KAX Z1C12

KBE 1H

Heads for Ø 22 mm hole, front mounting bodies (continued)

Description	Switching angle and marking	Type of operator	Background colour of legend	Padlocking device	Reference	Weight kg
With 60 x 60 mm front plate and key operator *(1)*						
With blank legend (to be engraved by user)	45° and 90°	Key *(1)*	Matt black	Without	**KAD 1S**	0.068
			Metallic	Without	**KBD 1S**	0.068
	60°	Key *(1)*	Matt black	Without	**KAD 1Z**	0.068
			Metallic	Without	**KBD 1Z**	0.068
Without legend *(2)*	45° and 90°	Key *(1)*	–	Without	**KDD 1S**	0.066
	60°	Key *(1)*	–	Without	**KDD 1Z**	0.066
With Ø 29 mm, metallic finish, plastic bezel and handle or key operator *(1)*						
Description	**Switching angle and marking**	**Type of operator**	**Colour of bezel**	**Padlocking device**	**Reference**	**Weight kg**
Circular heads	–	Black handle L = 35 mm	Matt black	Without	**KAA 1H**	0.042
			Metallic	Without	**KBA 1H**	0.042
	45°	Key *(1)*	Matt black	Without	**KAA 1S**	0.057
			Metallic	Without	**KBA 1S**	0.057
	60°	Key *(1)*	Matt black	Without	**KAA 1Z**	0.057
			Metallic	Without	**KBA 1Z**	0.057
With Ø 38 mm, black, plastic bezel and handle						
Circular head	–	Black handle L = 35 mm	Matt black	Without	**KAA 2H**	0.048
With Ø 28.5 mm chromium plated, metal bezel *(3)* *(2)* **and standard, handle, long handle or key operator** *(4)*						
Circular heads	–	Standard black handle	Metal	Without	**KAX Z1M12**	0.040
		Standard red handle	Metal	Without	**KAX Z1M14**	0.040
		Long black handle	Metal	Without	**KAX Z1C12**	0.040
		Long red handle	Metal	Without	**KAX Z1C14**	0.040
	30°	Key	Metal	Without	**KAX Z1S13●** *(4)*	0.065
	45°	Key	Metal	Without	**KAX Z1S14●** *(4)*	0.065
	60°	Key	Metal	Without	**KAX Z1S16●** *(4)*	0.065
	90°	Key	Metal	Without	**KAX Z1S19●** *(4)*	0.065

Operating heads for 4 hole, rear mounting bodies

Description	Switching angle and marking	Type of operator	Background colour of legend	Padlocking device	Reference	Weight kg
With 45 x 45 mm front plate and handle						
With blank legend (to be engraved by user)	–	Black handle L = 35 mm	Matt black	Without	**KAE 1H**	0.029
			Metallic	Without	**KBE 1H**	0.029
With marked legend	90°	Red handle L = 35 mm	Yellow	Without	**KCE 1LH**	0.029
				With	**KCE 1Y**	0.060
Without legend *(2)*	–	Black handle L = 35 mm	–	Without	**KDE 1H**	0.027
		Red handle L = 35 mm	–	Without	**KDE 1LH**	0.027
With 60 x 60 mm front plate and handle						
With blank legend (to be engraved by user)	–	Black handle L = 42 mm	Matt black	Without	**KAF 1H**	0.068
			Metallic	Without	**KBF 1H**	0.068
With marked legend	90°	Red handle L = 42 mm	Yellow	Without	**KCF 1MH**	0.068
Without legend *(2)*	–	Black handle L = 42 mm		Without	**KDF 1H**	0.066

*(1) Head supplied with "Ronis" 8R1 key. To order a head with a "Ronis" 455 key, add the suffix **R** to the references listed above. Example: reference for operating head with 60 x 60 mm front plate, key operator, blank legend, 45° switching angle and matt black background, becomes **KAD 1SR.** For a head with "Ronis" 8R15 key, use the suffix **R1**.*

(2) For separate marked legend ordering information, see pages 3/68 to 3/71.

*(3) Heads **only** for use with bodies K●● ●●●●X, incorporating adaptor plate **KZ 127**. See pages 3/34 to 3/65.*

(4) To order:
- *a head with key n° 455, replace the ● in the reference by **1**. Example: **KAX Z1S131**,*
- *a head with key n° 421, replace the ● in the reference by **2**. Example: **KAX Z1S132**,*
- *a head with key n° 520, replace the ● in the reference by **3**. Example: **KAX Z1S133**,*
- *a head with a special key, replace the ● in the reference by **9**. Example: **KAX Z1S139** (state the key number on the order). Key withdrawal from all positions.*

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: pages 3/74 to 3/77

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Legends for **MULTI-FIXING** heads

45 x 45 mm legends - marked *(1)*

White text on black background

30°

KZ 18032L

KZ 18033L

KZ 18312L

45°

KZ 18041L

KZ 18042L

KZ 18043L

KZ 18044L

KZ 18045L

KZ 18046L

KZ 18047L

KZ 18048L

KZ 18412L

KZ 18413L

KZ 18415L

KZ 18416L

KZ 18417L

KZ 18418L

KZ 18419L

KZ 18420L

KZ 18421L

KZ 18422FL

KZ 18423FL

KZ 18434L

KZ 18436FL

KZ 18451L

60°

KZ 18061L

KZ 18630L

KZ 18631L

KZ 18632L

KZ 18634L

KZ 18635L

KZ 18637L

KZ 18068L

90°

KZ 18091L

KZ 18093L

KZ 18913L

KZ 18931FL

Black text on yellow background

45°

KZ 19041L

90°

KZ 19093L

KZ 19098FL

KZ 19910L

45 x 45 mm legends - unmarked

Colour	Sold in lots of	Unit reference	Weight kg
Black	20	KZ 17L	0.003
Metallic	20	KZ 18L	0.003
Yellow	10	KZ 19L	0.003

(1) Weight = 0.003 kg.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Legends for **Ø 22 mm HOLE** mounting heads with plastic bezel

45 x 45 mm legends - marked *(1)*

Black text on metallic background

30°

KZ 18032

KZ 18312

45°

KZ 18041

KZ 18042

KZ 18043

KZ 18044

KZ 18045

KZ 18046

KZ 18047

KZ 18048

KZ 18412

KZ 18413

KZ 18415

KZ 18416

KZ 18417

KZ 18418

KZ 18419

KZ 18420

KZ 18421

KZ 18422F

KZ 18423F

KZ 18434

KZ 18436F

KZ 18451

60°

KZ 18061

KZ 18630

KZ 18631

KZ 18632

KZ 18634

KZ 18635

KZ 18637

KZ 18068

90°

KZ 18091

KZ 18093

KZ 18913

KZ 18931F

Black text on yellow background

45°

KZ 19041

90°

KZ 19093

KZ 19098F

KZ 19910

45 x 45 mm legends - unmarked

Colour	Sold in lots of	Unit reference	Weight kg
Black	20	KZ 17	0.003
Metallic	20	KZ 18	0.003
Yellow	10	KZ 19	0.003

60 x 60 mm legends - marked *(2)*

Black text on metallic background

45°

KZ 21041

KZ 21412

KZ 21048

KZ 21451

60°

KZ 21635

KZ 21637

90°

KZ 21910

KZ 21093

60 x 60 mm legends - unmarked

Colour	Sold in lots of	Unit reference	Weight kg
Black	20	KZ 20	0.005
Metallic	20	KZ 21	0.005
Yellow	10	KZ 22	0.005

(1) Weight = 0.003 kg.
(2) Weight = 0.005 kg.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Legends for **Ø 22 mm HOLE** mounting heads
with chromium plated metal bezel, type KAX Z1●●●

46 x 46 mm - marked (PVC) *(1)*

White text on black background

30°

XBC Y7226

XBC Y7227

XBC Y7228

XBC Y7229

XBC Y7236

XBC Y2250

XBC Y7238

XBC Y7239

45°

XBC Y7220

XBC Y7221

XBC Y7222

XBC Y7223

XBC Y7224

XBC Y7225

XBC Y7230

XBC Y7231

XBC Y7232

XBC Y7233

XBC Y7234

XBC Y7235

XBC Y2213

XBC Y2214

XBC Y2215

XBC Y2216

XBC Y7217

XBC Y7251

60°

XBC Y7212

XBC Y7240

XBC Y7241

XBC Y7242

XBC Y7243

XBC Y7268

XBC Y7168

XBC Y7064

90°

XBC Y2211

XBC Y2218

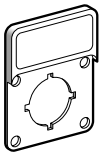
XBC Y2219

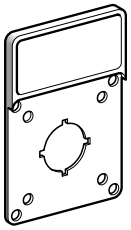
46 x 46 mm legends - unmarked (PVC)

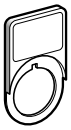
Colour	Sold in lots of	Unit reference	Weight kg
Black/red	10	**KZ 17X**	0.004
White/yellow	10	**KZ 19X**	0.004

(1) Weight = 0.004 kg.

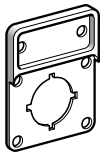
Cam switches
Adaptable sub-assemblies, 12 and 20 A
Legend holders for heads


KZ 13

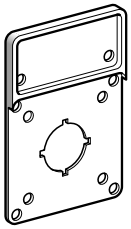

KZ 15

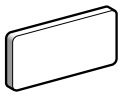

KZ 01R

KZ 2


KZ 14

KZ 76


KZ 16


KZ 77

Legend holders with and without legend

Description	For use with heads	Legend marking	Sold in lots of	Unit reference	Weight kg
With blank legend	With 45 x 45 mm front plate *(1)*	–	5	**KZ 13**	0.004
	With 60 x 60 mm front plate *(1)*	–	5	**KZ 15**	0.010
	Circular, with Ø 29 mm collar	–	5	**KZ 01R** ▲	0.010
With marked legend	Circular, with Ø 29 mm collar	1 2	1	**KZ 1**	0.003
		2 0 1	5	**KZ 2**	0.003
Without legend	With 45 x 45 mm front plate *(1)*	–	20	**KZ 14**	0.003
	With 60 x 60 mm front plate *(1)*	–	10	**KZ 16**	0.007

Blank legends (for engraving) for legend holders

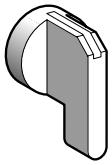
Description	For use with heads	Sold in lots of	Unit reference	Weight kg
Legend for legend holder **KZ 14** Plastic with metallic finish. Self-adhesive. For engraved markings.	With 45 x 45 mm front plate *(1)*	20	**KZ 76**	0.002
Legend for legend holder **KZ 16** Plastic with metallic finish. Self-adhesive. For engraved markings.	With 60 x 60 mm front plate *(1)*	10	**KZ 77**	0.003

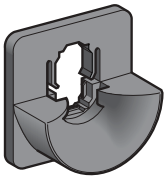
(1) Operating heads for single Ø 22 mm hole or 4 hole mounting.

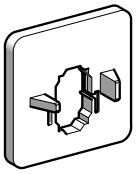
▲ Available: 1st quarter 2005.

Cam switches
Complete switches, 12 and 20 A
Separate components and accessories

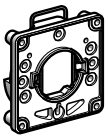
KZ 27H

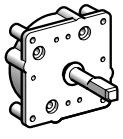

KZ 27


KZ 32


KZ 83

KZ 127


KZ 140


KZ 141

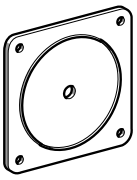
Handles

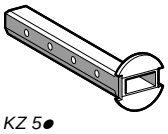
Description	Colour	Dimensions	Sold in lots of	Unit reference	Weight
		mm			kg
New shape	Black	35	5	**KZ 27H**	0.007
		42	5	**KZ 28H**	0.009
	Red	35	5	**KZ 41H**	0.007
		42	5	**KZ 42H**	0.009
Old shape	Black	34	5	**KZ 27**	0.007
		42	5	**KZ 28**	0.009

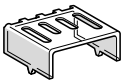
Accessories

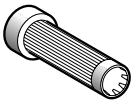
Description	For use with	Dimensions	Sold in lots of	Unit reference	Weight
		mm			kg
Door interlocking plate	Rear mounting switches	45 x 45	5	**KZ 32**	0.010
Plate with rubber seal	Rear mounting switches. IP 65 between front plate and operating head	60 x 60	5	**KZ 83**	0.018
Adaptor plate, metal (replacement)	Mounting KAX Z1●●● chromium plated metal bezel heads on front mounting bodies for Ø 22 mm hole	–	1	**KZ 127**	0.088
Plastic plate (replacement)	Ø 22 mm hole, front mounting, clip-in bodies	–	1	**KZ 140**	0.010
Multi-fixing plate (replacement)	“Multi-fixing”, front mounting, bodies	–	1	**KZ 141**	0.026

Cam switches
Complete switches, 12 and 20 A
Separate components and accessories


KZ 6●

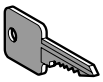

KZ 5●

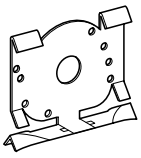

KZ 3●


Z 01

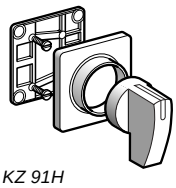
KZ 30

KZ 93


Z 18


KZ 31

KZ 95


KZ 91H

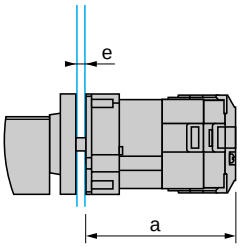
Accessories (continued)

Description	For use with		Sold in lots of	Unit reference	Weight kg
Rubber seals for IP 65 degree of protection	Ø 22 mm or 4 hole, front mounting, operating heads with 45 x 45 mm front plate		5	**KZ 65**	0.003
	Ø 22 mm or 4 hole, front mounting, operating heads with 60 x 60 mm front plate		5	**KZ 66**	0.004
	Multi-fixing operating heads with 45 x 45 mm front plate		5	**KZ 73**	0.004
Shaft couplers	Ø 6 mm shaft	Length = 26 mm	3	**KZ 52**	0.007
		Length = 60 mm	3	**KZ 50**	0.013
Terminal covers	Contact blocks	4 contacts	1	**KZ 35**	0.010
		8 contacts	1	**KZ 36**	0.020
		12 contacts	1	**KZ 37**	0.004
		16 contacts	1	**KZ 38**	0.040
		20 contacts	1	**KZ 39**	0.050
Nut wrench	M22 fixing nuts		5	**Z 01**	0.010
Fixing nut, M22	Fixing operating heads on panel or in an enclosure		5	**KZ 30**	0.007
Mounting adaptor	Converting Ø 30.5 mm fixing hole to Ø 22.5 mm		50	**KZ 93**	0.003
Keys	8D1 key lock		2	**Z 18**	0.010
	“Ronis” 8R1 key lock		2	**Z 18R1**	0.010
	“Ronis” 455 key lock		2	**Z 18R**	0.010
	“Ronis” 8R15 key lock		2	**Z 18R15**	0.010
Quick assembly device	Mounting on 35 mm rails to DIN 46277. 2 fixing screws included for rear mounting		5	**KZ 31**	0.030
Fixing screws 3.5 x 16 mm	4 hole fixing operating heads		100	**KZ 95**	0.001
Cam switch installation kit Comprising: - mounting plate, - 45 x 45 mm front plate, without legend - black handle, length 35 mm (KZ 27H), - 2 fixing screws	Installation of a cam switch on a distribution panel		1	**KZ 91H**	0.010

Cam switches
Complete switches, 12 and 20 A

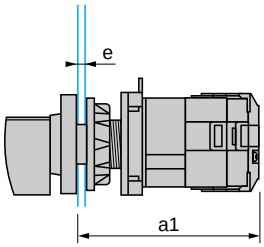
Operating heads and bodies, front mounting

"Multi-fixing"

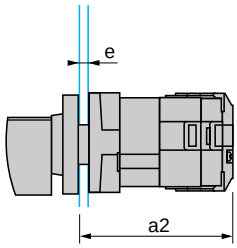


By Ø 22 mm hole

With plastic base



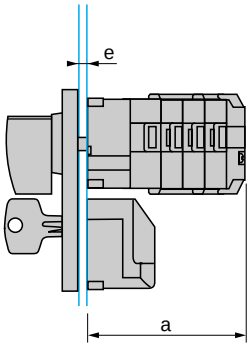
With metal base



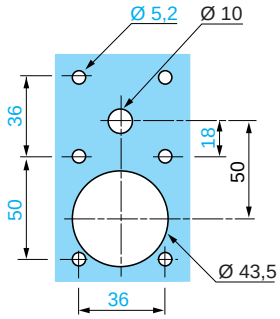
e: support panel thickness 1 to 6 mm.

Front mounting by 6 screws Ø 5.2 mm and 55 x 100 mm front plate for cam switch with key operated lock

With plastic base and key locking



Panel cut-out



e: support panel thickness 1 to 6 mm.

Type of switch	Operating head + body, front mounting		
	Multi-fixing or by 6 screws Ø 5.2 mm with 55 x 100 mm front plate	By Ø 22 mm hole	
		Plastic base	Metal base
	a	a1	a2
K●A ●●●●, K●B ●●●●	53	70.5	61
K●C ●●●●, K●D ●●●●	63	80.5	71
K●E ●●●●, K●F ●●●●	73	90.5	81
K●G ●●●●, K●H ●●●●	83	100.5	91
K●I ●●●●, K●K ●●●●	93	110.5	101
K●L ●●●●, K●M ●●●●	103	120.5	111
K●N ●●●●, K●O ●●●●	113	130.5	121
K●P ●●●●, K●Q ●●●●	123	140.5	131
K●R ●●●●, K●S ●●●●	133	150.5	141
K●T ●●●●, K●U ●●●●	143	160.5	151

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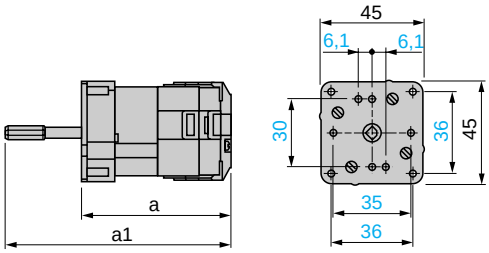
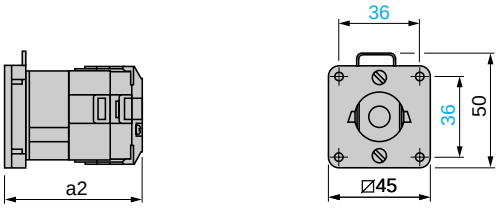
Bodies

Front mounting “multi-fixing”, 2 or 4 screws



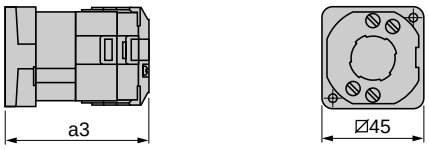
Front mounting by Ø 22 mm hole

With plastic base

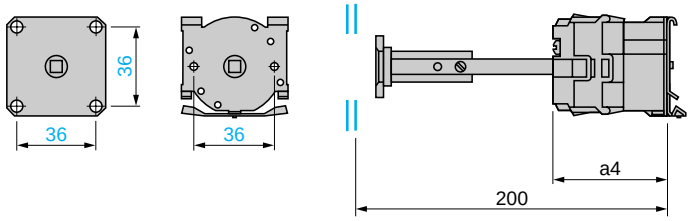


Front mounting by Ø 22 mm hole

With metal base, secured by needle screws



Rear mounting

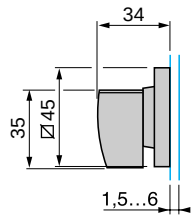


Type of body	Front mounting				Rear mounting
	Multi-fixing		By Ø 22 mm hole		
			Plastic base	Metal base	
	a	a1	a2	a3	a4
K●A ●●●●, K●B ●●●●	53	77	49	55	42.5
K●C ●●●●, K●D ●●●●	63	87	59	65	52.5
K●E ●●●●, K●F ●●●●	73	97	69	75	62.5
K●G ●●●●, K●H ●●●●	83	107	79	85	72.5
K●I ●●●●, K●K ●●●●	93	117	89	95	82.5
K●L ●●●●, K●M ●●●●	103	127	99	105	92.5
K●N ●●●●, K●O ●●●●	113	137	109	115	102.5
K●P ●●●●, K●Q ●●●●	123	147	119	125	112.5
K●R ●●●●, K●S ●●●●	133	157	129	135	122.5
K●T ●●●●, K●U ●●●●	143	167	139	145	132.5

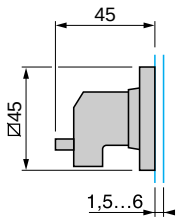
Operating heads and legend holders

For “multi-fixing”, front mounting bodies

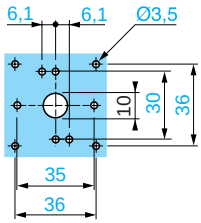
K●G 3H



KDG 3Y



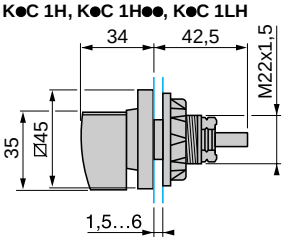
Panel cut-out *(1)*



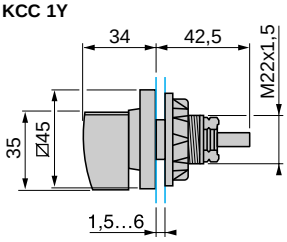
(1) Ø 10 mm central hole for operating shaft access. 2 or 4 holes for cam switch fixings (choice made by installer).

For Ø 22 mm hole, front mounting bodies - with 45 x 45 mm front plate

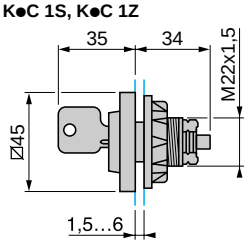
K●C 1H, K●C 1H●●, K●C 1LH



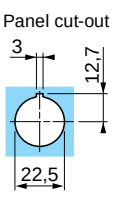
KCC 1Y



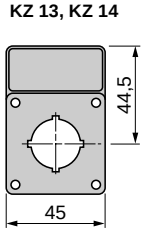
K●C 1S, K●C 1Z



Panel cut-out



KZ 13, KZ 14



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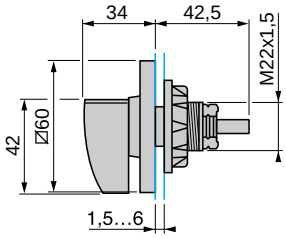
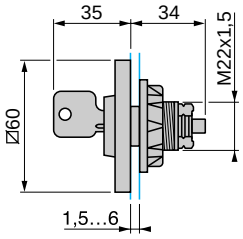
Operating heads and legend holders (continued)

For Ø 22 mm hole, front mounting bodies - with 60 x 60 mm front plate

K●D 1H, KCD 1MH



K●D 1S, K●D 1Z



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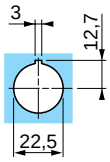
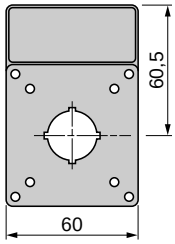
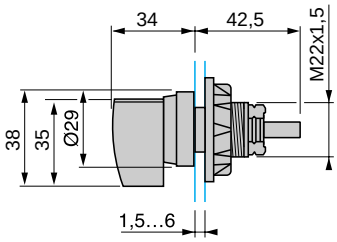


KZ 15, KZ 16

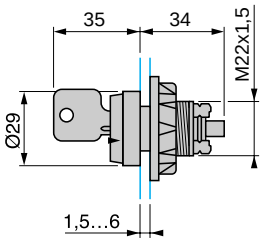


For Ø 22 mm hole, front mounting bodies - with Ø 29 mm metallic finish plastic bezel
Head + adaptor plate

K●A 1H



K●A 1S, K●A 1Z



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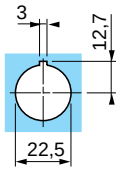
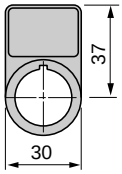
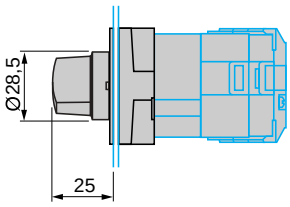


KZ 01R, KZ 1, KZ 2

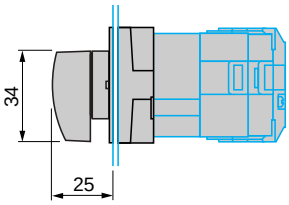


For Ø 22 mm hole, front mounting bodies - with Ø 28.5 mm chromium plated metal bezel

KAX Z1M1● + KZ 127



KAX Z1C1● + KZ 127



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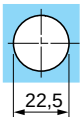
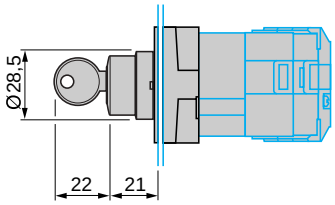
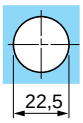


KAX Z1S1● + KZ 127



Panel cut-out



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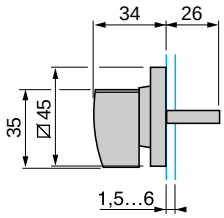
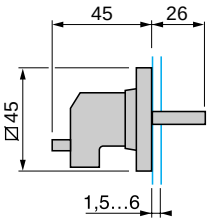
Operating heads and legend holders (continued)

For 4 hole, rear mounting bodies - with 45 x 45 mm front plate

K●E 1H, K●E 1LH



KCE 1Y



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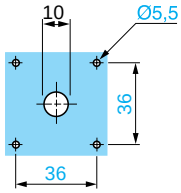
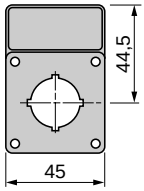
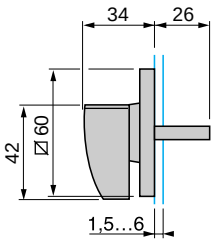


KZ 13, KZ 14

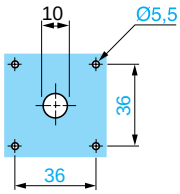


For 4 hole, rear mounting bodies - with 60 x 60 mm front plate

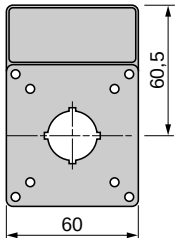
K●F 1H, KCF 1MH



Panel cut-out

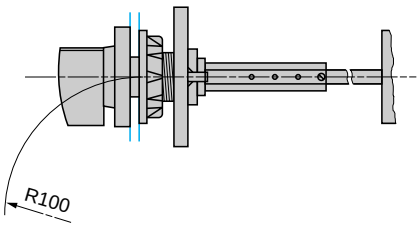


KZ 15, KZ 16



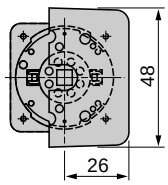
Shaft coupler and door interlock

(minimum door opening radius in mm)



Terminal cover

KZ 3●



Convention used for switching programme representation

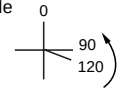
Contact closed

Contact closed in 2 positions and maintained between the 2 positions

Sealed assembly for auto-maintain control

Overlapping contacts

Spring return position: for a switching angle of 90°, spring return is over 30° after the last position (for a maximum of 3 simultaneous contacts).
Example



Cam switches

Switches mounted in plastic enclosure, 10 and 16 A

KA● ●●●●G

“Emergency stop” switches

Specifications

- PVC enclosure.
- 60 x 60 mm operating head, red handle (without padlocking device) *(1)* on yellow background. Marking: O I.
- Legend holder with metallic finish blank legend.

Composition *(2)* Poles	N	N/O	N/C	Thermal current (Ithe) *(3)*	Reference	Weight
				A		kg
1	–	–	–	10	**KA1 A050G**	0.365
				16	**KA2 A050G**	0.365
3	–	–	–	10	**KA1 C051G**	0.390
				16	**KA2 C051G**	0.390
3	1	–	–	10	**KA1 D052G**	0.400
				16	**KA2 D052G**	0.400
3	–	1	–	10	**KA1 D053G**	0.400
				16	**KA2 D053G**	0.400
3	–	1	1	10	**KA1 E054G**	0.694
				16	**KA2 E054G**	0.694
3	–	2	2	10	**KA1 G055G**	0.719
				16	**KA2 G055G**	0.719
3	1	1	1	10	**KA1 F056G**	0.704
				16	**KA2 F056G**	0.704
6	–	–	–	10	**KA1 F057G**	0.704
				16	**KA2 F057G**	0.704
6	1	–	–	10	**KA1 G058G**	0.719
				16	**KA2 G058G**	0.719
6	–	1	–	10	**KA1 G059G**	0.719
				16	**KA2 G059G**	0.719
6	–	1	1	10	**KA1 H060G**	0.724
				16	**KA2 H060G**	0.724
9	–	–	–	10	**KA1 I061G**	0.744
				16	**KA2 I061G**	0.744
9	1	–	–	10	**KA1 K062G**	0.749
				16	**KA2 K062G**	0.719
9	–	1 *(4)*	–	10	**KA1 K063G**	0.719
				16	**KA2 K063G**	0.719

*(1) To order a switch with a red padlockable handle (up to 3 padlocks), replace the letter **A** (2nd letter) in the references shown above by the letter **C**.*
*Example : **KA1 A050G** becomes **KC1 A050G**.*
(2) Poles : main contacts
- *N/O contact : late make (unballasting contact)*
- *N/C contact : signalling contact*
- *Neutral conductor (N) : early make, late break.*

(3) Permissible power, AC-23 at 400 V :
- *K1 switches : 2.2 kW,*
- *K2 switches : 5.5 kW.*

(4) Contact not late make.

Dimensions:
page 3/77

Cam switches

Switches mounted in plastic enclosure, 10 and 16 A

KD● ●●●●G

OFF-ON switches

Specifications

- PVC enclosure.
- 60 x 60 mm operating head, black handle (without padlocking device) on metallic background. Marking: O I.
- Legend holder with metallic finish blank legend.

Composition *(1)* Poles	N	N/O	N/C	Thermal current (Ithe) *(2)*	Reference	Weight
				A		kg
1	–	–	–	10	**KD1 A050G**	0.365
				16	**KD2 A050G**	0.365
3	–	–	–	10	**KD1 C051G**	0.390
				16	**KD2 C051G**	0.390
3	1	–	–	10	**KD1 D052G**	0.400
				16	**KD2 D052G**	0.400
3	–	1	–	10	**KD1 D053G**	0.400
				16	**KD2 D053G**	0.400
3	–	1	1	10	**KD1 E054G**	0.694
				16	**KD2 E054G**	0.694
3	–	2	2	10	**KD1 G055G**	0.719
				16	**KD2 G055G**	0.719
3	1	1	1	10	**KD1 F056G**	0.704
				16	**KD2 F056G**	0.704
6	–	–	–	10	**KD1 F057G**	0.704
				16	**KD2 F057G**	0.704
6	1	–	–	10	**KD1 G058G**	0.719
				16	**KD2 G058G**	0.719
6	–	1	–	10	**KD1 G059G**	0.719
				16	**KD2 G059G**	0.719
6	–	1	1	10	**KD1 H060G**	0.724
				16	**KD2 H060G**	0.724
9	–	–	–	10	**KD1 I061G**	0.744
				16	**KD2 I061G**	0.744
9	1	–	–	10	**KD1 K062G**	0.749
				16	**KD2 K062G**	0.749
9	–	1 *(3)*	–	10	**KD1 K063G**	0.749
				16	**KD2 K063G**	0.749

(1) Poles : main contacts
▫ N/O contact : late make (unballasting contact)
▫ N/C contact : signalling contact
▫ Neutral conductor (N) : early make, late break.
(2) Permissible power, AC-23 at 400 V :
▫ K1 switches : 2.2 kW,
▫ K2 switches : 5.5 kW.
(3) Contact not late make.

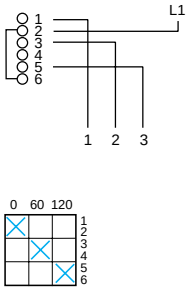
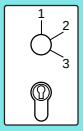
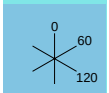
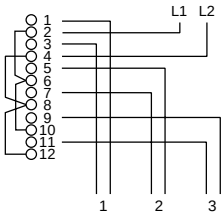
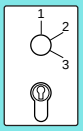
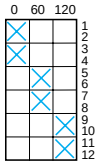
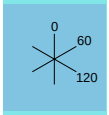
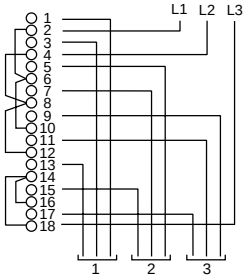
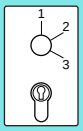
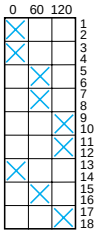
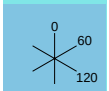
Dimensions:
page 3/77

Cam switches

Complete switches, 12 A with key operated lock
Front mounting by 6 screws Ø 5.2 mm
with 55 x 100 mm front plate

K1C 003NZ2

Stepping switches (3 step), without “0” position

Wiring diagram and switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
1-pole				
		Red	**K1C 003NZ2**	0.170
		Black	**K1C 003NZ4**	0.170
2-pole				
		Red	**K1F 013NZ2**	0.170
		Black	**K1F 013NZ4**	0.170
3-pole				
		Red	**K1I 023NZ2**	0.170
		Black	**K1I 023NZ4**	0.170

General:
pages 3/14 to 3/17

Characteristics:
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Dimensions:
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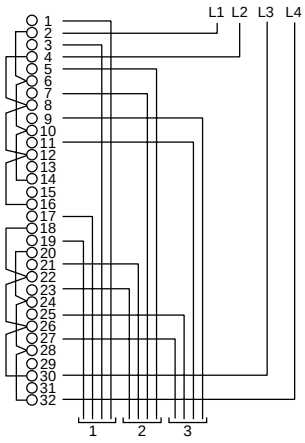
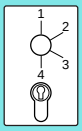
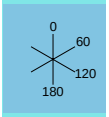
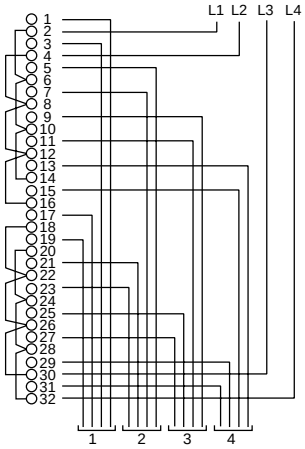
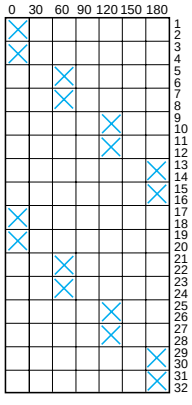
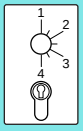
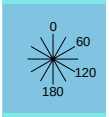
Cam switches

Complete switches, 12 A with key operated lock
Front mounting by 6 screws Ø 5.2 mm
with 55 x 100 mm front plate

Stepping switches (4 step), 4-pole, without “0” position

Wiring diagram and switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
4 step *(1)*				
	 	Red	**K1Q 034NZ2**	0.170
		Black	**K1Q 034NZ4**	0.170
4 step with intermediate steps at 30°				
 	 	Red	**K1Q 8621Z1**	0.170

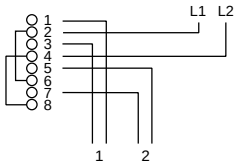
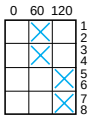
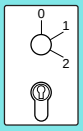
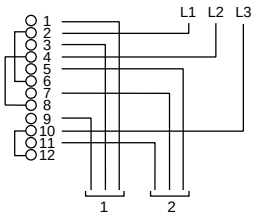
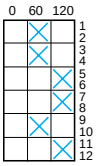
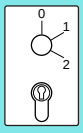
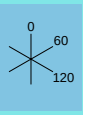
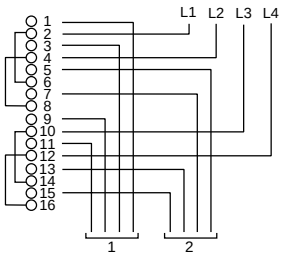
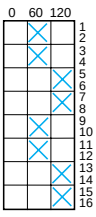
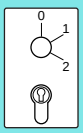
(1) Switching programme identical for 4 step and 4 step with intermediate steps at 30°.

Cam switches

Complete switches, 12 A with key operated lock
Front mounting by 6 screws Ø 5.2 mm
with 55 x 100 mm front plate

K1D 012QZ2

Stepping switches (2 step), with “0” position

Wiring diagram and switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
2-pole				
 		Red	**K1D 012QZ2**	0.170
		Black	**K1D 012QZ4**	0.170
3-pole				
 	 	Red	**K1F 022QZ2**	0.170
		Black	**K1F 022QZ4**	0.170
4-pole				
 		Red	**K1H 032QZ2**	0.170
		Black	**K1H 032QZ4**	0.170

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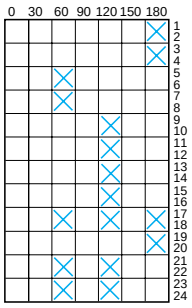
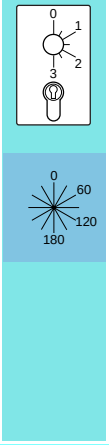
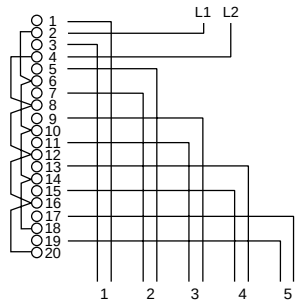
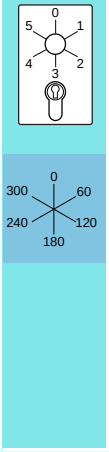
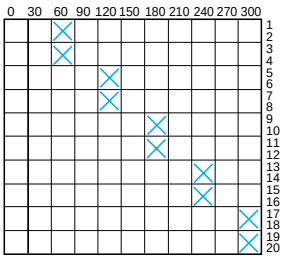
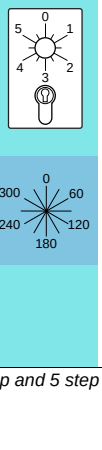
Cam switches

Complete switches, 12 A with key operated lock
Front mounting by 6 screws Ø 5.2 mm
with 55 x 100 mm front plate

Stepping switches (3 step), 2-pole, with “0” position

Switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
3 step with intermediate steps at 30°				
		Red	**K1M 10317Z1**	0.170

Stepping switches (5 step), 2-pole, with “0” position

Wiring diagram and switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
5 step *(1)*				
		Red	**K1K 015NZ2**	0.170
		Black	**K1K 015NZ4**	0.170
5 step with intermediate steps at 30°				
		Red	**K1K 1060Z1**	0.170

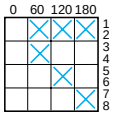
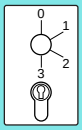
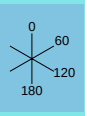
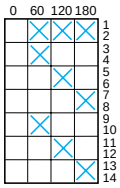
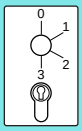
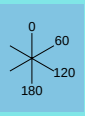
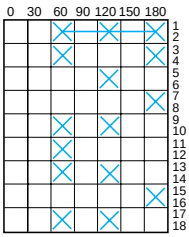
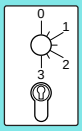
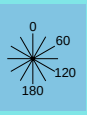
(1) Switching programme identical for 5 step and 5 step with intermediate steps at 30°.

Cam switches

Complete switches, 12 A with key operated lock
Front mounting by 6 screws Ø 5.2 mm
with 55 x 100 mm front plate

K1D 032RZ2

Start selector switches (3-position) with “0” position

Switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
1-pole				
		Red	**K1D 032RZ2**	0.170
		Black	**K1D 032RZ4**	0.170
2-pole				
		Red	**K1G 043RZ2**	0.170
		Black	**K1G 043RZ4**	0.170
2-pole with intermediate positions at 30°				
		Red	**K1I 9289Z1**	0.170
				

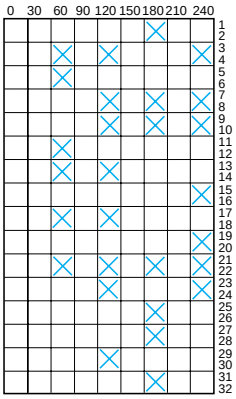
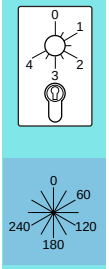
General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

Cam switches

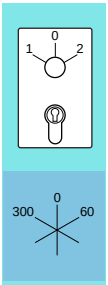
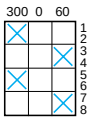
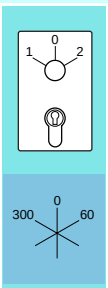
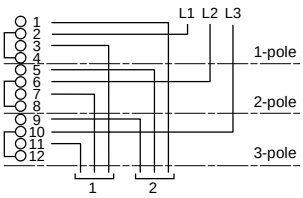
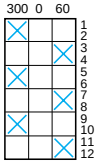
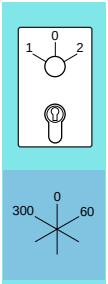
Complete switches, 12 A with key operated lock
Front mounting by 6 screws Ø 5.2 mm
with 55 x 100 mm front plate

K1B 001UZ2

Start selector switches (4-position) with “0” position

Switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
		Red	**K1Q 10805Z1**	0.170

Changeover switches with “0” position

Wiring diagram and switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
1-pole				
		Red	**K1B 001UZ2**	0.170
		Black	**K1B 001UZ4**	0.170
2-pole				
		Red	**K1D 002UZ2**	0.170
		Black	**K1D 002UZ4**	0.170
3-pole				
 		Red	**K1F 003UZ2**	0.170
		Black	**K1F 003UZ4**	0.170

General: pages 3/14 to 3/17
Characteristics: pages 3/18 and 3/19
Dimensions: page 3/74

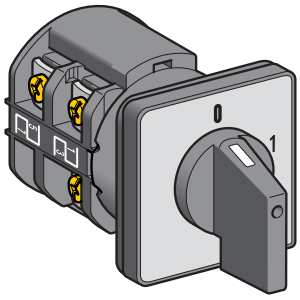
Cam switches
Complete switches, 32 to 150 A

The range of K30 to K150 cam switches (32 to 150 A ratings) comprises only complete switches.
These products are more specifically designed for direct control of simple machines.

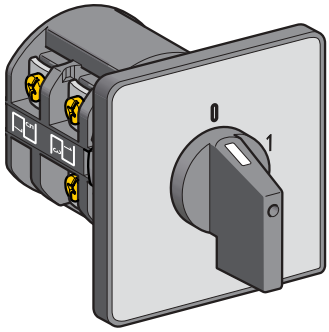
Complete switches

- **switches**
- **ON-OFF switches**
- **changeover switches**
- **star-delta switches**
- **pole change switches**
- **reversing switches**

Front mounting



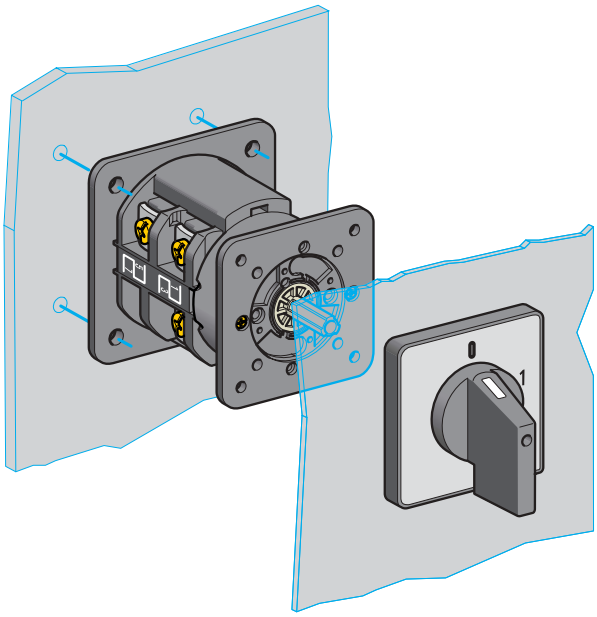
By 4 holes
with 64 x 64 mm front plate
32 to 63 A ratings
K30, K50 and K63



By 4 holes
with 88 x 88 mm front plate
115 to 150 A ratings
K115 and K150

"Multi-fixing" mounting

Rear mounting



By 4 holes on 48 mm centres
32 to 63 A ratings
K30, K50 and K63

By 4 holes on 68 mm centres
115 to 150 A ratings
K115 and K150

Characteristics:
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References:
pages 3/88 to 3/92

Dimensions:
page 3/93

Cam switches
Complete switches, 32 to 150 A

Switch type				K30	K50	K63	K115	K150
Environment characteristics								
Conformity to standards			IEC/EN 60947-3					
Product certifications	cULus		120 V - 1-phase	2 hp	3 hp	3 hp	5 hp	7.5 hp
			240 V - 1-phase	5 hp	7.5 hp	7.5 hp	10 hp	15 hp
			240 V - 3-phase	5 hp	7.5 hp	10 hp	20 hp	25 hp
			480 V - 3-phase	20 hp	25 hp	25 hp	30 hp	40 hp
Protective treatment			Standard version: “TC”					
Ambient air temperature	For operation		- 25…+ 55 °C					
	For storage		- 40…+ 70 °C					
Electric shock protection			Class II, conforming to IEC 60536 and NF C 20-030					
Degree of protection Conforming to IEC 529 and NF C 20-010			IP 40					
Mechanical life			300,000 operating cycles					
Contact block characteristics								
Rated insulation voltage			Ui = 690 V conforming to IEC/EN 60947-1 - Degree of pollution 3					
Conventional thermal current	Screw clamp terminals		In open air	Ith = 32 A	Ith = 50 A	Ith = 63 A	Ith = 115 A	Ith = 150 A
Rated operational characteristics								
Conforming to IEC/EN 60947-5-1	∼ AC-15		220…240 V	14 A	16 A	–	–	–
			380…440 V	6 A	7 A	–	–	–
Conforming to IEC/EN 60947-3	∼ AC-3	3-phase 3-pole	220…240 V	5.5 kW	7.5 kW	11 kW	15 kW	22 kW
			380…440 V	11 kW	15 kW	18.5 kW	30 kW	37 kW
			660…690 V	11 kW	15 kW	18.5 kW	30 kW	37 kW
		1-phase 2-pole	110 V	2.2 kW	2.5 kW	3 kW	3.7 kW	5.5 kW
			220…240 V	4 kW	5.5 kW	6 kW	7.5 kW	11 kW
			380…440 V	5.5 kW	7.5 kW	11 kW	13 kW	18.5 kW
	∼ AC-23A	3-phase 3-pole	220…240 V	7.5 kW	11 kW	15 kW	30 kW	37 kW
			380…440 V	15 kW	22 kW	30 kW	45 kW	75 kW
			660…690 V	15 kW	22 kW	55 kW	65 kW	65 kW
		1-phase 2-pole	110 V	2.2 kW	2.5 kW	4 kW	5.5 kW	11 kW
			220…240 V	4 kW	5.5 kW	10 kW	15 kW	22 kW
			380…440 V	7.5 kW	11 kW	18.5 kW	22 kW	37 kW
	∼ AC-21A			32 A	40 A	63 A	100 A	150 A
Rated conditional short-circuit current			Power: kA	5	5	10	15	25
Short-circuit protection			Cartridge fuse type gG, A	50	63	80	125	200
Rated impulse withstand voltage			U imp = 6 kV conforming to IEC/EN 947-1					
Contact operation			Slow break with positive opening operation					
Connection			Captive screw clamp terminals (For 2 x 2.8 x 0.8 mm push-on connectors, please consult your Regional Sales office)					
	Solid cable			2 x 6 mm²	2 x 10 mm²	2 x 16 mm²	1 x 35 mm²	1 x 70 mm²
	Flexible cable with or without cable end			2 x 4 mm²	2 x 6 mm²	2 x 10 mm²	1 x 25 mm²	1 x 50 mm²
	Tightening torque			1.2 N.m	2 N.m	2.5 N.m	2.5 N.m	2.5 N.m
Switching capacity ⎓	Number of contacts in series		**1 2 3**					
	Resistive load V		24 48 70	32 A	50 A	63 A	115 A	150 A
	T ≤ 1 ms		48 95 140	32 A	40 A	63 A	100 A	150 A
			60 120 180	23 A	37 A	30 A	–	–
			110 220 330	6.5 A	–	–	–	–
			220 440 660	1.2 A	–	–	–	–
			440 660 –	0.4 A	–	–	–	–
	Inductive load V		24 48 70	32 A	40 A	63 A	100 A	150 A
	T = 50 ms		30 60 90	25 A	30 A	55 A	33 A	50 A
			48 95 140	16 A	20 A	20 A	–	–
			60 120 180	11 A	15 A	–	–	–
			110 220 330	3.2 A	3.5 A	–	–	–

General: page 3/86
References: pages 3/88 to 3/92
Dimensions: page 3/93

Cam switches

Complete switches, 32 to 150 A

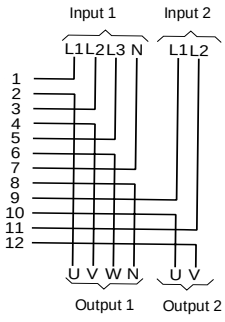
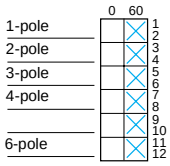
With 64 x 64 mm front plate (32 to 63 A ratings)
and 88 x 88 mm front plate (115 and 150 A ratings)

K30 C003AP

K50 C003AP

Switches with 45° switching angle

Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current (Ith)	Reference	Weight
			A		kg
 		1	32	**K30 A001AP**	0.130
			50	**K50 A001AP**	0.175
		2	32	**K30 B002AP**	0.170
			50	**K50 B002AP**	0.215
		3	32	**K30 C003AP**	0.224
			50	**K50 C003AP**	0.275
			63	**K63 C003AP**	0.345
			115	**K115 C003AP**	0.680
			150	**K150 C003AP**	0.790
		4	32	**K30 D004AP**	0.250
			50	**K50 D004AP**	0.305
			63	**K63 D004AP**	0.390
			115	**K115 D004AP**	0.745
			150	**K150 D004AP**	0.880
		6	32	**K30 F006AP**	0.425
			50	**K50 F006AP**	0.530
			63	**K63 F006AP**	0.590

General: page 3/86
Characteristics: page 3/87
Dimensions: page 3/93

Cam switches

Complete switches, 32 to 150 A

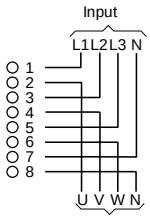
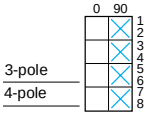
With 64 x 64 mm front plate (32 to 63 A ratings)
and 88 x 88 mm front plate (115 and 150 A ratings)

K63 C003HP

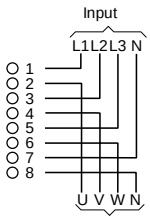
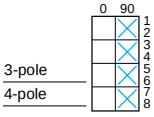
K150 D004HP

Switches with 490° switching angle

Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current (Ith)	Reference	Weight
			A		kg
 		3	32	**K30 C003HP**	0.224
			50	**K50 C003HP**	0.275
			63	**K63 C003HP**	0.345
			115	**K115 C003HP**	0.680
			150	**K150 C003HP**	0.790
		4	32	**K30 D004HP**	0.250
			50	**K50 D004HP**	0.305
			63	**K63 D004HP**	0.390
			115	**K115 D004HP**	0.745
			150	**K150 D004HP**	0.880

Rear mounting

 		3	32	**K30 C503HP**	0.250
			50	**K50 C503HP**	0.300
			63	**K63 C503HP**	0.370
			115	**K115 C503HP**	0.720
			150	**K150 C503HP**	0.830
		4	32	**K30 D504HP**	0.280
			50	**K50 D504HP**	0.350
			63	**K63 D504HP**	0.440
			115	**K115 D504HP**	0.790
			150	**K150 D504HP**	0.930

General: page 3/86
Characteristics: page 3/87
Dimensions: page 3/93

Cam switches

Complete switches, 32 to 150 A

With 64 x 64 mm front plate (32 to 63 A ratings)
and 88 x 88 mm front plate (115 and 150 A ratings)

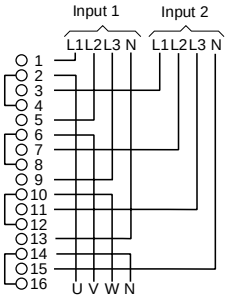
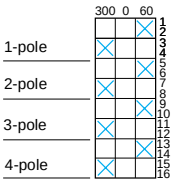
K50 B001UP

K63 F013UP

3

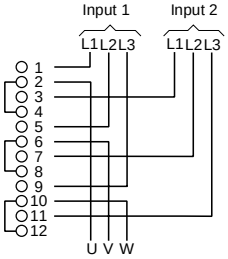
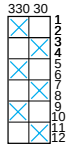
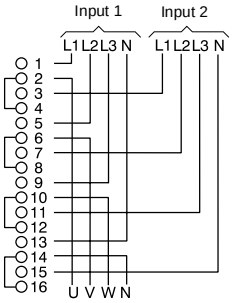
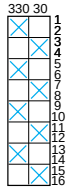
Changeover switches with “0” position

Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current (Ith)	Reference	Weight
			A		kg
		1	32	**K30 B001UP**	0.170
			50	**K50 B001UP**	0.215
			150	**K150 B001UP**	0.790
		2	32	**K30 D002UP**	0.250
			50	**K50 D002UP**	0.305
		3	32	**K30 F003UP**	0.425
			50	**K50 F003UP**	0.530
			63	**K63 F003UP**	0.590
			115	**K115 F003UP**	0.645
			150	**K150 F003UP**	0.760
		4	32	**K30 H004UP**	0.485
			50	**K50 H004UP**	0.610
			63	**K63 H004UP**	0.680
			115	**K115 H004UP**	0.750
			150	**K150 H004UP**	0.880

Changeover switches without “0” position

Front mounting

		3	32	**K30 F013UP**	0.425
			50	**K50 F013UP**	0.530
			63	**K63 F013UP**	0.590
			115	**K115 F013UP**	0.645
			150	**K150 F013UP**	0.760
		4	32	**K30 H014UP**	0.485
			50	**K50 H014UP**	0.610
			63	**K63 H014UP**	0.680
			115	**K115 H014UP**	0.750
			150	**K150 H014UP**	0.880

General: page 3/86
Characteristics: page 3/87
Dimensions: page 3/93

Cam switches

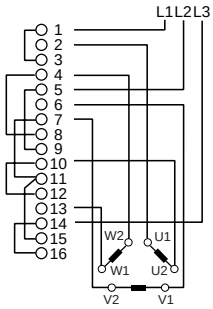
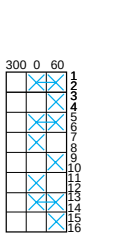
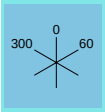
Complete switches, 32 to 150 A

With 64 x 64 mm front plate (32 to 63 A ratings)
and 88 x 88 mm front plate (115 and 150 A ratings)

K50 H001YP

Star-delta switches

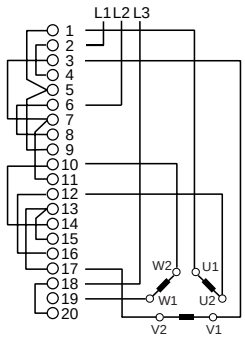
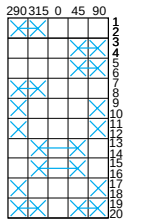
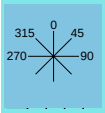
Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current (Ith)	Reference	Weight
			A		kg
 		3	32	**K30 H001YP**	0.485
			50	**K50 H001YP**	0.610
			63	**K63 H001YP**	0.680
			115	**K115 H001YP**	0.750
			150	**K150 H001YP**	0.880

K115 K006YP

Reversing star-delta switches

Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current (Ith)	Reference	Weight
			A		kg
 		3	32	**K30 K006YP**	0.560
			50	**K50 K006YP**	0.690
			63	**K63 K006YP**	0.770
			115	**K115 K006YP**	0.880
			150	**K150 K006YP**	0.990

General: page 3/86
Characteristics: page 3/87
Dimensions: page 3/93

Cam switches

Complete switches, 32 to 150 A

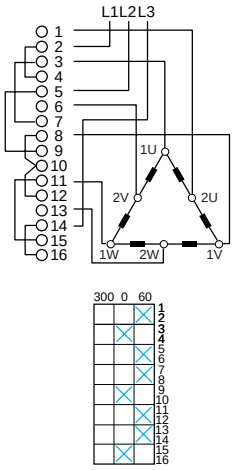
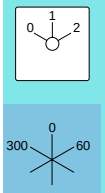
With 64 x 64 mm front plate (32 to 63 A ratings)
and 88 x 88 mm front plate (115 and 150 A ratings)
Accessories

K63 H004PP

Pole change switches for 2-speed motors

(for motors with tapped "Dahlander" windings)

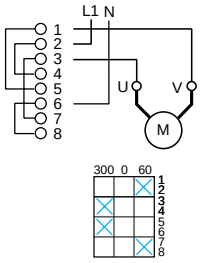
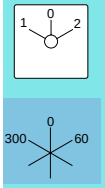
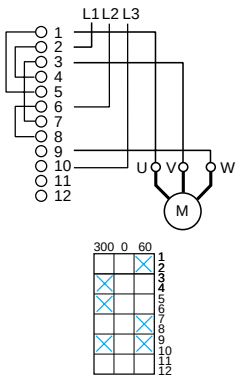
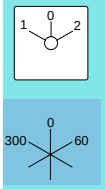
Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current A	Reference	Weight kg
		3	32	**K30 H004PP**	0.485
			50	**K50 H004PP**	0.610
			63	**K63 H004PP**	0.680

K150 D002WP

Reversing switches with "0" position

Front mounting

		2	32	**K30 D002WP**	0.250
			50	**K50 D002WP**	0.305
			63	**K63 D002WP**	0.390
			115	**K115 D002WP**	0.745
			150	**K150 D002WP**	0.880
		3	32	**K30 E003WP**	0.385
			50	**K50 E003WP**	0.485
			63	**K63 E003WP**	0.540
			115	**K115 E003WP**	0.590
			150	**K150 E003WP**	0.710

Accessories

Description	For use with	Sold in lots of	Unit reference	Weight kg
Legend holders With blank legend	Square heads 64 x 64 mm	5	**KZN 15**	0.020
	Square heads 88 x 88 mm	5	**KZN 103**	0.040
Replacement blank legends for legend holder	KZN 15	5	**KZ 77N**	0.025
	KZN 103	5	**KZ 100N**	0.040
Blank legends for metallic finish front plate	64 x 64	5	**KZN 21**	0.035
	88 x 88	5	**KZN 24**	0.045

General: page 3/86 Characteristics: page 3/87 Dimensions: page 3/93

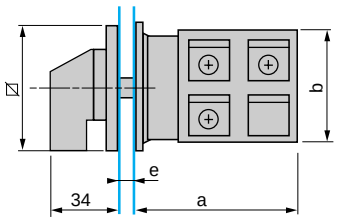
Cam switches

Complete switches, 32 to 150 A

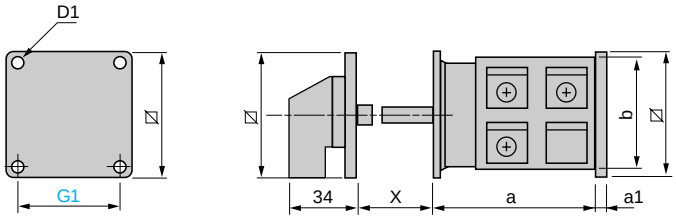
With 64 x 64 mm front plate (32 to 63 A ratings)
and 88 x 88 mm front plate (115 and 150 A ratings)

Cam switches from 32 to 150 A

Front mounting



Rear mounting

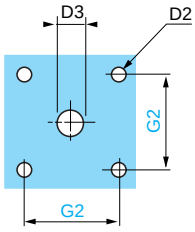


	K30 A K30 B	K30 C K30 D	K30 E K30 F	K30 H	K30 K	K50 A K50 B	K50 C K50 D	K50 E K50 F	K50 H	K50 K	K63 A K63 B	K63 C K63 D	K63 E K63 F	K63 H	K63 K
a	41	53.7	66.4	79.1	104.5	45.8	63.3	80.8	98.3	133.3	49.8	71.3	92.8	114.3	157.3
a1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
b	58	58	58	58	58	60	60	60	60	60	66	66	66	66	66
Ø	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
D1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	5.4	5.4	5.4	5.4	5.4
G1	–	48	–	–	–	–	48	–	–	–	–	48	–	–	–
X	–	78 to 97	–	–	–	–	78 to 97	–	–	–	–	78 to 97	–	–	–

	K115 A K115 B	K115 C K115 D	K115 E K115 F	K115 H	K115 K	K150 A K150 B	K150 C K150 D	K150 E K150 F	K150 H	K150 K
a	61.5	88	114.5	141	194	67.5	100	132.5	165	230
a1	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
b	84	84	84	84	84	88	88	88	88	88
Ø	88	88	88	88	88	88	88	88	88	88
D1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
G1	–	68	–	–	–	–	68	–	–	–
X	–	120 to 150	–	–	–	–	120 to 150	–	–	–

e: support panel thickness 0.5 to 5.5 mm.

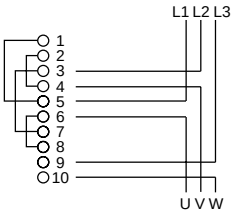
Panel cut-out



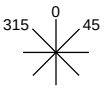
	K30/K50/K63	K115/K150
D2	4.5	6
D3	10	13
G2	48	68

Convention used for switching programme representation

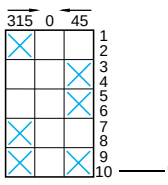
Link positions (factory mounted)



Angular position of switch



Graphic representation of switching positions and spring return to “0” position



Contact terminal reference number

Contact closed

Contact closed in 2 positions and maintained between the 2 positions

Sealed assembly for auto-maintain control

Overlapping contacts

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4 - Beacons and indicator banks

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Beacons and indicator banks, Ø 45 mm Optimum

- Illuminated beacons, Harmony type XVD LS, miniature . . . . . *page 4/5*
- Indicator banks, Harmony type XVM
  - Pre-cabled indicator banks . . . . . *page 4/9*
  - Customer assembled indicator banks, accessories. . . . . *page 4/11*

Indicator banks Ø 50 mm Universal, Harmony type XVP C

- Indicator banks for customer assembly, up to 5 units
  - Illuminated units for BA 15 d bulb or LED . . . . . *page 4/17*
  - Illuminated and audible units . . . . . *page 4/18*
  - Base units, covers and accessories . . . . . *page 4/19*

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

- Illuminated beacons. . . . . *page 4/25*
- Indicator banks for customer assembly . . . . . *page 4/26*
- Separate components for beacons and indicator banks . . . . . *page 4/27*

Beacons and indicator banks Ø 70 mm Universal, Harmony type XVB

- Illuminated beacons, type XVB L
  - For incandescent bulbs or LEDs (BA 15d base fitting) . . . . . *page 4/34*
  - With LED light source . . . . . *page 4/35*
  - With "flash" discharge tube . . . . . *page 4/36*
- Indicator banks, type XVB C (for customer assembly, up to 5 units)
  - Illuminated units for incandescent bulbs or LEDs (BA 15 d base fitting) . . . . . *page 4/37*
  - Illuminated units with integral LED. . . . . *page 4/38*
  - Illuminated units with integral "flash" discharge tube. . . . . *page 4/39*
  - Audible units, base units, cover, accessories . . . . . *page 4/40*
- Accessories for beacons and indicator banks type XVB . . . . . *page 4/41*

Beacons and indicator banks Ø 70 mm Application, Harmony type XVD

- Illuminated beacons for customer assembly . . . . . *page 4/48*
- Indicator banks (variable composition of up to 5 units), for customer assembly
  - Illuminated units. . . . . *page 4/49*
  - Audible units, base units, accessories. . . . . *page 4/50*
- Accessories for beacons and indicator banks . . . . . *page 4/51*

Rotating mirror beacons and sirens

- Rotating mirror beacons, type XVR . . . . . *page 4/55*
- Sirens, type XVS . . . . . *page 4/57*

Beacons and indicator banks
Harmony type XV

Harmony type XV		Optimum			
Type of products		Pilot lights	Miniature beacons	Indicator banks	Beacons and indicator banks
Diameter (mm)		Ø 25	Ø 45	Ø 45	Ø 70
Features		Complete pre-cabled products, height 55 mm	Complete products	Complete pre-cabled products or for customer assembly	Products for customer assembly
Description of the range		–	Illuminated beacons - steady light, - with “flash” discharge tube	–	Illuminated beacons - steady light, - flashing light, - with “flash” discharge tube
		–	–	Variable composition indicator banks for customer assembly of up to 5 units: - illuminated units with steady light, flashing light or “flash” discharge tube signalling, - audible units	
Light sources	Incandescent bulb	■	■	■	■
	LED	–	–	■	■
	“Flash” discharge tube	–	■	■	■
	Halogen bulb	–	–	–	–
Degree of protection conforming to IEC 529 and NF C 20-010		IP 40	IP 40	IP 40	IP 42 mounted vertically, IP 40 for other positions. IP 54 with reinforced protection (using sealing kit)
Colours of illuminated units		□ Green □ Red □ Clear □ Yellow	□ Green □ Red □ Orange □ Blue □ Clear □ Yellow	□ Red □ Green □ Orange □ Blue □ Clear	□ Green □ Red □ Orange □ Blue □ Clear
Connection		Flying leads, length 360 mm	Screw clamp terminals	Screw terminals	Screw clamp terminals
Support panel drilling or cut-out		Ø 22 or Ø 30	3 x Ø 3.3 or M3	Mounted on bracket: 2 x Ø 9	Direct mounting: 4 x Ø 5.5 or M5
Type references		**XV1 CA**	**XVD LS**	**XVM ▲**	**XVE L, XVE C**
Page(s)		Please consult your Regional Sales Office	4/5	4/9 to 4/11	4/25 and 4/26

▲ Available: 1st quarter 2005.

Universal	Application			
Indicator banks	Beacons and indicator banks		Rotating mirror beacon	Sirens
Ø 50	Ø 70	Ø 70	Ø 165	Ø 92
Products for customer assembly			Complete products	
–	Illuminated beacons - steady light, - flashing light, - with “flash” discharge tube		Rotating mirror beacon - with halogen bulb, - with incandescent bulb	Power - 106 dB, single tone, - 106 dB, 2 tone
Variable composition indicator banks for customer assembly of up to 5 units: - illuminated units with steady light, flashing light or “flash” discharge tube signalling - audible units			–	–
■	■	■	■	–
■ “PROTECTED LED”	■ “PROTECTED LED”	■ “PROTECTED LED”	–	–
■	■	■	–	–
–	–	–	■	–
IP 65	IP 65 (mounted on fixing base XVB Z0●) IP 66 (mounted on base unit)	IP 40	IP 65	IP 40
□ Green □ Red □ Orange □ Blue □ Clear □ Yellow			□ Green □ Red □ Orange □ Blue □ Yellow	–
Screw clamp terminals			Push-on connectors	Screw terminals
Direct mounting: 2 x Ø 4.2 x 16 Mounted on support tube: 4 x M5	Direct mounting: 2 x Ø 4.5 or M4 Mounted on support tube: 4 x Ø 5.5 or M5		3 x Ø 6.5	
XVP C	**XVB L, XVB C**	**XVD L, XVD C**	**XVR**	**XVS**
4/17 to 4/19	4/34 to 4/41	4/48 to 4/51	4/55	4/57

Beacons and indicator banks
Illuminated beacons Ø 45 mm Optimum, Harmony type XVD LS, miniature

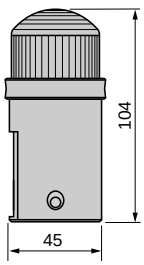
Presentation

Miniature illuminated beacons XVD LS are suitable for installation on small machines for short distance signalling of the process status.

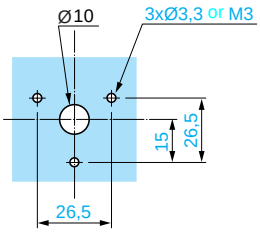
Characteristics

Product certifications	Standard version, CSA, UL	**V**	Pending
Conformity to standards			IEC/EN 60947-5-1
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation	**°C**	With incandescent bulb: - 25…+ 70 With "flash" discharge tube: - 10…+ 50
Electric shock protection	Conforming to IEC 536		Class II
Degree of protection	Conforming to IEC 529 and NF C 20-010		IP 40
Material	Illuminated units		Polycarbonate
	Base unit and cover		Glass-reinforced polyamide and polycarbonate
Rated insulation voltage (Ui)	Conforming to IEC 947-1	**V**	250
Consumption	With "flash" discharge tube circuit	**mA**	⎓ 24: < 65
		mA	∿ 120: < 15
		mA	∿ 230: < 19
Rated impulse withstand voltage	Conforming to IEC 947-1	**kV**	U imp = 4
Light source	Illuminated units with steady light		Incandescent bulbs with BA 15d base fitting, maximum power 5 W
Illuminating power	Illuminated units with discharge circuit (flash lamp with integral tube)	**cds**	1.4 (integral high intensity tube) with clear lens unit
Connection	Maximum clamping capacity on protected, ready-to-tighten, screw and captive cable clamp terminals	**mm²**	1 x 1.5 with cable end
Cable entry			For cable gland n° 7 (DIN Pg 7), not included

Dimensions



Panel cut-out for direct fixing



Beacons and indicator banks

Illuminated beacons Ø 45 mm Optimum, Harmony type XVD LS, miniature

XVD LS●●

Beacons with steady light signalling

Description	Light source, to be ordered separately	Colour	Reference	Weight kg
Complete unit comprising: - 1 illuminated unit - 1 base unit (direct fixing)	Incandescent bulb 5 W max. 230 V max.	Green	**XVD LS33**	0.080
		Red	**XVD LS34**	0.080
		Orange	**XVD LS35**	0.080
		Blue	**XVD LS36**	0.080
		Clear	**XVD LS37**	0.080
		Yellow	**XVD LS38**	0.080

Bulbs for beacons with steady light signalling

Description	Characteristics		Sold in lots of	Unit reference	Weight kg
Incandescent bulbs BA 15d base fitting	24 V	4 W	10	**DL1 BEBS**	0.090
	120 V	5 W	10	**DL1 BEGS**	0.090
	230 V	5 W	10	**DL1 BEMS**	0.090

Beacons with 0.5 Joule “flash” discharge tube

Description	Light source (included)	Colour	Reference	Weight kg
Complete unit comprising: - 1 illuminated unit - 1 base unit (direct fixing)	“Flash” discharge tube ⎓ 24 V	Green	**XVD LS6B3**	0.085
		Red	**XVD LS6B4**	0.085
		Orange	**XVD LS6B5**	0.085
		Blue	**XVD LS6B6**	0.085
		Clear	**XVD LS6B7**	0.085
		Yellow	**XVD LS6B8**	0.085
	“Flash” discharge tube ~ 120 V	Green	**XVD LS6G3**	0.085
		Red	**XVD LS6G4**	0.085
		Orange	**XVD LS6G5**	0.085
		Blue	**XVD LS6G6**	0.085
		Clear	**XVD LS6G7**	0.085
		Yellow	**XVD LS6G8**	0.085
	“Flash” discharge tube ~ 230 V	Green	**XVD LS6M3**	0.085
		Red	**XVD LS6M4**	0.085
		Orange	**XVD LS6M5**	0.085
		Blue	**XVD LS6M6**	0.085
		Clear	**XVD LS6M7**	0.085
		Yellow	**XVD LS6M8**	0.085

Beacons and indicator banks
Indicator banks Ø 45 mm Optimum, Harmony type XVM

Indicator banks XVM supplied complete and pre-cabled, with 2, 3 or 4 illuminated units and fitted with buzzer

Presentation

Ø 45 mm indicator banks XVM are available in 2 forms:

■ **Supplied complete**, with 2, 3 or 4 illuminated units, with or without buzzer.

□ Pre-assembled, they are pre-cabled and fitted with a fixing base mounted on a bracket for vertical mounting on their support.

□ These pre-assembled and pre-cabled indicator banks cannot be modified since the wiring connections are permanent (soldered).

■ But they are also available as separate components for **customised assembly** to suit the requirements of the customer.

Light signalling

5 catalogued lens unit colours available: red, orange, green, clear or blue.
These illuminated units incorporate a BA 15d base that can be fitted (by simple 15° rotation) with the choice of light source:

□ 1 incandescent bulb,
□ 1 LED, or
□ 1 “flash” discharge tube.

These 3 types of light source enable:

□ steady light signalling using an incandescent bulb or an LED *(1)*,
□ flashing light signalling using an LED,
□ “flash” light signalling using a “flash” discharge tube.

(1) A flashing function can also be obtained from a steady light LED by using a PLC output signal.

Audible signalling

The indicator bank is supplied with or without an audible (buzzer) unit depending on the configuration required. The buzzer is housed in the base unit of the indicator bank.

□ There is also a potentiometer in the base unit for adjusting the volume of the audible signal, up to a value of 80 decibels.
□ A selector enables the choice of signalling: continuous or intermittent tone.

Modularity

Indicator banks XVM are supplied pre-assembled and pre-cabled, with or without an audible (buzzer) unit, but they can also be assembled using separate components, all of which are catalogued listed:

□ either 5 illuminated units maximum, or
□ a base unit with integral buzzer and 4 illuminated units.

The light sources (incandescent bulb, LED or “flash” discharge tube) are interchangeable. This enables, for example, the replacement of incandescent bulbs initially fitted in an indicator bank by LEDs (longer service life) in order to reduce maintenance operations. The current consumption of LEDs is very low and consequently, their usage has a definite effect on the reduction of power consumption.

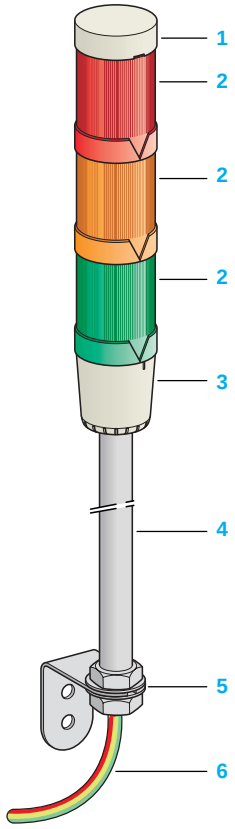
The illuminated units easily fit together and electrical connections are made automatically.
Connections in the base unit for indicator banks assembled by the customer are made to a screw terminal block.

Cabling

Indicator banks XVM supplied complete feature referenced wires with a wiring instructions label. Each illuminated unit of the indicator bank is identified by a different wire colour.

Characteristics: page 4/8
References: pages 4/9 to 4/11
Dimensions: pages 4/12 and 4/13

Beacons and indicator banks
Indicator banks Ø 45 mm Optimum, Harmony type XVM



Description

Complete, pre-cabled indicator banks

The pre-assembled Ø 45 mm indicator banks XVM comprise:
1 A cover.
2 Two, three or four coloured illuminated units (red, green, orange or blue). Each illuminated unit is fitted with an incandescent bulb or an LED, depending on the model selected from the catalogue.
3 A base unit integrating the buzzer (depending on model).
4 A fixing base, height 250 mm.
5 A fixing bracket for mounting on a vertical support.
6 300 mm flying lead connections, each wire identified.

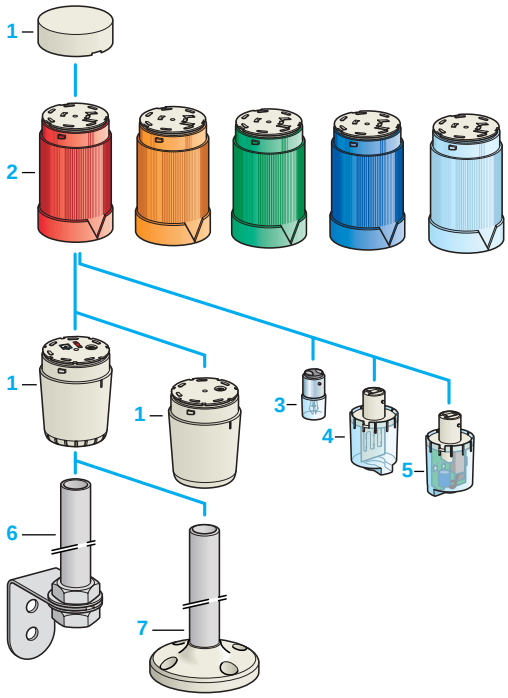
Breakdown of the reference for a complete indicator bank *(1)*

				1 unit	2 units	3 units	4 units
XVM							
Voltage	⎓ 24 V		**B**				
	~ 120 V		**G**				
	~ 230 V		**M**				
Light source	Incandescent bulb		**1**				
(2)	LED		**2**				
Illuminated unit	Colour	Red		**R**	**R**	**R**	**R**
		Orange		**A**	**A**	**A**	**A**
		Green		**G**	**G**	**G**	**G**
		Blue		**B**	**B**	**B**	**B**
		Clear		**C**	**C**	**C**	**C**
	Signalling	Steady		*(3)*	*(3)*	*(3)*	*(3)*
		Flashing		**5**	**5**	**5**	**5**
		"Flash"		**6**	**6**	**6**	**6**
Buzzer	Without						*(3)*
	With						**S**

Reference example

XVM B2R6AGS = indicator bank for ⎓ 24 V supply, with LEDs, with 1 red lens unit with "flash" discharge tube signalling, 2 lens units (1 orange and 1 green) with steady light signalling and with buzzer.

(1) This table is for information only and must not be used to create a product reference.
(2) "Flash" discharge tube to be ordered separately, see page 0/11.
(3) Not indicated, default value.



Customer assembled indicator banks

The customised composition of indicator banks XVM is obtained by assembling:
1 A cover and a base unit, with or without integral buzzer.
2 5 illuminated units maximum *(1)*, red, orange, green, blue or clear lens units (light source not included).
Each illuminated unit can be fitted with either:
3 an incandescent bulb,
4 an LED, or
5 a "flash" discharge tube.
Both the LED and the "flash" discharge tube types can be fitted or removed without using a tool.

The assembly detailed above mounts on either:
6 an aluminium support tube (length 100, 250 or 400 mm) with a fixing bracket, or
7 an aluminium support tube (length 100, 250 or 400 mm) with a plastic fixing plate.

(1) Maximum configuration possibilities:
- *5 illuminated units mounted on base unit without buzzer.*
- *4 illuminated units mounted on base unit fitted with buzzer.*

Characteristics: page 4/8
References: pages 4/9 to 4/11
Dimensions: pages 4/12 and 4/13

Beacons and indicator banks
Indicator banks Ø 45 mm Optimum, Harmony type XVM

Environment characteristics

Degree of protection			IP 42 mounted vertically IP 40 in other positions
Product certifications			CCC
Approval			CE
Conformity to standards			IEC/EN 60947-1, IEC/EN 60947-5-1
Ambient air temperature	For storage	**°C**	- 25…+ 70
	For operation	**°C**	- 10…+ 50
Electric shock protection Conforming to IEC 61140, IEC 60947-1 and IEC 60947-5-1	Mounted on aluminium support tube		Class I
	Mounted on base		Class II
Protective treatment			Standard version “TC”
Electronic components protection (LED and “flash”)	By integral fuse in series on the common	**A**	0.2 (~ 120…230 V)

Electrical characteristics

Light sources			**Incandescent bulbs**	**LEDs**		**“Flash” discharge tube, 0.8 Joule**
				Steady light	Flashing light	
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	250			
Voltage limits	Conforming to IEC 60947-5-1		0.85…1.10 Un			
Light source type	For mounting in BA 15d base, 15° rotation		BA 15d base fitting			
Consumption	On ≂ 24 V	**mA**	Depending on bulb used	43	45	140 (on ~) 98 (on ⎓)
	On ~ 120 V	**mA**	Depending on bulb used	16	16	33
	On ~ 230 V	**mA**	Depending on bulb used	15	15	20
Rated impulse withstand voltage	Conforming to IEC 60947-1	**kV**	Uimp = 4			
Illuminating power	Average value for all colours	**cds/m²**	650	900	900	–
Flashing frequency	Nominal value	**Hz**	–	–	1	1
Audible unit (base unit fitted with buzzer)						
Consumption	On ≂ 24 V	**mA**	15			
	On ~ 120 V	**mA**	18			
	On ~ 230 V	**mA**	18			
Power	Continuous or intermittent tone	**dB**	0…80 at 1 m			
	Fundamental frequency	**kHz**	4 for continuous tone			
Connection of illuminated and audible units						
Terminal referencing			□ 1 terminal referenced **N**: common to all 5 units, including base unit fitted with buzzer □ 1 terminal referenced **B**: for base unit fitted with buzzer □ 4 terminals referenced **1** - **2** - **3** - **4**: for 4 illuminated units mounted on base unit fitted with buzzer □ 5 terminals referenced **1** - **2** - **3** - **4** - **5**: for 5 illuminated units mounted on base unit without buzzer			
Connection	Flying leads on pre-cabled indicator banks		Wire c.s.a.: 1 x 0.325 mm² / AWG 22 *(1)*			
	Screw terminals		Max.: 1 x 1.5 mm² Min.: 2 x 0.325 mm²			

(1) AWG: American Wire Gauge.

Presentation, description: pages 4/6 and 4/7
References: pages 4/9 to 4/11
Dimensions: pages 4/12 and 4/13

Beacons and indicator banks

Indicator banks Ø 45 mm Optimum, Harmony type XVM

Pre-cabled indicator banks

XVM ●●RG

XVM ●●RGS

XVM ●●●●●●G

Description	Light source (included)	Voltage (V)	Signalling colour *(1)* Steady	Flashing	"Flash"	Reference *(2)*	Weight kg
With 2 illuminated units							
Without buzzer	Incandescent bulb, 5 W	⎓ 24	R-G	–	–	**XVM B1RG**	0.392
		⎓ 120	R-G	–	–	**XVM G1RG**	0.392
		⎓ 230	R-G	–	–	**XVM M1RG**	0.392
	LED	⎓ 24	R-G	–	–	**XVM B2RG**	0.395
		∿ 120	R-G	–	–	**XVM G2RG**	0.395
		∿ 230	R-G	–	–	**XVM M2RG**	0.395
With buzzer integrated in base unit	Incandescent bulb, 5 W	⎓ 24	R-G	–	–	**XVM B1RGS**	0.402
		∿ 120	R-G	–	–	**XVM G1RGS**	0.402
		∿ 230	R-G	–	–	**XVM M1RGS**	0.402
	LED	⎓ 24	R-G	–	–	**XVM B2RGS**	0.404
		∿ 120	R-G	–	–	**XVM G2RGS**	0.404
		∿ 230	R-G	–	–	**XVM M2RGS**	0.404
With 3 illuminated units							
Without buzzer	Incandescent bulb, 5 W	⎓ 24	R-O-G	–	–	**XVM B1RAG**	0.493
		⎓ 120	R-O-G	–	–	**XVM G1RAG**	0.493
		⎓ 230	R-O-G	–	–	**XVM M1RAG**	0.493
		⎓ 24	O-G	–	R	**XVM B1R6AG**	0.454
		⎓ 120	O-G	–	R	**XVM G1R6AG**	0.454
		⎓ 230	O-G	–	R	**XVM M1R6AG**	0.454
	LED	⎓ 24	R-O-G	–	–	**XVM B2RAG**	0.443
		∿ 120	R-O-G	–	–	**XVM G2RAG**	0.443
		∿ 230	R-O-G	–	–	**XVM M2RAG**	0.443
		⎓ 24	O-G	–	R	**XVM B2R6AG**	0.456
		∿ 120	O-G	–	R	**XVM G2R6AG**	0.456
		∿ 230	O-G	–	R	**XVM M2R6AG**	0.456
		⎓ 24	R-G	O	–	**XVM B2RA5G**	0.443
		∿ 120	R-G	O	–	**XVM G2RA5G**	0.443
		∿ 230	R-G	O	–	**XVM M2RA5G**	0.443
		⎓ 24	G	R-O	–	**XVM B2R5A5G**	0.443
		∿ 120	G	R-O	–	**XVM G2R5A5G**	0.443
		∿ 230	G	R-O	–	**XVM M2R5A5G**	0.443
		⎓ 24	G	O	R	**XVM B2R6A5G**	0.456
		∿ 120	G	O	R	**XVM G2R6A5G**	0.456
		∿ 230	G	O	R	**XVM M2R6A5G**	0.456

(1) Signalling colour: R: red; G: green; O: orange; B: blue.
(2) The colours are listed in same order in the references as the mounting order of the illuminated units (from top to bottom).

Presentation, description: pages 4/6 and 4/7
Characteristics: page 4/8
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Beacons and indicator banks
Indicator banks Ø 45 mm Optimum, Harmony type XVM
Pre-cabled indicator banks

XVM ●●●●●●GS

Pre-cabled indicator banks *(continued)*

Description	Light source (included)	Voltage (V)	Signalling colour *(1)* Steady	Flashing	"Flash"	Reference *(2)*	Weight kg
With 3 illuminated units *(continued)*							
With buzzer integrated in base unit	Incandescent bulb, 5 W	⎓ 24	R-O-G	–	–	**XVM B1RAGS**	0.449
		~ 120	R-O-G	–	–	**XVM G1RAGS**	0.449
		~ 230	R-O-G	–	–	**XVM M1RAGS**	0.449
		⎓ 24	O-G	–	R	**XVM B1R6AGS**	0.463
		~ 120	O-G	–	R	**XVM G1R6AGS**	0.463
		~ 230	O-G	–	R	**XVM M1R6AGS**	0.463
	LED	⎓ 24	R-O-G	–	–	**XVM B2RAGS**	0.453
		~ 120	R-O-G	–	–	**XVM G2RAGS**	0.453
		~ 230	R-O-G	–	–	**XVM M2RAGS**	0.453
		⎓ 24	O-G	–	R	**XVM B2R6AGS**	0.466
		~ 120	O-G	–	R	**XVM G2R6AGS**	0.466
		~ 230	O-G	–	R	**XVM M2R6AGS**	0.466
		⎓ 24	R-G	O	–	**XVM B2RA5GS**	0.453
		~ 120	R-G	O	–	**XVM G2RA5GS**	0.453
		~ 230	R-G	O	–	**XVM M2RA5GS**	0.453
		⎓ 24	G	R-O	–	**XVM B2R5A5GS**	0.453
		~ 120	G	R-O	–	**XVM G2R5A5GS**	0.453
		~ 230	G	R-O	–	**XVM M2R5A5GS**	0.453
		⎓ 24	G	O	R	**XVM B2R6A5GS**	0.466
		~ 120	G	O	R	**XVM G2R6A5GS**	0.466
		~ 230	G	O	R	**XVM M2R6A5GS**	0.466
With 4 illuminated units							
Without buzzer	Incandescent bulb, 5 W	⎓ 24	R-O-G-B	–	–	**XVM B1RAGB**	0.486
		⎓ 120	R-O-G-B	–	–	**XVM G1RAGB**	0.486
		⎓ 230	R-O-G-B	–	–	**XVM M1RAGB**	0.486
	LED	⎓ 24	R-O-G-B	–	–	**XVM B2RAGB**	0.491
		~ 120	R-O-G-B	–	–	**XVM G2RAGB**	0.491
		~ 230	R-O-G-B	–	–	**XVM M2RAGB**	0.491
With buzzer integrated in base unit	Incandescent bulb, 5 W	⎓ 24	R-O-G-B	–	–	**XVM B1RAGBS**	0.496
		~ 120	R-O-G-B	–	–	**XVM G1RAGBS**	0.496
		~ 230	R-O-G-B	–	–	**XVM M1RAGBS**	0.496
	LED	⎓ 24	R-O-G-B	–	–	**XVM B2RAGBS**	0.501
		~ 120	R-O-G-B	–	–	**XVM G2RAGBS**	0.501
		~ 230	R-O-G-B	–	–	**XVM M2RAGBS**	0.501

XVM ●●RAGB XVM ●●RAGBS

(1) Signalling colour: R: red; G: green; O: orange; B: blue.
(2) The colours are listed in same order in the references as the mounting order of the illuminated units (from top to bottom).

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Characteristics: page 4/8
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Beacons and indicator banks

Indicator banks Ø 45 mm Optimum, Harmony type XVM

Customer assembled indicator banks, accessories

XVM C3●

XVM C21

XVM C29●

XVM Z02

XVM Z02T

DL1 ED●S

DL2 E●●●

DL6 B●

Customer assembled indicator banks

Description	Characteristics	Voltage (V)	Colour	Reference	Weight kg
Illuminated units					
Lens units only for BA 15d base fitting bulb	Bulb not included, 5 W max.	Up to ≂ 230	Green	**XVM C33**	0.040
			Red	**XVM C34**	0.040
			Orange	**XVM C35**	0.040
			Blue	**XVM C36**	0.040
			Clear	**XVM C37**	0.040
Base mounting units					
Base unit and cover	Base unit without buzzer	–	White	**XVM C21**	0.055
	Base unit with integral buzzer	≂ 24	White	**XVM C29B**	0.065
		∿ 120	White	**XVM C29G**	0.065
		∿ 230	White	**XVM C29M**	0.065
Base unit and cover + 250 mm support tube with fixing bracket	Base unit without buzzer	–	White	**XVM C213T**	0.298
	Base unit with integral buzzer	≂ 24	White	**XVM C29B3T**	0.308
		∿ 120	White	**XVM C29G3T**	0.308
		∿ 230	White	**XVM C29M3T**	0.308

Support tubes and fixing bases

Description	Length (mm)	Height under base unit (mm)	Colour	Reference	Weight kg
Ø 20 mm aluminium support tube with plastic fixing plate	100	78	White	**XVM Z02**	0.060
	250	228	White	**XVM Z03**	0.108
	400	378	White	**XVM Z04**	0.155
Ø 20 mm aluminium support tube with metal fixing bracket	100	113	–	**XVM Z02T**	0.198
	250	263	–	**XVM Z03T**	0.242
	400	413	–	**XVM Z04T**	0.287

Light sources for lens units *(1)*

Description	Signalling	Power	Sold in lots of	Voltage (V)	Colour	Unit reference	Weight kg
Incandescent bulbs	Steady light	5 W	10	≂ 24	–	**DL1 EDBS**	0.007
				≂ 120	–	**DL1 EDGS**	0.007
				≂ 230	–	**DL1 EDMS**	0.007
LEDs	Steady light: replace the ● by **D** in the references shown on the right. Flashing light: replace the ● by **K** in the references shown on the right.	–	1	≂ 24	White	**DL2 E●B1**	0.009
					Green	**DL2 E●B3**	0.009
					Red	**DL2 E●B4**	0.009
					Blue	**DL2 E●B6**	0.009
					Orange	**DL2 E●B8**	0.009
		–	1	∿ 120	White	**DL2 E●G1**	0.009
					Green	**DL2 E●G3**	0.009
					Red	**DL2 E●G4**	0.009
					Blue	**DL2 E●G6**	0.009
					Orange	**DL2 E●G8**	0.009
		–	1	∿ 230	White	**DL2 E●M1**	0.009
					Green	**DL2 E●M3**	0.009
					Red	**DL2 E●M4**	0.009
					Blue	**DL2 E●M6**	0.009
					Orange	**DL2 E●M8**	0.009
Discharge tubes	"Flash"	0.8 Joule	1	≂ 24	–	**DL6 BB**	0.022
				∿ 120	–	**DL6 BG**	0.022
				∿ 230	–	**DL6 BM**	0.022

(1) All light sources are push-and-turn (15°) mounting in a BA 15d base within the illuminated units.

Accessories for pre-cabled and customer assembled indicator banks

Description	Characteristics	Reference	Weight kg
Cover only	White	**XVM Z081**	–
Mounting tool	Mounting and removal of incandescent bulbs type DL1	**ZBZ X13**	–

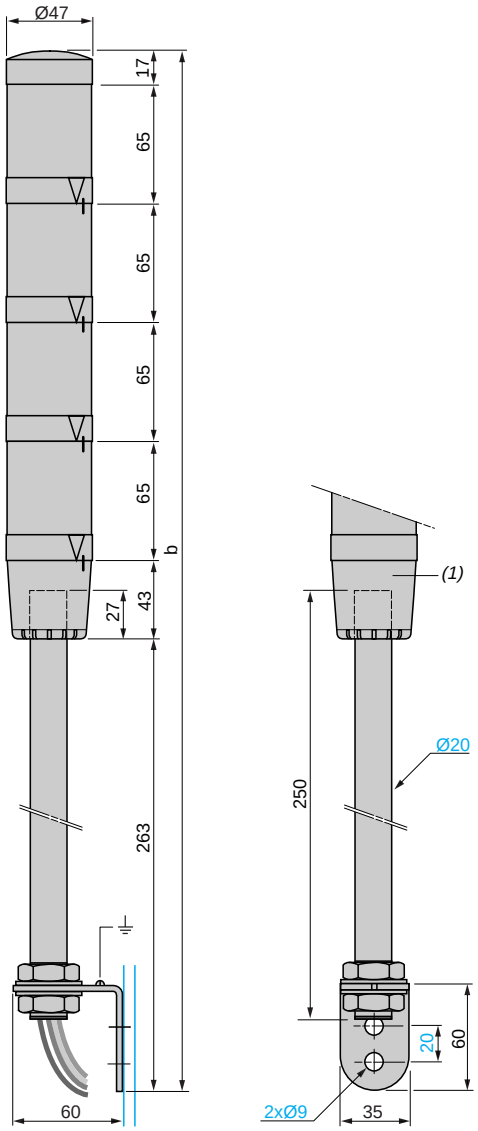
Presentation, description: pages 4/6 and 4/7
Characteristics: page 4/8
Dimensions: pages 4/12 and 4/13

Beacons and indicator banks

Indicator banks Ø 45 mm Optimum, Harmony type XVM

Pre-cabled indicator banks

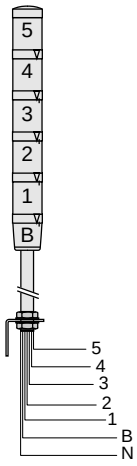
Pre-cabled indicator banks



(1) Base unit with or without buzzer.

Height of pre-cabled indicator bank	
Number of illuminated units	**b**
1 unit	392
2 units	457
3 units	522
4 units	587

Connection scheme



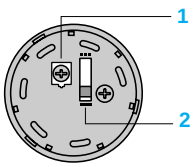
Indicator bank with buzzer (4 illuminated units max.)
4: 4th unit (yellow wire)
3: 3rd unit (green wire)
2: 2nd unit (white wire)
1: 1st unit (blue wire)
N: common (black wire)
B: Buzzer (grey wire)

Indicator bank without buzzer
5: 5th unit (red wire)
4: 4th unit (yellow wire)
3: 3rd unit (green wire)
2: 2nd unit (white wire)
1: 1st unit (blue wire)
N: common (black wire)

Maximum capacity for wiring through support tube:
- 6 wires x 1 mm²,
- 5 wires x 1.5 mm²

Adjustment of audible signal on buzzer type unit

Base unit with integral buzzer (viewed from above)



1 Volume adjustment potentiometer: 0 to 80 dB. Use either a cross headed or flat tipped screwdriver.
2 2-position selector for type of audible signal:
— continuous tone
- - - intermittent tone

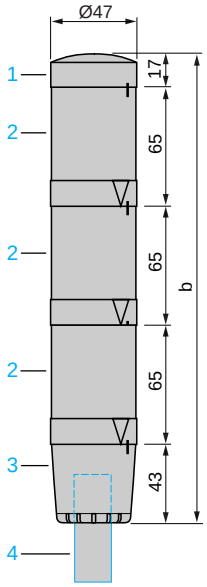
Presentation, description: pages 4/6 and 4/7
Characteristics: page 4/8
References: pages 4/9 to 4/11

Beacons and indicator banks

Indicator banks Ø 45 mm Optimum, Harmony type XVM

Customer assembled indicator banks

Customer assembled indicator banks



1 Cover
2 Illuminated unit
3 Base unit (with or without buzzer)
4 Fixing base (see below)

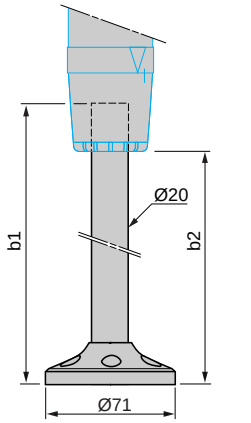
Height of customer assembled indicator bank

Number of illuminated units (ref. 2)	b
1 unit	125
2 units	190
3 units	255
4 units	320
5 units	385

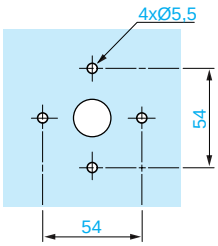
4

Fixing bases

XVM Z0●

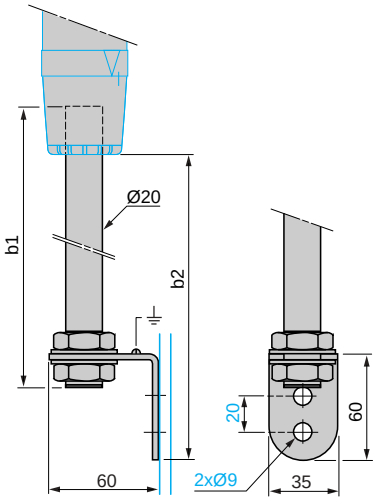


Panel cut-out for mounting directly on fixing base (support tube + fixing plate)

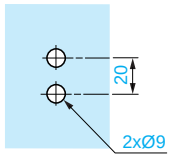


Support tube length	b1 (tube + plate)	b2 (height under base unit)
100	105	78
250	255	228
400	405	378

XVM Z0●T



Panel cut-out for mounti directly on fixing base (support tube + fixing bracket)



Support tube length	b1 (tube + bracket)	b2 (height under base unit)
100	140	113
250	290	263
400	440	413

Connection scheme

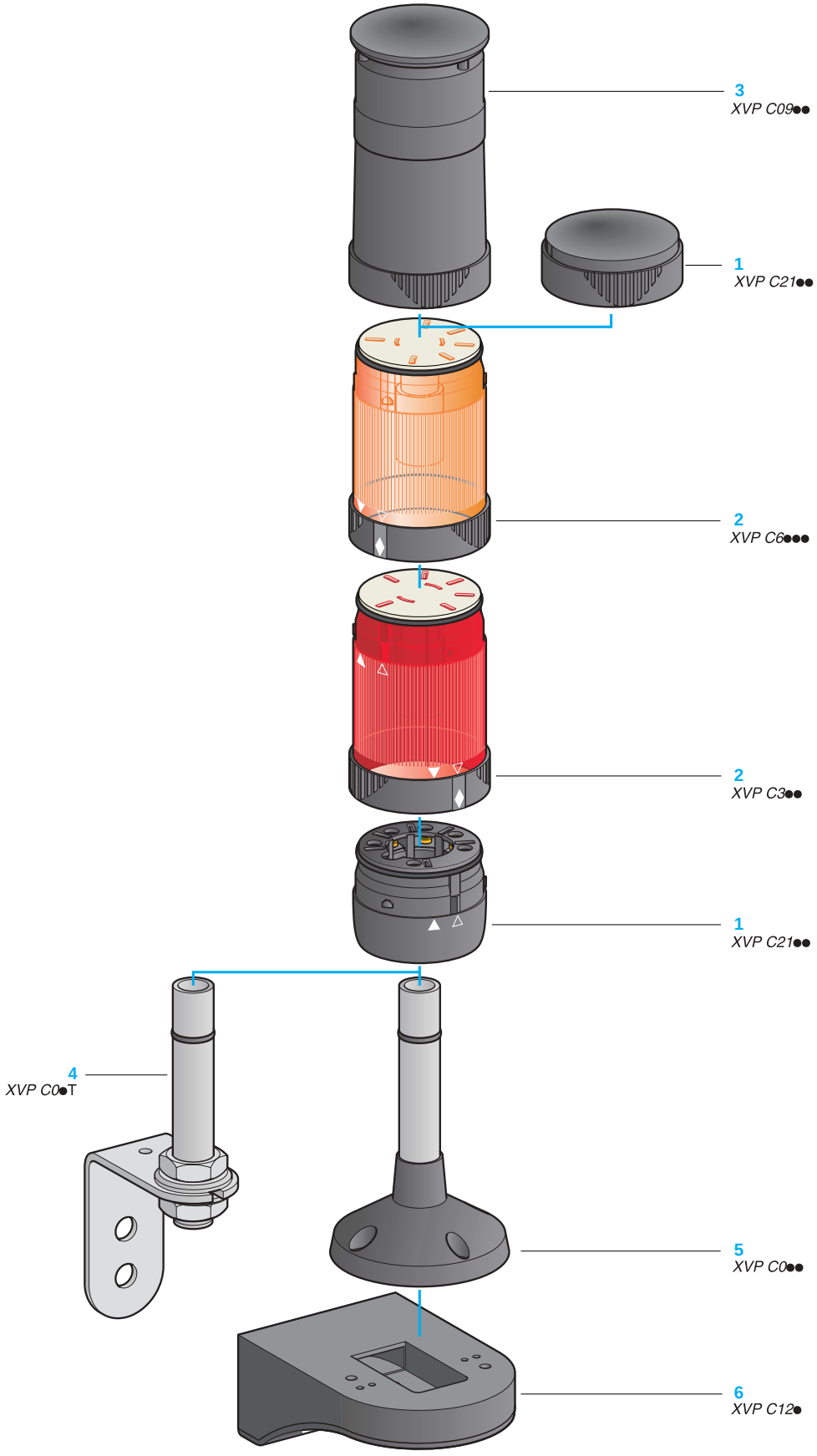
See page 4/12

Adjustment of audible signal on buzzer type unit

See page 4/12

Beacons and indicator banks

Indicator banks Ø 50 mm Universal, Harmony type XVP C



Beacons and indicator banks
Indicator banks Ø 50 mm Universal, Harmony type XVP C

Indicator banks XVP C are visual or audible signalling units for indicating, throughout 360° and at a distance, the various states or operation sequences of a machine or installation.
Their reduced diameter (50 mm) makes them particularly suitable for use on small equipment.
In addition, the availability of two versions (aesthetic black or cream), makes them ideal for use in all sectors of activity: light industry, electronic, tertiary sector, food/drink processing.

The indicator bank

Customer assembled product

Variable composition assembly of illuminated and audible units which are supplied as separate items (assembly by user).
The bank comprises:
1 a base unit with bottom cable entry, a cover for the top unit,
2 1 to 5 illuminated units with steady, flashing or “flash” light signalling (colours: green, red, orange, blue, clear or yellow).
3 or 1 audible unit (always mounted at the top of the bank) + 4 illuminated units.

■ The illuminated or audible units stack vertically and are easily locked and unlocked using an integral clamping ring. Electrical connections between each unit are made automatically.
■ For indicator banks XVP C, several illuminated “flash” units can be mounted.
■ The flashing illuminated units are only available in the LED version and incorporate BA 15d base mounted flashing LEDs.

Accessories

4 Threaded aluminium support tube with fixing bracket, for heights beneath the base unit of 77, 227 or 377 mm.
5 Aluminium support tube with integral black or cream fixing base, for heights beneath the base unit of 89, 237 or 387 mm, for direct mounting on the machine or on a vertical support 6.

Installation

Mounting

■ Base unit fixed directly onto panel, or
■ using support tube with integral fixing base, or
■ using threaded support tube with metal fixing bracket, or
■ using support tube with integral fixing base, mounted on a fixing plate for use on a vertical support.

Cabling

By means of terminal block incorporated in base unit. The screw and captive cable clamp terminals are protected to prevent any accidental contact with live parts.
Cream coloured base units are available for use with eyelet tags.

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Beacons and indicator banks
Indicator banks Ø 50 mm Universal, Harmony type XVP C

Environment characteristics

Product certifications	Standard version			CSA, CE marking
Conformity to standards				IEC/EN 60947-5-1
Protective treatment	Standard version			"TC"
Ambient air temperature	For storage		°C	- 40…+ 70
	For operation	Illuminated units with steady light signalling	°C	- 25…+ 50 with 7 W incandescent bulb - 25…+ 50 with LED
		Illuminated "flash" units (discharge tube) Audible units	°C	- 25…+ 50
Electric shock protection conforming to IEC 536	Mounted on support tube			Class I
	Mounted on base unit			Class II
Degree of protection	Conforming to IEC 60529 and NF C 20-010			- IP 65 for illuminated units - IP 43 for audible units
Material	Illuminated units			Polycarbonate and Polyamide
	Base unit and cover			Acrylic Butadiene-Styrene + Polycarbonate and Polyamide
	Support tube + fixing plate			Aluminium and Acrylic Butadiene-Styrene + Polycarbonate

Electrical characteristics

Rated insulation voltage (Ui)	Conforming to IEC 60947-1		V	250
Voltage limits	Conforming to IEC 60947-5-1		V	0.85 to 1.10 Un (Un: nominal voltage)
Consumption	LED unit	Steady light signalling	mA	⎓ 24 V: < 80 ~ 120…230 V: < 30
		Flashing light signalling	mA	⎓ 24 V: < 40 ~ 120…230 V: < 15
	Illuminated "flash" unit (discharge tube)	On power-up	mA	⎓ 24 V: ≤ 40
			mA	~ 120 V: ≤ 20
			mA	~ 230 V: ≤ 11
	Audible units		mA	⎓ 24 V: ≤ 15
			mA	~ 120 V: ≤ 15
			mA	~ 230 V: ≤ 12
Rated impulse withstand voltage	Conforming to IEC 60947-1		kV	U imp = 4
Light source	Illuminated units with steady or flashing light signalling			LEDs: degree of pollution 2
				Incandescent bulbs with BA 15d base fitting, maximum power 7 W
Illuminating power	Illuminated units with steady light signalling		cds	2.4 with clear lens unit (7 W incandescent bulb)
	Illuminated "flash" units (discharge tube)		cds	1.2 (24 V) with clear lens unit (0.3 J tube), 5 (120…230 V) with clear lens unit (0.6 J tube)
Audible unit	Continuous or intermittent tone		dB	Adjustable: 85 ± 3 max., 55 ± 3 min. at 1 m
	Fundamental frequency		kHz	10 adjustable levels
Terminal referencing	Common to all 5 units			1 terminal referenced -/C
	Depending on number of units			1 or 5 terminals referenced +/1 to +/5
Connection	Maximum clamping capacity on protected, ready-to-tighten, screw and captive cable clamp terminals		mm^2	1 x 1.5 with cable end
Frequency of illuminated units	Illuminated "flash" units (discharge tube)		Hz	0.6…2
	Flashing illuminated units		Hz	1
Service life in rapidly ageing environment	Illuminated "flash" units (discharge tube) Audible units		H	> 1000, continuous (climatic cycle - 25 °C…+ 50 °C)

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References: pages 4/17 to 4/19
Dimensions: pages 4/20 and 4/21

Beacons and indicator banks

Indicator banks Ø 50 mm Universal, Harmony type XVP C (for customer assembly, up to 5 units)
Illuminated units

530419

XVP C3●

530420

XVP C3●W

Illuminated units with steady or flashing light signalling for BA 15d bulb or LED

Description	Light source, to be ordered separately	Colour	Reference	Weight kg
With black clamping ring	Incandescent bulb 7 W max. 250 V max. or LED	Green	**XVP C33**	0.100
		Red	**XVP C34**	0.100
		Orange	**XVP C35**	0.100
		Blue	**XVP C36**	0.100
		Clear	**XVP C37**	0.100
		Yellow	**XVP C38**	0.100
With cream clamping ring	Incandescent bulb 7 W max. 250 V max. or LED	Green	**XVP C33W**	0.100
		Red	**XVP C34W**	0.100
		Orange	**XVP C35W**	0.100
		Blue	**XVP C36W**	0.100
		Clear	**XVP C37W**	0.100
		Yellow	**XVP C38W**	0.100

BA 15d bulbs and LEDs

Description	Characteristics		Sold in lots of	Unit reference	Weight kg
Incandescent bulbs BA 15d base fitting	24 V	4 W	10	**DL1 BEBS**	0.090
	120 V	5 W	10	**DL1 BEGS**	0.090
	230 V	5 W	10	**DL1 BEMS**	0.090
	12 V	7 W	10	**DL1 BEJ**	0.090
	24 V	6.5 W	10	**DL1 BEB**	0.090
	48 V	6 W	10	**DL1 BEE**	0.090
	120 V	7 W	10	**DL1 BEG**	0.090
	230 V	7 W	10	**DL1 BEM**	0.090
LEDs BA 15d base fitting Protected LED	⎓ 24 V	White	1	**DL1 BDB1**	0.015
		Green	1	**DL1 BDB3**	0.015
		Red	1	**DL1 BDB4**	0.015
		Orange	1	**DL1 BDB5**	0.015
		Blue	1	**DL1 BDB6**	0.015
		Yellow	1	**DL1 BDB8**	0.015
	∿ 120 V	White	1	**DL1 BDG1**	0.015
		Green	1	**DL1 BDG3**	0.015
		Red	1	**DL1 BDG4**	0.015
		Orange	1	**DL1 BDG5**	0.015
		Blue	1	**DL1 BDG6**	0.015
		Yellow	1	**DL1 BDG8**	0.015
	∿ 230 V	White	1	**DL1 BDM1**	0.015
		Green	1	**DL1 BDM3**	0.015
		Red	1	**DL1 BDM4**	0.015
		Orange	1	**DL1 BDM5**	0.015
		Blue	1	**DL1 BDM6**	0.015
		Yellow	1	**DL1 BDM8**	0.015
Flashing LEDs BA 15d base fitting Protected LED	⎓ 24 V	White	1	**DL1 BKB1**	0.015
		Green	1	**DL1 BKB3**	0.015
		Red	1	**DL1 BKB4**	0.015
		Orange	1	**DL1 BKB5**	0.015
		Blue	1	**DL1 BKB6**	0.015
		Yellow	1	**DL1 BKB8**	0.015
	∿ 120 V	White	1	**DL1 BKG1**	0.015
		Green	1	**DL1 BKG3**	0.015
		Red	1	**DL1 BKG4**	0.015
		Orange	1	**DL1 BKG5**	0.015
		Blue	1	**DL1 BKG6**	0.015
		Yellow	1	**DL1 BKG8**	0.015
	∿ 230 V	White	1	**DL1 BKM1**	0.015
		Green	1	**DL1 BKM3**	0.015
		Red	1	**DL1 BKM4**	0.015
		Orange	1	**DL1 BKM5**	0.015
		Blue	1	**DL1 BKM6**	0.015
		Yellow	1	**DL1 BKM8**	0.015

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Characteristics: page 4/16
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Beacons and indicator banks

Indicator banks Ø 50 mm Universal, Harmony type XVP C (for customer assembly, up to 5 units) Illuminated and audible units

XVP C6●●

XVP C6●●W

Illuminated "flash" units with discharge tube

Description	Voltage	Colour	Reference	Weight kg
With black clamping ring	"Flash" discharge tube (0.3 Joules) ⎓ 24 V	Green	**XVP C6B3**	0.120
		Red	**XVP C6B4**	0.120
		Orange	**XVP C6B5**	0.120
		Blue	**XVP C6B6**	0.120
		Clear	**XVP C6B7**	0.120
		Yellow	**XVP C6B8**	0.120
	"Flash" discharge tube (0.6 Joules) ∿ 120 V	Green	**XVP C6G3**	0.115
		Red	**XVP C6G4**	0.115
		Orange	**XVP C6G5**	0.115
		Blue	**XVP C6G6**	0.115
		Clear	**XVP C6G7**	0.115
		Yellow	**XVP C6G8**	0.115
	"Flash" discharge tube (0.6 Joules) ∿ 230 V	Green	**XVP C6M3**	0.115
		Red	**XVP C6M4**	0.115
		Orange	**XVP C6M5**	0.115
		Blue	**XVP C6M6**	0.115
		Clear	**XVP C6M7**	0.115
		Yellow	**XVP C6M8**	0.115
With cream clamping ring	"Flash" discharge tube (0.3 Joules) ⎓ 24 V	Green	**XVP C6B3W**	0.120
		Red	**XVP C6B4W**	0.120
		Orange	**XVP C6B5W**	0.120
		Blue	**XVP C6B6W**	0.120
		Clear	**XVP C6B7W**	0.120
		Yellow	**XVP C6B8W**	0.120
	"Flash" discharge tube (0.6 Joules) ∿ 120 V	Green	**XVP C6G3W**	0.115
		Red	**XVP C6G4W**	0.115
		Orange	**XVP C6G5W**	0.115
		Blue	**XVP C6G6W**	0.115
		Clear	**XVP C6G7W**	0.115
		Yellow	**XVP C6G8W**	0.115
	"Flash" discharge tube (0.6 Joules) ∿ 230 V	Green	**XVP C6M3W**	0.115
		Red	**XVP C6M4W**	0.115
		Orange	**XVP C6M5W**	0.115
		Blue	**XVP C6M6W**	0.115
		Clear	**XVP C6M7W**	0.115
		Yellow	**XVP C6M8W**	0.115

XVP C09●

XVP C09●W

Audible units

Description	Voltage	Colour	Reference	Weight kg
Buzzer, adjustable 55…85 dB at 1 m	⎓ 24 V	Black	**XVP C09B**	0.153
	∿ 120 V	Black	**XVP C09G**	0.153
	∿ 230 V	Black	**XVP C09M**	0.153
	⎓ 24 V	Cream	**XVP C09BW**	0.153
	∿ 120 V	Cream	**XVP C09GW**	0.153
	∿ 230 V	Cream	**XVP C09MW**	0.153

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Characteristics: page 4/16
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Beacons and indicator banks

Indicator banks Ø 50 mm Universal, Harmony type XVP C

Base units, covers and accessories

520682-520683

XVP C21

530427-530428

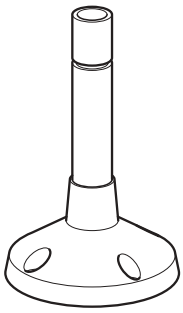
XVP C21W●

Base units

Base units for direct or tube fixing

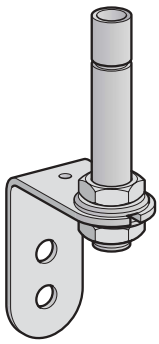
Description	Colour	Reference	Weight kg
Base unit + cover for bared wires or wires with cable end	Black	**XVP C21**	0.125
	Cream	**XVP C21W**	0.125
Base unit + cover for eyelet tags	Cream	**XVP C21WR**	0.125

530429



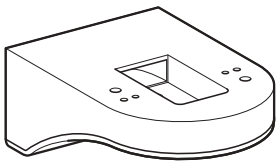
XVP C0●●

530430



XVP C0●T

530431



XVP C12●

Accessories

Description	Characteristics	Reference	Weight kg
Aluminium support tube with integral black fixing base	112 mm	**XVP C02**	0.112
	260 mm	**XVP C03**	0.173
	410 mm	**XVP C04**	0.253
Aluminium support tube with integral cream fixing base	112 mm	**XVP C02W**	0.112
	260 mm	**XVP C03W**	0.173
	410 mm	**XVP C04W**	0.253
Threaded aluminium support tube + stainless steel fixing bracket	100 mm	**XVP C02T**	0.245
	250 mm	**XVP C03T**	0.306
	400 mm	**XVP C04T**	0.386
Fixing plate for use on vertical support, black	For mounting XVP C0●● support tubes with integral fixing base	**XVP C12**	0.083
Fixing plate for use on vertical support, cream	For mounting XVP C0●● support tubes with integral fixing base	**XVP C12W**	0.083
Bulb mounting and removal tool	–	**XVP CX13**	0.015

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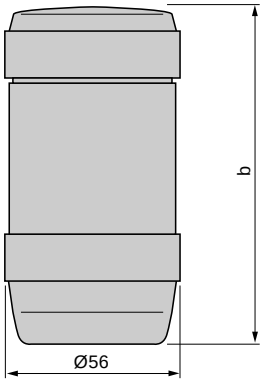
Characteristics: page 4/16
Dimensions: pages 4/20 and 4/21

Beacons and indicator banks
Indicator banks Ø 50 mm Universal, Harmony type XVP C

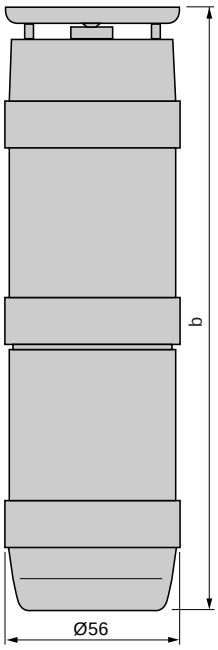
Indicator banks XVP C●●●

Without audible unit



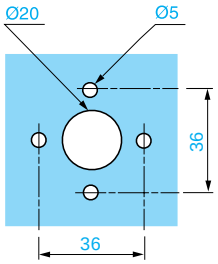
Number of illuminated units	b
1	108
2	170
3	232
4	294
5	356

With audible unit



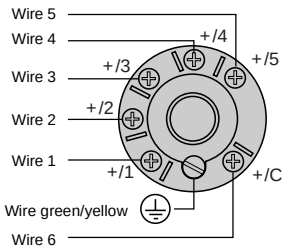
Number of units: Illuminated	+ Audible	b
0	+ 1	129
1	+ 1	194
2	+ 1	256
3	+ 1	318
4	+ 1	380

Panel cut-out for direct fixing (on base unit XVP C21●●)

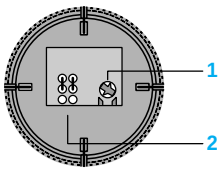


Installation

Connections



Adjustment of audible signal for buzzers type XVP C09●



1 Volume adjustment potentiometer: 55…85 dB. Use either a cross headed or flat tipped screwdriver.

2 Adjustment of type of audible signal according to position of 2 links. Use flat-nose pliers.

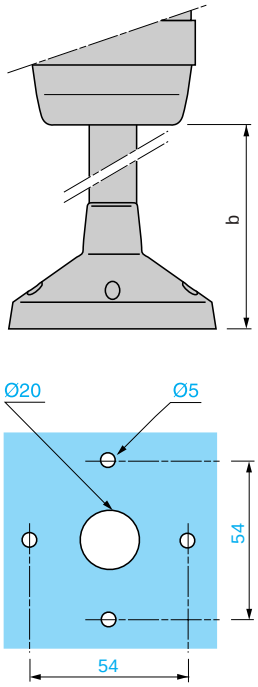
3 10 configurations are possible, see table below. Factory set on position **5**: continuous tone.

3	Position of links	Type of audible signal		Position of links	Type of audible signal
1	5 6 / 1 2	Hz 1000 / 800, 0,25, 0,25, s	6	5 6 / 1 2	
2	5 6 / 1 2	Hz 1200 / 500, 3, 0,5, s	7	5 6 / 1 2	Hz 1000 / 800, 0,14, s
3	5 6 / 1 2	Hz 1200 / 500, 1, s	8	5 6 / 1 2	Hz 2900 / 2400, 0,02, s
4	5 6 / 1 2	Hz 544 / 440, 0,4, 0,1, s	9	5 6 / 1 2	Hz 420, 0,625, 0,625, s
5	5 6 / 1 2	Hz 1000, s	10	5 6 / 1 2	Hz 1200 / 500, 0,25, 3,75, s

Presentation: page 4/15
Characteristics: page 4/16
References: pages 4/17 to 4/19

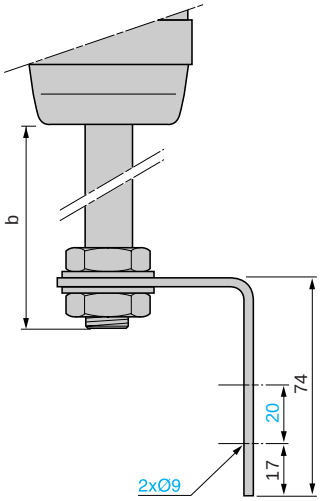
Beacons and indicator banks
Indicator banks Ø 50 mm Universal,
Harmony type XVP C

Support tube XVP C0●● with integral fixing base



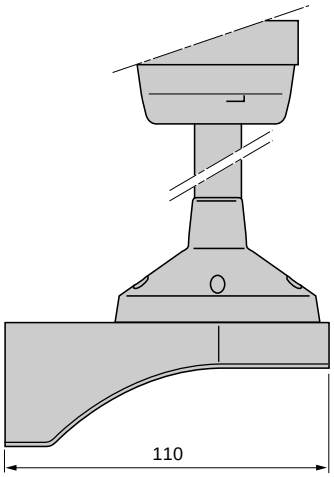
Height under base unit	b
XVP C02●	89
XVP C03●	237
XVP C04●	387

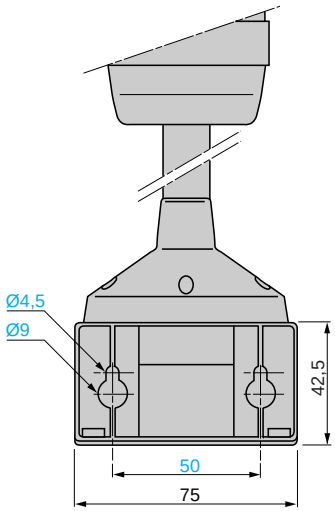
Threaded support tube XVP C0●T with metal fixing bracket



Height under base unit	b
XVP C02T	77
XVP C03T	227
XVP C04T	377

Mounting using fixing plate XVP C12● for use on a vertical support

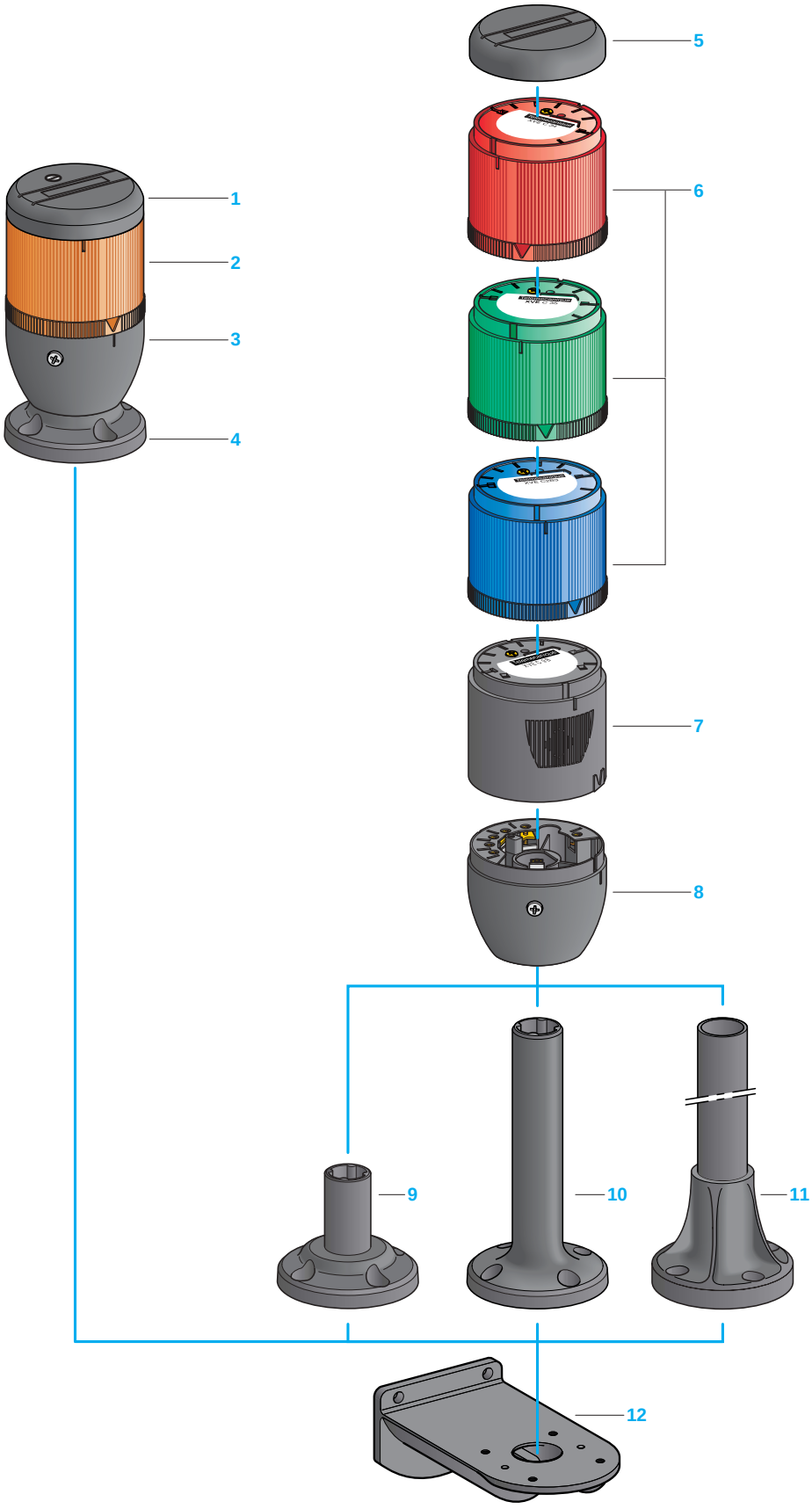




Note: *support tube* ***XVP C0●●*** *with integral fixing base must be used.*

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE



Description

Illuminated beacon

The illuminated beacon is a complete product comprising:

1 A screw fixing cover.
2 One coloured illuminated unit (green, red, orange, blue or clear).
3 A base unit with terminal block and bottom cable entry.
4 A monobloc fixing base for mounting on machine.

Indicator bank

The indicator bank is a customer assembled product using:

5 A cover.
6 1 to 5 coloured illuminated units (green, red, orange, blue or clear) with a choice of 3 types of signalling (steady, flashing or “flash”).
7 1 audible unit.
8 A base unit (IP 42 or IP 54) with terminal block and bottom cable entry.
9 A plastic fixing base, 20 mm high.
10 A plastic fixing base, 100 mm high.
11 An aluminium support tube glued into a plastic fixing plate, for heights beneath the base unit of 80, 380 or 780 mm.

To be ordered separately:

12 Fixing plate for mounting on vertical support.

Characteristics: page 4/24
References: pages 4/25 to 4/27
Dimensions: pages 4/28 and 4/29

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

Presentation

The beacons and indicator banks of the XVE range are designed for remote signalling of the status of a machine, equipment or specific application, either visually using illuminated units which are visible throughout 360° or audibly using an 85 dB buzzer.
The XVE Optimum range provides efficient signalling (5 colours available), at medium range distances (30 m), in both indoor and outdoor environments.
The standard configuration of the beacons and indicator banks is an IP 42 degree of protection, which is sufficient for the majority of indoor applications.
Both the IP 42 pre-configured beacons and indicator banks can be upgraded to IP 54 by using a sealing kit *(1)*.
Depending on the indicator bank base unit selected, it is possible to achieve an IP 54 degree of protection for outdoor usage *(1)*.

Composition

■ The beacons are supplied complete and incorporate a single steady or “flash” light illuminated unit and a short fixing base. They are ready to use.
■ The indicator banks must be assembled by the user and comprise signalling units, mounted on a base unit, and a fixing base. These various items are to be selected from the catalogue.
□ For an indicator bank, a maximum of 5 illuminated units or 4 illuminated units + 1 audible unit can be assembled.
□ The illuminated or audible units stack vertically and are easily fitted together. A screw secures their mounting. Electrical connections between each unit are made automatically as the units are mechanically assembled.
□ All the signalling units are identical in size and their positioning is unrestricted.

Signalling functions

Steady light signalling

Two types of light source are available for steady light signalling:
□ The incandescent BA 15d base fitting bulb, 5 W max. power, is recommended for infrequent usage and where no vibration or mechanical shock exists. The bulb is not included with the lens unit and must be fitted separately.
□ LEDs are recommended for continuous usage: 100,000 operating hours without maintenance and low consumption. They have a good resistance to vibration. Using an LED of a colour best suited to the colour of the lens unit provides optimal luminosity.

Flashing light signalling

Flashing light signalling is also obtained using the LED. It meets requirements regarding reliability, continuous usage and electronic simplicity.
A flashing function can also be obtained from a steady light LED illuminated unit by using a PLC output signal.

“Flash” light signalling

The light source is a 1 Joule discharge tube which delivers a powerful warning signal. It is available for the 5 colours.

Audible signalling

Audible signalling is provided by a continuous tone buzzer with a power rating of 85 dB at 1 m.

Installation

Mounting

Fixed onto support panel using plastic monobloc fixing base or fixing base comprising an aluminium support tube glued into a plastic fixing plate.

Cabling

By means of terminal block incorporated in base unit. The terminals are protected and of the screw and captive cable clamp type.

(1) See page 4/27.

Characteristics: page 4/24
References: pages 4/25 to 4/27
Dimensions: pages 4/28 and 4/29

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

Environment characteristics

Degree of protection	Conforming to IEC 60529		■ IP 42 in vertical position, IP 40 for other positions ■ IP 54 for reinforced protection version: □ for all mounting positions using fixing base XVE Z13, □ only in vertical position for other heights of fixing base
Product certifications			UL, CSA, CCC
Approval			CE
Conformity to standards			IEC/EN 60947-1, IEC/EN 60947-5-1
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation	**°C**	- 25…+ 55
Electric shock protection Conforming to IEC 61140	Mounted on plastic support tube		Class I
	Mounted on aluminium support tube		Class I
Protective treatment			Standard version: "TC"
Electronic components protection (LED and flash)	By integral fuse in series on the common	**A**	0.63 (⎓ 24 V)
		A	0.16 (∿ 120…240 V)

Electrical characteristics

Illuminated units			**With bulb, not included (lens unit only)**	**With integral LED, steady light signalling**	**With integral LED, flashing light signalling**	**With "flash" discharge tube, 1 Joule**
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	250	250	250	250
Voltage limits	Conforming to IEC 60947-5-1	**V**	0.85…1.10 Un (Un: nominal voltage)			
Light source			BA 15d base fitting bulb, maximum power 5 W (240 V max.)	LED	LED	"Flash" discharge tube, 1 Joule
Consumption	On ⎓ 24 V	**mA**	Depending on bulb used	< 25	< 30	< 145 on ∿ 24 V < 85 on ⎓ 24 V
	On ∿ 120 V	**mA**	Depending on bulb used	< 25	< 25	< 35
	On ∿ 230/240 V	**mA**	Depending on bulb used	< 25	< 25	< 25
Rated impulse withstand voltage	Conforming to IEC 60947-1	**kV**	U imp = 4			
Illuminating power	Average value for all colours	**cds/m²**	640	800	800	–
Flashing frequency	Nominal value	**Hz**	–	–	1	1
Audible units						
Consumption	On ⎓ 24 V	**mA**	< 15			
	On ∿ 120 V	**mA**	< 25			
	On ∿ 230/240 V	**mA**	< 25			
Power	Continuous tone	**dB**	85 at 1 m			
	Fundamental frequency	**kHz**	2.6 for continuous tone			
Connection of illuminated and audible units						
Terminal referencing			1 terminal referenced "C" common to all 5 units 5 terminals referenced 1 to 5			
Connection	Maximum clamping capacity on protected, ready-to-tighten, screw and captive cable clamp terminals	**mm²**	1 x 1.5 with cable end			

Presentation: pages 4/22 and 4/23
References: pages 4/25 to 4/27
Dimensions: pages 4/28 and 4/29

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

Illuminated beacons

XVE L3●●

XVE L2●●

XVE L6●●

Illuminated beacons with steady light signalling

Description	Light source	Supply voltage	Colour of lens unit	Reference	Weight kg
Complete unit comprising: - 1 screw fixing cover, - 1 illuminated unit, - 1 base unit, - 1 short fixing base	Bulb, not included, 5 W max.	⎓ 240 V max.	Green	**XVE L33**	0.245
			Red	**XVE L34**	0.245
			Orange	**XVE L35**	0.245
			Blue	**XVE L36**	0.245
			Clear	**XVE L37**	0.245
	Illuminated unit with integral LED	⎓ 24 V	Green	**XVE L2B3**	0.250
			Red	**XVE L2B4**	0.250
			Orange	**XVE L2B5**	0.250
			Blue	**XVE L2B6**	0.250
			Clear	**XVE L2B7**	0.250
		~ 120 V	Green	**XVE L2G3**	0.250
			Red	**XVE L2G4**	0.250
			Orange	**XVE L2G5**	0.250
			Blue	**XVE L2G6**	0.250
			Clear	**XVE L2G7**	0.250
		~ 230 V/240 V	Green	**XVE L2M3**	0.250
			Red	**XVE L2M4**	0.250
			Orange	**XVE L2M5**	0.250
			Blue	**XVE L2M6**	0.250
			Clear	**XVE L2M7**	0.250

Illuminated beacons with “flash” light signalling

Description	Light source	Supply voltage	Colour of lens unit	Reference	Weight kg
Complete unit comprising: - 1 screw fixing cover, - 1 illuminated unit, - 1 base unit, - 1 short fixing base	Illuminated unit with 1 Joule “flash” discharge tube	⎓ 24 V	Green	**XVE L6B3**	0.270
			Red	**XVE L6B4**	0.270
			Orange	**XVE L6B5**	0.270
			Blue	**XVE L6B6**	0.270
			Clear	**XVE L6B7**	0.270
		~ 120 V	Green	**XVE L6G3**	0.270
			Red	**XVE L6G4**	0.270
			Orange	**XVE L6G5**	0.270
			Blue	**XVE L6G6**	0.270
			Clear	**XVE L6G7**	0.270
		~ 230 V/240 V	Green	**XVE L6M3**	0.270
			Red	**XVE L6M4**	0.270
			Orange	**XVE L6M5**	0.270
			Blue	**XVE L6M6**	0.270
			Clear	**XVE L6M7**	0.270

Presentation:
pages 4/22 and 4/23

Dimensions:
pages 4/28 and 4/29

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

Indicator banks for customer assembly

XVE C3●

XVE C2●●●

XVE C5●●●

XVE C6●●●

XVE C9●

Illuminated units with steady light signalling

Description	Light source	Supply voltage	Colour of lens unit	Reference	Weight kg
Lens units only for BA 15d base fitting bulb	Bulb, not included, 5 W max.	⎓ 240 V max.	Green	**XVE C33**	0.072
			Red	**XVE C34**	0.072
			Orange	**XVE C35**	0.072
			Blue	**XVE C36**	0.072
			Clear	**XVE C37**	0.072
Illuminated units	Integral LED	⎓ 24 V	Green	**XVE C2B3**	0.077
			Red	**XVE C2B4**	0.077
			Orange	**XVE C2B5**	0.077
			Blue	**XVE C2B6**	0.077
			Clear	**XVE C2B7**	0.077
		~ 120 V	Green	**XVE C2G3**	0.077
			Red	**XVE C2G4**	0.077
			Orange	**XVE C2G5**	0.077
			Blue	**XVE C2G6**	0.077
			Clear	**XVE C2G7**	0.077
		~ 230 V/240 V	Green	**XVE C2M3**	0.077
			Red	**XVE C2M4**	0.077
			Orange	**XVE C2M5**	0.077
			Blue	**XVE C2M6**	0.077
			Clear	**XVE C2M7**	0.077

Illuminated units with flashing light signalling

Illuminated units	Integral LED	⎓ 24 V	Green	**XVE C5B3**	0.077
			Red	**XVE C5B4**	0.077
			Orange	**XVE C5B5**	0.077
			Blue	**XVE C5B6**	0.077
			Clear	**XVE C5B7**	0.077
		~ 120 V	Green	**XVE C5G3**	0.077
			Red	**XVE C5G4**	0.077
			Orange	**XVE C5G5**	0.077
			Blue	**XVE C5G6**	0.077
			Clear	**XVE C5G7**	0.077
		~ 230 V/240 V	Green	**XVE C5M3**	0.077
			Red	**XVE C5M4**	0.077
			Orange	**XVE C5M5**	0.077
			Blue	**XVE C5M6**	0.077
			Clear	**XVE C5M7**	0.077

Illuminated units with “flash” light signalling

Illuminated units	“Flash” discharge tube, 1 Joule	⎓ 24 V	Green	**XVE C6B3**	0.094
			Red	**XVE C6B4**	0.094
			Orange	**XVE C6B5**	0.094
			Blue	**XVE C6B6**	0.094
			Clear	**XVE C6B7**	0.094
		~ 120 V	Green	**XVE C6G3**	0.094
			Red	**XVE C6G4**	0.094
			Orange	**XVE C6G5**	0.094
			Blue	**XVE C6G6**	0.094
			Clear	**XVE C6G7**	0.094
		~ 230 V/240 V	Green	**XVE C6M3**	0.094
			Red	**XVE C6M4**	0.094
			Orange	**XVE C6M5**	0.094
			Blue	**XVE C6M6**	0.094
			Clear	**XVE C6M7**	0.094

Audible units

Description	Power	Supply voltage	Reference	Weight kg
Buzzer, single tone	85 dB at 1 metre	⎓ 24 V	**XVE C9B**	0.090
		~ 120 V	**XVE C9G**	0.090
		~ 230 V/240 V	**XVE C9M**	0.090

Presentation: pages 4/22 and 4/23
Characteristics: page 4/24
Dimensions: page 4/29

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

Indicator banks for customer assembly (continued)

Separate components for beacons and indicator banks

XVE C21

XVE C21P

XVE Z13 XVD C02

XVB Z02 XVB Z03/Z04

XVB Z01 XVB C12

XVE Z081

XVE Z082

XVE Z083

DL1 BE●S

Base units and covers

Indicator bank usage	Composition	Reference	Weight kg
Indoors (IP 42)	Base unit and cover	**XVE C21**	0.110
Outdoors (IP 54)	Base unit with seal + screw fixing cover + kit comprising 5 seals for lens units and buzzer + 1 seal for fixing base XVE Z13	**XVE C21P**	0.120

Fixing components

Description	Height under base unit mm	Colour	Reference	Weight kg
Plastic fixing bases	20	Black	**XVE Z13**	0.040
	100	Black	**XVD C02**	0.056
Fixing bases comprising: Ø 25 mm aluminium support tube glued into black plastic fixing plate	80	Black aluminium	**XVB Z02**	0.110
		Aluminium	**XVB Z02A**	0.110
	380	Black aluminium	**XVB Z03**	0.200
		Aluminium	**XVB Z03A**	0.200
	780	Black aluminium	**XVB Z04**	0.325
		Aluminium	**XVB Z04A**	0.325

Description	For	Material	Reference	Weight kg
Fixing plate	Ø 25 mm aluminium support tube (to be glued into fixing plate)	Plastic	**XVB Z01**	0.050
Fixing plate for use on vertical support	Mounting beacons and indicator banks (requires a fixing base)	Zamak	**XVB C12**	0.380

Separate components for beacons and indicator banks

Description	For use with	Composition	Reference	Weight kg
Cover	Beacons and indicator banks	–	**XVE Z081**	0.010
IP 54 sealing kit	Indicator banks	5 toric seals for lens units + base unit seal + 1 fixing plate seal + 1 seal for fixing base XVE Z13 + screw fixing cover	**XVE Z082**	0.015
	Beacons	1 lens unit seal + 1 base unit seal + 2 fixing base seals	**XVE Z083**	0.005

Description	Electrical characteristics	Sold in lots of	Reference	Weight kg
Incandescent bulbs with BA 15d base fitting for lens units type XVE L3● and XVE C3●	5 W ≂ 24 V	10	**DL1 BEBS**	0.100
	5 W ≂ 120 V	10	**DL1 BEGS**	0.100
	5 W ≂ 230 V	10	**DL1 BEMS**	0.100

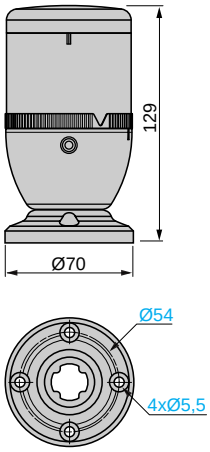
Presentation: pages 4/22 and 4/23
Characteristics: page 4/24
Dimensions: page 4/29

Beacons and indicator banks

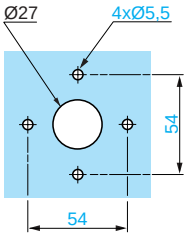
Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

Illuminated beacons

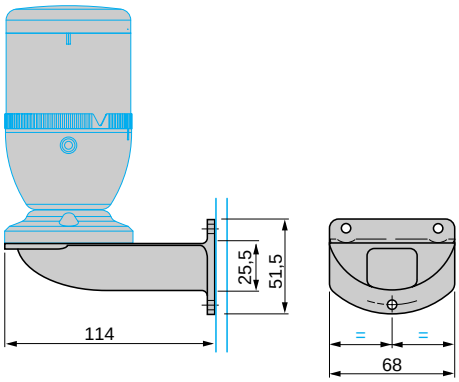
Illuminated beacons XVE L●●●



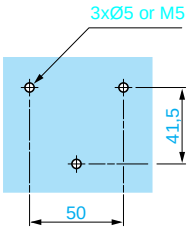
Panel cut-out for mounting directly on fixing base



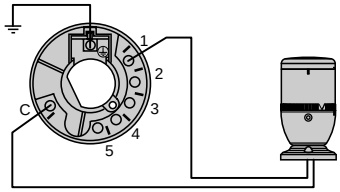
Mounting on fixing plate XVB C12



Vertical support panel drillings for mounting fixing plate XVB C12



Wiring scheme

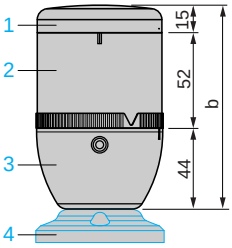


Beacons and indicator banks

Beacons and indicator banks, Ø 70 mm Optimum, Harmony type XVE

Indicator banks

Indicator banks XVE C●●●

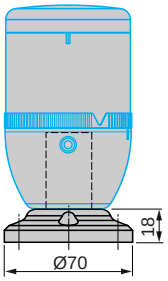


1 Cover XVE Z081 or cover XVE C21/C21P (with base unit),
2 Illuminated units XVE C●● and/or audible unit XVE C9●,
3 Base unit XVE C21/C21P,
4 Fixing bases (see below).

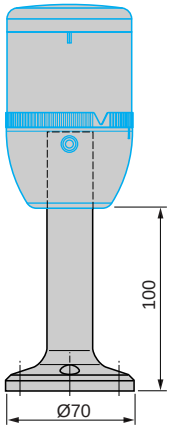
Height of indicator bank	
Number of units (ref. 2)	**b**
1 unit	111
2 units	163
3 units	215
4 units	267
5 units	319

Fixing bases (height under base unit)

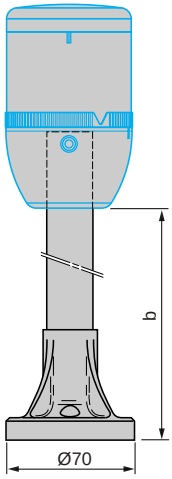
XVE Z13



XVD C02

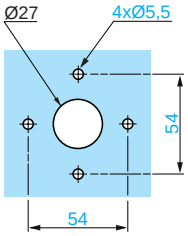


XVB Z0●●

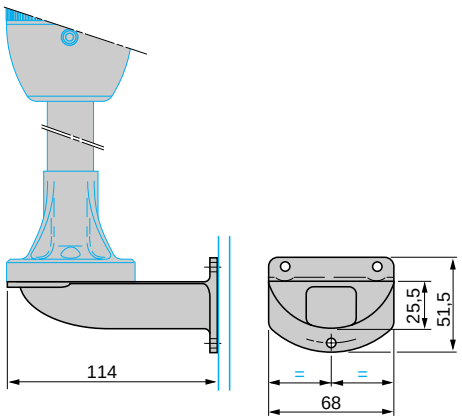


Height under base unit	
Fixing base	**b**
XVB Z02/Z02A	80
XVB Z03/Z03A	380
XVB Z04/Z04A	780

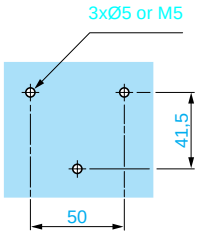
Panel cut-out for mounting directly on fixing base



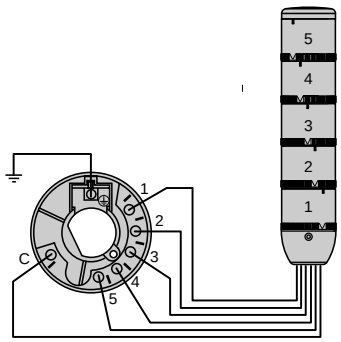
Mounting on fixing plate XVB C12



Vertical support panel drillings for mounting fixing plate XVB C12

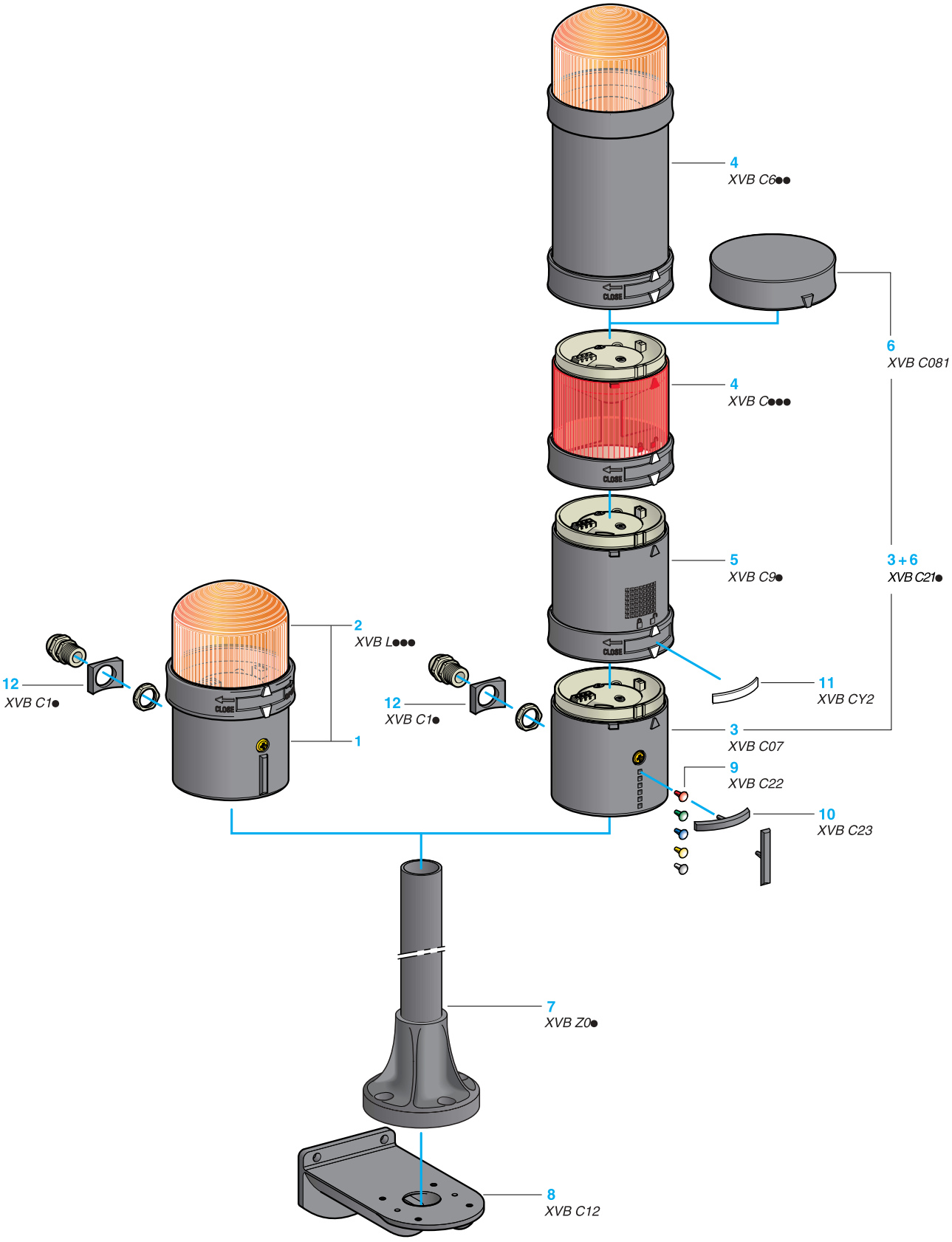


Wiring scheme



Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Universal, Harmony type XVB



Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Universal, Harmony type XVB

Beacons and indicator banks XVB are visual or audible signalling units and are mainly used for indicating, throughout 360° and at a distance, the various states or operation sequences of a machine or installation.
Examples: start, stop machine, no material, call technical staff, fault signalling, etc.

Illuminated beacon

Complete product

Ready assembled with a single illuminated signalling unit:
- steady light (with incandescent bulb or LED),
- flashing light (with incandescent bulb or LED), or
- “flash” (with discharge tube).

The beacon comprises:
1 A base unit with a removable terminal block and bottom or side cable entry.
2 One coloured illuminated unit (green, red, orange, blue, clear or yellow).

Indicator bank

Customer assembled product

Variable composition assembly of 1 to 5 illuminated or audible units which are supplied as separate items (assembly by user).

The bank comprises:
3 A base unit with a removable terminal block and bottom or side cable entry.
4 1 to 5 coloured illuminated units (green, red, orange, blue, clear or yellow). Maximum configuration: 5 units or 4 units + 1 “flash”.
5 Or 1 or 2 audible units.
6 A top cover (except when using a “flash” discharge tube).

■ The illuminated or audible units stack vertically and are easily locked and unlocked using an integral clamping ring. Electrical connections between each unit are made automatically.
■ Only one “flash” discharge tube unit can be fitted on each indicator bank and it is always mounted on top.
■ Connection on the AS-Interface cabling system is possible by ordering a dedicated base unit. Please refer to our “AS-Interface cabling system” catalogue.

Accessories

For beacons and indicator banks

7 Fixing base comprising a support tube glued into a plastic fixing plate, for heights beneath the base unit of 80, 380 or 780 mm.
8 Fixing plate for mounting on vertical support.
9 Coloured markers *(1)*.
10 Legend holder with legend *(1)*.
11 Legends that attach to locking ring of each signalling unit for identification.
12 Adaptor and 13P cable gland.

(1) These enable the position of the various units (illuminated or audible) to be identified in the event of dismantling the bank.

Installation

Mounting

■ Base unit fixed directly onto panel using 2 screws.
■ Fixed using a fixing base comprising an aluminium support tube glued into a plastic fixing plate.

Cabling

By means of removable terminal block incorporated in base unit (simplified wiring). The screw and captive cable clamp terminals are protected to prevent any accidental contact with live parts.

Characteristics: pages 4/32 and 4/33
References: pages 4/34 to 4/41
Dimensions: pages 4/42 and 4/43

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Universal, Harmony type XVB

Environment characteristics

Product certifications	Standard version		CSA, UL, CCC
Conformity to standards			IEC/EN 60947-5-1
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation *(1)*	**°C**	**Illuminated units with steady light signalling:** - 25…+ 70, with 7 W incandescent bulb - 25…+ 50, with LED
		°C	**Illuminated units with flashing light signalling:** - 25…+ 50, with 7 W incandescent bulb - 25…+ 50, with LED
		°C	**Illuminated units with "flash" discharge tube:** - 25…+ 50
		°C	**Audible units:** - 25…+ 50, with buzzer
Electric shock protection Conforming to IEC 536	Mounted on support tube		Class I
	Mounted on base unit		Class II
Degree of protection	Conforming to IEC 60529 and NF C 20-010		IP 65 (mounted on fixing base XVB Z0●) IP 66 (mounted directly on base unit)
	Conforming to UL 508		Type 4X NEMA "Indoor"
Material	Illuminated units		Polycarbonate
	Base unit and cover		Glass-reinforced polyamide and polycarbonate
	Support tube		Painted aluminium
	Fixing plate		Zamak

(1) Warning: illuminated units with incandescent bulbs must not be combined with LED illuminated units, due to the risk of overheating.
Also, when different units (e.g. steady, flashing…) are combined, the maximum temperature is limited to that of the weaker unit.

4

General: pages 4/30 and 4/31
References: pages 4/34 to 4/41
Dimensions: pages 4/42 and 4/43

Electrical characteristics

Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	250
Voltage limits	Conforming to IEC 60947-5-1	**V**	0.85 to 1.10 Un (Un: nominal voltage)
Consumption	LED units	**mA**	**Steady light signalling:** ⎓ 24 V: < 30 ∿ 120…230 V: < 30
		mA	**Flashing light signalling:** ⎓ 24 V: < 40 ∿ 120…230 V: < 15
	Units with discharge tube *(1)*	**mA**	**Flashing light signalling:** ⎓ 24 V: 5 J unit: < 430; 10 J unit: < 850 ∿ 120 V: 5 J unit: < 130; 10 J unit: < 260 ∿ 230 V: 5 J unit: < 105; 10 J unit: < 210
	Audible units	**mA**	⎓ 12…48 V: < 20 V ∿ 120…230 V: < 50
Rated impulse withstand voltage	Conforming to IEC 60947-1	**kV**	U imp = 4
Light source	Illuminated units with steady or flashing light signalling		LEDs: degree of pollution 2 Bulbs with BA 15d base fitting, maximum power 7 W
Illuminating power	Units with discharge tube	**cds**	13 (integral high intensity tube) with clear lens unit: 5 J tube 26 (integral high intensity tube) with clear lens unit: 10 J tube
Audible unit	Continuous or intermittent tone	**dB**	90 at 1 m
	Fundamental frequency	**kHz**	2.8
Terminal referencing			1 terminal referenced “C” common to all 5 units
			1 or 5 terminals referenced 1 to 5, depending on number of units
Connection	Maximum clamping capacity on protected, ready-to-tighten, screw and captive cable clamp terminals	**mm²**	1 x 1.5 with cable end
Frequency of illuminated units	Illuminated units with flashing light signalling	**Hz**	1
	Illuminated units with discharge tube	**Hz**	1

(1) ***Warning****: illuminated units with a flash discharge tube are not suitable for steady light signalling due to the heat generated.*

General:
pages 4/30 and 4/31

References:
pages 4/34 to 4/41

Dimensions:
pages 4/42 and 4/43

Beacons and indicator banks

Illuminated beacons Ø 70 mm Universal, Harmony type XVB L

For incandescent bulbs or LEDs (BA 15d base fitting)

XVB L3●

XVB L4B●

Illuminated beacons with steady light signalling

Description	Light source, to be ordered separately *(1)*	Colour	Reference	Weight kg
Complete unit comprising: - 1 illuminated unit - 1 base unit (direct or tube fixing)	Incandescent bulb 7 W max. 250 V max.	Green	**XVB L33**	0.260
		Red	**XVB L34**	0.260
		Orange	**XVB L35**	0.260
		Blue	**XVB L36**	0.260
		Clear	**XVB L37**	0.260
		Yellow	**XVB L38**	0.260

Illuminated beacons with integral flashing light signalling

Description	Light source, to be ordered separately *(1)*	Colour	Reference	Weight kg
Complete unit comprising: - 1 illuminated unit - 1 base unit (direct or tube fixing)	Incandescent bulb 7 W max. ~ 24 V ⎓ 24…48 V	Green	**XVB L4B3**	0.280
		Red	**XVB L4B4**	0.280
		Orange	**XVB L4B5**	0.280
		Blue	**XVB L4B6**	0.280
		Clear	**XVB L4B7**	0.280
		Yellow	**XVB L4B8**	0.280
	Incandescent bulb 7 W max. ~ 48…230 V	Green	**XVB L4M3**	0.280
		Red	**XVB L4M4**	0.280
		Orange	**XVB L4M5**	0.280
		Blue	**XVB L4M6**	0.280
		Clear	**XVB L4M7**	0.280
		Yellow	**XVB L4M8**	0.280

(1) Incandescent bulbs and LEDs, see page 4/41.

General:
pages 4/30 and 4/31

Characteristics:
pages 4/32 and 4/33

Dimensions:
pages 4/42 and 4/43

Beacons and indicator banks

Illuminated beacons Ø 70 mm Universal, Harmony type XVB L

With LED light source

XVB L0B●

Illuminated beacons with steady light signalling

Description	Light source	Colour	Reference	Weight kg
Complete unit comprising: - 1 cover - 1 illuminated unit - 1 base unit (direct or tube fixing)	LED, included ⎓ 24 V	Green	**XVB L0B3**	0.270
		Red	**XVB L0B4**	0.270
		Orange	**XVB L0B5**	0.270
		Blue	**XVB L0B6**	0.270
		Clear	**XVB L0B7**	0.270
		Yellow	**XVB L0B8**	0.270
	LED, included ∿ 120 V	Green	**XVB L0G3**	0.270
		Red	**XVB L0G4**	0.270
		Orange	**XVB L0G5**	0.270
		Blue	**XVB L0G6**	0.270
		Clear	**XVB L0G7**	0.270
		Yellow	**XVB L0G8**	0.270
	LED, included ∿ 230 V	Green	**XVB L0M3**	0.270
		Red	**XVB L0M4**	0.270
		Orange	**XVB L0M5**	0.270
		Blue	**XVB L0M6**	0.270
		Clear	**XVB L0M7**	0.270
		Yellow	**XVB L0M8**	0.270

XVB L1B●

Illuminated beacons with integral flashing light signalling

Description	Light source	Colour	Reference	Weight kg
Complete unit comprising: - 1 cover - 1 illuminated unit - 1 base unit (direct or tube fixing)	LED, included ⎓ 24 V	Green	**XVB L1B3**	0.280
		Red	**XVB L1B4**	0.280
		Orange	**XVB L1B5**	0.280
		Blue	**XVB L1B6**	0.280
		Clear	**XVB L1B7**	0.280
		Yellow	**XVB L1B8**	0.280
	LED, included ∿ 120 V	Green	**XVB L1G3**	0.280
		Red	**XVB L1G4**	0.280
		Orange	**XVB L1G5**	0.280
		Blue	**XVB L1G6**	0.280
		Clear	**XVB L1G7**	0.280
		Yellow	**XVB L1G8**	0.280
	LED, included ∿ 230 V	Green	**XVB L1M3**	0.280
		Red	**XVB L1M4**	0.280
		Orange	**XVB L1M5**	0.280
		Blue	**XVB L1M6**	0.280
		Clear	**XVB L1M7**	0.280
		Yellow	**XVB L1M8**	0.280

General:
pages 4/30 and 4/31

Characteristics:
pages 4/32 and 4/33

Dimensions:
pages 4/42 and 4/43

Beacons and indicator banks

Illuminated beacons Ø 70 mm Universal, Harmony type XVB L

With “flash” discharge tube

XVB L6B●

XVB L8B●

Illuminated beacons with 5 Joule “flash” discharge tube

Description	Light source	Colour	Reference	Weight kg
Complete unit comprising: - 1 cover - 1 illuminated unit - 1 base unit (direct or tube fixing)	Integral “flash” discharge tube ≂ 24 V	Green	**XVB L6B3**	0.440
		Red	**XVB L6B4**	0.440
		Orange	**XVB L6B5**	0.440
		Blue	**XVB L6B6**	0.440
		Clear	**XVB L6B7**	0.440
		Yellow	**XVB L6B8**	0.440
	Integral “flash” discharge tube ~ 120 V	Green	**XVB L6G3**	0.425
		Red	**XVB L6G4**	0.425
		Orange	**XVB L6G5**	0.425
		Blue	**XVB L6G6**	0.425
		Clear	**XVB L6G7**	0.425
		Yellow	**XVB L6G8**	0.425
	Integral “flash” discharge tube ~ 230 V	Green	**XVB L6M3**	0.435
		Red	**XVB L6M4**	0.435
		Orange	**XVB L6M5**	0.435
		Blue	**XVB L6M6**	0.435
		Clear	**XVB L6M7**	0.435
		Yellow	**XVB L6M8**	0.435

Illuminated beacons with 10 Joule “flash” discharge tube

Description	Light source	Colour	Reference	Weight kg
Complete unit comprising: - 1 cover - 1 illuminated unit - 1 base unit (direct or tube fixing)	Integral “flash” discharge tube ≂ 24 V	Green	**XVB L8B3**	0.450
		Red	**XVB L8B4**	0.450
		Orange	**XVB L8B5**	0.450
		Blue	**XVB L8B6**	0.450
		Clear	**XVB L8B7**	0.450
		Yellow	**XVB L8B8**	0.450
	Integral “flash” discharge tube ~ 120 V	Green	**XVB L8G3**	0.460
		Red	**XVB L8G4**	0.460
		Orange	**XVB L8G5**	0.460
		Blue	**XVB L8G6**	0.460
		Clear	**XVB L8G7**	0.460
		Yellow	**XVB L8G8**	0.460
	Integral “flash” discharge tube ~ 230 V	Green	**XVB L8M3**	0.460
		Red	**XVB L8M4**	0.460
		Orange	**XVB L8M5**	0.460
		Blue	**XVB L8M6**	0.460
		Clear	**XVB L8M7**	0.460
		Yellow	**XVB L8M8**	0.460

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General: pages 4/30 and 4/31
Characteristics: pages 4/32 and 4/33
Dimensions: pages 4/42 and 4/43

Beacons and indicator banks

Indicator banks Ø 70 mm Universal, Harmony type XVB C (for customer assembly, up to 5 units)
Illuminated units for incandescent bulbs or LEDs (BA 15d base fitting)

For use with base unit XVB C●●: see page 4/40

XVB C3●

XVB C4●●

Illuminated units with steady light signalling

Description	Light source, to be ordered separately *(1)*	Colour	Reference	Weight kg
Illuminated units	Incandescent bulb 7 W max. 250 V max. or LED	Green	**XVB C33**	0.140
		Red	**XVB C34**	0.140
		Orange	**XVB C35**	0.140
		Blue	**XVB C36**	0.140
		Clear	**XVB C37**	0.140
		Yellow	**XVB C38**	0.140

Illuminated units with integral flashing light signalling

Description	Light source, to be ordered separately *(1)*	Colour	Reference	Weight kg
Illuminated units	Incandescent bulb 7 W max. ∿ 24 V ⎓ 24…48 V or LED	Green	**XVB C4B3**	0.160
		Red	**XVB C4B4**	0.160
		Orange	**XVB C4B5**	0.160
		Blue	**XVB C4B6**	0.160
		Clear	**XVB C4B7**	0.160
		Yellow	**XVB C4B8**	0.160
	Incandescent bulb 7 W max. ∿ 48…230 V or LED	Green	**XVB C4M3**	0.160
		Red	**XVB C4M4**	0.160
		Orange	**XVB C4M5**	0.160
		Blue	**XVB C4M6**	0.160
		Clear	**XVB C4M7**	0.160
		Yellow	**XVB C4M8**	0.160

(1) Incandescent bulbs and LEDs, see page 4/41.

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Dimensions: pages 4/42 and 4/43

Beacons and indicator banks

Indicator banks Ø 70 mm Universal, Harmony type XVB C (for customer assembly, up to 5 units)
Illuminated units with integral LED

For use with base unit XVB C●●: see page 4/40

XVB C2●●

Illuminated units with steady light signalling

Description	Voltage	Colour	Reference	Weight kg
Illuminated units with integral LED	≂ 24 V	Green	**XVB C2B3**	0.150
		Red	**XVB C2B4**	0.150
		Orange	**XVB C2B5**	0.150
		Blue	**XVB C2B6**	0.150
		Clear	**XVB C2B7**	0.150
		Yellow	**XVB C2B8**	0.150
	~ 120 V	Green	**XVB C2G3**	0.150
		Red	**XVB C2G4**	0.150
		Orange	**XVB C2G5**	0.150
		Blue	**XVB C2G6**	0.150
		Clear	**XVB C2G7**	0.150
		Yellow	**XVB C2G8**	0.150
	~ 230 V	Green	**XVB C2M3**	0.150
		Red	**XVB C2M4**	0.150
		Orange	**XVB C2M5**	0.150
		Blue	**XVB C2M6**	0.150
		Clear	**XVB C2M7**	0.150
		Yellow	**XVB C2M8**	0.150

XVB C5●●

Illuminated units with integral flashing light signalling

Description	Voltage	Colour	Reference	Weight kg
Illuminated units with integral LED	≂ 24 V	Green	**XVB C5B3**	0.170
		Red	**XVB C5B4**	0.170
		Orange	**XVB C5B5**	0.170
		Blue	**XVB C5B6**	0.170
		Clear	**XVB C5B7**	0.170
		Yellow	**XVB C5B8**	0.170
	~ 120 V	Green	**XVB C5G3**	0.170
		Red	**XVB C5G4**	0.170
		Orange	**XVB C5G5**	0.170
		Blue	**XVB C5G6**	0.170
		Clear	**XVB C5G7**	0.170
		Yellow	**XVB C5G8**	0.170
	~ 230 V	Green	**XVB C5M3**	0.170
		Red	**XVB C5M4**	0.170
		Orange	**XVB C5M5**	0.170
		Blue	**XVB C5M6**	0.170
		Clear	**XVB C5M7**	0.170
		Yellow	**XVB C5M8**	0.170

General: pages 4/30 and 4/31
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Beacons and indicator banks

Indicator banks Ø 70 mm Universal, Harmony type XVB C (for customer assembly, up to 5 units)
Illuminated units with integral “flash” discharge tube

For use with base unit XVB C●●: see page 4/40

XVB C6●●

Illuminated units with 5 Joule “flash” discharge tube

Description	Light source	Colour	Reference	Weight kg
Illuminated units	Integral “flash” discharge tube ⎓ 24 V	Green	**XVB C6B3**	0.295
		Red	**XVB C6B4**	0.295
		Orange	**XVB C6B5**	0.295
		Blue	**XVB C6B6**	0.295
		Clear	**XVB C6B7**	0.295
		Yellow	**XVB C6B8**	0.295
	Integral “flash” discharge tube ~ 120 V	Green	**XVB C6G3**	0.280
		Red	**XVB C6G4**	0.280
		Orange	**XVB C6G5**	0.280
		Blue	**XVB C6G6**	0.280
		Clear	**XVB C6G7**	0.280
		Yellow	**XVB C6G8**	0.280
	Integral “flash” discharge tube ~ 230 V	Green	**XVB C6M3**	0.290
		Red	**XVB C6M4**	0.290
		Orange	**XVB C6M5**	0.290
		Blue	**XVB C6M6**	0.290
		Clear	**XVB C6M7**	0.290
		Yellow	**XVB C6M8**	0.290

XVB C8●●

Illuminated units with 10 Joule “flash” discharge tube

Description	Light source	Colour	Reference	Weight kg
Illuminated units	Integral “flash” discharge tube ⎓ 24 V	Green	**XVB C8B3**	0.305
		Red	**XVB C8B4**	0.305
		Orange	**XVB C8B5**	0.305
		Blue	**XVB C8B6**	0.305
		Clear	**XVB C8B7**	0.305
		Yellow	**XVB C8B8**	0.305
	Integral “flash” discharge tube ~ 120 V	Green	**XVB C8G3**	0.315
		Red	**XVB C8G4**	0.315
		Orange	**XVB C8G5**	0.315
		Blue	**XVB C8G6**	0.315
		Clear	**XVB C8G7**	0.315
		Yellow	**XVB C8G8**	0.315
	Integral “flash” discharge tube ~ 230 V	Green	**XVB C8M3**	0.315
		Red	**XVB C8M4**	0.315
		Orange	**XVB C8M5**	0.315
		Blue	**XVB C8M6**	0.315
		Clear	**XVB C8M7**	0.315
		Yellow	**XVB C8M8**	0.315

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Beacons and indicator banks

Indicator banks Ø 70 mm Universal, Harmony type XVB C (for customer assembly, up to 5 units)
Audible units, base units, cover, accessories

Audible units

Description	Characteristics	Reference	Weight kg
Buzzer, 90 dB at 1 m Adjustable: - 70 or 90 dB - continuous or intermittent tone using microswitch	⎓ 12…48 V	**XVB C9B**	0.170
	∿ 120…230 V	**XVB C9M**	0.180

Base units (for direct or tube fixing)

Description	For use with	Type	Reference	Weight kg
Base unit + cover with bottom or side cable entry	Banks without “flash” discharge tube unit	Standard	**XVB C21**	0.190
Base unit only with bottom or side cable entry	Banks with “flash” discharge tube unit	Standard	**XVB C07**	0.160
Base unit + cover with side cable entry	All types of bank	AS-Interface *(1)*	**XVB C21A**	–
Base unit + cover with bottom entry, pre-cabled (length 1 metre) and fitted with M12 end connector	All types of bank	AS-Interface *(1)*	**XVB C21B**	–

(1) For further information on AS-Interface connections, refer to our “AS-Interface cabling system” catalogue.

Accessories common to beacons and indicator banks

Description	Height under base unit mm	Colour	Reference	Weight kg
Fixing bases comprising: Ø 25 mm aluminium support tube glued into black plastic fixing plate	80	Black aluminium	**XVB Z02**	0.110
		Aluminium	**XVB Z02A**	0.110
	380	Black aluminium	**XVB Z03**	0.200
		Aluminium	**XVB Z03A**	0.200
	780	Black aluminium	**XVB Z04**	0.325
		Aluminium	**XVB Z04A**	0.325

Description	For use with	Material	Reference	Weight kg
Fixing plate for use on horizontal support	Ø 25 mm aluminium support tube (to be glued into plastic fixing plate)	Plastic	**XVB Z01**	0.050
Fixing plate for use on vertical support	Base unit (direct mounting), fixing plate XVB Z01 or fixing bases XVB Z0●	Zamak	**XVB C12**	0.380

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Beacons and indicator banks
Beacons and indicator banks Ø 70 mm
Universal, Harmony type XVB
Accessories

Accessories common to beacons and indicator banks (continued)

Description	Characteristics		Sold in lots of	Unit reference	Weight kg
Incandescent bulbs BA 15d base fitting	12 V	7 W	10	**DL1 BEJ**	0.090
	24 V	6.5 W	10	**DL1 BEB**	0.090
	48 V	6 W	10	**DL1 BEE**	0.090
	120 V	7 W	10	**DL1 BEG**	0.090
	230 V	7 W	10	**DL1 BEM**	0.090
LEDs BA 15d base fitting Protected LED	24 V	White	1	**DL1 BDB1**	0.015
		Green	1	**DL1 BDB3**	0.015
		Red	1	**DL1 BDB4**	0.015
		Orange	1	**DL1 BDB5**	0.015
		Blue	1	**DL1 BDB6**	0.015
		Yellow	1	**DL1 BDB8**	0.015
	120 V	White	1	**DL1 BDG1**	0.015
		Green	1	**DL1 BDG3**	0.015
		Red	1	**DL1 BDG4**	0.015
		Orange	1	**DL1 BDG5**	0.015
		Blue	1	**DL1 BDG6**	0.015
		Yellow	1	**DL1 BDG8**	0.015
	230 V	White	1	**DL1 BDM1**	0.015
		Green	1	**DL1 BDM3**	0.015
		Red	1	**DL1 BDM4**	0.015
		Orange	1	**DL1 BDM5**	0.015
		Blue	1	**DL1 BDM6**	0.015
		Yellow	1	**DL1 BDM8**	0.015
Flashing LEDs BA 15d base fitting Protected LED	24 V	White	1	**DL1 BKB1**	0.015
		Green	1	**DL1 BKB3**	0.015
		Red	1	**DL1 BKB4**	0.015
		Orange	1	**DL1 BKB5**	0.015
		Blue	1	**DL1 BKB6**	0.015
		Yellow	1	**DL1 BKB8**	0.015
	120 V	White	1	**DL1 BKG1**	0.015
		Green	1	**DL1 BKG3**	0.015
		Red	1	**DL1 BKG4**	0.015
		Orange	1	**DL1 BKG5**	0.015
		Blue	1	**DL1 BKG6**	0.015
		Yellow	1	**DL1 BKG8**	0.015
	230 V	White	1	**DL1 BKM1**	0.015
		Green	1	**DL1 BKM3**	0.015
		Red	1	**DL1 BKM4**	0.015
		Orange	1	**DL1 BKM5**	0.015
		Blue	1	**DL1 BKM6**	0.015
		Yellow	1	**DL1 BKM8**	0.015

Accessories specific to indicator banks

Description	Characteristics	Sold in lots of	Unit reference	Weight kg
Cover only	–	–	**XVB C081**	0.030
Set of coloured markers	6 colours	–	**XVB C22**	0.001
Set of 5 legend holders	Identification of stacked units on base unit	–	**XVB C23**	0.002
Sheet of 85 legends for base unit legend holder (XVB C23)	Identification of stacked units on base unit	–	**XVB CY1**	0.005
Sheet of 52 legends	Identification of stacked units on locking ring	–	**XVB CY2**	0.005
Adaptor for side entry through base unit	With 13P cable gland	1	**XVB C14**	0.015
SIS labelling software creation of legends	For English, French, German, Italian and Spanish	–	**XBY 2U**	0.100

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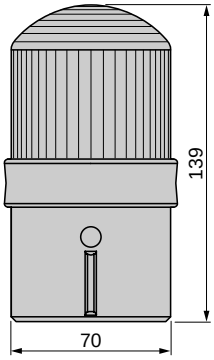
Beacons and indicator banks
Beacons and indicator banks Ø 70 mm
Universal, Harmony type XVB

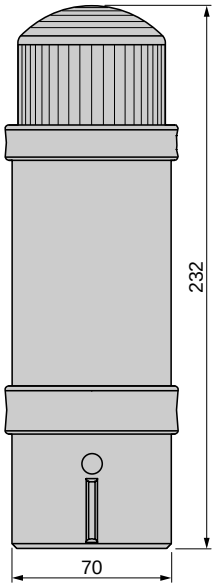
Dimensions

Illuminated beacons XVB L●●●

For BA 15d bulb or LED

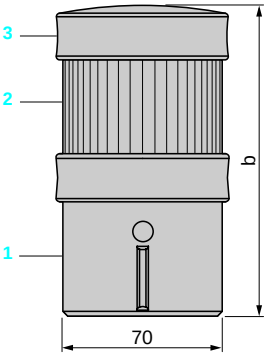


With "flash" discharge tube unit



Indicator banks XVB C●●●

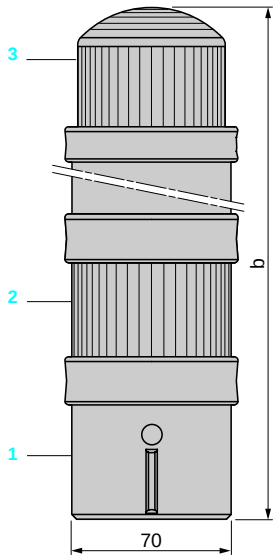
Without "flash" discharge tube unit



1 + 3 = Base unit + cover XVB C21
2 Illuminated or audible signalling unit XVB C●●●

Number of illuminated or audible signalling units (no "flash")	b
1	138
2	201
3	264
4	327
5	390

With "flash" discharge tube unit

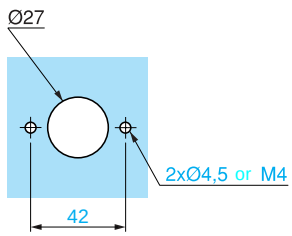


1 Base unit XVB C07
2 Illuminated or audible signalling unit XVB C●●●
3 "Flash" unit XVB C●●●

Number of illuminated or audible signalling units other than "flash" tube	b
1	295
2	358
3	421
4	484

Panel cut-out for direct fixing

On base unit XVB C21, XVB C07, XVB C21A or XVB C21B



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References:
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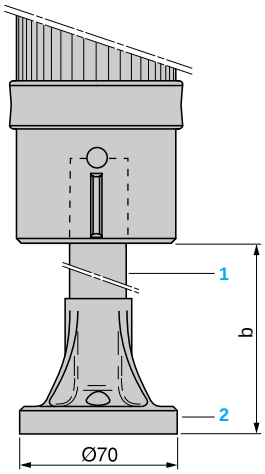
Telemecanique

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm
Universal, Harmony type XVB

Dimensions

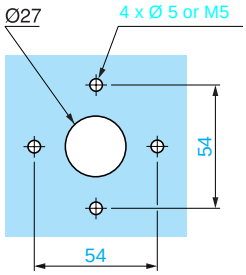
With fixing bases comprising XVB Z0● (aluminium support tube glued into black plastic fixing plate)



Fixing base comprising XVB Z0● (Ø 25 mm support tube 1 glued into plastic fixing plate 2)

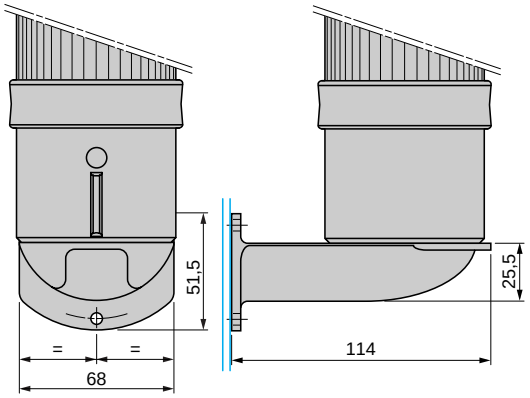
XVB	b
Z02/Z02A	80
Z03/Z03A	380
Z04/Z04A	780

Horizontal support panel cut-out for mounting on fixing plate

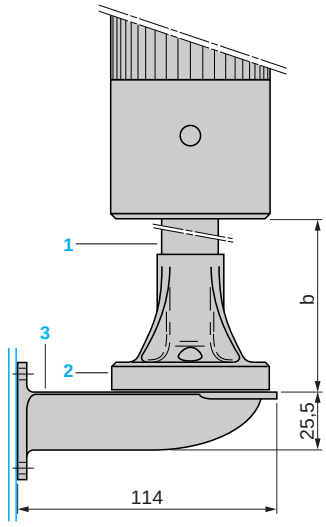


With fixing plate XVB C12 for use on vertical support

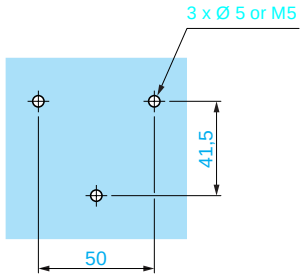
Direct mounting on base unit



Mounting using fixing base XVB Z0● (aluminium support tube glued into black plastic fixing plate)



Vertical support panel drillings for mounting fixing plate XVB C12



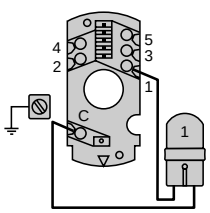
Fixing base comprising XVB Z0● (Ø 25 mm support tube 1 glued into plastic fixing plate 2) mounted on fixing plate XVB C12 for vertical support 3

XVB	b
Z02/Z02A	80
Z03/Z03A	380
Z04/Z04A	780

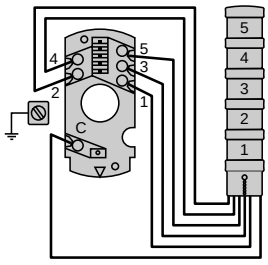
Installation

Connections

XVB L

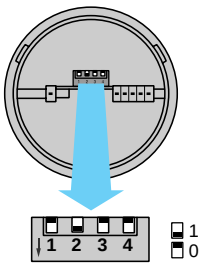


XVB C



Adjustment of audible signal for buzzers type XVB C9●

By means of 4 microswitches located in the base of the buzzer:
- 2 switches marked **1** and **2** for selecting continuous or intermittent **mode** (Hz).
- 2 switches marked **3** and **4** for selecting the **power** (dB) of the audible signal.



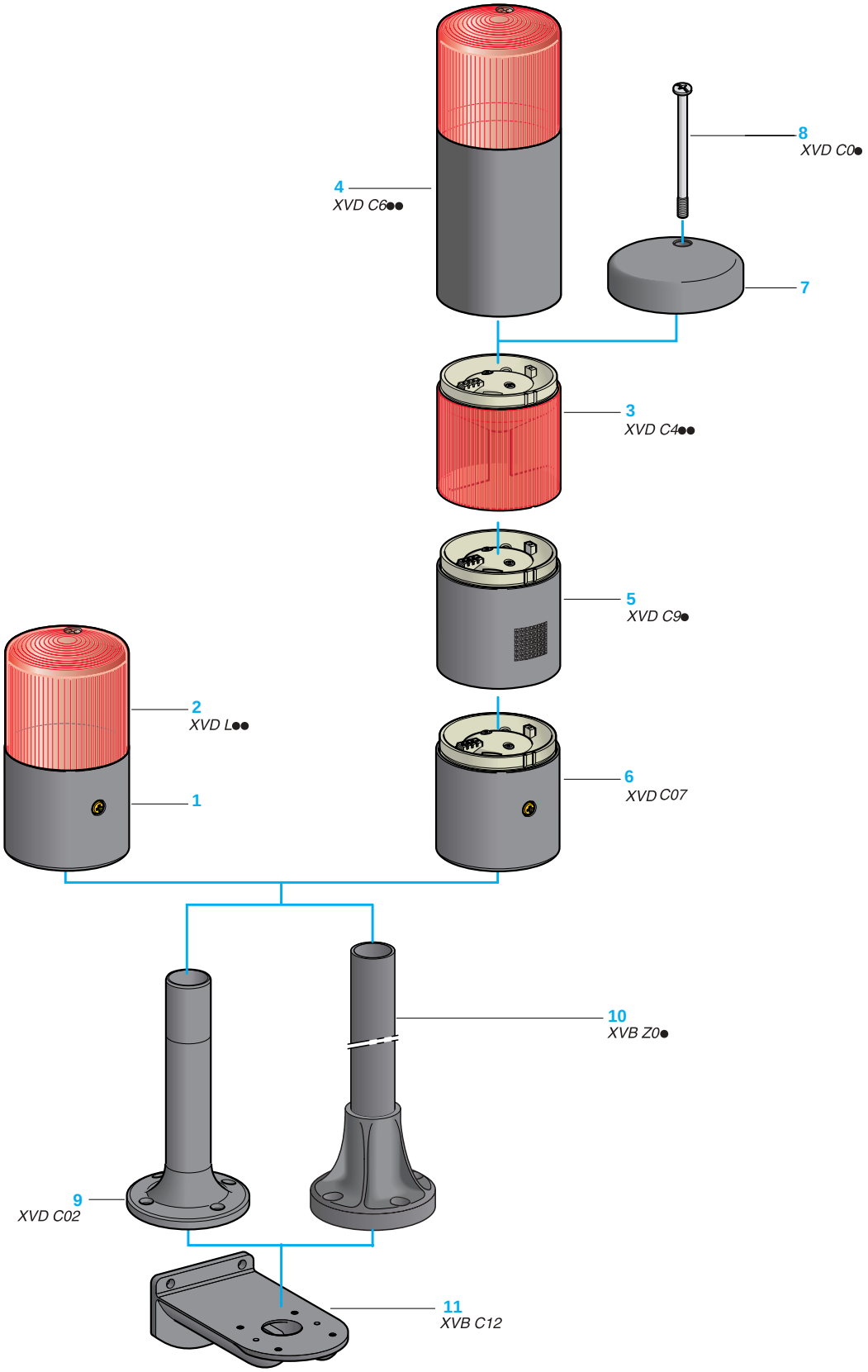
Position of microswitches		Setting
1	**2**	**Mode**
1	1	—— 2.8 kHz
1	0	—— 2.8 kHz
0	1	⎍⎍ 5 Hz *(1)*
0	0	⎍_ 1 Hz
3	**4**	**Power**
1	1	90 dB *(1)*
0	1	85 dB
1	0	80 dB
0	0	70 dB

(1) Factory setting.

General: pages 4/30 and 4/31
Characteristics: pages 4/32 and 4/33
References: pages 4/34 to 4/41

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Application, Harmony type XVD



Characteristics:
pages 4/46 and 4/47

References:
pages 4/48 to 4/51

Dimensions:
pages 4/52 and 4/53

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Application, Harmony type XVD

Beacons and indicator banks XVD are visual or audible signalling units and are mainly used for indicating, throughout 360° and at a distance, the various states or operation sequences of a machine or installation.
Examples: start, stop machine, no material, call technical staff, fault signalling, etc.

Illuminated beacon

Complete product

Ready assembled with a single illuminated signalling unit:
- Steady light (with incandescent bulb or LED).
- Flashing light (with incandescent bulb or LED).
- Or “flash” (with discharge tube).

The beacon comprises:
1 A base unit with a removable terminal block and bottom cable entry.
2 One coloured illuminated unit (green, red, orange, blue, clear or yellow).

Indicator bank

Customer assembled product

Variable composition assembly of 1 to 5 illuminated or audible units which are supplied as separate items (assembly by user).
The bank comprises:
3 1 to 5 coloured illuminated units (green, red, orange, blue, clear or yellow).
4 An illuminated unit with “flash” discharge tube (only 1 per bank), which is always mounted at the top of the bank.
5 Or 1 audible unit (buzzer).
6 A base unit with a removable terminal block and bottom cable entry.
7 A top cover (except when using a “flash” discharge tube).
8 An assembly screw that passes through the whole bank.

- The illuminated or audible units stack vertically and are easily fitted together using a single screw.
- Electrical connections between each unit are made automatically.

Accessories

For beacons and indicator banks

9 Integral support tube and fixing plate, height 100 mm (clamping device on base unit).
10 Fixing base comprising a support tube glued into a plastic fixing plate, for heights beneath the base unit of 80, 380 or 780 mm.
11 Fixing plate for mounting on vertical support.

Installation

Mounting

- Base unit fixed directly onto panel using 2 screws.
- Fixed using a fixing base comprising an aluminium support tube glued into a black plastic fixing plate.

Cabling

By means of removable terminal block incorporated in base unit (simplified wiring). The screw and captive cable clamp terminals are protected to prevent any accidental contact with live parts.

Characteristics: pages 4/46 and 4/47
References: pages 4/47 to 4/51
Dimensions: pages 4/52 and 4/53

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Application, Harmony type XVD

Environment characteristics

Conformity to standards			IEC/EN 60947-5-1
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation *(1)*	**°C**	**Illuminated units with steady light signalling:** - 25…+ 70, with 7 W max. incandescent bulb - 25…+ 50, with LED
		°C	**Illuminated units with flashing light signalling:** - 25…+ 50, with 7 W max. incandescent bulb - 25…+ 50, with LED
		°C	**Illuminated units with "flash" discharge tube:** - 25…+ 50
		°C	**Audible units:** - 25…+ 50, with buzzer
Electric shock protection Conforming to IEC 536	Mounted on support tube		Class I
	Mounted on base unit		Class II
Degree of protection	Conforming to IEC 529 and NF C 20-010		IP 40
	Conforming to UL 508		NEMA 1
Material	Illuminated units		Polycarbonate
	Base unit and cover		Glass-reinforced polyamide and polycarbonate
	Support tube		Painted aluminium
	Fixing plate		Zamak

(1) Warning: illuminated units with incandescent bulbs must not be combined with LED illuminated units, due to the risk of overheating.
Also, when different units (e.g. steady, flashing…) are combined, the maximum temperature is limited to that of the weaker unit.

4

General:
pages 4/44 and 4/45

References:
pages 4/48 to 4/51

Dimensions:
pages 4/52 and 4/53

Electrical characteristics

Rated insulation voltage (Ui)	Conforming to IEC 947-1	**V**	250
Voltage limits	Conforming to IEC 947-5-1	**V**	0.85 to 1.10 Un (Un: nominal voltage)
Consumption	LED unit	**mA**	**Steady light signalling:** ⎓ 24 V: < 75 ∿ 120: < 25
		mA	**Flashing light signalling:** ⎓ 24 V: < 80 ∿ 120…230 V: < 30
	Discharge tube unit (on energisation)	**mA**	⎓ 24 V: 5 J unit: < 430
		mA	∿ 120 V: 5 J unit: < 130
		mA	∿ 230 V: 5 J unit: < 105
	Audible units	**mA**	⎓ 12…48 V: < 20
		mA	∿ 120…230 V: < 50
Rated impulse withstand voltage	Conforming to IEC 947-1	**kV**	U imp = 4
Light source	Illuminated units with steady or flashing light signalling		Incandescent bulbs with BA 15d base fitting, maximum power 7 W LEDs with BA 15d base fitting
Illuminating power	Illuminated units with discharge circuit (flash lamp with integral tube)	**cds**	13 (integral high intensity tube) with clear lens unit: 5 J tube
Audible unit	Continuous or intermittent tone	**dB**	90 at 1 m (adjustable: 70…90 dB)
	Fundamental frequency	**kHz**	2.8
Terminal referencing	Common to all 5 units		1 terminal referenced “C”
	Depending on number of units		1 or 5 terminals referenced 1 to 5
Connection	Maximum clamping capacity on protected, ready-to-tighten, screw and captive cable clamp terminals	**mm²**	1 x 1.5 with cable end
Frequency of illuminated units	Illuminated units with flashing light signalling	**Hz**	1
	Illuminated units with discharge tube	**Hz**	1

General:
pages 4/44 and 4/45

References:
pages 4/48 to 4/51

Dimensions:
pages 4/52 and 4/53

Beacons and indicator banks

Illuminated beacons Ø 70 mm Application, Harmony type XVD, for customer assembly

XVD L3●

Illuminated beacons with steady light signalling

Description	Light source, to be ordered separately *(1)*	Colour	Reference	Weight kg
Complete unit comprising: - 1 illuminated unit - 1 base unit	Incandescent bulb 7 W max. 250 V max.	Green	**XVD L33**	0.255
		Red	**XVD L34**	0.255
		Orange	**XVD L35**	0.255
		Blue	**XVD L36**	0.255
		Clear	**XVD L37**	0.255
		Yellow	**XVD L38**	0.255

XVD L4B●

Illuminated beacons with integral flashing light signalling

Description	Light source, to be ordered separately	Colour	Reference	Weight kg
Complete unit comprising: - 1 illuminated unit - 1 base unit	Incandescent bulb 7 W max. ~ 24 V ⎓ 24…48 V	Green	**XVD L4B3**	0.275
		Red	**XVD L4B4**	0.275
		Orange	**XVD L4B5**	0.275
		Blue	**XVD L4B6**	0.275
		Clear	**XVD L4B7**	0.275
		Yellow	**XVD L4B8**	0.275
	Incandescent bulb 7 W max. ~ 48…230 V	Green	**XVD L4M3**	0.275
		Red	**XVD L4M4**	0.275
		Orange	**XVD L4M5**	0.275
		Blue	**XVD L4M6**	0.275
		Clear	**XVD L4M7**	0.275
		Yellow	**XVD L4M8**	0.275

XVD L6B●●

Illuminated beacons with 5 Joule “flash” discharge tube

Description	Light source	Colour	Reference	Weight kg
Complete unit comprising: - 1 illuminated unit - 1 base unit	Integral “flash” discharge tube ≂ 24 V	Green	**XVD L6B3**	0.480
		Red	**XVD L6B4**	0.480
		Orange	**XVD L6B5**	0.480
		Blue	**XVD L6B6**	0.480
		Clear	**XVD L6B7**	0.480
		Yellow	**XVD L6B8**	0.480
	Integral “flash” discharge tube ~ 230 V	Green	**XVD L6M3**	0.475
		Red	**XVD L6M4**	0.475
		Orange	**XVD L6M5**	0.475
		Blue	**XVD L6M6**	0.475
		Clear	**XVD L6M7**	0.475
		Yellow	**XVD L6M8**	0.475

(1) Incandescent bulbs and LEDs, see page 4/51.

General:
pages 4/44 and 4/45

Characteristics:
pages 4/46 and 4/47

Dimensions:
pages 4/52 and 4/53

Beacons and indicator banks

Indicator banks Ø 70 mm Application, Harmony type XVD (variable composition of up to 5 units), for customer assembly

Illuminated units

For use with base unit XVD C●●: see page 4/50

Illuminated units with steady light signalling

Description	Light source, to be ordered separately	Colour	Reference	Weight kg
Illuminated units	Incandescent bulb 7 W max. 250 V max.	Green	**XVD C33**	0.115
		Red	**XVD C34**	0.115
		Orange	**XVD C35**	0.115
		Blue	**XVD C36**	0.115
		Clear	**XVD C37**	0.115
		Yellow	**XVD C38**	0.115

Illuminated units with integral flashing light signalling

XVD C4●●

Description	Light source, to be ordered separately	Colour	Reference	Weight kg
Illuminated units	Incandescent bulb 7 W max. ~ 24 V ⎓ 24…48 V	Green	**XVD C4B3**	0.135
		Red	**XVD C4B4**	0.135
		Orange	**XVD C4B5**	0.135
		Blue	**XVD C4B6**	0.135
		Clear	**XVD C4B7**	0.135
		Yellow	**XVD C4B8**	0.135
	Incandescent bulb 7 W max. ~ 48…230 V	Green	**XVD C4M3**	0.135
		Red	**XVD C4M4**	0.135
		Orange	**XVD C4M5**	0.135
		Blue	**XVD C4M6**	0.135
		Clear	**XVD C4M7**	0.135
		Yellow	**XVD C4M8**	0.135

Illuminated units with 5 Joule “flash” discharge tube

XVD C6●●

Description	Light source	Colour	Reference	Weight kg
Illuminated units	Integral “flash” discharge tube ≂ 24 V	Green	**XVD C6B3**	0.310
		Red	**XVD C6B4**	0.310
		Orange	**XVD C6B5**	0.310
		Blue	**XVD C6B6**	0.310
		Clear	**XVD C6B7**	0.310
		Yellow	**XVD C6B8**	0.310
	Integral “flash” discharge tube ~ 230 V	Green	**XVD C6M3**	0.310
		Red	**XVD C6M4**	0.310
		Orange	**XVD C6M5**	0.310
		Blue	**XVD C6M6**	0.310
		Clear	**XVD C6M7**	0.310
		Yellow	**XVD C6M8**	0.310

General: pages 4/44 and 4/45
Characteristics: pages 4/46 and 4/47
Dimensions: pages 4/52 and 4/53

Beacons and indicator banks

Illuminated beacons Ø 70 mm Application, Harmony type XVD, for customer assembly

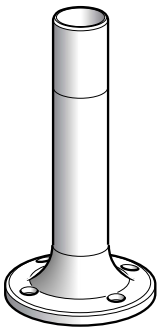
Audible units, base units and accessories

XVD C9●

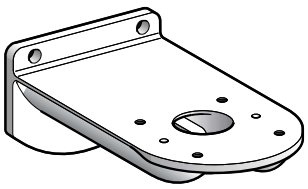
XVD C07

XVB Z02

XVB Z03/Z04



XVD C02



XVB C12

Audible units

Description	Characteristics	Reference	Weight kg
Buzzer, 90 dB at 1 m Adjustable, 70 or 90 dB, continuous or intermittent tone, using microswitch	⎓ 12…48 V	**XVD C9B**	0.150
	∿ 120…230 V	**XVD C9M**	0.150

Base units (for direct or tube fixing)

Description	For use with	Type	Reference	Weight kg
Base unit + cover with bottom cable entry	Banks without “flash” discharge tube unit	Standard	**XVD C21**	0.180
Base unit only with bottom cable entry	Banks with “flash” discharge tube unit	Standard	**XVD C07**	0.160
Screw for assembling signalling units on base unit	Banks without “flash” discharge tube unit	1 unit	**XVD C03**	0.015
		2 units	**XVD C04**	0.022
		3 units	**XVD C05**	0.030
		4 units	**XVD C06**	0.038
		5 units	**XVD C08**	0.045
	Banks with “flash” discharge tube unit	1 unit	**XVD C09**	0.036
		2 units	**XVD C10**	0.044
		3 units	**XVD C11**	0.050
		4 units	**XVD C12**	0.059

Accessories common to beacons and indicator banks

Description	Height under base unit (mm)	Colour	Reference	Weight kg
Fixing bases comprising: Ø 25 mm aluminium support tube glued into black plastic fixing plate	80	Black aluminium	**XVB Z02**	0.110
		Aluminium	**XVB Z02A**	0.110
	380	Black aluminium	**XVB Z03**	0.200
		Aluminium	**XVB Z03A**	0.200
	780	Black aluminium	**XVB Z04**	0.325
		Aluminium	**XVB Z04A**	0.325

Description	Characteristics	Reference	Weight kg
Integral support tube and plastic fixing plate, colour black	100 mm	**XVD C02**	0.070
Zamak fixing plate for use on vertical support	Direct mounting on base unit or with integral support tube and fixing plate XVD C02 or with fixing bases XVB Z0●	**XVB C12**	0.380
Cover only	–	**XVD C081**	0.020

General: pages 4/44 and 4/45
Characteristics: pages 4/46 and 4/47
Dimensions: pages 4/52 and 4/53

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm
Application, Harmony type XVD
Accessories

Accessories common to beacons and indicator banks (continued)

Description	Characteristics		Sold in lots of	Unit reference	Weight kg
Incandescent bulbs BA 15d base fitting	12 V	7 W	10	**DL1 BEJ**	0.090
	24 V	6.5 W	10	**DL1 BEB**	0.090
	48 V	6 W	10	**DL1 BEE**	0.090
	120 V	7 W	10	**DL1 BEG**	0.090
	230 V	7 W	10	**DL1 BEM**	0.090
LEDs BA 15d base fitting Protected LED	24 V	White	1	**DL1 BDB1**	0.015
		Green	1	**DL1 BDB3**	0.015
		Red	1	**DL1 BDB4**	0.015
		Orange	1	**DL1 BDB5**	0.015
		Blue	1	**DL1 BDB6**	0.015
		Yellow	1	**DL1 BDB8**	0.015
	120 V	White	1	**DL1 BDG1**	0.015
		Green	1	**DL1 BDG3**	0.015
		Red	1	**DL1 BDG4**	0.015
		Orange	1	**DL1 BDG5**	0.015
		Blue	1	**DL1 BDG6**	0.015
		Yellow	1	**DL1 BDG8**	0.015
	230 V	White	1	**DL1 BDM1**	0.015
		Green	1	**DL1 BDM3**	0.015
		Red	1	**DL1 BDM4**	0.015
		Orange	1	**DL1 BDM5**	0.015
		Blue	1	**DL1 BDM6**	0.015
		Yellow	1	**DL1 BDM8**	0.015
Flashing LEDs BA 15d base fitting Protected LED	24 V	White	1	**DL1 BKB1**	0.015
		Green	1	**DL1 BKB3**	0.015
		Red	1	**DL1 BKB4**	0.015
		Orange	1	**DL1 BKB5**	0.015
		Blue	1	**DL1 BKB6**	0.015
		Yellow	1	**DL1 BKB8**	0.015
	120 V	White	1	**DL1 BKG1**	0.015
		Green	1	**DL1 BKG3**	0.015
		Red	1	**DL1 BKG4**	0.015
		Orange	1	**DL1 BKG5**	0.015
		Blue	1	**DL1 BKG6**	0.015
		Yellow	1	**DL1 BKG8**	0.015
	230 V	White	1	**DL1 BKM1**	0.015
		Green	1	**DL1 BKM3**	0.015
		Red	1	**DL1 BKM4**	0.015
		Orange	1	**DL1 BKM5**	0.015
		Blue	1	**DL1 BKM6**	0.015
		Yellow	1	**DL1 BKM8**	0.015

General: pages 4/44 and 4/45
Characteristics: pages 4/46 and 4/47
Dimensions pages 4/52 and 4/53

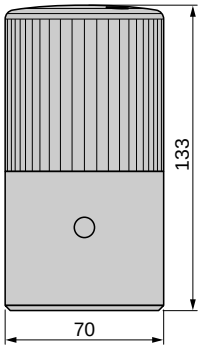
Beacons and indicator banks

Beacons and indicator banks Ø 70 mm
Application, Harmony type XVD

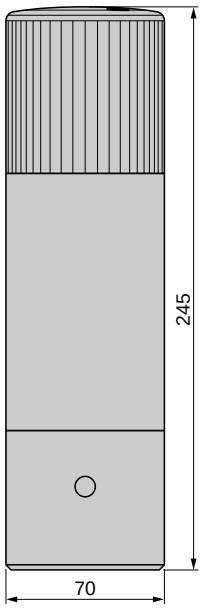
Dimensions

Illuminated beacons XVD L●●●

For BA 15d bulb or LED

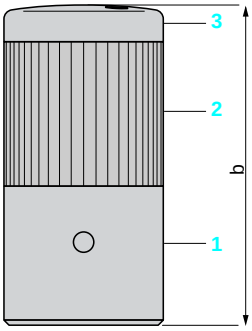


With "flash" discharge tube unit



Indicator banks XVD C●●

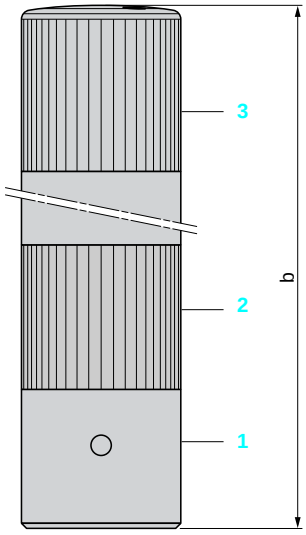
Without "flash" discharge tube unit



1 + 3 = Base unit + cover XVD C21
2 Illuminated or audible signalling unit XVD C●●●

Number of illuminated or audible signalling units (no "flash")	b
1	140
2	203
3	266
4	329
5	392

With "flash" discharge tube unit

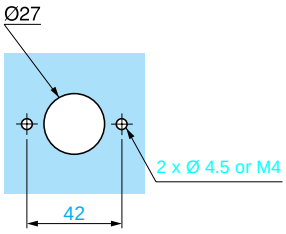


1 Base unit XVD C07
2 Illuminated or audible signalling unit XVD C●●●
3 "Flash" unit XVD C●●●

Number of illuminated or audible signalling units other than "flash" tube	b
1	308
2	371
3	434
4	497

Panel cut-out for direct fixing

On base unit XVD C21 or XVD C07

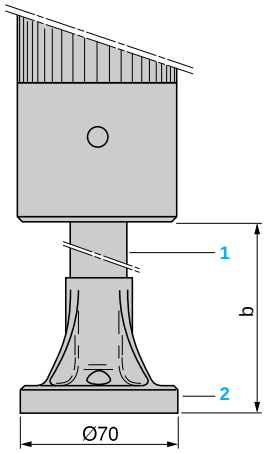


General: pages 4/44 and 4/45
Characteristics: pages 4/46 and 4/47
References: pages 4/48 to 4/51

Beacons and indicator banks
Beacons and indicator banks Ø 70 mm
Application, Harmony type XVD

Dimensions

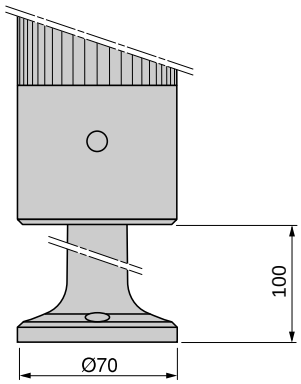
With fixing bases comprising XVB Z0● (aluminium support tube glued into black plastic fixing plate)



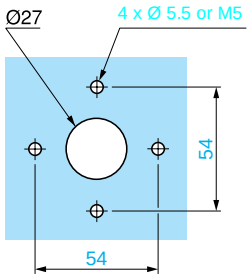
Fixing base comprising XVB Z0● (Ø 25 mm support tube 1 glued into plastic fixing plate 2)

XVB	b
Z02/Z02A	80
Z03/Z03A	380
Z04/Z04A	780

With integral support tube and fixing plate XVD C02

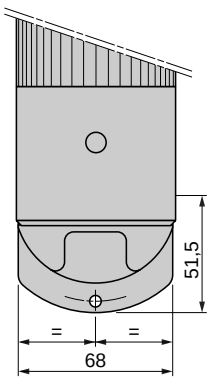


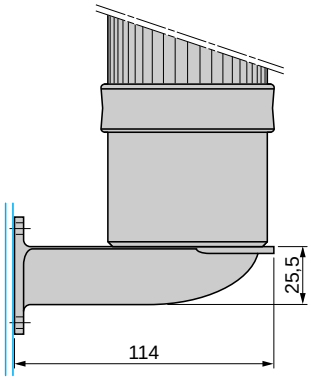
Horizontal support panel cut-out for mounting on fixing plate



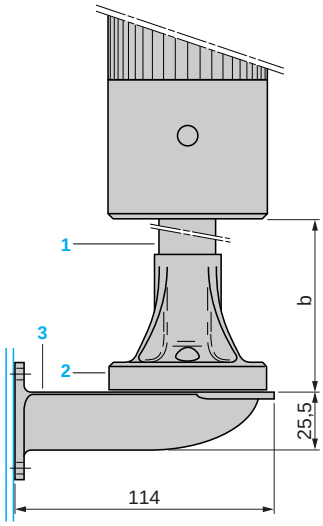
With fixing plate XVB C12 for use on vertical support

Direct mounting on base unit

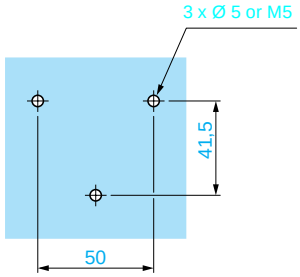




Mounting using fixing base XVB Z0● (aluminium support tube glued into black plastic fixing plate)



Vertical support panel drillings for mounting fixing plate XVB C12



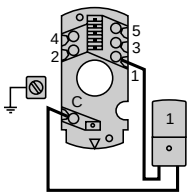
Fixing base comprising XVB Z0● (Ø 25 mm support tube 1 glued into plastic fixing plate 2) mounted on fixing plate XVB C12 for vertical support 3

XVB	b
Z02/Z02A	80
Z03/Z03A	380
Z04/Z04A	780

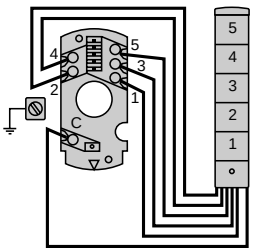
Installation

Connections

XVD L

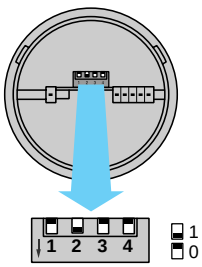


XVD C



Adjustment of audible signal for buzzers type XVD C9●

By means of 4 microswitches located in the base of the buzzer:
- 2 switches marked **1** and **2** for selecting continuous or intermittent **mode** (Hz).
- 2 switches marked **3** and **4** for selecting the **power** (dB) of the audible signal.



Position of microswitches 1	2	Setting Mode
1	1	— 2.8 kHz
1	0	— 2.8 kHz
0	1	⊓⊓ 5 Hz *(1)*
0	0	⊓_ 1 Hz
3	**4**	**Power**
1	1	90 dB *(1)*
0	1	85 dB
1	0	80 dB
0	0	70 dB

(1) Factory setting.

General: pages 4/44 and 4/45
Characteristics: pages 4/46 and 4/47
References: pages 4/48 to 4/51

Beacons and indicator banks
Rotating mirror beacons, type XVR

General

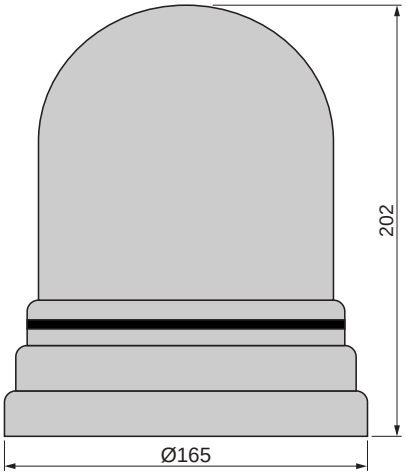
These rotating beacons are designed for long distance signalling applications.

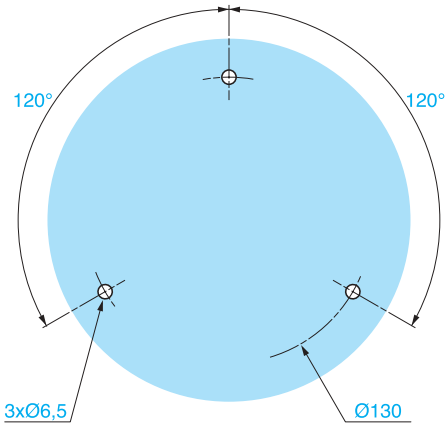
Characteristics

Conformity to standards			IEC 60947-1, IEC/EN 60947-5-1, UL 508, CSA C22-2-14
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation	**°C**	- 20…+ 50
Electric shock protection	Conforming to IEC 60536 and NF C 20-030		Class I
Degree of protection	Conforming to IEC 60529 and NF C 20-010		IP 65
	Conforming to UL 508 and CSA 22		Type 4X Nema "INDOOR"
Material	Base unit		Glass-reinforced polyamide 6
	Domed lens unit		Polycarbonate
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	250
Consumption	Halogen bulbs	**mA**	⎓ 24 V: < 3100
	Incandescent bulbs	**mA**	⎓ 24 V: < 1050
			∿ 120 V: < 210
			∿ 230 V: < 110
Rated impulse withstand voltage	Conforming to IEC 60947-1	**kV**	U imp = 4
Light source	Halogen bulbs		Bulbs with H1 base fitting: maximum power 70 W
	Incandescent bulbs		Bulbs with BA 15d base fitting: maximum power 25 W
Service life of motor		**H**	> 2000
Mounting position			Horizontal
Flash frequency		**Hz**	3
Connection	Maximum clamping capacity	**mm²**	1 x 1.5 mm²
Cable entry			For ISO M20 x 1.5 cable gland (included)

Dimensions

Panel cut-out





M20 x 1.5 cable gland included

Beacons and indicator banks
Rotating mirror beacons, type XVR

XVR 1●●●

Rotating mirror beacons

Light source	Supply voltage	Colour	Reference	Weight kg
Halogen bulb included 70 W	≂ 24 V	Green	**XVR 1B93**	1.165
		Red	**XVR 1B94**	1.165
		Orange	**XVR 1B95**	1.165
		Blue	**XVR 1B96**	1.165
		Yellow	**XVR 1B98**	1.165
Incandescent bulb included 25 W	≂ 24 V	Green	**XVR 1B03**	1.165
		Red	**XVR 1B04**	1.165
		Orange	**XVR 1B05**	1.165
		Blue	**XVR 1B06**	1.165
		Yellow	**XVR 1B08**	1.165
	~ 120 V	Green	**XVR 1G03**	1.235
		Red	**XVR 1G04**	1.235
		Orange	**XVR 1G05**	1.235
		Blue	**XVR 1G06**	1.235
		Yellow	**XVR 1G08**	1.235
	~ 230 V	Green	**XVR 1M03**	1.235
		Red	**XVR 1M04**	1.235
		Orange	**XVR 1M05**	1.235
		Blue	**XVR 1M06**	1.235
		Yellow	**XVR 1M08**	1.235

Accessories and spare parts

Description	Characteristics	Unit reference	Weight kg
Domed lens unit	Green	**XVR 0153**	0.335
	Red	**XVR 0154**	0.335
	Orange	**XVR 0155**	0.335
	Blue	**XVR 0156**	0.335
	Yellow	**XVR 0158**	0.335
Protective grill for domed lens unit	–	**XVR 016** *(1)*	–
Fixing plate for use on vertical support	–	**XVR 012**	–
Fixing plate for support tube (1/2 NPT)	–	**XVR 013**	–
Halogen bulbs H1 base fitting, 70 W	24 V	**DL1 BRBH**	–
Incandescent bulbs BA 15d base fitting, 25 W (sold in lots of 10)	24 V	**DL1 BRB**	0.100
	120 V	**DL1 BRG**	0.100
	230 V	**DL1 BRM**	0.100

(1) This protective grill is only suitable for use with the XVR 1●●● rotating mirror beacon, without cable gland fitted.

Beacons and indicator banks
Sirens, type XVS

General

These sirens are designed for long distance signalling applications.

Characteristics

Conformity to standards			IEC 60947-1, IEC/EN 60947-5-1
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation	**°C**	- 40…+ 50
Electric shock protection	Conforming to IEC 60536 and NF C 20-030	**kV**	∿ 120 V and ∿ 230 V: class II
		kV	≂ 24 V: class III
Degree of protection	Conforming to IEC 60529 and NF C 20-010		IP 40
Material	Body		Glass-reinforced polyamide 6
	Cone		Butadiene-styrene acrylic
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	**V**	250
Consumption		**mA**	≂ 24: 440
		mA	∿ 120: 110
		mA	∿ 230: 55
Frequency	1-tone	**Hz**	1000 ± 10%
	2-tone	**Hz**	700 and 800 ± 15%
Rated impulse withstand voltage	Conforming to IEC 60947-1	**kV**	∿ 120 V and ∿ 230 V: U imp = 4
		kV	≂ 24 V: U imp = 1.5
Mounting position			All positions
Connection	Maximum clamping capacity	**mm²**	1 x 1.5 with cable end

Beacons and indicator banks
Sirens, type XVS

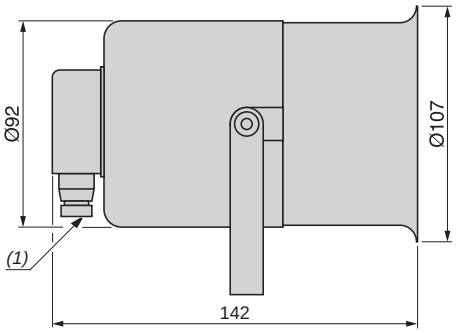
References

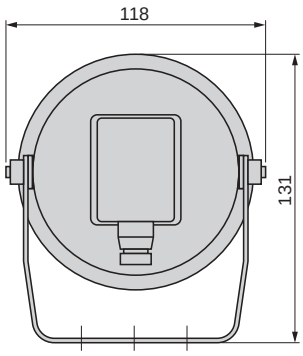
XVS B●

Sirens

Description	Supply voltage	Number of tones	Reference	Weight kg
Sirens 106 db	≂ 24 V	1	**XVS B1**	0.860
		2	**XVS B2**	0.860
	∿ 120 V	1	**XVS G1**	0.860
		2	**XVS G2**	0.860
	∿ 230 V	1	**XVS M1**	0.860
		2	**XVS M2**	0.860

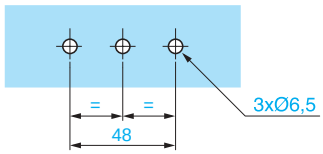
Dimensions





(1) Cable gland n° 7 (DIN Pg 7), included.

Panel cut-out



Contents

5 - Control and signalling units for safety applications

Metal foot switches, Harmony types XPE M/R

- Single and double pedal foot switches with protective cover . . . . . *page 5/7*
- Foot switches without protective cover . . . . . *page 5/8*
- Accessories . . . . . *page 5/8*

Plastic foot switches, Harmony types XPE A/B/G/Y

- Single pedal foot switches with protective cover . . . . . *page 5/11*
- Foot switches without protective cover . . . . . *page 5/11*
- Accessories . . . . . *page 5/11*

Emergency stop trip wire switches, type XY2 C

- Latching emergency stops . . . . . *page 5/17*
- Complete units, pre-assembled . . . . . *page 5/18*
- Separate components . . . . . *page 5/20*
- Mounting kits . . . . . *page 5/21*
- Spare parts . . . . . *page 5/22*

Control and signalling units for safety applications

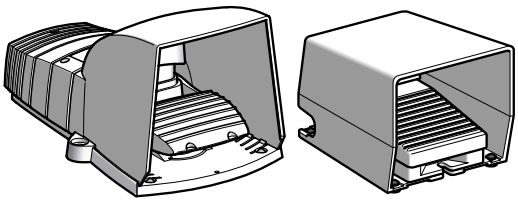
Foot switches, Harmony type XPE

With positive opening operation on release

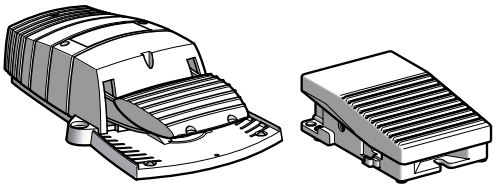
Presentation

Foot switches type XPE are an ideal solution for providing start and stop instructions for many types of industrial machines, running in various operating modes: normal (pulsed) start, inching, hold to run.

The range comprises metal case foot switches (heavy duty, high risk) complying to very strict regulations, and plastic case foot switches (light duty, low risk).



Fitted with a protective cover, the foot switches are for applications where, for each issuing of the start instruction, a high level of danger exists **(high risk)**.



Foot switches **without a protective cover** are suitable for applications where the issuing of the start instruction presents a **reduced level of danger**.

Contact

Switches incorporate snap action contacts with positive opening operation

The foot switches can incorporate **one or two N/C + N/O contact blocks**.

Positive opening operation on release of pedal: the hold down or return to the rest position of the pedal (machine stop) is positive acting.

Terminology

Positive opening operation

A switch meets this requirement when all its N/C contacts can be switched to the open position with certainty, i.e. there are no flexible links between the moving contacts and the actuator to which the operating force is applied.

All pedal operated foot switches incorporate a snap action N/C + N/O contact block with positive opening operation, and conform fully to standard IEC 60947-5-1 Section 3.

Snap action contact (quick break)

The displacement speed of the moving contacts is not related to the speed at which the contact actuator is operated. This feature gives consistent electrical performance, even when the contact actuator device is operated at low speeds.

Characteristics: pages 5/6 and 5/10
References: pages 5/7, 5/8 and 5/11
Dimensions: pages 5/9, 5/12 and 5/13

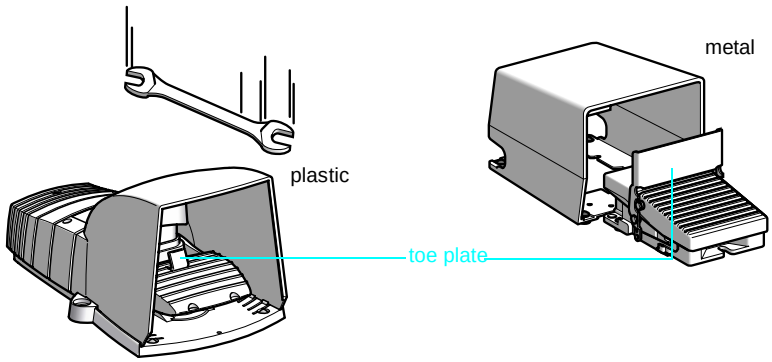
Control and signalling units for safety applications

Foot switches, Harmony type XPE

With positive opening operation on release

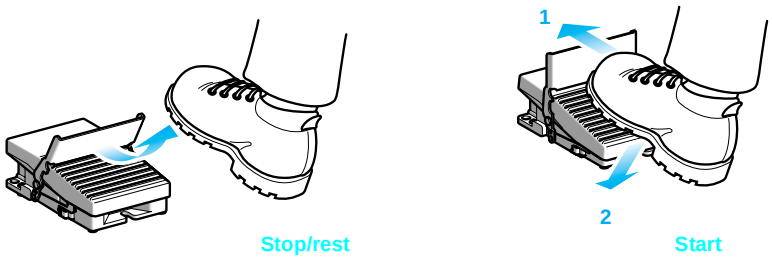
Start instructions

Foot switches XPE with protective cover are ideally suited for issuing a safety "Start" instruction for potentially dangerous machines.



The protective cover over the operating pedal avoids the risk of accidental operation, either by human action or by falling objects, which could result in unintentional starting of the machine.

A trigger mechanism **(toe plate)** enables locking of the pedal in the rest (released) position.

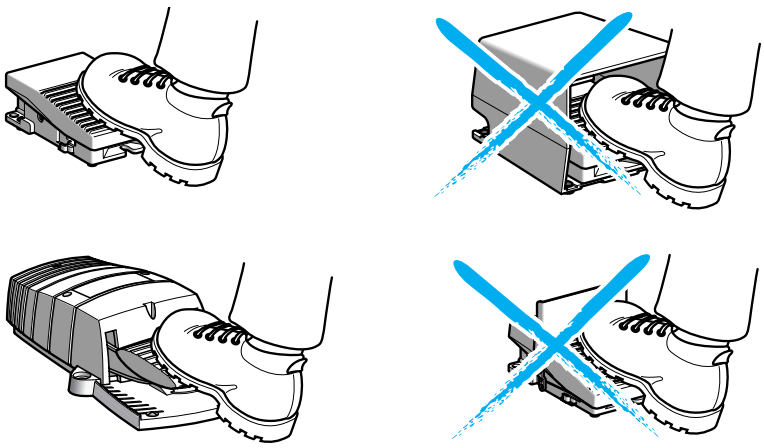


Positive action is required on the toe plate 1 before the pedal 2 can be depressed to start the machine.

On releasing the pedal to stop the machine, the trigger mechanism re-engages and locks the pedal in the rest position.

Normal stop instructions

All foot switches of the XPE range can be used for issuing a normal stop instruction to a machine.



Never use the protective cover nor the trigger mechanism for this type of application. Access to the stop control must be as unrestricted as possible and without any constraints.

For machine stop instructions, use the N/C contact(s).

Characteristics: pages 5/6 and 5/10
References: pages 5/7, 5/8 and 5/11
Dimensions: pages 5/9, 5/12 and 5/13

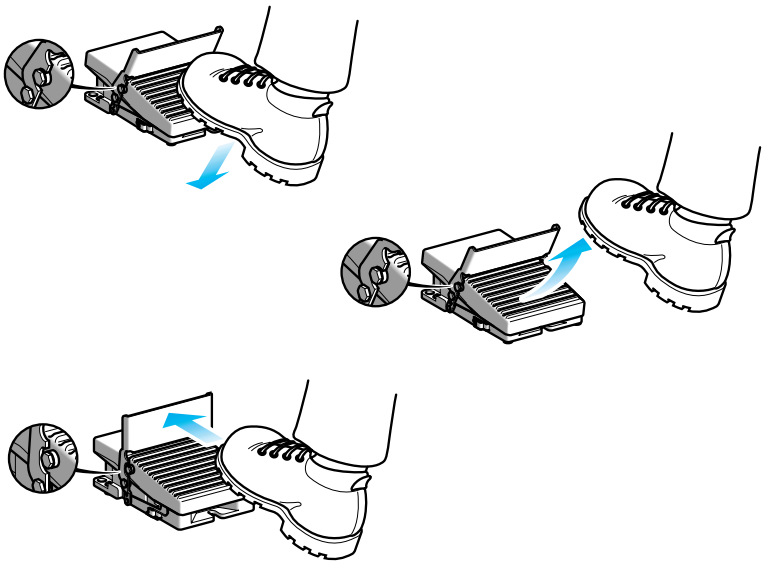
Control and signalling units for safety applications

Foot switches, Harmony type XPE

With positive opening operation on release

Pedal latching device when depressed

Foot switches with pedal latching device are particularly suited for the control of “hold to run” machines and also, for adjustment operations.



Pressing the pedal issues the machine start instruction and, when the pedal reaches its stop, it latches in the operated position.

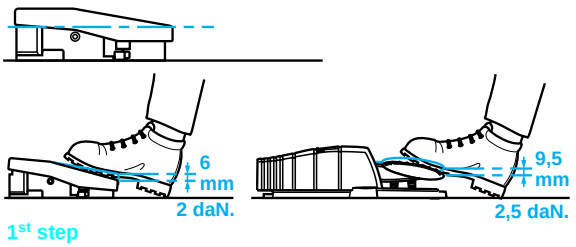
Removing the foot from the pedal will not stop the “machine” cycle **(hold to run)**, the pedal remains latched.

For issuing a normal stop instruction, the foot is replaced on the pedal and the toe plate operated: this returns the pedal to the rest position.

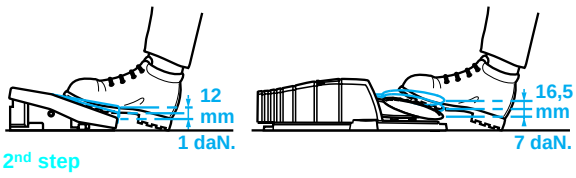
5

Switches with 2 step contact operation

Foot switches featuring 2 step contact operation are ideal for applications involving 2-speed machines.
Examples:
- **First speed: low (used for setting-up, adjustment or tool maintenance).**
- **Second speed: fast (normal machine operating speed).**



The first step, at 6 mm pedal travel and light foot pressure (2 daN), actuates a N/C + N/O contact block.



The second step, at maximum pedal travel (12 mm) and required foot pressure (9 daN), actuates a second N/C + N/O contact block.

Applications

Many types of machines are fitted with foot switches

- Bending machine
- Dosing machine
- Assembly station
- Packaging machines
- Cutting presses, stamping presses
- Machine tools (numerical control, lathes, milling machines, grinders, machining centres)
- Guillotines, cutters, folders, saws
- Forging machines, rolling machines, cold metal forming machines

Characteristics: pages 5/6 and 5/10
References: pages 5/7, 5/8 and 5/11
Dimensions: pages 5/9, 5/12 and 5/13

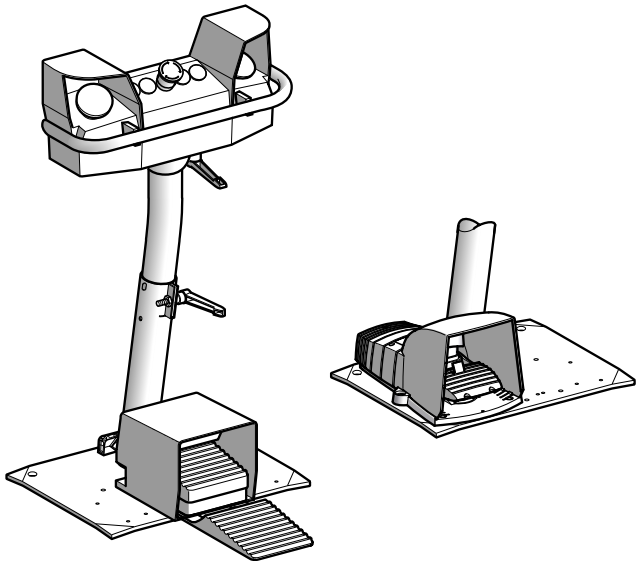
Control and signalling units for safety applications

Foot switches, Harmony type XPE

With positive opening operation on release

Foot switches used in conjunction with two-hand control stations

Foot switches XPE can be mounted directly on the baseplate (without drilling additional fixing holes) of the pedestal XY2 SB90 for two-hand control stations XY2 SB7●.

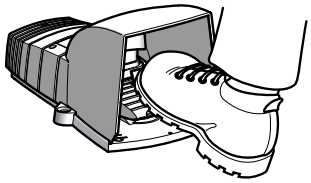


The baseplate of the two-hand control station pedestal XY2 SB90 is pre-drilled with fixing holes to suit the mounting of either:

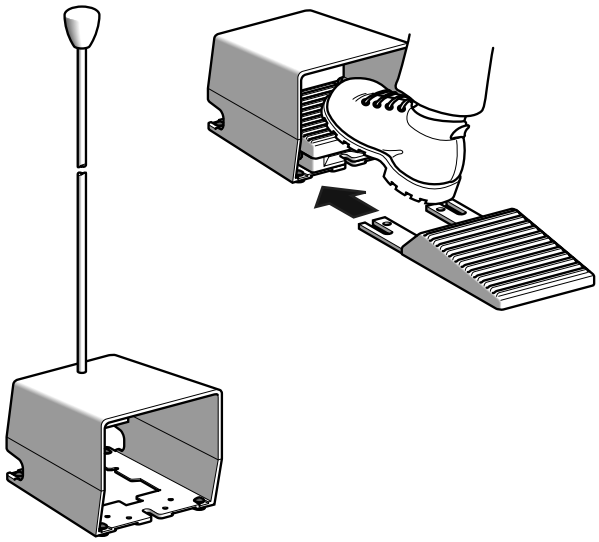
- One XPE foot switch, with or without protective cover.
- Two XPE R foot switches, each with its own protective cover or fitted with a common (double) cover.

Ergonomic

The protective cover is very strong and is sufficiently dimensioned to accommodate all types of footwear (large size, safety boots, etc.).



The foot switch is designed such that the operating pedal is close to the ground and at a comfortable angle.



Various accessories improve the working comfort for machine operators and help to avoid discomfort in the base of the spine due to unbalanced positioning of the pelvis:

- Heel rest (metal XPE).
- Hand grip for mounting on protective cover.

5

Characteristics: pages 5/6 and 5/10
References: pages 5/7, 5/8 and 5/11
Dimensions: pages 5/9, 5/12 and 5/13

Control and signalling units for safety applications

Metal foot switches, Universal, Harmony types XPE M/R

With positive opening operation on release

Environment

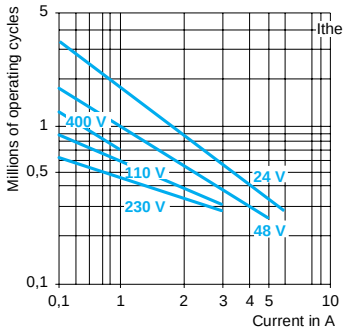
Conformity to standards	Without protective cover		IEC/EN60947-5-1, VDE 0660-200, CSA C22 2 n° 14
	With protective cover		NF E 09-031
Product certifications	Standard version		FI, CSA A300 - Q300 with tapped entries for cable gland
	Special version		CSA A300 - Q300 with 1/2" NPT adaptor
Protective treatment	Standard version		"TC"
	Special version		"TH"
Ambient air temperature	For operation	**°C**	- 25…+ 70
	For storage	**°C**	- 40…+ 70
Vibration resistance			15 gn (10…500 Hz) conforming to IEC 60068-2-6
Shock resistance			20 gn conforming to IEC 60068-2-27 (150 gn conforming to NF E 09-031)
Electric shock protection			Class I conforming to IEC 60536 and NF C 20-030
Mechanical life			5 million operating cycles
Degree of protection			IP 66 conforming to IEC 60529 and IP 669 conforming to NF C 20-010 (with protective cover)
Cable entries			See dimensions, page 5/9

Contact block characteristics

Rated operational voltage	∿ AC-15		A300 or Ue = 240 V, Ie = 3 A
	⎓ DC-13		Q300 or Ue = 250 V, Ie = 0.27 A conforming to IEC/EN 60947-5-1 Appendix A
Rated insulation voltage		**V**	Ui = 500, degree of pollution 3 conforming to IEC/EN 60947-1, group C conforming to NF C 20-040 and VDE 0110
			Ui = 300 conforming to UL 508, CSA C22 -2 n° 14
Rated impulse withstand voltage		**kV**	U imp = 6 conforming to IEC/EN 60947-1, IEC 60664
Positive operation			N/C contact with positive opening operation conforming to IEC/EN 60947-5-1 Appendix K
Resistance across terminals		**mΩ**	⩽ 25 conforming to NF C 93-050 method A or IEC 60255-7 category 3
Short-circuit protection			10 A cartridge fuse type gG (gl) conforming to IEC/EN 60947-5-1, VDE 0660-200
Foot switches with snap action contacts	Operational power		Conforming to IEC/EN 60947-5-1 Appendix C
	Utilisation categories		AC-15 and DC-13
	Operating rate		3600 operating cycles/hour. Load factor: 0.5

a.c. supply ∿ 50-60 Hz

Inductive circuit



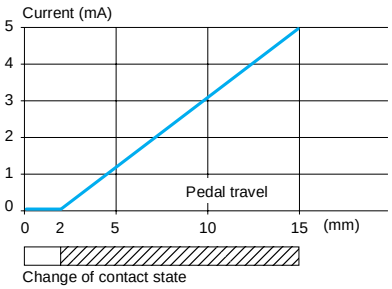
d.c. supply ⎓

Power broken in W
for 5 million operating cycles

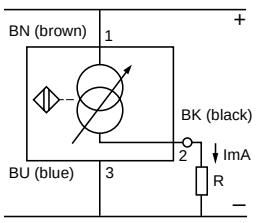
Voltage	V	24	48	120
⩘⩘⩘	W	10	7	4

Foot switches with analogue output	Nominal supply voltage	**V**	⎓ 24…48
	Voltage limits	**V**	⎓ 19…58
	Current consumption, no-load	**mA**	4
	Output current drift (IS) in relation to temperature		0…+ 50 °C: + 2…- 6%
			- 25…+ 70 °C: + 2…- 12%

Output current curve



Wiring scheme



Connection	Screw clamp terminals		Maximum clamping capacity: 1 x 2.5 mm² or 2 x 1.5 mm² with or without cable end

General: pages 5/2 to 5/5
References: pages 5/7 and 5/8
Dimensions: page 5/9

Control and signalling units for safety applications

Metal foot switches, Universal, Harmony types XPE M/R

With positive opening operation on release

XPE M510

XPE R5100D

XPE M310

XPE R3100D

Single and double pedal foot switches with protective cover

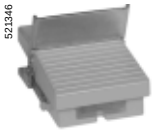
Description	Pedal	Contact operation		Housing colour	Reference	Weight kg
Metal With trigger mechanism requiring positive action to allow pedal operation	Single	1 step	1 N/C + N/O	Blue	**XPE M510**	2.570
	Double	1 step	2 x 1 N/C + N/O	Blue	**XPE M5100D**	6.070
	Single	1 step	1 N/C + N/O	Orange	**XPE R510**	2.570
	Double	1 step	2 x 1 N/C + N/O	Orange	**XPE R5100D**	6.070
	Single	1 step	2 N/C + N/O	Blue	**XPE M511**	2.590
	Double	1 step	2 x 2 N/C + N/O	Blue	**XPE M5110D**	6.090
	Single	1 step	2 N/C + N/O	Orange	**XPE R511**	2.590
	Double	1 step	2 x 2 N/C + N/O	Orange	**XPE R5110D**	6.090
	Single	2 step	2 N/C + N/O	Blue	**XPE M711**	2.590
				Orange	**XPE R711**	2.590
	Single	1 step with analogue output	2 N/C + N/O	Blue	**XPE M529**	2.600
				Orange	**XPE R529**	2.600
Metal Without trigger mechanism	Single	1 step	1 N/C + N/O	Blue	**XPE M310**	2.400
	Double	1 step	2 x 1 N/C + N/O	Blue	**XPE M3100D**	5.900
	Single	1 step	1 N/C + N/O	Orange	**XPE R310**	2.400
	Double	1 step	2 x 1 N/C + N/O	Orange	**XPE R3100D**	5.900
	Single	1 step	2 N/C + N/O	Blue	**XPE M311**	2.420
	Double	1 step	2 x 2 N/C + N/O	Blue	**XPE M3110D**	5.920
	Single	1 step	2 N/C + N/O	Orange	**XPE R311**	2.420
	Double	1 step	2 x 2 N/C + N/O	Orange	**XPE R3110D**	5.920
	Single	1 step latching	1 N/C + N/O	Blue	**XPE M410**	2.400
				Orange	**XPE R410**	2.420
	Single	2 step	2 N/C + N/O	Blue	**XPE M611**	2.420
				Orange	**XPE R611**	2.420
	Single	1 step with analogue output	2 N/C + N/O	Blue	**XPE M329**	2.420

General: pages 5/2 to 5/5
Characteristics: page 5/6
Dimensions: page 5/9

Control and signalling units for safety applications

Metal foot switches, Universal, Harmony types XPE M/R

With positive opening operation on release



XPE R810

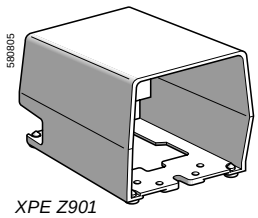
XPE M110

Foot switches without protective cover

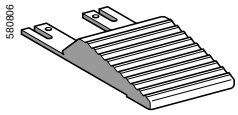
Description	Contact operation		Housing colour	Reference	Weight kg
Metal With trigger mechanism requiring positive action to allow pedal operation	1 step	1 N/C + N/O	Orange	**XPE R810**	1.200
	2 step	2 N/C + N/O	Orange	**XPE R911**	1.200
	Analogue output	2 N/C + N/O	Orange	**XPE R929**	1.200
Metal Without trigger mechanism	1 step	1 N/C + N/O	Blue	**XPE M110**	1.200
			Orange	**XPE R110**	1.200
		2 N/C + N/O	Blue	**XPE M111**	1.200
			Orange	**XPE R111**	1.200
	2 step	2 N/C + N/O	Blue	**XPE M211**	1.200
			Orange	**XPE R211**	1.200
	Analogue output	2 N/C + N/O	Orange	**XPE R229**	1.200

Accessories

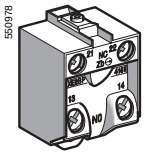
Description	For use with	Unit reference	Weight kg
Single protective cover	XPE M	**XPE Z901**	1.200
	XPE R	**XPE Z911**	1.200
Double protective cover	XPE M	**XPE Z931**	1.200
	XPE R	**XPE Z921**	1.200
Hand grip for protective cover	XPE Z901 or XPE Z911	**XPE Z913**	0.450
Heel rest	XPE M	**XPE Z902**	0.240
	XPE R	**XPE Z912**	0.240
Trigger mechanism	XPE M or XPE R	**XPE Z903**	0.170
Latching device (replacement for foot switches with this feature)	XPE M or XPE R	**XPE Z904**	0.170
Cable clamp	XPE M or XPE R	**XPE Z905**	0.010
Contact blocks Snap action	1 step switches: 1st or 2nd N/C + N/O 2 step switches: 1st N/C + N/O	**XE2S P4151**	0.020
	2 step switches: 2nd N/C + N/O	**XE2S P4151B**	0.020
ISO M20 adaptor (Sold in lots of 5)	XPE M or XPE R	**DE9 RA1620**	0.050



XPE Z901



XPE Z902



XE2S P4151●

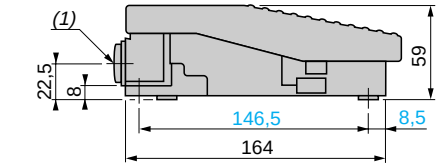
General: pages 5/2 to 5/5
Characteristics: page 5/6
Dimensions: page 5/9

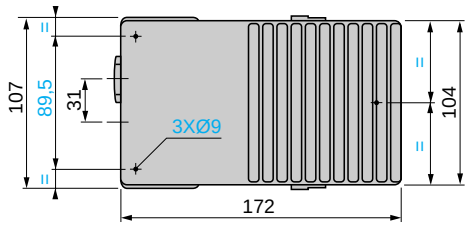
Control and signalling units for safety applications

Metal foot switches, Universal, Harmony types XPE M/R

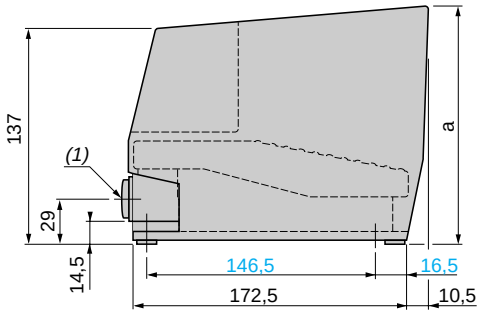
With positive opening operation on release

XPE M, XPE R without protective cover

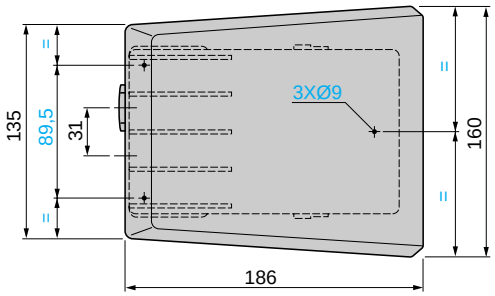




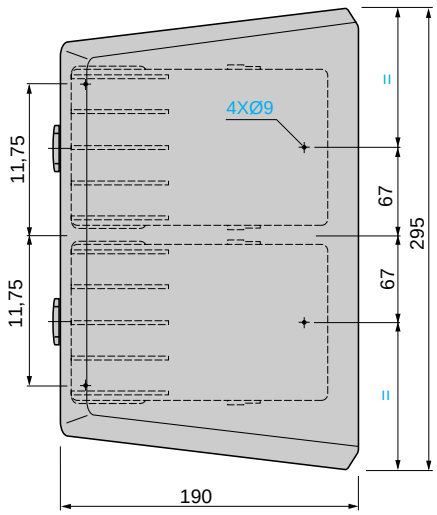
XPE M, XPE R with protective cover



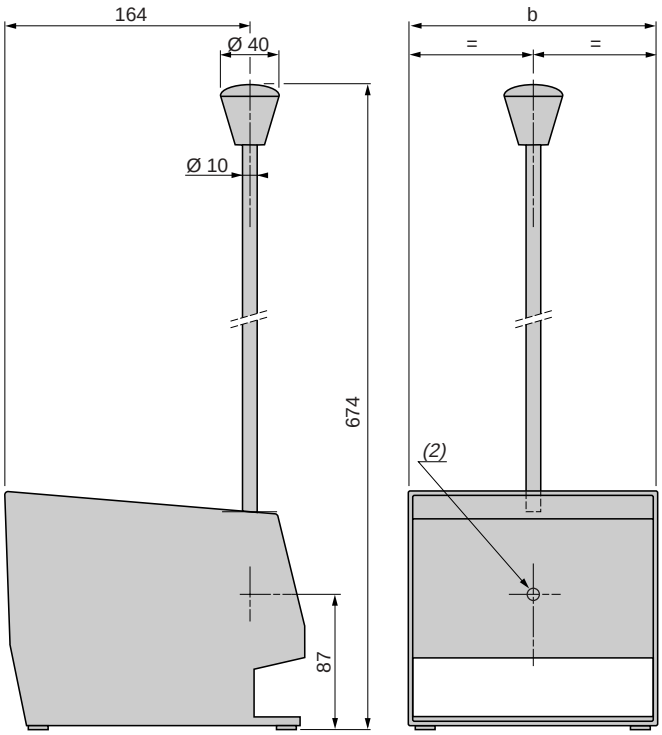
Single



Double



XPE Z913



	a	b
Single pedal	152	160
Double pedal	155	295

(1) 2 tapped entries for n° 16 (Pg 16) cable gland. For ISO M20, use adaptor DE9 RA1620.
(2) 1 Ø 6 plain hole.

Control and signalling units for safety applications

Plastic foot switches,
Harmony types XPE A/B/G/Y

With positive opening operation on release

Environment

Conformity to standards			**XPE A, XPE B, XPE G, XPE Y** without protective cover: IEC/EN 60947-5-1, VDE 0660200 **XPE B, XPE G,** UL 508, CSA C22 2 n° 14
			XPE B, XPE G with protective cover: NF E 09-031
Product certifications	Standard version		**XPE B, XPE G**: UL, CSA A300 - Q300 with knock-out entries for ISO M20 cable gland
Protective treatment	Standard version		"TH"
Ambient air temperature	For operation	°C	**XPE B, XPE G**: - 25…+ 70 **XPE A, XPE Y**: - 25…+ 55
	For storage	°C	- 40…+ 70
Vibration resistance	Conforming to IEC 60068-2-6		5 gn (10…500 Hz)
Shock resistance	Conforming to IEC 60068-2-27		**XPE A**: 25 gn, **XPE B, XPE G, XPE Y**: 20 gn
Electric shock protection	Conforming to IEC 60536 and NF C 20-030		Class II
Mechanical life			**XPE A, XPE Y**: 2 million operating cycles **XPE B, XPE G**: 5 million operating cycles
Degree of protection			**XPE A**: IP 43 conforming to IEC 60529 **XPE Y**: IP 55 conforming to IEC 60529
			XPE B, XPE G: IP 66 conforming to IEC 60529
Cable entries			See dimensions, pages 5/13 and 5/14

Contact block characteristics

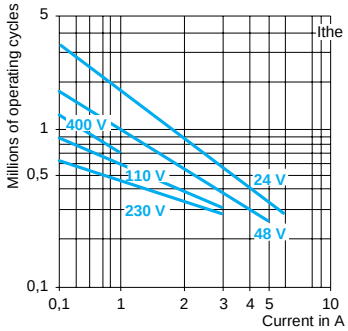
Rated operational voltage			∼ AC-15; A 300 or Ue = 240 V, Ie = 3 A
			⎓ DC-13; Q 300 or Ue = 250 V, Ie = 0.27 A conforming to IEC/EN 60947-5-1 Appendix A
Rated insulation voltage			Ui = 500 V degree of pollution 3 conforming to IEC/EN 60947-1, group C conforming to NF C 20-040 and VDE 0110
			Ui = 300 V conforming to UL 508, CSA C22 -2 n° 14
Rated impulse withstand voltage			U imp = 4 kV conforming to IEC/EN 60947-1, IEC 60664
Positive operation			N/C contact with positive opening operation conforming to IEC/EN 60947-5-1 Appendix K
Resistance across terminals			≤ 25 mΩ conforming to NF C 93-050 method A or IEC 60255-7 category 3
Short-circuit protection			10 A cartridge fuse type gG (gl) conforming to IEC/EN 60947-5-1, VDE 0660-200

Operational power
conforming to IEC/EN 60947-5-1 Appendix C

Foot switches with snap action contacts

Utilisation categories AC-15 and DC-13
Operating rate: 3600 operating cycles/hour
Load factor: 0.5

a.c. supply ∼ 50-60 Hz
Inductive circuit



d.c. supply ⎓

Power broken in W for 5 million operating cycles

Voltage	V	24	48	120
⎓	W	10	7	4

Connection			Screw clamp terminals
			Maximum clamping capacity: 1 x 2.5 mm² or 2 x 1.5 mm² with or without cable end

General: pages 5/2 to 5/5
References: page 5/12
Dimensions: pages 5/13 and 5/14

Control and signalling units for safety applications

Plastic foot switches, Harmony types XPE A/B/G/Y

With positive opening operation on release

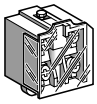
XPE ●510

XPE ●310

XPE G810

XPE ●110

XPE A110



XE2S P4151

Single pedal foot switches with protective cover

Description	Contact operation		Housing colour	Reference	Weight kg
With trigger mechanism requiring positive action to allow pedal operation	1 step	1 N/C + N/O	Yellow	**XPE Y510** *(1)*	0.700
			Blue	**XPE B510**	0.700
			Grey	**XPE G510**	0.700
		2 N/C + N/O	Yellow	**XPE Y511** *(1)* ▲	0.700
			Blue	**XPE B511**	0.700
			Grey	**XPE G511**	0.700
	2 step	2 N/C + N/O	Yellow	**XPE Y711** *(1)* ▲	0.700
			Blue	**XPE B711**	0.700
			Grey	**XPE G711**	0.700
Without trigger mechanism	1 step	1 N/C + N/O	Yellow	**XPE Y310** *(1)*	0.690
			Blue	**XPE B310**	0.690
			Grey	**XPE G310**	0.690
		2 N/C + N/O	Yellow	**XPE Y311** *(1)* ▲	0.690
			Blue	**XPE B311**	0.690
			Grey	**XPE G311**	0.690
	2 step	2 N/C + N/O	Yellow	**XPE Y611** *(1)* ▲	0.690
			Blue	**XPE B611**	0.690
			Grey	**XPE G611**	0.690

Foot switches without protective cover

Description	Contact operation		Housing colour	Reference	Weight kg
With trigger mechanism requiring positive action to allow pedal operation	1 step	1 N/C + N/O	Grey	**XPE G810**	0.580
	2 step	2 N/C + N/O	Grey	**XPE G911**	0.580
Without trigger mechanism	1 step	1 N/C + N/O	Yellow	**XPE Y110** *(1)*	0.570
			Blue	**XPE B110**	0.570
			Grey	**XPE G110**	0.570
			Black	**XPE A110**	0.275
		2 N/C + N/O	Blue	**XPE B111**	0.570
			Grey	**XPE G111**	0.570
			Black	**XPE A111**	0.295
	2 step	2 N/C + N/O	Yellow	**XPE Y211** *(1)* ▲	0.570
			Blue	**XPE B211**	0.570
			Grey	**XPE G211**	0.570

Accessories for foot switches with or without protective cover

Description	For use with	Sold in lots of	Unit reference	Weight kg
M20 x 1.5 cable gland	Cable Ø 6…12 mm	5	**DE9RA200612**	0.014
	Cable Ø 10…14 mm	5	**DE9RA201014**	0.014
Contact blocks, snap action	1 step switches: 1st or 2nd N/C + N/O 2 step switches: 1st N/C + N/O	1	**XE2S P4151**	0.020

(1) IP 55, not UL, CSA approved.

▲ Available 1st quarter 2005

General: pages 5/2 to 5/5
Characteristics: page 5/10
Dimensions: pages 5/13 and 5/14

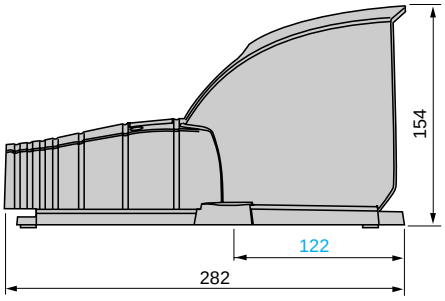
Control and signalling units for safety applications

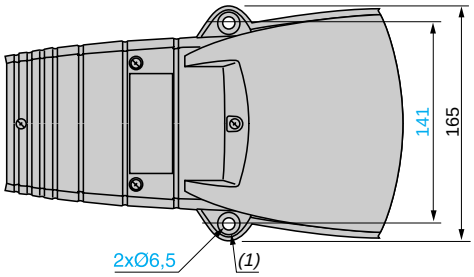
Plastic foot switches,
Harmony types XPE A/B/G/Y

With positive opening operation on release

XPE B, XPE G, XPE Y

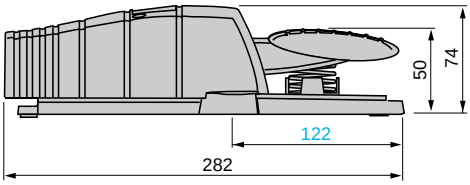
With protective cover

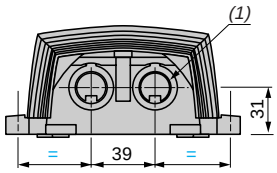


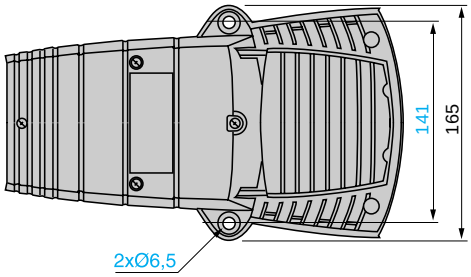


(1) Ø 16 x 4 counterbored hole.

Without protective cover







(1) 2 plain holes for ISO M20 or n° 13 (Pg 13.5) cable gland.

5

General:
pages 5/2 to 5/5

Characteristics:
page 5/10

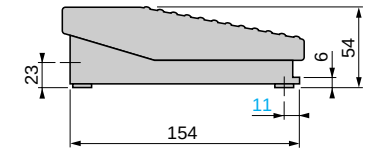
References:
page 5/12

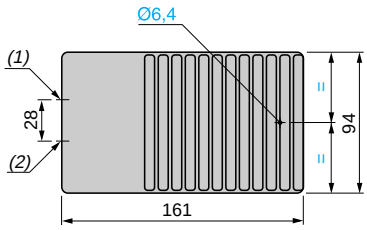
Control and signalling units for safety applications

Plastic foot switches,
Harmony types XPE A/B/G/Y

With positive opening operation on release

XPE A





(1) 1 plain hole for ISO M20 or n° 13 (Pg 13.5) cable gland.
(2) 1 plain hole for ISO M16 or n° 9 (Pg 11) cable gland.

5

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

5

Presentation

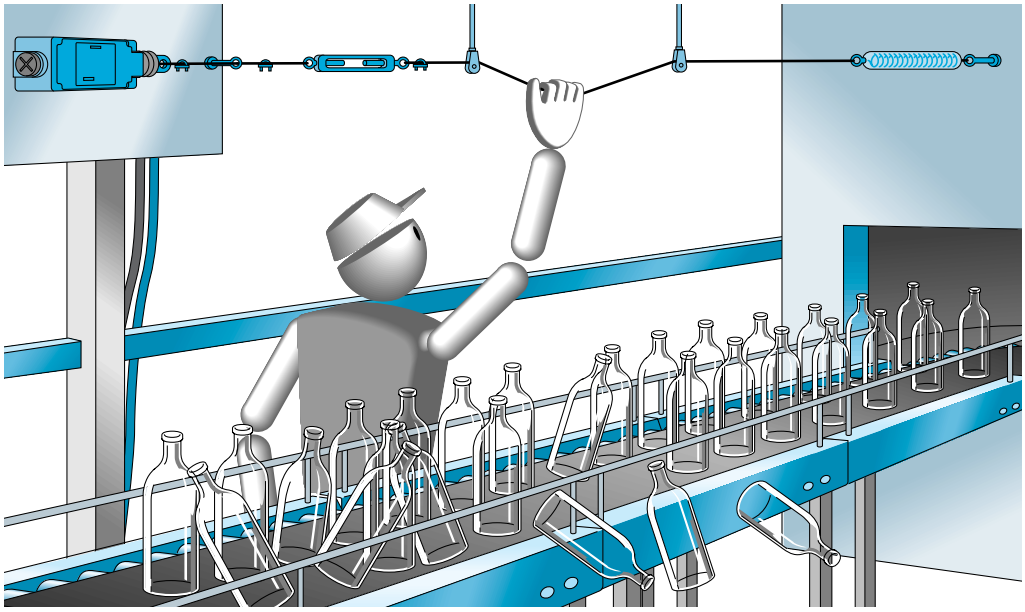
Emergency stop trip wire switches

Emergency stop trip wire switches are designed to:

- Avert hazards (dangerous phenomena) at the earliest possible moment, or to reduce risks which could cause injury to persons or damage either to machines or work in progress.
- Be tripped by a single human action when a normal Emergency stop function is not available.
- Trip in the event of the trip wire breaking.

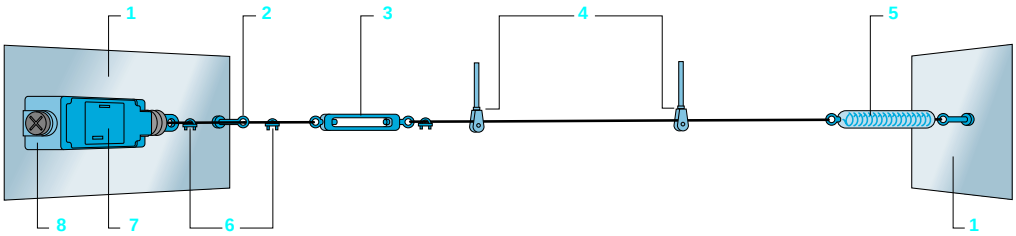
Emergency stop trip wire switches are essential in premises and on machines that are potentially dangerous when in operation. The operator must be able to trigger the stop instruction at any point within their working area.

Application examples: woodworking machines, shears, conveyor systems, transfer machines, printing machines, textile machines, rolling mills, test laboratories, paint shops, surface treatment works.



Installation and setting-up

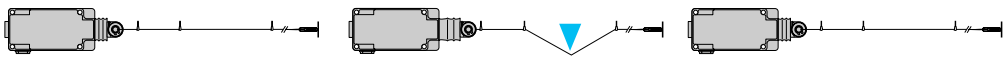
Typical installation



1 Fixing support
2 First cable support
3 Turnbuckle
4 Pulley supports and pulleys
5 End spring
6 Cable grips
7 Switch adjustment
8 Emergency stop

Notes: All XY2 CH/CE/CB trip wire switches can be fitted with a pilot light to indicate that the switch has been tripped.
It is essential that pulleys be used with trip wires that deviate from a straight run, i.e. angled to form a protected zone.
Important: The total sum of the angles through which the trip wire bends must be less than 180°.

Main features



1 *Running condition*
2 *Stop instruction given (tripped)*
3 *Stop condition (awaiting reset/restart)*

Positive operation	1 The switches incorporate positive opening operation contacts, the tripping of the switch being made with positive action.
Latching	2 The switch latches in the tripped position (N/C safety contact(s) open). The function of the N/O contact is purely for signalling.
Resetting	3 The switches incorporate a reset button, which re-closes the safety contact(s). Restarting of the machine must only be achieved by manual operation of a control device within the machine start circuit, remote to the trip wire switch.

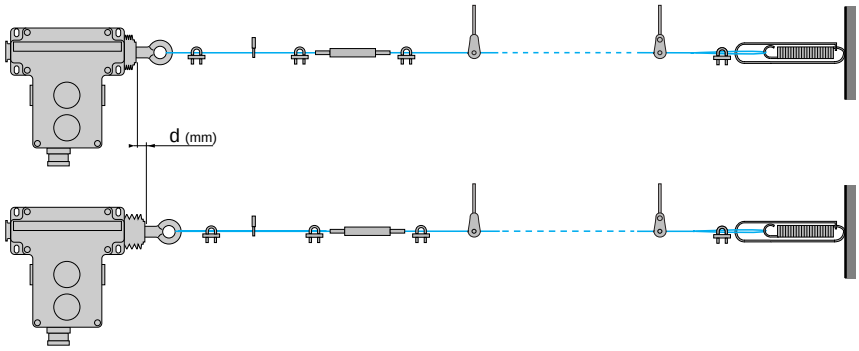
Characteristics: page 5/16
References: pages 5/17 and 5/20 to 5/22
Dimensions: page 5/23

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

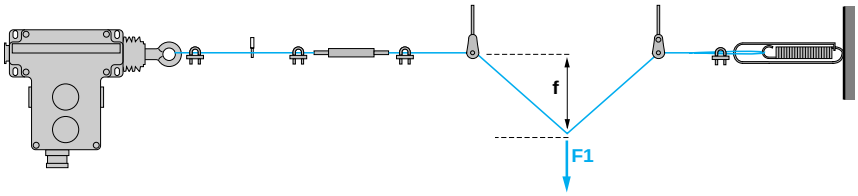
Trip wire expansion and contraction: d

Temperature variations likely to be encountered in the protected zone will obviously cause the trip wire to expand or contract.
To enable instant verification that the trip wire is at its correct tension (and for making any necessary adjustments), trip wire switches XY2 CH and XY2 CE incorporate a trip wire tension indicator.



Tripping force: F1
Tripping deflection: f

The tripping force **F1** is the force necessary on the trip wire to cause the switch to trip.
The tripping deflection **f** is the distance that the trip wire has to be deflected from its taut position to the point at which the switch trips.



Adjustment values (with end spring)

For Emergency stop trip wire switches type XY2 CE: the adjustment values depend on the positions of the cam located inside the switch.
Adjustment is made by rotating the cam after the switch has been installed.
Each notched position of the cam is referenced by the letters A to F, and the selected letter is visible through a viewing port.
Temperature range: < 25 °C.

Type	Position of cam	Maximum length of cable	End spring	Average tripping deflection values f and tripping forces F1 for distance between cable supports of 5 m and cable							
				Force F1 (daN)				Deflection f for (mm)			
				Standard		Light		Standard force		Light force	
				Cable Ø 3.2 mm	Cable Ø 5 mm	Cable Ø 3.2 mm	Cable Ø 5 mm	Cable Ø 3.2 mm	Cable Ø 5 mm	Cable Ø 3.2 mm	Cable Ø 5 mm
XY2 CH	–	15 m	XY2 CZ703	2.4	3	–	–	190	230	–	–
XY2 CE	A	50 m	XY2 CZ702	7	7	4	4.4	270	260	240	250
	B			8.6	8.4	4.4	4.8	300	280	250	270
	C			10.1	9.6	4.8	5.1	320	300	270	270
	D			11	10.2	4.6	5.3	330	320	280	280
	E			12.5	12.3	5.8	6	360	340	310	290
	F			14.4	13.3	6.4	6.6	390	360	330	320
XY2 CB	–	100 m	XY2 CZ707	6.8	–	–	–	350	–	–	–

Standards

Trip wire switches XY2 CH and CE meet all the requirements of the harmonised European standard **EN 418**, relating to Emergency stop devices.
All the trip wire switches are CE marked and supplied with an EC declaration of conformity.

Characteristics: page 5/16
References: pages 5/17 and 5/20 to 5/22
Dimensions: page 5/23

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2

Environment

Conformity to standards	Products	**XY2 CB**: IEC/EN 60947-5-1, CSA C 22-2 n° 14 (if specified) **XY2 CE**, **CH**: IEC/EN 60947-5-1, EN 418, CSA C 22-2 n° 14 (if specified)
	Machine assemblies	**XY2 CE**, **CH**, **CB**: EN 60204-1, EN 292, Machinery directive: 98/37/EC and 91/368/EEC, Health and Safety directive: 89/655/EEC
Product certifications	Special version	**XY2 CB**: CSA ∿ 600 V heavy duty. **XY2 CE**: UL-CSA A 300-Q 300. **XY2 CH**: UL-CSA
Protective treatment	Standard version	"TC"
	Special version	"TH"
Ambient air temperature	For operation	- 25…+ 70 °C
	For storage	- 40…+ 70 °C
Vibration resistance		**XY2 CE**: 10 gn (10…300 Hz) conforming to IEC/EN 60068-2-6 **XY2 CH**: 10 gn (10…150 Hz)
Shock resistance		**XY2 CE**, **CH**: 50 gn (duration 11 ms) conforming to IEC/EN 60068-2-27
Electric shock protection		Class I conforming to IEC/EN 60536 and NF C 20-030
Degree of protection		**XY2 CB**: enclosure IP 22, contact housing IP 65, conforming to IEC/EN 60529 and NF C 20-010 **XY2 CE**, **CH**: IP 65
Mechanical life		**XY2 CE**, **CH** (Emergency stop): 10,000 operating cycles
Length of protected zone (trip wire)		**XY2 CH**: ≤ 15 metres, **XY2 CE**: ≤ 50 metres, **XY2 CB**: 100 metres and 200 metres
Cable entries		See dimensions, page 5/23.

Contact block characteristics

Rated operational characteristics	AC-15: A300 or Ue = 240 V, Ie = 3 A DC-13: Q300 or Ue = 250 V, Ie = 0.27 A conforming to IEC/EN 60947-5-1 Appendix A
Nominal thermal current	10 A
Rated insulation voltage	**XY2 CE**, **CH**: Ui = 500 V degree of pollution 3 conforming to IEC/EN 60947-1, Ui = 300 V conforming to UL 508, CSA C22-2 n° 14 **XY2 CB**: Ui = 500 V degree of pollution 3 conforming to IEC/EN 60947-1, Ui = 600 V conforming to CSA C22-2 n° 14
Rated impulse withstand voltage	**XY2 CE**, **CH**: U imp = 6 kV conforming to IEC/EN 60947-1, IEC/EN 60664
Positive operation	N/C contact with positive opening operation conforming to IEC/EN 60947-5-1 Section 3
Contact operation	**XY2 CB**, **CE**, **CH** (Emergency stop): N/C + N/C or N/C + N/O slow break
Resistance across terminals	≤ 25 mΩ conforming to NF C 93-050 method A or IEC/EN 60255-7 category 3
Terminal referencing	Conforming to CENELEC EN 50013
Operational voltage	∿ 24…380 V
Short-circuit protection	**XY2 CB**, **CE**, **CH**: 10 A cartridge fuse type gG (gl) conforming to IEC/EN 60269

Rated operational power
(Electrical durability)

Operating rate: 3600 operating cycles/hour
Load factor: 0.5

XY2 CB
Conforming to IEC/EN 60947-5-1 Appendix C
Utilisation categories AC-15 and DC-13

a.c. supply ∿ 50…60 Hz
Power broken in VA *(1)*
⎍ Inductive circuit

Voltage	**V**	**24**	**48**	**127**	**220**
⎍	**VA**	250	250	500	500

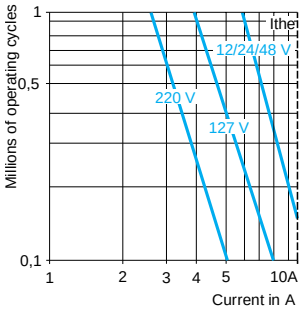
d.c. supply ⎓
Power broken in W (1)
⎍ Inductive circuit

Voltage	**V**	**24**	**48**	**120**
⎍	**W**	50	100	100

XY2 CE, CH
Conforming to IEC/EN 60947-5-1 Appendix C
Utilisation categories AC-15 and DC-13

a.c. supply ∿ 50…60 Hz

⎍ Inductive circuit



Voltage	**V**	**24**	**48**	**120**
⎍	**W**	15	23	30

(1) For 1 million operating cycles.

Connection	Screw clamp terminals Clamping capacity: min. 1 x 0.5 mm², max. 1 x 2.5 mm² or 2 x 1.5 mm²

5

General:
pages 5/14 and 5/15

References:
pages 5/17 and 5/20 to 5/22

Dimensions:
page 5/23

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

XY2 CH13250

XY2 CE1A250

XY2 CB30

Latching Emergency stops (cable not included)

Without pilot light *(1)*

Length of cable	Distance between cable supports	Reset	Type of contact			Cable anchor point	Reference	Weight kg
≤ **15 m**	**5 m**	By booted pushbutton	1	1	N/C + N/O slow break	RH side or LH side	**XY2 CH13250** *(3)*	0.865
		By key release pushbutton (key n° 421) *(2)*	1	1		RH side or LH side	**XY2 CH13450** *(3)*	0.910
		By booted pushbutton	2	–	N/C + N/C slow break	RH side or LH side	**XY2 CH13270** *(3)*	0.865
		By key release pushbutton (key n° 421) *(2)*	2	–		RH side or LH side	**XY2 CH13470** *(3)*	0.910
≤ **50 m**	**5 m**	By booted pushbutton	1	1	N/C + N/O slow break	RH side	**XY2 CE1A250**	1.450
			1	1		LH side	**XY2 CE2A250**	1.450
			2	–	N/C + N/C slow break	RH side	**XY2 CE1A270**	1.450
			2	–		LH side	**XY2 CE2A270**	1.450
		By key release pushbutton (key n° 421) *(2)*	1	1	N/C + N/O slow break	RH side	**XY2 CE1A450**	1.465
			1	1		LH side	**XY2 CE2A450**	1.465
			2	–	N/C + N/C slow break	RH side	**XY2 CE1A470**	1.470
			2	–		LH side	**XY2 CE2A470**	1.470
≤ **100 m**	**5 m**	From inside enclosure	1	1	N/C + N/O slow break	LH side	**XY2 CB10** *(4)*	15.000
			1	1		RH side	**XY2 CB20** *(4)*	15.000
2 x 100 m	**5 m**	From inside enclosure	1	1	N/C + N/O slow break	RH and LH sides	**XY2 CB30** *(4)*	25.000

With pilot light *(5)*

Length of cable	Distance between cable supports	Reset	Supply (direct) Bulb included	Type of contact			Cable anchor point	Reference	Weight kg
≤ **50 m**	**5 m**	By booted pushbutton	230 V	2	2	N/C + N/O slow break	RH side	**XY2 CE1A297**	1.470
				2	2		LH side	**XY2 CE2A297**	1.470

Length of cable	Distance between cable supports	Reset	Supply (via integral transformer) *(6)*	Type of contact			Cable anchor point	Reference	Weight kg
≤ **100 m**	**5 m**	From inside enclosure	24 V/6 V	1	1	N/C + N/O slow break	LH side	**XY2 CB11** *(4)*	15.600
				1	1		RH side	**XY2 CB21***(4)*	15.600
			127 V/6 V	1	1		LH side	**XY2 CB13** *(4)*	15.600
				1	1		RH side	**XY2 CB23** *(4)*	15.600
			220 V/6 V	1	1		LH side	**XY2 CB14** *(4)*	15.600
				1	1		RH side	**XY2 CB24** *(4)*	15.600
2 x 100 m	**5 m**	From inside enclosure	24 V/6 V	1	1	N/C + N/O slow break	RH and LH sides	**XY2 CB31** *(4)*	25.600
			127 V/6 V	1	1		RH and LH sides	**XY2 CB33** *(4)*	25.600
			220 V/6 V	1	1		RH and LH sides	**XY2 CB34** *(4)*	25.600

(1) These Emergency stops are also available fitted with a pilot light, see ordering forms for XY2 CH and XY2 CE trip wire switches on pages 5/18 and 5/19.
(2) Ø 30 mushroom head key release pushbutton. Locking and key withdrawal in the rest (unactuated) position.
*(3) For ISO M20 threaded cable entry version, add the suffix H29 to the reference selected. Example: **XY2 CH13250** becomes **XY2 CH13250H29**.*
*(4) End spring included for **XY2 CB**.*
(5) Factory pre-wiring of the N/O contact available in series with the pilot light.
(6) BA 7s - 6 V bulb included.

Other version

See order forms on pages 5/18 and 5/19.
XY2 CE with reset by Ø 40 mm mushroom head pushbutton or with integral cable tensioner and support.
Please consult your Regional Sales Office.

General: pages 5/14 and 5/15
Characteristics: page 5/16
Dimensions: page 5/23

Order form (specimen suitable for photocopying)

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

Complete units, pre-assembled

Customer			Schneider Electric Industries SA	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

How to use this form:
- indicate the number of Emergency stop switches required,
- complete the basic reference.

Reference

Number of identical Emergency stops ☐ **XY2 CH** ☐ ☐ ☐ ☐ ☐ ☐ ☐

Model							
Emergency stop (latching)		**1**					
Degree of protection							
IP 65 (standard bellows) without tensioner			**1**				
IP 65 (silicone bellows) without tensioner			**2**				
IP 65 (standard bellows) with integral tensioner			**3**				
IP 65 (silicone bellows) with integral tensioner			**4**				
Type of reset							
Emergency stop *(1)* Reset by spring return pushbutton	Flush			**1**			
	Booted			**2**			
	Mushroom head, Ø 30			**3**			
	Key release mushroom head, Ø 30 (key n° 421)			**4**			
	Key release mushroom head, Ø 30 (key n° 455)			**5**			
	Pull knob			**6**			
	Key release mushroom head, Ø 30 *(2)*			**9**			
Contact block for Emergency stop function *(3)*							
Slow break	1 N/C + N/O (N/O staggered)				**5**		
	1 N/C + N/C				**7**		
Pilot light							
Without pilot light						**0**	
With 24 V direct supply pilot light						**3**	
With 48 V direct supply pilot light						**4**	
With 130 V direct supply pilot light						**5**	
With 230 V direct supply pilot light						**7**	
ISO M20 tapped cable entries							**H29**
Increased protective treatment against corrosion							**TK**

(1) Opening of a circuit + mechanical latching in the open position.
(2) Other key numbers:

458A	520E	1242A	1243E	1344A	1422A	1431E
2123E	2132E	3112E	3113A	3122A	3123A	3233A
3423A	3432A	4241A				

(3) Emergency stop trip wire switches can only be fitted with slow break contact blocks.

Order form (specimen suitable for photocopying)

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

Complete units, pre-assembled

Customer			Schneider Electric Industries SA	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

How to use this form:
- indicate the number of Emergency stop switches required,
- complete the basic reference.

Reference

Number of identical Emergency stops ☐ **XY2 CE** ☐☐☐☐☐☐

Model		
Emergency stop (latching)	Anchor point on RH side, standard force	**1**
	Anchor point on LH side, standard force	**2**
	Anchor point on RH side, light force	**5**
	Anchor point on LH side, light force	**6**
Degree of protection and “cable under tension” window		
IP 65 (standard bellows) without “cable under tension” window		**A**
IP 65 (silicone bellows) without “cable under tension” window		**C**
IP 65 (standard bellows) with “cable under tension” window		**D**
IP 65 (silicone bellows) with “cable under tension” window		**E**
Type of reset		
Emergency stop *(1)* Reset by spring return pushbutton	Flush	**1**
	Booted	**2**
	Mushroom head, Ø 30	**3**
	Key release mushroom head, Ø 30 (key n° 421)	**4**
	Key release mushroom head, Ø 30 (key n° 455)	**5**
	Pull knob	**6**
	Key release mushroom head, Ø 30 *(2)*	**9**
Contact block for Emergency stop function *(3)*		
Slow break	1 N/C + N/O	**5**
	1 N/C + N/C	**7**
	2 N/C + N/O (compulsory with pilot light) *(4)*	**9**
Pilot light		
Without pilot light		**0**
With 24-48-130 V direct supply pilot light. Bulb not included (provide for 2 contact blocks)		**6**
With 230 V direct supply, via integral resistor, pilot light. Bulb included (provide for 2 contact blocks)		**7**
Increased protective treatment against corrosion		**TK**

(1) Opening of N/C contact + mechanical latching in the open position.
(2) Other key numbers:

458A	520E	1242A	1243E	1344A	1422A	1431E
2123E	2132E	3112E	3113A	3122A	3123A	3233A
3423A	3432A	4241A				

(3) Emergency stop trip wire switches can only be fitted with slow break contact blocks.
(4) The use of a pilot light means selecting a switch fitted with 2 N/C + N/O contacts: XY2 CE●●●9

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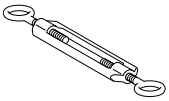
Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C


803017

XY2 CZ402

810060

XY2 CZ503

803019

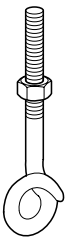
XY2 CZ524

810061

XY2 CZ601

803018

XY2 CZ602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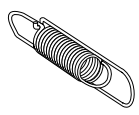
XY2 CZ705

803016

XY2 CZ708

810062

XY2 CZ701


803021

XY2 CZ702

Separate components

Description	For use with	Diameter mm	Length m	Reference	Weight kg
Galvanised cables with red sheath	XY2 CH	3.2	10.5	**XY2 CZ301**	0.280
			15.5	**XY2 CZ3015**	0.410
			25.5	**XY2 CZ302**	0.690
			50.5	**XY2 CZ305**	1.360
			100.5	**XY2 CZ310**	2.700
	XY2 CH, XY2 CE and XY2 CB	5	15.5	**XY2 CZ1015**	0.850
			25.5	**XY2 CZ102**	1.400
			50.5	**XY2 CZ105**	2.750
			100.5	**XY2 CZ110**	5.500

Description	Type	For use with	Sold in lots of	Unit reference	Weight kg
Turnbuckles	M6 x 60 + locknut	All models except XY2 CH *(1)*	1	**XY2 CZ402**	0.060
	M8 x 70 + locknut	All models except XY2 CH *(1)*	1	**XY2 CZ404**	0.100
Cable grips	Single	Cable Ø 3 to 5 mm	10	**XY2 CZ503**	0.007
	Double	Cable Ø 3 to 5 mm	10	**XY2 CZ513**	0.016
	Clamp	Cable Ø 3.2 mm	10	**XY2 CZ523**	0.050
		Cable Ø 5 mm	10	**XY2 CZ524**	0.080
Cable supports	Fixed	All models	10	**XY2 CZ601**	0.030
	Swivelling	All models	1	**XY2 CZ602**	0.130
	Pulley support	All models	1	**XY2 CZ705**	0.060
Pulley	Cable Ø 5 mm max.	All models	1	**XY2 CZ708**	0.002
Cable end protectors		Cable Ø 3.2 mm	10	**XY2 CZ701**	0.002
		Cable Ø 5 mm	10	**XY2 CZ704**	0.010
End springs		XY2 CE	1	**XY2 CZ702**	0.080
		XY2 CH	1	**XY2 CZ703**	0.035
		XY2 CB	1	**XY2 CZ707**	0.080

Documentation

Description	For use with	Reference	Weight kg
Installation manual	All XY2 C trip wire switches	**XCOM2512**	0.200

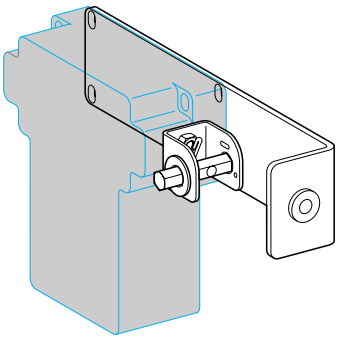
(1) Emergency stop trip wire switches XY2 CH incorporate a cable tensioner as standard.

General: pages 5/14 and 5/15
Characteristics: page 5/16
Dimensions: page 5/23

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

803022



XY2 CZ917

Mounting kits

Contents	For use with	Diameter mm	Length of cable m	Reference	Weight kg
Tensioner + bracket	XY2 CE	–	–	**XY2 CZ917**	0.612
Kit comprising: - 1 galvanised cable, Ø 3.2 mm, length according to that selected, - 1 cable grip **XY2 CZ523**, - 1 end spring **XY2 CZ703**	XY2 CH	3.2	10	**XY2 CZ9310**	0.415
	XY2 CH	3.2	15	**XY2 CZ9315**	0.535
Kit comprising: - 1 galvanised cable, Ø 3.2 mm, length according to that selected, - 4 cable grips **XY2 CZ523**, - 1 turnbuckle **XY2 CZ404**, - 1 cable support **XY2 CZ601**, - 3 cable end protectors **XY2 CZ701**, - 1 end spring **XY2 CZ702**	XY2 CE	3.2	25	**XY2 CZ9325**	1.250
	XY2 CE/CB	3.2	50	**XY2 CZ9350**	1.980
Kit comprising: - 1 galvanised cable, Ø 5 mm, length according to that selected, - 4 cable grips **XY2 CZ524**, - 1 turnbuckle **XY2 CZ404**, - 1 cable support **XY2 CZ601**, - 3 cable end protectors **XY2 CZ704**, - 1 end spring **XY2 CZ702**	XY2 CE	5	25	**XY2 CZ9525**	1.905
	XY2 CE/CB	5	25	**XY2 CZ9550**	3.280

Other version Padlocking kit (for up to 3 padlocks), for reset pushbutton.
Please consult your Regional Sales Office.

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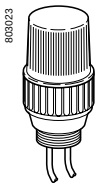
General: pages 5/14 and 5/15
Characteristics: page 5/16
Dimensions: page 5/23

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

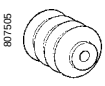


XY2 CZ●●●●

Spare parts

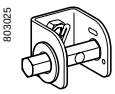
Description	Type		Reference	Weight kg
Reset pushbutton (blue), spring return for XY2 CE and XY2 CH	Flush with “R” marked on push		**ZA2 BA639**	0.030
	Booted		**ZA2 BP6**	0.025
	Mushroom head, Ø 30		**ZA2 BC64**	0.045
	Key release mushroom head, Ø 30 (key n° 421)		**ZA2 BS06212**	0.090
Key for latching mushroom head reset pushbutton	N° 421		**Q99900911**	0.006
Pilot light head assembly	Yellow, for XY2 CE and XY2 CH		**ZA2 BV05**	0.015
Pilot light lens	Yellow, for XY2 CE and XY2 CH		**ZB2 BV015**	0.003
Pilot lights	Yellow, for XY2 CH	24 V	**XY2 CZ0024**	0.035
		48 V	**XY2 CZ0048**	0.035
		130 V	**XY2 CZ0130**	0.035
		230 V	**XY2 CZ0230**	0.035

Description	Type		Sold in lots of	Unit reference	Weight kg
Incandescent bulbs	BA 9s base fitting Maximum Ø 11 mm Length 28 mm for XY2 CE	24 V - 2.6 W	10	**DL1 CE024**	0.002
		48 V - 2.6 W	10	**DL1 CE048**	0.002
		130 V - 2.6 W	10	**DL1 CE130**	0.002
	Screw base fitting Maximum Ø 17 mm Length 34 mm for XY2 CH	24 V - 6 W	10	**DL1 AA024**	0.004
		48 V - 6 W	10	**DL1 AA048**	0.004
		130 V - 6 W	10	**DL1 AA127**	0.004
		230 V - 6 W	10	**DL1 AA220**	0.004
	BA 7s base fitting for XY2 CB	6 V - 200 mA	1	**DL1 GA006**	0.002
Dust and damp protecting bellows	For XY2 CE	Polychloroprene	1	**XY2 CZ901**	0.017
		Silicone	1	**XY2 CZ904**	0.005
	For XY2 CH	Polychloroprene	1	**XY2 CZ902**	0.017
		Silicone	1	**XY2 CZ903**	0.005
Tensioner	For XY2 CE	–	1	**XY2 CZ203**	0.095
Adaptor	For XY2 CB	ISO M20	5	**DE9 RP13520**	0.050



XY2 CZ901

XY2 CZ902



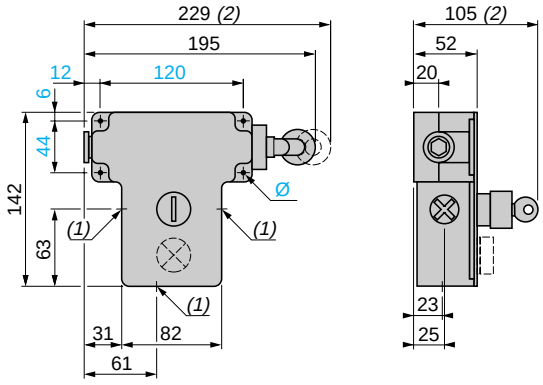
XY2 CZ203

General: pages 5/14 and 5/15
Characteristics: page 5/16
Dimensions: page 5/23

Control and signalling units for safety applications

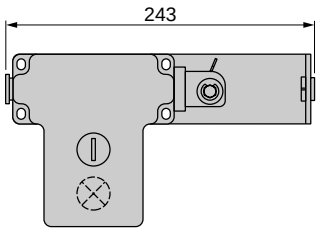
Emergency stop trip wire switches, type XY2 C

XY2 CE●A●●●

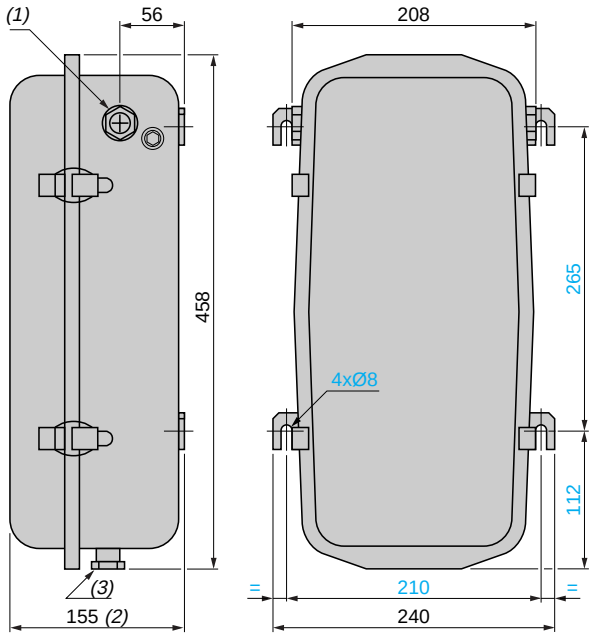


(1) 3 plain holes for n° 13 (Pg 13.5) or ISO M20 cable gland.
(2) Maximum extension.
Ø: 4 elongated holes Ø 6 mm.

XY2 CE●A●●● + XY2 CZ917



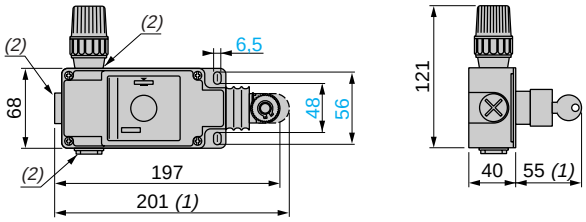
XY2 CB●●



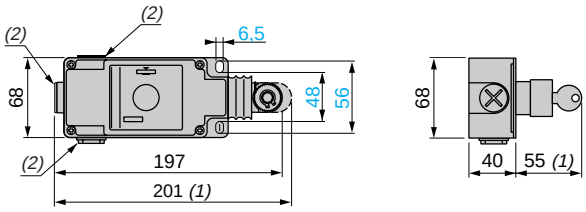
(1) 2 access points for operating cable.
(2) + 125 for opening cover.
(3) 1 tapped entry for n° 13 (Pg 13.5) cable gland.
For ISO M20 use adaptor DE9 RP13520.

XY2 CH

With pilot light

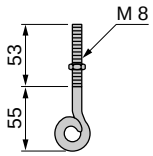


Without pilot light

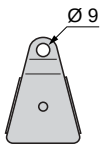


(1) Maximum extension.
(2) Tapped entries for n° 13 (Pg 13.5) cable gland.
For ISO M20 the reference becomes ***XY2 CH●●●●H29***.

XY2 CZ705



XY2 CZ708



General:
pages 5/14 and 5/15
Characteristics:
page 5/16
References:
page 5/17 and 5/20 to 5/22

Contents

6 - Pendant control stations and controllers

Pendant control stations with intuitive operation

Selection guide . . . . . page 6/2

■ Double insulated, for control circuits

- Complete stations “ready for use”, “Pistol grip”, type **XAC A**. . . . . *page 6/5*
- Complete stations “ready for use”, type **XAC D** . . . . . *page 6/9*

■ Double insulated, for power circuits (direct switching)

- Complete stations “ready for use”, type **XAC D** . . . . . *page 6/11*

■ Double insulated, for control or power circuits

- Empty enclosures, type **XAC D**. . . . . *page 6/12*
- Separate components and spare parts. . . . . *page 6/12*
- Variable composition stations, factory assembled . . . . . *page 6/17*

Pendant control stations

Selection guide . . . . . page 6/2

■ Double insulated, type **XAC A,** for control circuits

- Complete stations “ready for use” . . . . . *page 6/19*
- Empty enclosures . . . . . *page 6/23*
- Separate components and spare parts. . . . . *page 6/24*
- Variable composition stations, factory assembled . . . . . *page 6/33*

■ Double insulated, type **XAC B** or metal, type **XAC M** (1)

- Complete stations “ready for use”, type **XAC B**, for control circuits . . *page 6/35*
- Complete stations “ready for use”, type **XAC B**, for power circuits. . . *page 6/37*
- Empty enclosures, type XAC B, for control or power circuits . . . . . *page 6/39*
- Empty enclosures, type XAC B or XAC M, for control circuits . . . . . *page 6/41*
- Separate components and spare parts. . . . . *page 6/42*
- Variable composition stations, factory assembled . . . . . *page 6/59*

■ Double insulated, type **XAC F**, for control circuits (1)

- Empty enclosures . . . . . *page 6/61*
- Variable composition stations, factory assembled . . . . . *page 6/65*

(1) XAC M and XAC F: products for maintenance purposes only.

Controllers

Selection guide *6/66*

■ Controllers for “light hoisting” applications, type **XKB**

□ Controllers **XKB A** with predefined, non modifiable schemes, factory assembled . . . . . *page 6/73*
□ Controllers **XKB E** with variable and modifiable schemes, factory assembled . . . . . *page 6/74*
□ Separate components . . . . . *page 6/76*

■ Controllers for “medium hoisting” applications, type **XKD**

□ Controllers with variable composition schemes, factory assembled . . . . . *page 6/81*
□ Separate components . . . . . *page 6/84*

■ Controllers for “heavy hoisting” applications, type **XKM**

□ Controllers **XKM A** and **XKM B** with variable composition schemes, factory assembled . . . . . *page 6/89*
□ Controllers **XKM C** with variable composition schemes, factory assembled . . . . . *page 6/95*
□ Separate components . . . . . *page 6/98*

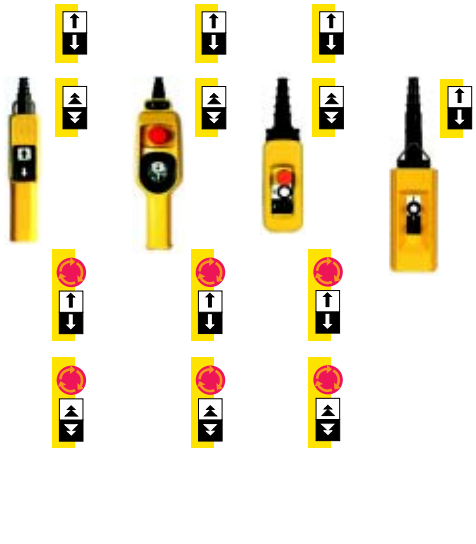
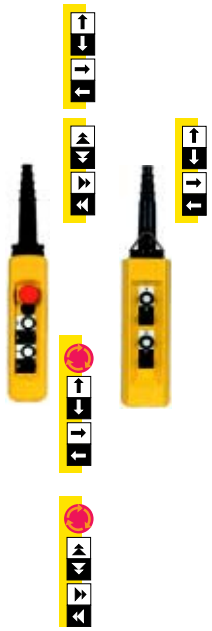
■ Potentiometers for controllers

□ For standard applications, type **XKZ A** . . . . . *page 6/104*
□ For applications requiring an extended “neutral zone”, types **XKB Z** and **XKD Z** . . . . . *page 6/105*

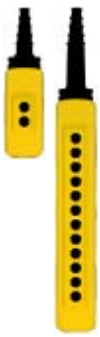
Pendant control stations

Complete stations “ready for use” and variable composition stations

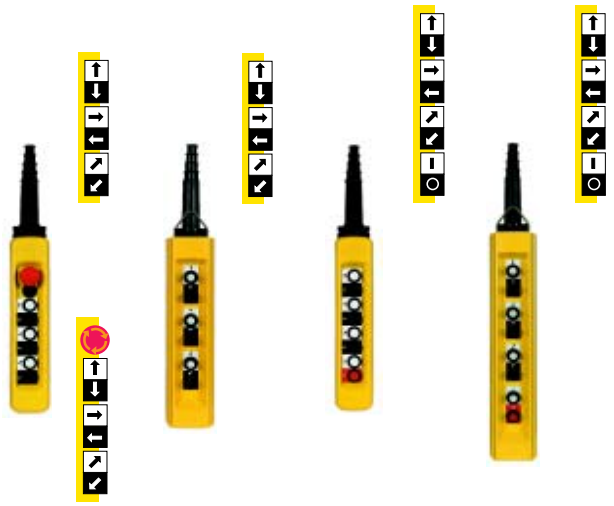
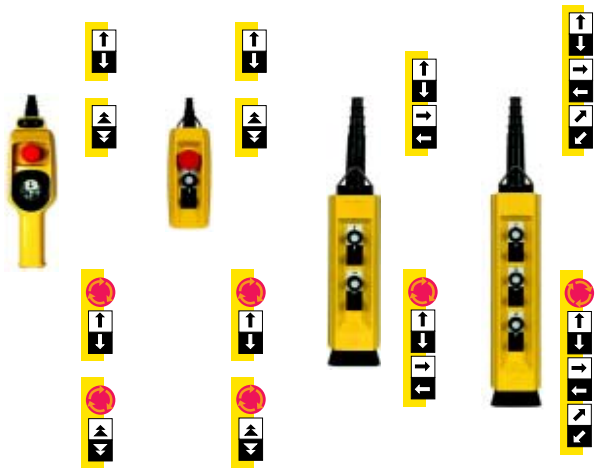
Complete stations “ready for use”

Applications	Control circuits					
	Simple hoisting: 1 movement				Handling-hoisting: 2 movements	
Motor control *Single-speed* *2-speed* *Emergency stop*						
Number of operators	2	1 (2-directional)	2	2	4	4
Enclosure material	Polypropylene	Polypropylene	Polypropylene	Polyester	Polypropylene	Polyester
Pendant station type reference	**XAC A**	**XAC D**	**XAC A**	**XAC B**	**XAC A**	**XAC B**
Page(s)	6/5	6/9	6/19	6/35	6/20	6/35

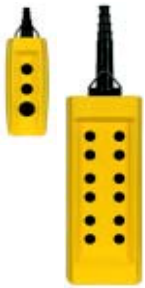
Variable composition stations

Applications	Control circuits		
Number of cut-outs	**1 or 2**	**2, 3, 4, 5, 6, 8 or 12**	**2, 3, 4, 6, 8 or 12 in 1 row or 2 rows of 6**
			
Equipment	■ Emergency stop (front mounted) ■ Contact blocks for 1 or 2 speeds	■ Pushbuttons ■ Selector/key switches ■ Pilot lights ■ Emergency stop (front or base mounted) ■ Wobblesticks ■ Contact blocks for 1 or 2 speeds	■ Pushbuttons ■ Selector/key switches ■ Pilot lights ■ Emergency stop (front or base mounted) ■ Wobblesticks ■ Contact blocks for 1 or 2 speeds
Enclosure material	Polypropylene	Polypropylene	Polyester
Pendant station type reference	**XAC D**	**XAC A**	**XAC B**
Page(s)	6/12 and 6/13	6/23 to 6/29	6/39 to 6/54

6

Handling-hoisting: 3 movements				Power circuits			
				Simple hoisting: 1 movement		Handling-hoisting:	
						2 movements	3 movements
							
6	6	8	8	1 (2-directional)	2	4	6
Polypropylene	Polyester	Polypropylene	Polyester	Polypropylene	Polyester	Polyester	Polyester
XAC A	**XAC B**	**XAC A**	**XAC B**	**XAC D**	**XAC B**	**XAC B**	**XAC B**
6/20	6/35	6/20	6/35	6/11	6/37	6/37	6/38

6

4 or 8	Up to 30	Power circuits	
		1 or 2	2, 3, 4, 6, 8 or 12 in 2 rows of 6
Products for maintenance purposes only	Products for maintenance purposes only		
			
■ Pushbuttons ■ Selector/key switches ■ Pilot lights ■ Emergency stop (front or base mounted) ■ Wobblesticks ■ Contact blocks for 1 or 2 speeds	■ Pushbuttons ■ Selector/key switches ■ Pilot lights ■ Emergency stop (front or base mounted) ■ Wobblesticks ■ Contact blocks for 1 or 2 speeds	■ Emergency stop (front mounted) ■ Contact blocks for 1 or 2 speeds	■ Pushbuttons ■ Selector/key switches ■ Pilot lights ■ Emergency stop (front or base mounted) ■ Wobblesticks ■ Contact blocks for 1 or 2 speeds
Aluminium	Polyester	Polypropylene	Polyester
XAC M	**XAC F**	**XAC D**	**XAC B**
6/41	6/61	6/12 and 6/13	6/39 to 6/54

Pendant control stations

Double insulated with intuitive operation, type XAC A “Pistol grip”

For control circuits

Environment

Conformity to standards			IEC 947-5-1, EN 60947-5-1 For versions with Emergency stop: EN 60204-1, EN 60204-32, EN 292-2, EN 418
Product certifications			UL type 4X A600-Q600, CSA type 4 A600-Q600
Protective treatment	Standard version		“TH”
Ambient air temperature	For operation	**°C**	- 25…+ 70
	For storage	**°C**	- 40…+ 70
Vibration resistance			15 gn (10…500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			1
Enclosure			Double insulated polypropylene, coloured yellow throughout
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 7…Ø 15 mm

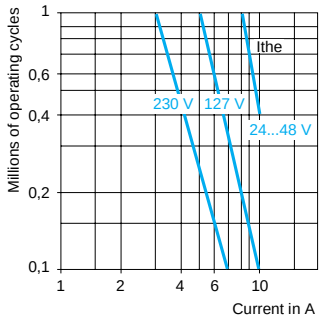
Contact block characteristics

Rated operational characteristics		∼ AC-15: A600 or Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A ⎓ DC-13: Q600 or Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A conforming to IEC 947-5-1 Appendix A
Thermal current (Ithe)	**A**	10
Rated insulation voltage (Ui)	**V**	600, degree of pollution 3, conforming to IEC 947-1
Rated impulse withstand voltage (U imp)	**kV**	6, conforming to IEC 947-1
Positive operation		Mushroom head pushbutton: N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3
Contact operation		Slow break
Resistance across terminals	**MΩ**	⩽ 25
Operating force	**N**	13 to 15
Terminal referencing		By numbers conforming to CENELEC EN 50013
Short-circuit protection		10 A cartridge fuse type gG (gl)
Connection	**mm²**	Screw and captive cable clamp terminals. Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end

Rated operational power

Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13.
Operating rate: 3600 operating cycles/hour. Load factor: 0.5.

a.c. supply ∼ 50/60 Hz
Inductive circuit



d.c. supply ⎓
Power broken in W for 1 million operating cycles

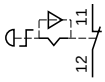
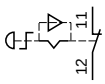
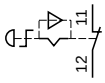
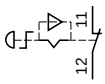
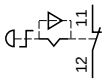
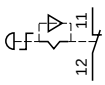
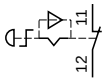
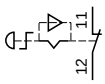
Voltage	**V**	**24**	**48**	**120**
Inductive circuit	W	65	48	40

References: pages 6/5 and 6/6
Dimensions: page 6/7
Application schemes: page 6/7

Pendant control stations

Double insulated with intuitive operation, type XAC A “Pistol grip”
For control circuits
Complete stations “ready for use”

For control of single-speed hoist motors

Functions	Number of operators	Type of operators	Contact block(s) and scheme		Reference	Weight kg
			Per direction	For Emergency stop		
	2 mechanically interlocked	Standard	1 N/O ZB2 BE101	–	**XAC A201**	0.270
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	–	**XAC A205**	0.300
		Booted	1 N/O ZB2 BE101	–	**XAC A211**	0.290
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	–	**XAC A215**	0.320
	2 mechanically interlocked + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44	Standard	1 N/O ZB2 BE101	1 N/C ZB2 BE102 	**XAC A2013**	0.310
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102 	**XAC A2053**	0.340
		Booted	1 N/O ZB2 BE101	1 N/C ZB2 BE102 	**XAC A2113**	0.310
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102 	**XAC A2153**	0.340
	2 mechanically interlocked + 1 trigger action latching Emergency stop Ø 30 mm operator ZA2 BS834	Standard	1 N/O ZB2 BE101	1 N/C ZB2 BE102 	**XAC A2014**	0.310
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102 	**XAC A2054**	0.340
		Booted	1 N/O ZB2 BE101	1 N/C ZB2 BE102 	**XAC A2114**	0.310
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102 	**XAC A2154**	0.340

XAC A201

XAC A211

XAC A2013

XAC A2113

XAC A2014

XAC A2114

6

Characteristics: page 6/4
Dimensions: page 6/7
Application schemes: page 6/7

Pendant control stations

Double insulated with intuitive operation, type XAC A “Pistol grip”
For control circuits
Complete stations “ready for use”

XAC A207

XAC A217

XAC A207●

XAC A217●

For control of 2-speed hoist motors

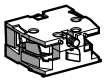
Functions	Number of operators	Type of operators	Contact block(s) and scheme: Per direction	For Emergency stop	Reference	Weight kg
	2 mechanically interlocked	Standard	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201	–	**XAC A207**	0.320
		Booted	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201	–	**XAC A217**	0.320
	2 mechanically interlocked + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44	Standard	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201	1 N/C ZB2 BE102	**XAC A2073**	0.360
		Booted	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201	1 N/C ZB2 BE102	**XAC A2173**	0.360
	2 mechanically interlocked + 1 trigger action latching Emergency stop Ø 30 mm operator ZA2 BS834	Standard	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201	1 N/C ZB2 BE102	**XAC A2074**	0.360
		Booted	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201	1 N/C ZB2 BE102	**XAC A2174**	0.360

Separate components and spare parts

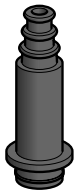
Description	For use with	Marking/ Function	Scheme	Reference	Weight kg
Booted pushbutton operators with fixing screws	XAC A211● XAC A215● (single-speed)	↑	–	**XAC A921**	0.010
		↓	–	**XAC A922**	0.010
	XAC A217● (2-speed)	▲	–	**XAC A923**	0.010
		▼	–	**XAC A924**	0.010
Contact blocks spring return, slow break	XAC A all models	N/O		**ZB2 BE101**	0.015
		N/C		**ZB2 BE102**	0.015
		N/O staggered		**ZB2 BE201**	0.015
Protective cable sleeve + suspension ring + cable clamp	Cable Ø 7 to Ø 13 mm	–	–	**XAC A913**	0.070

XAC A921

XAC A923



ZB2 BE●●●



XAC A913

6

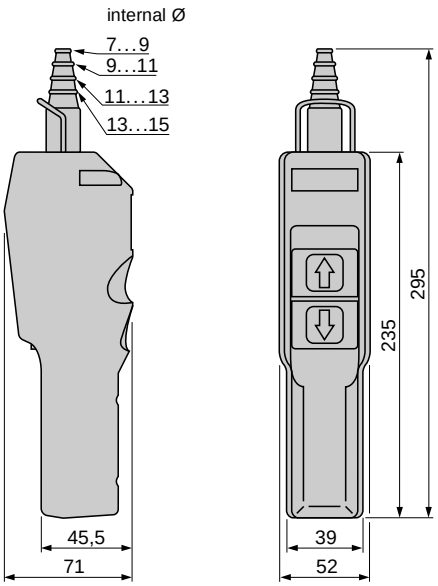
Characteristics: page 6/4
Dimensions: page 6/7
Application schemes: page 6/7

Pendant control stations

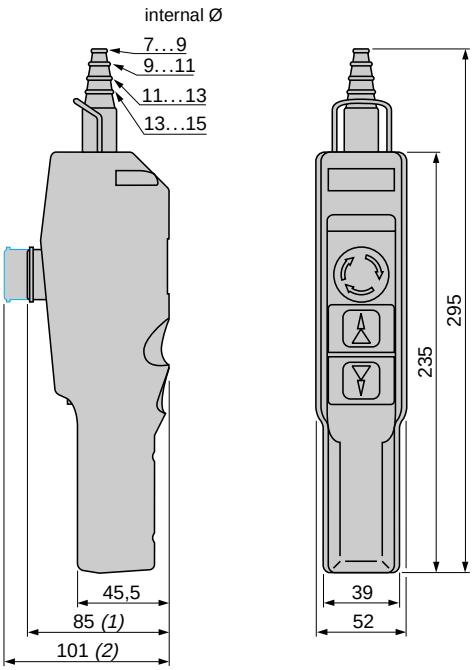
Double insulated with intuitive operation,
type XAC A “Pistol grip”
For control circuits
Complete stations “ready for use”

Dimensions

XAC A2●●



XAC A2●●●

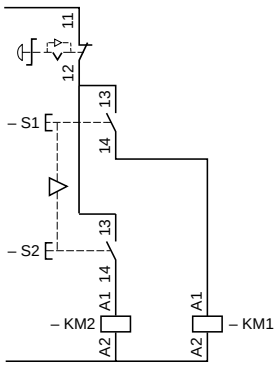


(1) With standard latching Ø 30 mm Emergency stop ZA2 BS44.
(2) With trigger action latching Ø 30 mm Emergency stop ZA2 BS834.

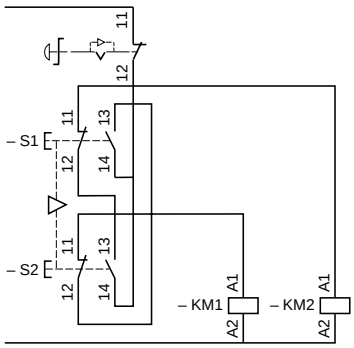
Application schemes (typical examples)

For control of single-speed reversing motor

XAC A2●1●

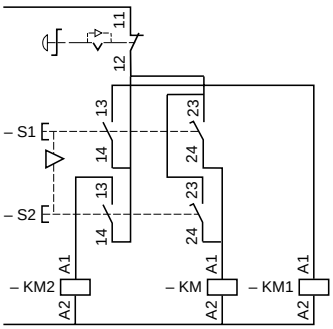


XAC A2●5●



For control of 2-speed reversing motor

XAC A2●7●



Characteristics:
page 6/4

References:
pages 6/5 and 6/6

Pendant control stations
Double insulated with intuitive operation, type XAC D
For control circuits

Environment

Conformity to standards			IEC 947-5-1, EN 60947-5-1 For versions with Emergency stop: EN 60204-1, EN 60204-32, EN 292-2, EN 418, 89/655 EEC
Protective treatment	Standard version		"TH"
Ambient air temperature	For operation	**°C**	- 25…+ 70
	For storage	**°C**	- 40…+ 70
Vibration resistance			15 gn (10…500 Hz) conforming to IEC 68-2-6
Shock resistance			70 gn conforming to IEC 68-2-27
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			3
Enclosure			Double insulated polypropylene, coloured yellow throughout
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 7…Ø 18 mm

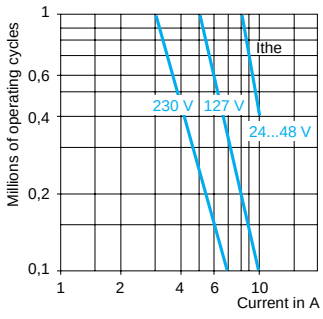
Contact block characteristics

Rated operational characteristics			~ AC-15: A600 or Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A ⎓ DC-13: Q600 or Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A conforming to IEC 947-5-1 Appendix A
Thermal current (Ithe)	**XAC D2●A010●**	**A**	10
	XAC D2●A12●1	**A**	16
Rated insulation voltage (Ui)		**V**	600, degree of pollution 3, conforming to IEC 947-1
Rated impulse withstand voltage (U imp)		**kV**	6, conforming to IEC 947-1
Positive operation			Mushroom head pushbutton on **XAC D22A●●●●**: N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3
Contact operation			Single-speed contact blocks: slow break 2-speed contact blocks: snap action
Resistance across terminals		**MΩ**	⩽ 25
Operating force	**XAC D2●A010●, XAC D2●A12●1**	**N**	16
Terminal referencing			By numbers conforming to CENELEC EN 50013
Short-circuit protection			10 A cartridge fuse type gG (gl)
Connection		**mm²**	Screw and captive cable clamp terminals Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end

Rated operational power

Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13.
Operating rate: 3600 operating cycles/hour. Load factor: 0.5.

a.c. supply ~ 50/60 Hz
Inductive circuit



d.c. supply ⎓
Power broken in W for 1 million operating cycles

Voltage	**V**	**24**	**48**	**120**
	W	65	48	40

References: page 6/9
Dimensions: page 6/14
Application schemes: page 6/15
Presentation: page 6/16

Pendant control stations

Double insulated with intuitive operation, type XAC D

For control circuits

Complete stations “ready for use”

DF565503

XAC D21A0101

DF565501

XAC D22A0105

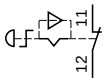
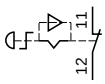
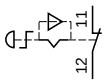
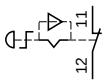
DF565504

XAC D21A1231

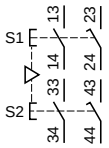
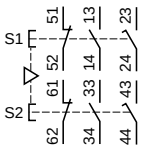
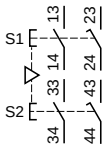
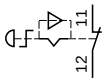
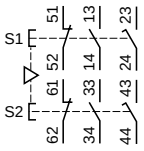
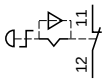
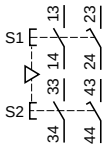
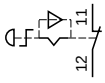
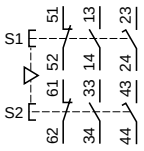
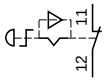
DF565502

XAC D22A1241

For control of single-speed hoist motors

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight
		Per direction	For Emergency stop		kg
Reversing, mechanically interlocked	**1** 2-directional operator	1 N/O ZB2 BE101	–	**XAC D21A0101**	0.340
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	–	**XAC D21A0105**	0.365
	1 2-directional operator + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44	1 N/O ZB2 BE101	1 N/C ZB2 BE102 	**XAC D22A0101**	0.395
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102 	**XAC D22A0105**	0.425
	1 2-directional operator + 1 trigger action latching Emergency stop Ø 30 mm operator ZA2 BS834	1 N/O ZB2 BE101	1 N/C ZB2 BE102 	**XAC D24A0101**	0.395
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102 	**XAC D24A0105**	0.425

For control of 2-speed hoist motors

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight
		For the 2 directions	For Emergency stop		kg
Reversing, mechanically interlocked	**1** 2-directional operator	1 N/O + N/O staggered XED S1231 *(1)* 	–	**XAC D21A1231**	0.365
		1 N/C + N/O + N/O staggered XED S1241 *(1)* 	–	**XAC D21A1241**	0.405
	1 2-directional operator + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44	1 N/O + N/O staggered XED S1231 *(1)* 	1 N/C ZB2 BE102 	**XAC D22A1231**	0.420
		1 N/C + N/O + N/O staggered XED S1241 *(1)* 	1 N/C ZB2 BE102 	**XAC D22A1241**	0.420
	1 2-directional operator + 1 trigger action latching Emergency stop Ø 30 mm operator ZA2 BS834	1 N/O + N/O staggered XED S1231 *(1)* 	1 N/C ZB2 BE102 	**XAC D24A1231**	0.420
		1 N/C + N/O + N/O staggered XED S1241 *(1)* 	1 N/C ZB2 BE102 	**XAC D24A1241**	0.420

(1) Reference of double contact block for reversing operation.

Characteristics: page 6/8 | Dimensions: page 6/14 | Application schemes: page 6/15 | Presentation: page 6/16

Pendant control stations

Double insulated with intuitive operation, type XAC D

For power circuits (direct switching)

Environment

Conformity to standards			IEC 947-3, EN 60947-3, NF C 63-130, VDE 0660-107
Protective treatment	Standard version		"TH"
Ambient air temperature	For operation	**°C**	- 25…+ 70
	For storage	**°C**	- 40…+ 70
Vibration resistance			15 gn (10…500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27 except **XAC D** 2-speed: 70 gn
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			3
Enclosure			Double insulated polypropylene, coloured yellow throughout
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 7…Ø 18 mm

Contact block characteristics

Thermal current (Ithe)	**XEN T●●●●**	**A**	10
	XED S●●●●	**A**	16
Rated insulation voltage (Ui)		**V**	500, degree of pollution 3, conforming to IEC 947-1 400, degree of pollution 3, for Emergency stop contact on stations **XAC D22P●●●●**
Rated impulse withstand voltage (U imp)		**kV**	6, conforming to IEC 947-1 4 for Emergency stop contact on stations **XAC D22P●●●●**
Contact operation			Snap action
Operating force		**N**	Single-speed: 28; 2-speed: 31
Terminal referencing			By numbers conforming to CENELEC EN 50005
Short-circuit protection			6 A maximum cartridge fuse type aM
Connection		**mm²**	Screw clamp terminals Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end
Rated operational power			Utilisation categories AC-3 and AC-4 conforming to IEC 947-3 Appendix A 3 phases, 2 poles **XED S2●●●**: 1.1 kW-400 V **XED S3●●●**: 2.2 kW-400 V Brake contact: 100 V d.c. supply, 0.7 A, L/R = 100 ms
			Utilisation category AC-23B, mushroom head Emergency stop 3 phases, 3 poles, isolating block: **XEN T●●●●**: 3 kW-400 V
Electrical durability (in millions of operating cycles)			Utilisation categories AC-3 and AC-4 conforming to IEC 947-3 Appendix A Duty cycle comprising 75% AC-3, 25% AC-4 Operating rate: 600 per hour, load factor: 0.4 3 phases, 2 poles **XED S2●●●**: 1.1 kW-400 V = 1 million **XED S3●●●**: 2.2 kW-400 V = 1 million

6

References: page 6/11 | Dimensions: page 6/14 | Application schemes: page 6/15 | Presentation: page 6/16

Pendant control stations

Double insulated with intuitive operation, type XAC D

For power circuits (direct switching)
Complete stations “ready for use”

DF565500

XAC D21P2111

DF565501

XAC D22P2121

DF565504

XAC D21P2231

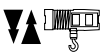
DF565502

XAC D22P2241

For control of single-speed hoist motors

Functions	Number of operators	Contact blocks: Per direction	Contact blocks: For Emergency stop	Maximum operational power/400 V	Reference	Weight kg
Reversing, mechanically interlocked	**1** 2-directional operator	2-pole XED S2111*(1)*	–	1.1 kW	**XAC D21P2111**	0.355
		2-pole XED S3111*(1)*	–	2.2 kW	**XAC D21P3111**	0.355
		2-pole + 1 N/O (brake) XED S2121*(1)*	–	1.1 kW	**XAC D21P2121**	0.355
		2-pole + 1 N/O (brake) XED S3121*(1)*	–	2.2 kW	**XAC D21P3121**	0.355
	1 2-directional operator + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44 *(2)*	2-pole XED S2111*(1)*	1 N/C + N/C + N/C XEN T1991	1.1 kW	**XAC D22P2111** *(2)*	0.410
		2-pole XED S3111*(1)*	1 N/C + N/C + N/C XEN T1991	2.2 kW	**XAC D22P3111** *(2)*	0.410
		2-pole + 1 N/O (brake) XED S2121*(1)*	1 N/C + N/C + N/C XEN T1991	1.1 kW	**XAC D22P2121** *(2)*	0.410
		2-pole + 1 N/O (brake) XED S3121*(1)*	1 N/C + N/C + N/C XEN T1991	2.2 kW	**XAC D22P3121** *(2)*	0.410

For control of 2-speed hoist motors

Functions	Number of operators	Contact blocks: Per direction	Contact blocks: For Emergency stop	Maximum operational power/400 V	Reference	Weight kg
 Reversing, mechanically interlocked	**1** 2-directional operator	2-pole XED S2231*(1)*	–	1.1 kW	**XAC D21P2231**	0.355
		2-pole XED S3231*(1)*	–	2.2 kW	**XAC D21P3231**	0.355
		2-pole + 1 N/O (brake) XED S2241*(1)*	–	1.1 kW	**XAC D21P2241**	0.355
		2-pole + 1 N/O (brake) XED S3241*(1)*	–	2.2 kW	**XAC D21P3241**	0.355
	1 2-directional operator + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44 *(2)*	2-pole XED S2231*(1)*	1 N/C + N/C + N/C XEN T1991	1.1 kW	**XAC D22P2231** *(2)*	0.420
		2-pole XED S3231*(1)*	1 N/C + N/C + N/C XEN T1991	2.2 kW	**XAC D22P3231** *(2)*	0.420
		2-pole + 1 N/O (brake) XED S2241*(1)*	1 N/C + N/C + N/C XEN T1991	1.1 kW	**XAC D22P2241** *(2)*	0.420
		2-pole + 1 N/O (brake) XED S3241*(1)*	1 N/C + N/C + N/C XEN T1991	2.2 kW	**XAC D22P3241** *(2)*	0.420

(1) Reference of double contact block for reversing operation.
*(2) To order a station with a trigger action latching Emergency stop Ø 30 mm operator (ZA2 BS834), replace **D22** in the reference selected by **D24**. Example: **XAC D22P2111** becomes **XAC D24P2111**.*

6

Characteristics: page 6/10
Dimensions: page 6/14
Application schemes: page 6/15
Presentation: page 6/16

Pendant control stations

Double insulated with intuitive operation, type XAC D

For control or power circuits

Empty enclosures, separate components and spare parts

DF565505

XAC D021

DF565506

XAC D022

DF565505

ZB2 BE10●

DF565505

XED S1231

DF565509

XED S2121

DF565510

XEN T1991

Empty enclosures

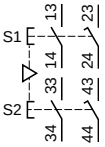
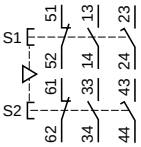
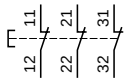
Description	Enclosure cut-outs	Reference	Weight kg
Empty enclosure comprising: - the enclosure, - protective cable sleeve for Ø 7 to 18 mm cable, - internal cable clamp, - cable tie (for tightening sleeve onto cable), - the directional operator, - legends.	For directional operator	**XAC D021**	0.345
	For directional operator + operating head (Ø 22.5 mm cut-out)	**XAC D022**	0.345

Variable composition stations, factory assembled

Use the order form on page 6/17 to define the required configuration.

Equipment: contact blocks and operating heads	See separate components, pages 6/12 and 6/13

Contact blocks

Description	Application	Function (1)	Scheme (1)	Max. power/ 400 V	Reference	Weight kg
For control circuits						
Single block spring return, slow break	Single-speed	N/O		–	**ZB2 BE101**	0.015
		N/C		–	**ZB2 BE102**	0.015
Double block spring return, snap action	2-speed	N/O + N/O staggered		–	**XED S1231**	0.015
		N/C + N/O + N/O staggered		–	**XED S1241**	0.015
For power circuits						
Double block spring return, snap action	Single-speed	2-pole	*(2)*	1.1 kW	**XED S2111**	0.080
				2.2 kW	**XED S3111**	0.090
		2-pole + 1 N/O (brake)	*(2)*	1.1 kW	**XED S2121**	0.090
				2.2 kW	**XED S3121**	0.090
	2-speed	2-pole	*(2)*	1.1 kW	**XED S2231**	0.110
				2.2 kW	**XED S3231**	0.110
		2-pole + 1 N/O (brake)	*(2)*	1.1 kW	**XED S2241**	0.120
				2.2 kW	**XED S3241**	0.120
For Emergency stop operating head (Ø 22.5 mm cut-out)						
Single block spring return, slow break		N/C		–	**ZB2 BE102**	0.015
		N/C + N/C + N/C		–	**XEN T1991**	0.040

(1) Function or scheme per direction for double contact blocks.
(2) See application schemes, page 6/15.

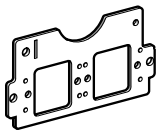
Characteristics: pages 6/8 and 6/10 | Dimensions: page 6/14 | Application schemes: page 6/15 | Presentation: page 6/16

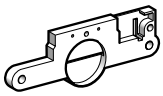
Pendant control stations

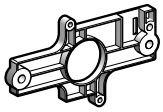
Double insulated with intuitive operation, type XAC D

For control or power circuits

Separate components and spare parts

817505

XAC D913

817503

XAC D911

817504

XAC D912

DF565511

ZA2 BS44

817495

ZA2 BS834

DF565512

ZA2 BS74

DF565513

ZA2 BD2

DF565514

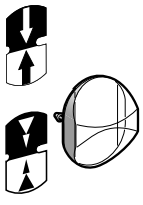
ZA2 BG2

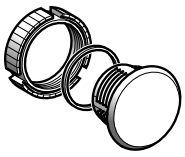
817500

XAC D901

817501

XAC D902

565259

XAC D905

817506

ZB2 SZ3

Contact block support plates

For use with	Reference	Weight kg
2 movement contact blocks ZB2 BE10● (control circuit stations)	**XAC D913**	0.010
1 contact block ZB2 BE102 for operating head	**XAC D911**	0.005
1 contact block XEN T1991 for operating head	**XAC D912**	0.010

Operating heads for Ø 22.5 mm cut-out

Description	Colour	Reference	Weight kg
Mushroom head Ø 30 mm, latching Turn to release (Emergency stop function)	Red	**ZA2 BS44**	0.040
Mushroom head Ø 30 mm, trigger action, latching Turn to release (Emergency stop function)	Red	**ZA2 BS834**	0.040
Mushroom head Ø 30 mm, latching Key release, n° 455 *(1)* Key withdrawal in rest (unactuated) position (Emergency stop function)	Red	**ZA2 BS74**	0.060
Selector switch, standard handle 2 position, stay put	Black	**ZA2 BD2**	0.018
Key switch (key n° 455) *(1)* 2 position, stay put Key withdrawal in left-hand position	–	**ZA2 BG2**	0.020

Complementary accessories

Description	Reference	Weight kg
Protective cable sleeve for cable Ø 7 to 18 mm	**XAC D901**	0.030
Diaphragm for directional operator, black polychloroprene	**XAC D902**	0.015
Directional operator with set of legends (single-speed and 2-speed)	**XAC D905**	0.005
Blanking plug for Ø 22.5 mm cut-out, black, with seal and fixing nut	**ZB2 SZ3**	0.010

Printed labels, pendant station characteristics

Description	Pendant station circuit function	Sold in lots of	Unit reference	Weight kg
Self-adhesive labels product identification	Control	50	**XAC D950**	0.001
	Power, 1.1 kW	50	**XAC D951**	0.001
	Power, 2.2 kW	50	**XAC D952**	0.001

(1) Other key numbers available on request, please consult your Regional Sales office.

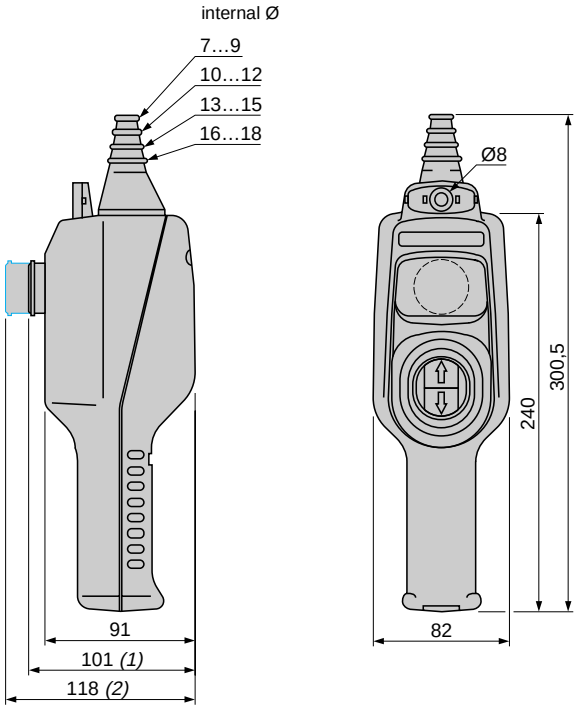
Characteristics: pages 6/8 and 6/10
Dimensions: page 6/14
Application schemes: page 6/15
Presentation: page 6/16

Pendant control stations

Double insulated with intuitive operation, type XAC D

For control or power circuits

XAC D●●●



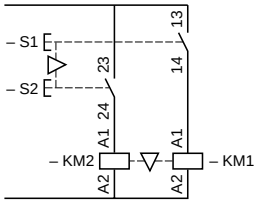
(1) With standard latching Ø 30 mm Emergency stop ZA2 BS44.
(2) With trigger action latching Ø 30 mm Emergency stop ZA2 BS834.

6

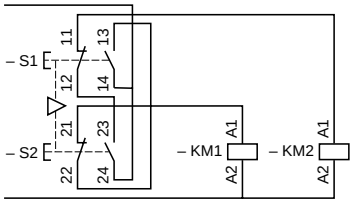
Pendant control stations
Double insulated with intuitive operation, type XAC D
For control or power circuits

Control circuits

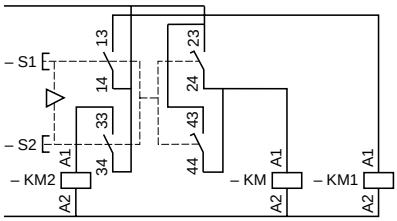
XAC D21A0101



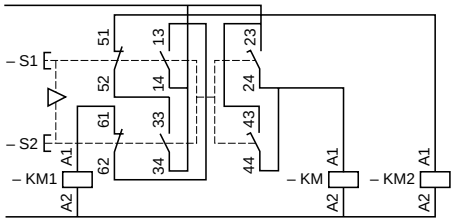
XAC D21A0105



XAC D21A1231



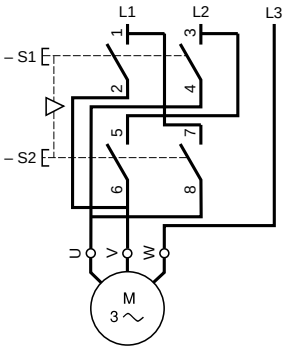
XAC D21A1241



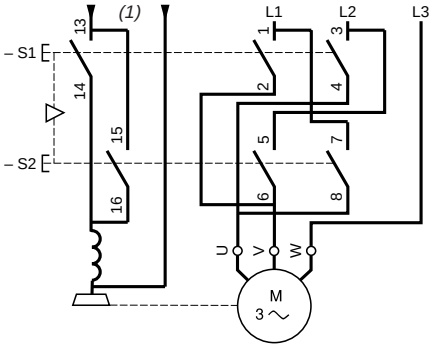
Power circuits

For control of single-speed reversing motor
2-phase switching

XAC D21P2111, XAC D21P3111



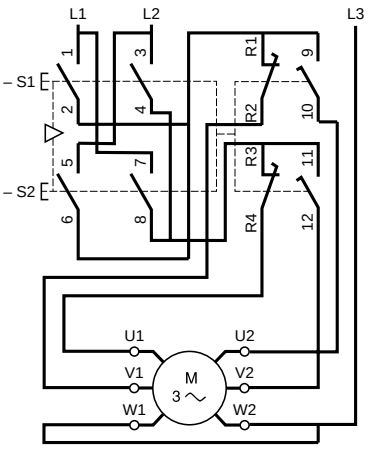
XAC D21P2121, XAC D21P3121



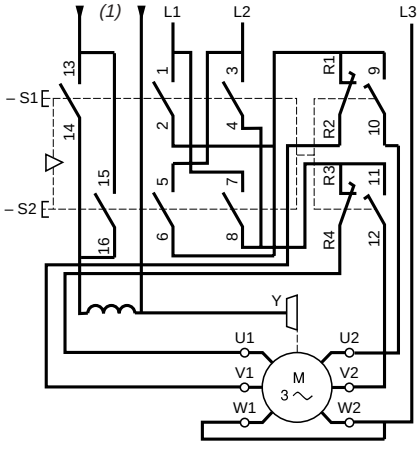
(1) Brake supply.

For control of 2-speed reversing motor (motors with separate windings only)
2-phase switching

XAC D21P2231, XAC D21P3231

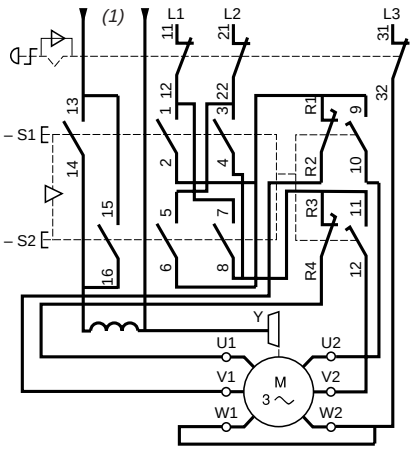


XAC D21P2241, XAC D21P3241



(1) Brake supply.

XAC D22P2241



(1) Brake supply.

Characteristics:
pages 6/8 and 6/10

References:
pages 6/9 to 6/13

Dimensions:
page 6/14

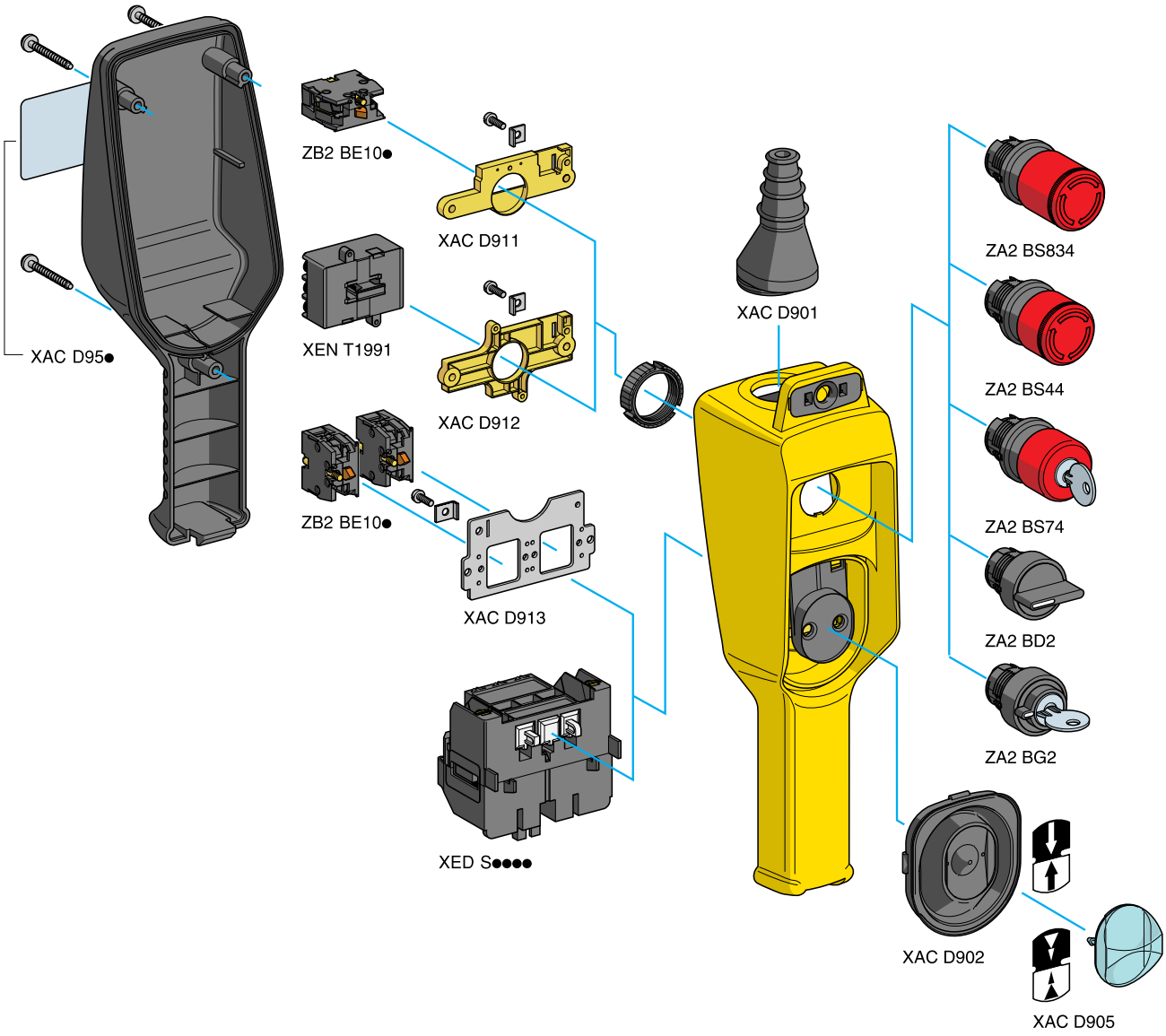
Presentation:
page 6/16

6

Pendant control stations

Double insulated with intuitive operation, type XAC D

For control or power circuits



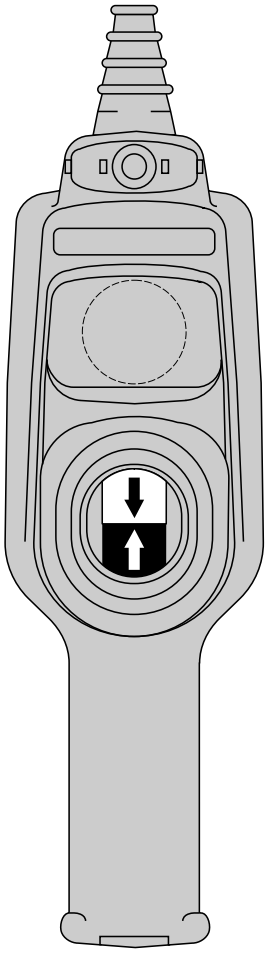
Order form (specimen suitable for photocopying)

Pendant control stations

Double insulated with intuitive operation, type XAC D

For control or power circuits

Variable composition stations, factory assembled



Customer			**Schneider Electric Industries**	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

Enter the order with XAC D09 reference

Unit reference of empty enclosure, see page 6/12	**Number of identical stations**	**Enclosure price** *(1)*
XAC **D** **0** **2**		

The reference of the empty enclosure above comprises:
- the enclosure,
- internal cable clamp,
- cable tie (for tightening sleeve onto cable),
- the directional operator with set of legends, **XAC D905**,
- protective cable sleeve for Ø 7 to 18 mm cable, **XAC D901**,
- diaphragm for directional operator, **XAC D902**.

Operating head see page 6/13		**Contact blocks** see page 6/12		**Support plate** see page 6/13		
Reference	Unit price	Reference	Unit price	Reference	Unit price	**Total price**

Contact blocks see page 6/12			**Support plate** (for ZB2 BE●●● only) see page 6/13			
Reference	Qty.	Unit price	Reference	Qty.	Unit price	**Total price**

Factory assembled:
Add an additional cost for assembly **XAC 9VA**

Total price of assembled pendant station

(1) Obtain the empty enclosure price.

Pendant control stations
Double insulated, type XAC A
For control circuits

Environment

Conformity to standards			IEC 947-5-1, EN 60947-5-1
Product certifications			NEMKO. Special version: UL Listed A600-Q600, CSA A600-Q600
Protective treatment	Standard version		"TH"
Ambient air temperature	For operation	**°C**	- 25…+ 70
	For storage	**°C**	- 40…+ 70
Vibration resistance			15 gn (10…500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			1
Enclosure			Double insulated polypropylene, coloured yellow throughout
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 8…Ø 26 mm

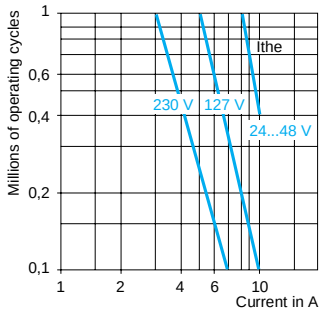
Contact block characteristics

Rated operational characteristics	**ZB2 BE●●●, XEN G●●●●, XAC S●●●●**		∿ AC-15: A600 or Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A ⎓ DC-13: Q600 or Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A
	XEN T●●●●		∿ AC-15: A300 or Ue = 240 V, Ie = 3 A ⎓ DC-13: Q300 or Ue = 250 V, Ie = 0.27 A conforming to IEC 947-5-1 Appendix A
Thermal current (Ithe)		**A**	10
Rated insulation voltage (Ui)	**ZB2 BE●●●, XEN G●●●●, XAC S●●●●**	**V**	600, degree of pollution 3
	XEN T●●●●		400, degree of pollution 3, conforming to IEC 947-1
Rated impulse withstand voltage (U imp)		**kV**	6, conforming to IEC 947-1
Positive operation			Mushroom head pushbutton: N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3
Contact operation			N/C or N/O slow break
Resistance across terminals		**MΩ**	⩽ 25
Operating force		**N**	Operators - with1 N/O contact: 10 - with 1 N/C contact: 8 - with additional N/O contact: + 5 - with additional N/C contact: + 3
Terminal referencing			Conforming to CENELEC EN 50013
Short-circuit protection			10 A cartridge fuse type gG (gl)
Connection		**mm²**	Screw and captive cable clamp terminals. Clamping capacity: min. 1 x 0.5 mm², max., with or without cable end: 2 x 1.5 mm² or 1 x 2.5 mm². 6.3 mm clips (on request), please consult your Regional Sales office.

Rated operational power

Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13.
Operating rate: 3600 operating cycles/hour. Load factor: 0.5.

a.c. supply ∿ 50/60 Hz
⏦ Inductive circuit



d.c. supply ⎓
Power broken in W for 1 million operating cycles

Voltage	**V**	**24**	**48**	**120**
⏦	W	65	48	40

References: pages 6/19 to 6/22
Dimensions: page 6/30
Application schemes: page 6/31
Presentation: page 6/32

Pendant control stations

Double insulated, type XAC A
For control circuits
Complete stations “ready for use”

DF565523

XAC A271
XAC A281

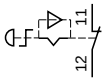
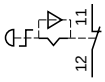
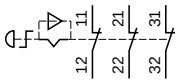
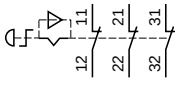
DF566524

XAC A2713
XAC A2813

DF566524

XAC A27131
XAC A28131

For control of single-speed motors

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight
		Per direction	For Emergency stop		kg
	2 mechanically interlocked	1 N/O ZB2 BE101 	–	**XAC A271**	0.475
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101 	–	**XAC A281**	0.500
	2 mechanically interlocked + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44 *(1)*	1 N/O ZB2 BE101 	1 N/C ZB2 BE102 	**XAC A2713** *(1)*	0.575
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101 	1 N/C ZB2 BE102 	**XAC A2813** *(1)*	0.600
		1 N/O ZB2 BE101 	1 N/C + N/C + N/C XEN T1192 	**XAC A27131** *(1)*	0.615
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101 	1 N/C + N/C + N/C XEN T1192 	**XAC A28131** *(1)*	0.635

*(1) To order a station with a trigger action latching Emergency stop Ø 30 mm operator (ZA2 BS834), replace the number **3** in the reference selected by the number **4**.*
*Examples: **XAC A2713** becomes **XAC A2714** and **XAC A27131** becomes **XAC A27141**.*

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Characteristics: page 6/18
Dimensions: page 6/30
Application schemes: page 6/31
Presentation: page 6/32

Pendant control stations

Double insulated, type XAC A
For control circuits
Complete stations “ready for use”

DF566525

XAC A471
XAC A481

530226

XAC A4713
XAC A4813
XAC A47131
XAC A48131

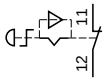
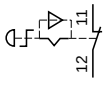
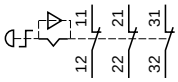
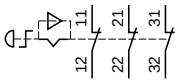
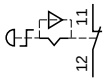
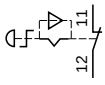
530223

XAC A671
XAC A681

530224

XAC A6713
XAC A6813

For control of single-speed motors *(continued)*

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight
		Per direction	For Emergency stop		kg
	4 mechanically interlocked between pairs	1 N/O ZB2 BE101	–	**XAC A471**	0.625
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	–	**XAC A481**	0.675
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 *(1)*	1 N/O ZB2 BE101	1 N/C ZB2 BE102 	**XAC A4713** *(1)*	0.800
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102 	**XAC A4813** *(1)*	0.815
		1 N/O ZB2 BE101	1 N/C + N/C + N/C XEN T1192 	**XAC A47131** *(1)*	0.835
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C + N/C + N/C XEN T1192 	**XAC A48131** *(1)*	0.850
	6 mechanically interlocked between pairs	1 N/O ZB2 BE101	–	**XAC A671**	0.860
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	–	**XAC A681**	0.950
	6 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 *(1)*	1 N/O ZB2 BE101	1 N/C ZB2 BE102 	**XAC A6713** *(1)*	0.845
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102 	**XAC A6813** *(1)*	0.935

*(1) To order a station with a trigger action latching Emergency stop Ø 40 mm operator (ZA2 BS844), replace the number **3** in the reference selected by the number **4**.*
*Examples: **XAC A4713** becomes **XAC A4714** and **XAC A47131** becomes **XAC A47141**.*

Characteristics: page 6/18
Dimensions: page 6/30
Application schemes: page 6/31
Presentation: page 6/32

Pendant control stations
Double insulated, type XAC A
For control circuits
Complete stations “ready for use”

DF566526

XAC A67131
XAC A68131

DF565527

XAC A871
XAC A881

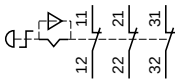
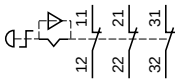
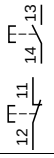
530229

XAC A291

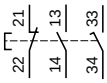
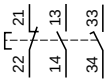
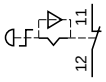
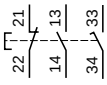
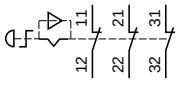
530230

XAC A2913
XAC A29131

For control of single-speed motors *(continued)*

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight
		Per direction	For Emergency stop		kg
	6 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 *(1)*	1 N/O ZB2 BE101 	1 N/C + N/C + N/C XEN T1192 	**XAC A67131** *(1)*	0.880
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101 	1 N/C + N/C + N/C XEN T1192 	**XAC A68131** *(1)*	0.970
 I **O**	**8** mechanically interlocked between pairs	1 N/O on 7 operators ZB2 BE101 and 1 N/C on the 8th operator ZB2 BE102 	–	**XAC A871**	0.940
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101 	–	**XAC A881**	1.045

For control of 2-speed motors

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight
		Per direction	For Emergency stop		kg
	2 mechanically interlocked between pairs	1 N/C + N/O + N/O staggered XEN G1191 	–	**XAC A291**	0.525
	2 mechanically interlocked between pairs + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44 *(1)*	1 N/C + N/O + N/O staggered XEN G1191 	1 N/C ZB2 BE102 	**XAC A2913** *(1)*	0.570
		1 N/C + N/O + N/O staggered XEN G1191 	1 N/C + N/C + N/C XEN T1192 	**XAC A29131** *(1)*	0.605

*(1) To order a station with a trigger action latching Emergency stop Ø 30 mm operator (ZA2 BS834) or Ø 40 mm operator (ZA2 BS844), replace the number **3** in the reference selected by the number **4**.*
*Examples: **XAC A67131** becomes **XAC A67141** and **XAC A2913** becomes **XAC A2914**.*

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Dimensions: page 6/30
Application schemes: page 6/31
Presentation: page 6/32

Pendant control stations
Double insulated, type XAC A
For control circuits
Complete stations “ready for use”

DF566528

XAC A491

530229

XAC A4913
XAC A49131

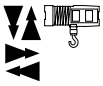
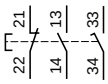
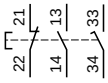
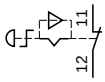
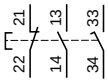
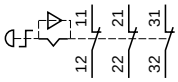
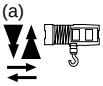
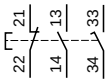
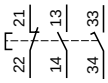
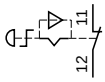
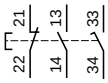
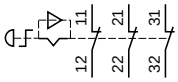
DF566528

XAC A492

530229

XAC A4923
XAC A49231

For control of 2-speed motors *(continued)*

Functions	Number of operators	Contact block(s) and scheme Per direction	For Emergency stop	Reference	Weight kg
	**4** mechanically interlocked between pairs	1 N/C + N/O + N/O staggered XEN G1191 	–	**XAC A491**	0.625
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 *(1)*	1 N/C + N/O + N/O staggered XEN G1191 	1 N/C ZB2 BE102 	**XAC A4913** *(1)*	0.675
		1 N/C + N/O + N/O staggered XEN G1191 	1 N/C + N/C + N/C XEN T1192 	**XAC A49131** *(1)*	0.700
(a)  (b)	**4** mechanically interlocked between pairs	1 N/C + N/O + N/O staggered (a) XEN G1191  1 N/O (b) ZB2 BE101 	–	**XAC A492**	0.675
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 *(1)*	1 N/C + N/O + N/O staggered (a) XEN G1191  1 N/O (b) ZB2 BE101 	1 N/C ZB2 BE102 	**XAC A4923** *(1)*	0.700
		1 N/C + N/O + N/O staggered (a) XEN G1191  1 N/O (b) ZB2 BE101 	1 N/C + N/C + N/C XEN T1192 	**XAC A49231** *(1)*	0.735

*(1) To order a station with a trigger action latching Emergency stop Ø 40 mm operator (ZA2 BS844), replace the number **3** in the reference selected by the number **4**.*
*Examples: **XAC A4913** becomes **XAC A4914** and **XAC A49131** becomes **XAC A49141**.*

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Presentation: page 6/32

Pendant control stations
Double insulated, type XAC A
For control circuits
Empty enclosures

530233

XAC A02

530234

XAC A03

530234

XAC A12

Empty enclosures

Description	Number of cut-outs	Reference	Weight kg
Enclosure comprising: - the enclosure, - internal mounting plate, - protective cable sleeve, - internal cable clamp, - suspension ring, - cable tie (for tightening sleeve onto cable).	2	**XAC A02**	0.440
	3	**XAC A03** *(1)*	0.440
	4	**XAC A04**	0.540
	5	**XAC A05** *(1)*	0.625
	6	**XAC A06**	0.665
	8	**XAC A08**	0.770
	12	**XAC A12**	1.000

Variable composition stations, factory assembled

Use the order form on page 6/33 to define the required configuration.

Equipment: contact blocks, operating heads (control and signalling), complementary accessories	See separate components, pages 6/24 to 6/29

(1) Enclosures with 3 cut-outs XAC A03 and 5 cut-outs XAC A05 cannot be fitted with a mounting adaptor for base mounted units.

6

Characteristics: page 6/18
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Presentation: page 6/32

Pendant control stations

Double insulated, type XAC A
For control circuits
Separate components and spare parts

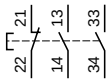
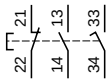
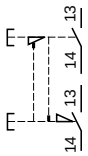
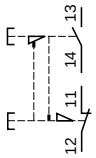
ZB2 BE101
ZB2 BE102

XEN G1191
XEN G1491

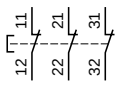
XEN G3781
XEN G3791

XEN T1192

Contact blocks for front mounting

Description	Application	Function	Scheme	Reference	Weight kg
Single block, spring return slow break	Single-speed	N/O		**ZB2 BE101**	0.015
		N/C		**ZB2 BE102**	0.015
		N/C + N/O + N/O simultaneous *(1)*		**XEN G1491**	0.040
	2-speed	N/C + N/O + N/O staggered *(1)*		**XEN G1191**	0.040
Double block, latching slow break *(2)*	Single-speed	N/O N/O		**XEN G3781**	0.060
		N/O N/C		**XEN G3791**	0.060

Isolating switch, slow break, for front mounting

For mounting in enclosures	Application	Function	Scheme	Reference	Weight kg
XAC A03 (frontal cut-out) XAC A05, A06, A08 (frontal or base cut-out)	Emergency stop	N/C + N/C + N/C with positive opening operation		**XEN T1192**	0.050

(1) Only for use with XAC A9●●● operators.
(2) Not suitable for use with the following operating heads: ZA2 BB, ZA2 BD, ZA2 BG and ZA2 BS.

6

Characteristics: page 6/18
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Pendant control stations
Double insulated, type XAC A
For control circuits
Separate components and spare parts

530240

XAC S10●

Contact blocks for base mounting

Description	Function	Scheme	Reference	Weight kg
Spring return slow break *(1)*	N/O		**XAC S101**	0.030
	N/C		**XAC S102**	0.030
	N/O + N/O		**XAC S103**	0.045
	N/C + N/C		**XAC S104**	0.045
	N/C + N/O		**XAC S105**	0.045

530241

ZB2 BV006

Pilot light bodies for front mounting

Description	Supply voltage	Scheme	Reference	Weight kg
Direct supply Bulb not included *(2)*	⩽ 400 V		**ZB2 BV006**	0.015
Direct supply, through resistor Incandescent BA 9s base fitting 130 V bulb included	230 V		**ZB2 BV007**	0.020

530242

ZB2 BV007

(1) Not suitable for use with 3-position operating heads ZA2 BD and ZA2 BG or for mounting in enclosures XAC A039 and XAC A03.

(2) Bulb type for use with direct supply units: BA 9s base fitting incandescent bulb U ⩽ 130 V or neon bulb 110 V ⩽ U ⩽ 400 V. Maximum power: 2.6 W, maximum Ø: 11 mm, maximum length: 28 mm. *See page 6/25.*

6

Pendant control stations

Double insulated, type XAC A
For control circuits
Separate components and spare parts

530243

XAC A94●●

Operating heads for front mounting

Description	Colour	Sold in lots of	Unit reference	Weight kg
Booted operators	White	10	**XAC A9411**	0.010
	Black	10	**XAC A9412**	0.010
	Green	10	**XAC A9413**	0.010
	Red	10	**XAC A9414**	0.010
	Yellow	10	**XAC A9415**	0.010
	Blue	10	**XAC A9416**	0.010
	Brown	10	**XAC A9419**	0.010

530248

ZA2 BS54

530249

ZA2 BS834

Operating heads for front or base mounting

Description	Colour	Type	Reference	Weight kg
Mushroom head, latching Turn to release (Emergency stop function)	Red	Ø 30 mm	**ZA2 BS44**	0.040
		Ø 40 mm	**ZA2 BS54**	0.050
Mushroom head, trigger action, latching Turn to release (Emergency stop function)	Red	Ø 30 mm	**ZA2 BS834**	0.040
		Ø 40 mm	**ZA2 BS844**	0.050
Mushroom head, latching Key release (n° 455) Key withdrawal in rest (unactuated) position (Emergency stop function)	Red	Ø 30 mm	**ZA2 BS74**	0.060
		Ø 40 mm	**ZA2 BS14**	0.065
Selector switches, standard handle (Not to be used with XEN G●●●● contact blocks)	Black	2 position, stay put	**ZA2 BD2**	0.018
		3 position, stay put *(1)*	**ZA2 BD3**	0.018
Key switches (key n° 455) Key withdrawal in left and right-hand positions	–	2 position, stay put	**ZA2 BG4**	0.042
		3 position, stay put *(1)*	**ZA2 BG5**	0.042
Wobblesticks *(2)* Operates in all directions for fast stop	Black	–	**ZA2 BB2**	0.060
	Red	–	**ZA2 BB4**	0.060

530244

ZA2 BS14

530245

ZA2 BD●

530246

ZA2 BG●

DF565529

ZA2 BB●

(1) Only suitable for front mounting.
(2) Base mounting recommended.

Other versions

Key release mushroom head pushbuttons with other key numbers.
Selector switches with other mechanical functions.
Key switches with other mechanical functions and with other key numbers.
Please consult your Regional Sales Office.

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Pendant control stations
Double insulated, type XAC A
For control circuits
Separate components and spare parts

530250

ZA2 BV0●

530201

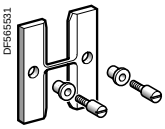
DL1 C●●●●

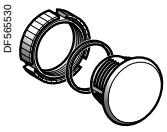
530202

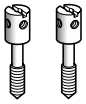
DL1 CF●●●

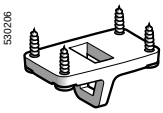
530203

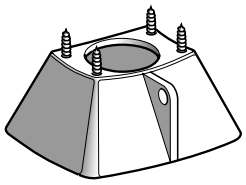
XAC A960

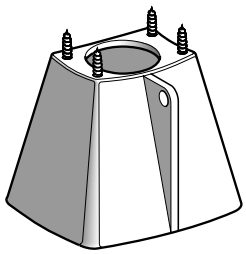
DF565531

XAC A009

DF565530

ZB2 SZ3

530205

XAC B961

530206

XAC A971

530207

XAC A982

530208

XAC A983

530200

XBF X13

Pilot light heads

Description	Colour	Reference	Weight kg
For use with incandescent bulbs			
Lens cap with fixing bezel	White	**ZA2 BV01**	0.015
	Green	**ZA2 BV03**	0.015
	Red	**ZA2 BV04**	0.015
	Yellow	**ZA2 BV05**	0.015
	Blue	**ZA2 BV06**	0.015
	Clear	**ZA2 BV07**	0.015
For use with neon bulbs			
Lens cap with fixing bezel	Green	**ZA2 BV033**	0.015
	Red	**ZA2 BV043**	0.015
	Yellow	**ZA2 BV053**	0.015
	Clear	**ZA2 BV073**	0.015

Bulbs

Description	Voltage	Sold in lots of	Unit reference	Weight kg
Incandescent BA 9s base fitting Maximum power: 2.6 W Maximum Ø: 11 mm Maximum length: 28 mm	6 V	10	**DL1 CB006**	0.002
	12 V	10	**DL1 CE012**	0.002
	24 V	10	**DL1 CE024**	0.002
	48 V	10	**DL1 CE048**	0.002
	130 V	10	**DL1 CE130**	0.002
Neon BA 9s base fitting Maximum power: 2.6 W Maximum Ø: 11 mm Maximum length: 28 mm	110 V	10	**DL1 CF110**	0.002
	230 V	10	**DL1 CF220**	0.002
	400 V	10	**DL1 CF380**	0.002

Complementary accessories, tools

Description		Reference	Weight kg
Protective cable sleeve	For cable Ø 8 to 22 mm	**XAC A950**	0.070
	For cable Ø 8 to 26 mm	**XAC A960**	0.090
Mechanical interlock for 2 operators	With fixing screws	**XAC A009**	0.003
Blanking plug	With seal and fixing nut	**ZB2 SZ3**	0.005
Adaptor for self-supporting cable type BBAP	Mounted with protective sleeve for cable Ø 8 to 26 mm	**XAC B961**	0.025
Lower support ring	–	**XAC A971**	0.010
Protective guards for base mounted units	For selector switch (standard handle) or mushroom head pushbutton	**XAC A982**	0.025
	For key switch or key release latching mushroom head pushbutton	**XAC A983**	0.045
Bulb extractor	For BA 9s base fitting bulbs	**XBF X13**	0.025

6

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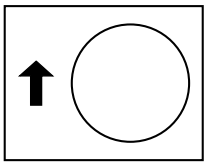
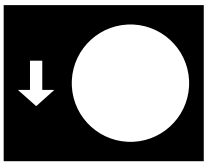
Pendant control stations

Double insulated, type XAC A
For control circuits
Legends 30 x 40 mm with symbols conforming to NF E 52-124

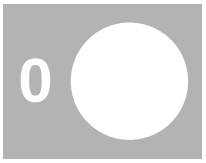
530209



White background, black symbol



Black background, white symbol



Red background, white symbol

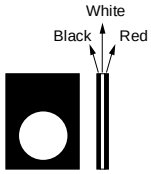
Function Symbol	Reference	Weight kg	Function Symbol	Reference	Weight kg
Raise, slow	**ZB2 BY4901**	0.001	Lower, slow	**ZB2 BY2904**	0.001
Raise, fast	**ZB2 BY4902**	0.001	Lower, fast	**ZB2 BY2905**	0.001
Raise, slow-fast	**ZB2 BY4903**	0.001	Lower, slow-fast	**ZB2 BY2906**	0.001
Right, slow	**ZB2 BY4907**	0.001	Left, slow	**ZB2 BY2910**	0.001
Right, fast	**ZB2 BY4908**	0.001	Left, fast	**ZB2 BY2911**	0.001
Right, slow-fast	**ZB2 BY4909**	0.001	Left, slow-fast	**ZB2 BY2912**	0.001
Forward, slow	**ZB2 BY4913**	0.001	Reverse, slow	**ZB2 BY2916**	0.001
Forward, fast	**ZB2 BY4914**	0.001	Reverse, fast	**ZB2 BY2917**	0.001
Forward, slow-fast	**ZB2 BY4915**	0.001	Reverse, slow-fast	**ZB2 BY2918**	0.001
Slew right, slow	**ZB2 BY4919**	0.001	Slew left, slow	**ZB2 BY2922**	0.001
Slew right, fast	**ZB2 BY4920**	0.001	Slew left, fast	**ZB2 BY2923**	0.001
Slew right, slow-fast	**ZB2 BY4921**	0.001	Slew left, slow-fast	**ZB2 BY2924**	0.001
Slow	**ZB2 BY4933**	0.001	Fast	**ZB2 BY4934**	0.001
Klaxon	**ZB2 BY4932**	0.001	Start-Klaxon	**ZB2 BY4935**	0.001
Start	**ZB2 BY4930**	0.001	Stop	**ZB2 BY2931**	0.001

6

Characteristics: page 6/18
Dimensions: page 6/30
Application schemes: page 6/31
Presentation: page 6/32

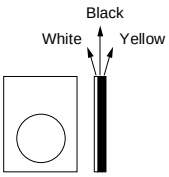
Pendant control stations
Double insulated, type XAC A
For control circuits
Legends 30 x 40 mm

530211



ZB2 BY2101

530212



ZB2 BY4101

Text	Reference	Weight kg	Text	Reference	Weight kg

- Start functions: white characters on black background
- Stop functions: white characters on red background

Blank

Black or red background	**ZB2 BY2101**	0.001	White or yellow background	**ZB2 BY4101**	0.001

With French text

For pushbuttons

Marche	**ZB2 BY2103**	0.001
Arrêt	**ZB2 BY2104**	0.001
Avant	**ZB2 BY2105**	0.001
Arrière	**ZB2 BY2106**	0.001
Montée	**ZB2 BY2107**	0.001
Descente	**ZB2 BY2108**	0.001
Droite	**ZB2 BY2109**	0.001
Gauche	**ZB2 BY2110**	0.001
En service	**ZB2 BY2111**	0.001
Hors service	**ZB2 BY2112**	0.001
Sous tension	**ZB2 BY2126**	0.001
Lent	**ZB2 BY2127**	0.001
Vite	**ZB2 BY2128**	0.001
Klaxon	**ZB2 BY2125**	0.001

For selector switches

Arrêt-Marche	**ZB2 BY2166**	0.001
Hors-En	**ZB2 BY2167**	0.001

With English text

For pushbuttons

Start	**ZB2 BY2303**	0.001
Stop	**ZB2 BY2304**	0.001
Forward	**ZB2 BY2305**	0.001
Reverse	**ZB2 BY2306**	0.001
Up	**ZB2 BY2307**	0.001
Down	**ZB2 BY2308**	0.001
Right	**ZB2 BY2309**	0.001
Left	**ZB2 BY2310**	0.001
On	**ZB2 BY2311**	0.001
Off	**ZB2 BY2312**	0.001
Power on	**ZB2 BY2326**	0.001
Slow	**ZB2 BY2327**	0.001
Fast	**ZB2 BY2328**	0.001
–	–	–

For selector switches

–	–	–
Off-On	**ZB2 BY2367**	0.001

With special texts

- Specify text when ordering,
- 2 lines maximum, 11 characters per line.

White characters on black background	**ZB2 BY2002**	0.001	Black characters on white background	**ZB2 BY4001**	0.001
White characters on red background	**ZB2 BY2004**	0.001	Black characters on yellow background	**ZB2 BY4005**	0.001

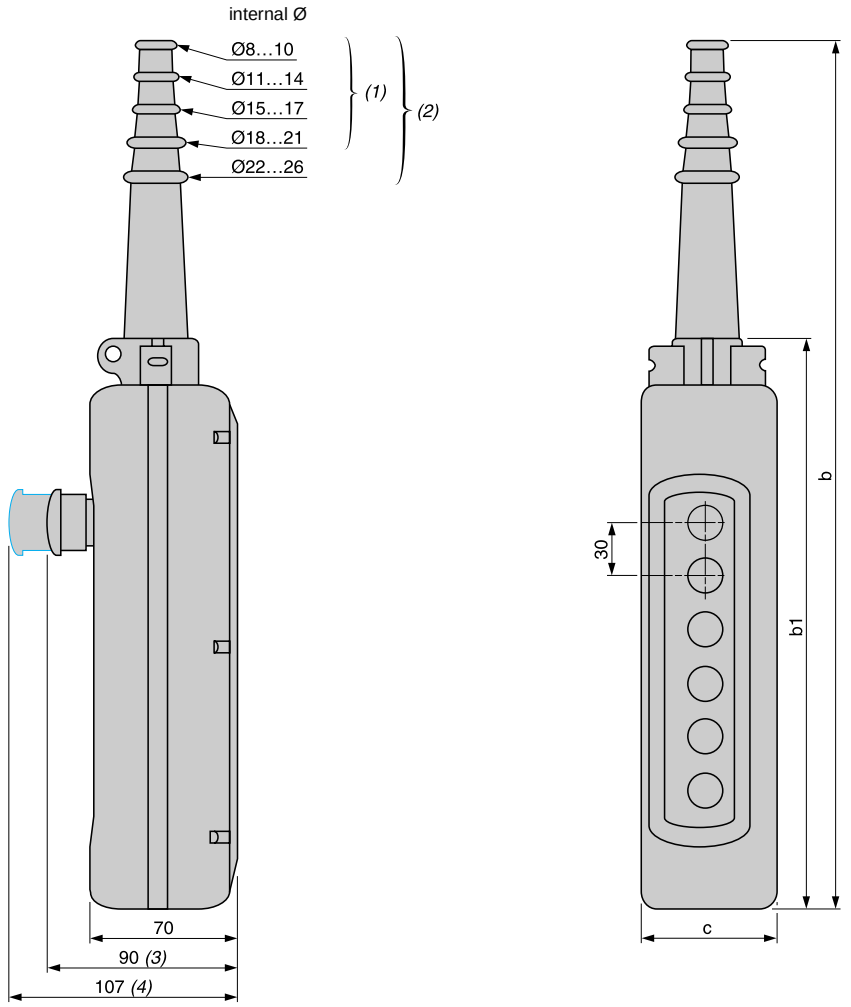
Other versions Legends with texts in other languages.
Please consult your Regional Sales Office.

6

Characteristics: page 6/18
Dimensions: page 6/30
Application schemes: page 6/31
Presentation: page 6/32

Pendant control stations
Double insulated, type XAC A
For control circuits

Dimensions
XAC A pendant stations for control circuits

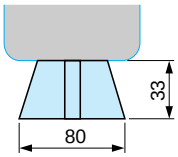


Number of operators	2	3	4	5	6	8	12
b	314	314	440	440	500	560	680
b1	190	190	250	250	310	370	490
c	80	80	80	80	80	80	92

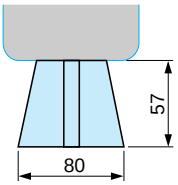
(1) For 2 and 3-way XAC A stations.
(2) For 4 and 8-way XAC A stations.
(3) With mushroom head operator.
(4) With trigger action mushroom head operator.

Protective guards

XAC A982



XAC A983



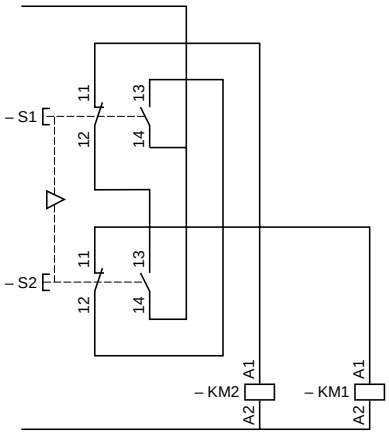
Characteristics: page 6/18
References: pages 6/19 and 6/29
Application schemes: page 6/31
Presentation: page 6/32

Pendant control stations
Double insulated, type XAC A
For control circuits

Application schemes (typical examples)

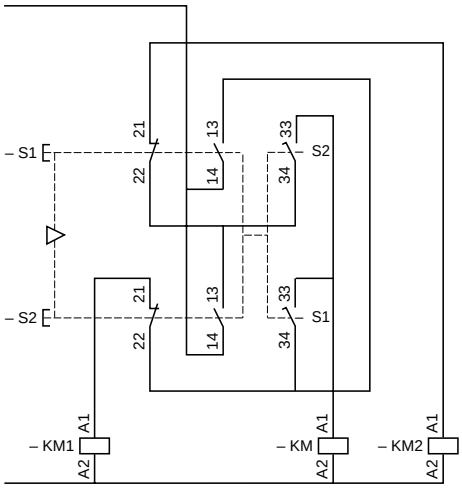
For control of single-speed reversing motor

Contact blocks **ZB2 BE101 + ZB2 BE102**



For control of 2-speed reversing motor

2 contact blocks **XEN G1191**



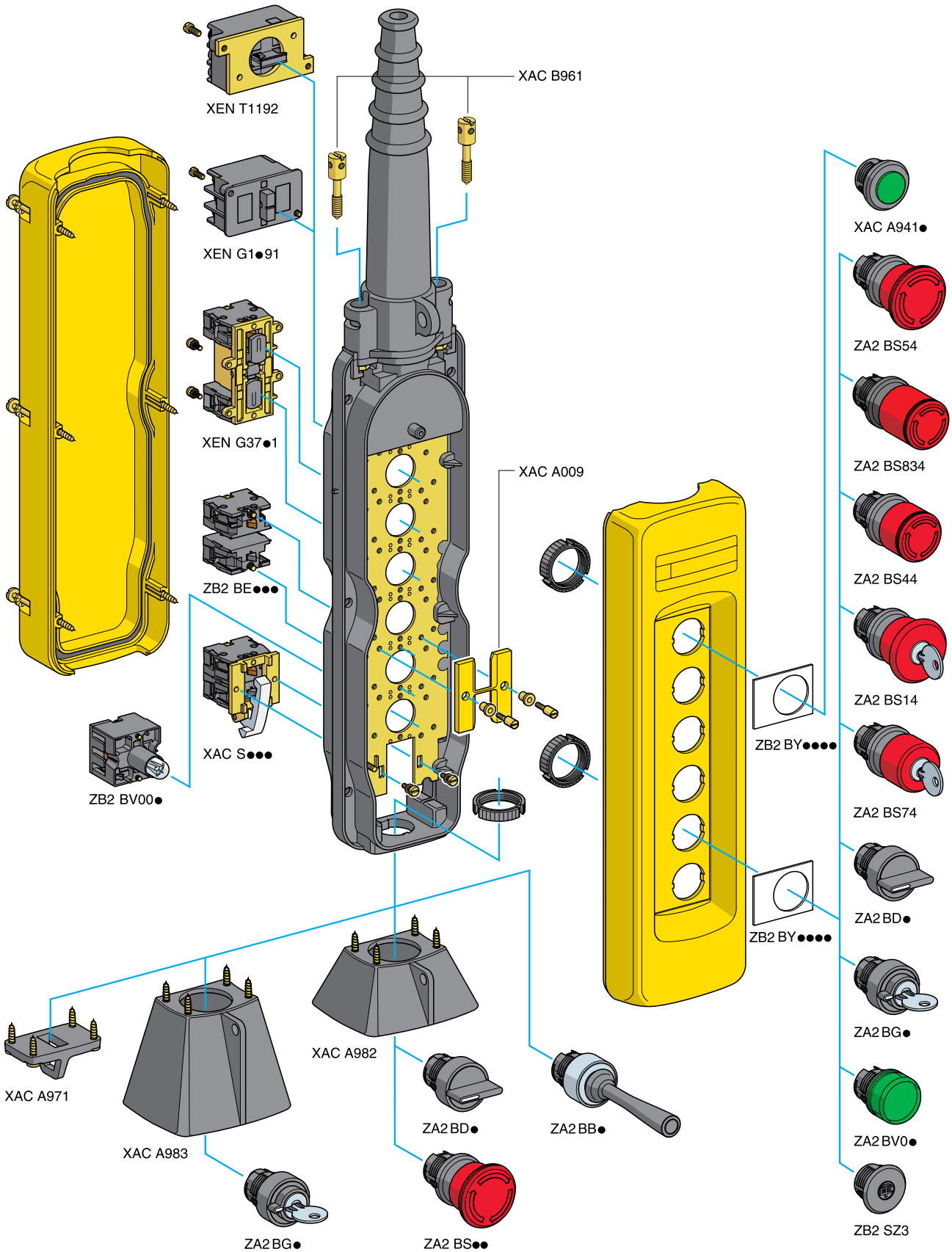
KM: high speed contactor

6

Pendant control stations

Double insulated, type XAC A

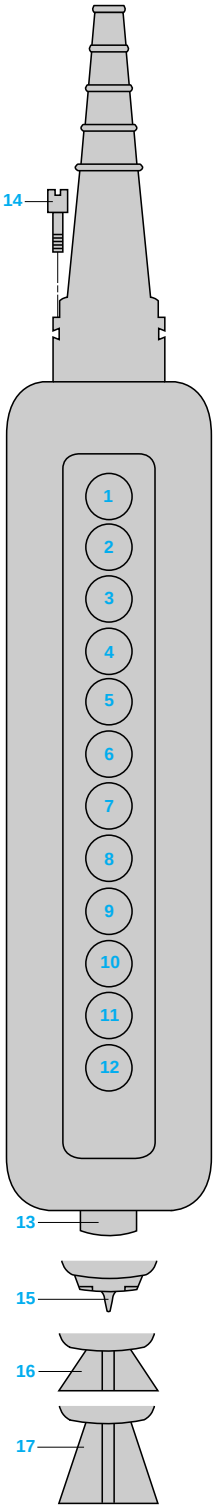
For control circuits



Order form (specimen suitable for photocopying)

Pendant control stations

Double insulated, type XAC A
For control circuits
Variable composition stations, pre-assembled



Customer			**Schneider Electric Industries**	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

Enter the order with XAC A09 reference

Unit reference of empty enclosure, see page 30075/7	**Number of identical stations**	**Enclosure price** *(1)*
XAC **A** ☐ ☐		

	Legends see pages 6/28 and 6/29		**Contact blocks or pilot light bodies** see pages 6/24 and 6/25		**Operating heads or pilot light heads or blanking plug** see pages 6/26 and 6/27		
	Reference	Unit price	Reference	Unit price	Reference	Unit price	**Total price**
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

Unit mounted in base of enclosure (if required) (Except when using **XAC A03 and XAC A05)**

13							

Complementary accessories, see page 6/27 (cross the appropriate box or boxes)

	Description	☒	Reference	Unit price	
14	Adaptor for self-supporting cable type BBAP for use with cable entry sleeve Ø 8 to 26 mm		**XAC B961**		
15	Lower support ring		**XAC A971**		
16	Protective guard for selector switch (std. handle) or mushroom head pushbutton, mounted in base		**XAC A982**		
17	Protective guard for key switch or key release mushroom head pushbutton, mounted in base		**XAC A983**		

Mechanical interlocking *(2)*

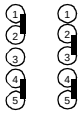
Reference	Quantity	Unit price	
XAC A009			

Pre-assembled:	Number of heads or blanking plugs to be fitted	X	Additional cost **XAC 9VA** for fitting of 1 head or 1 blanking plug	

Total price of assembled pendant station

(1) Obtain the empty enclosure price.
(2) Connect with a line the 2 ways which require mechanical interlocking.

Examples: combinations possible



Combinations not possible

6

Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control circuits

Environment

Conformity to standards			IEC 947-5-1, EN 60947-5-1
Product certifications	**XAC B**		Standard version: NEMKO, CSA 300 V type 4
	XAC M		Standard version: CSA 300 V type 4
Protective treatment	**XAC B**		Standard version: “TH”
	XAC M		Standard version: “TC”, (“TH” on request)
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation	**°C**	- 25…+ 70
Vibration resistance			15 gn (10…500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27
Electric shock protection	**XAC B**		Class II
	XAC M		Class I conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			1
Enclosure	**XAC B**		Double insulated glass-reinforced polyester (colour: yellow)
	XAC M		Aluminium enclosure. Painted yellow
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 7…13 mm, Ø 10…22 mm or Ø 22…35 mm

Contact block characteristics

Rated operational characteristics			∿ AC-15: A300 or Ue = 240 V, Ie = 3 A ⎓ DC-13: Q300 or Ue = 250 V, Ie = 0.27 A conforming to IEC 947-5-1 Appendix A
Thermal current (Ithe)		**A**	10
Rated insulation voltage (Ui)	**XEN C●●●●, XEN D3●●●, XEN D4●●●, XES B2011, XAC S4, XES D1181, XES D1281**	**V**	500, degree of pollution 3, conforming to IEC 947-1
	XEN B●●●●, XEN D1●●●, XEN D2●●●		400, degree of pollution 3, conforming to IEC 947-1
Rated impulse withstand voltage (U imp)		**kV**	6, conforming to IEC 947-1
Positive operation			Mushroom head pushbutton: N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3
Contact operation			Slow break or snap action
Resistance across terminals		**MΩ**	⩽ 25
Operating force	With booted operator	**N**	**XAC S4●●●**: 10 (N/O), 8 (N/C); **XEN C●●●●**: 6 (N/O), 4 (N/C); **XEN B●●●●, XEN D1●●●, XEN D2●●●**: Single-speed: 9; 2-speed: 20 (1st speed), 30 (2nd speed); **XEN D3●●●, XEN D4●●●**: 25; **XES B2011**: 7; **XES D1181, XES D128**: 15 (1st speed), 25 (2nd speed)
	With spring return mushroom head operator	**N**	10
	With latching mushroom head operator	**N**	40
Terminal referencing			By numbers conforming to CENELEC EN 50013
Short-circuit protection			10 A cartridge fuse type gG (gl)
Connection		**mm²**	Screw and captive cable clamp terminals. Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end

Rated operational power
conforming to IEC 947-5-1 Appendix C
Utilisation categories AC-15 and DC-13
For 1 million operating cycles
Operating rate: 3600 operating cycles/hour
Load factor: 0.5
⎓ Inductive circuit

Contact blocks XEN C●●●●, XEN D3●●●, XEN D4●●●, XAC S4●●●

a.c. supply ∿ 50/60 Hz

Voltage	V	24	48	127	230
⎓	VA	140	385	525	455

d.c. supply ⎓

Voltage	V	24	48	120
⎓	W	60	45	42

Contact blocks XEN B●●●●, XEN D1●●●, XEN D2●●●

a.c. supply ∿ 50/60 Hz

Voltage	V	24	48	127	230
⎓	VA	140	210	640	680

d.c. supply ⎓

Voltage	V	24	48	120
⎓	W	48	31	35

Contact blocks XES B2011, XES D1181, XES D1281

a.c. supply ∿ 50/60 Hz

Voltage	V	24	48	127	230
⎓	VA	50	100	450	750

d.c. supply ⎓

Voltage	V	24	48	120
⎓	W	140	140	95

References: page 6/35
Dimensions: page 6/55
Application schemes: page 6/56

Pendant control stations

Double insulated, type XAC B

For control circuits

Complete stations “ready for use” (with snap action contact blocks)

DF565564

XAC B281

DF565565

XAC B481

DF565566

XAC B681

DF565567

XAC B881

For control of single-speed motors

Functions	Number of operators	Contact blocks and scheme Per direction	Reference	Weight kg
	2 without mechanical interlocking	1 C/O snap action XES B2011	**XAC B281**	0.850
	4 without mechanical interlocking	1 C/O snap action XES B2011	**XAC B481**	1.100
	6 without mechanical interlocking	1 C/O snap action XES B2011	**XAC B681**	1.300
 I **O**	**8** without mechanical interlocking	1 C/O snap action XES B2011	**XAC B881**	1.550

6

Characteristics: page 6/34
Dimensions: page 6/55
Application schemes: page 6/56

Pendant control stations
Double insulated, type XAC B
For power circuits (direct switching)

Environment

Conformity to standards			IEC 947-3, EN 60947-3, NF C 63-130, VDE 0660-107
Product certifications	Standard version		CSA type 4
Protective treatment	Standard version		"TH"
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation	**°C**	- 25…+ 70
Vibration resistance			15 gn (10…500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			1
Enclosure			Double insulated glass-reinforced polyester (colour: yellow)
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 10…Ø 22 mm

Contact block characteristics

Thermal current (Ithe)	**XES D1191, XES D1291**	**A**	12
	XES D2201, XES D2241, XES D2251	**A**	20
Rated insulation voltage (Ui)	**XES D●●●●**	**V**	500, degree of pollution 3, conforming to IEC 947-1
	XAC S●99	**V**	400, degree of pollution 3, conforming to IEC 947-1
	XES D1●●●	**V**	600, conforming to CSA
	XES D2●●●	**V**	300, conforming to CSA
Rated impulse withstand voltage (U imp)		**kV**	6, conforming to IEC 947-1
Contact operation			Snap action
Operating force	**XES D1●●●**	**N**	17
	XES D2●●●	**N**	32
Terminal referencing			By numbers conforming to CENELEC EN 50005
Short-circuit protection	**XES D1●●●**		10 A maximum cartridge fuse type aM
	XES D2●●●		12 A maximum cartridge fuse type aM
Connection		**mm²**	Captive screw clamp terminals Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end
Rated operational power	3 phases, 2 poles **XES D1●●●**		Utilisation categories AC-3 and AC-4 conforming to IEC 947-3 Appendix A 2.2 kW-240 V 2.2 kW-400 V
	3 phases, 3 poles **XES D2●●●**		 3 kW-240 V 3 kW-400 V
	3 phases, 3 poles, isolating block **XAC S●99**		Utilisation category AC-23B 3 kW-400 V
	3 phases, 2 poles **XES D1●●●**		CSA certification 2 hp-240 V 5 hp-400 V 3 hp-600 V
	3 phases, 3 poles **XES D2●●●**		 3 hp-240 V
Mechanical durability (in millions of operating cycles) Utilisation categories AC-3 and AC-4 conforming to IEC 947-3 Appendix A Duty cycle comprising 75% AC-3, 25% AC-4 Operating rate: 600 operating cycles per hour Load factor: 0.4	3 phases, 2 poles **XES D1●●●**		 1.5 kW-240 V = 0.5 2.2 kW-240 V = 0.3 1.5 kW-400 V = 0.8 2.2 kW-400 V = 0.3
	3 phases, 3 poles **XES D2●●●**		 3 kW-240 V = 0.7 3 kW-400 V = 1

References: pages 6/37 and 6/38
Dimensions: page 6/55
Application schemes: pages 6/56 and 6/57

Pendant control stations

Double insulated, type XAC B

For power circuits (direct switching)
Complete stations “ready for use”

XAC B219
XAC B220

XAC B3191
XAC B3201

XAC B491
XAC B493

XAC B4913
XAC B4933

XAC B4911
XAC B4931

For control of single-speed motors

Functions	Number of operators	Contact blocks: Per direction	Contact blocks: For Emergency stop	Maximum operational power/400 V	Reference	Weight kg
	2 mechanically interlocked	2-pole XES D1191*(1)*	–	2.2 kW	**XAC B219**	0.355
		3-pole XES D2201*(1)*	–	3 kW	**XAC B220**	0.355
	2 mechanically interlocked + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54	2-pole XES D1191*(1)*	1 N/C + N/C + N/C XAC S499	2.2 kW	**XAC B3191**	0.940
		3-pole XES D2201*(1)*	1 N/C + N/C + N/C XAC S499	3 kW	**XAC B3201**	1.000
	4 mechanically interlocked between pairs	2-pole XES D1191*(1)*	–	2.2 kW	**XAC B491**	1.200
		3-pole XES D2201*(1)*	–	3 kW	**XAC B493**	1.330
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54	2-pole XES D1191*(1)*	1 N/C + N/C + N/C XAC S499	2.2 kW	**XAC B4913**	1.260
		3-pole XES D2201*(1)*	1 N/C + N/C + N/C XAC S499	3 kW	**XAC B4933**	1.390
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 mounted in base	2-pole XES D1191*(1)*	1 N/C + N/C + N/C XAC S3991	2.2 kW	**XAC B4911**	1.350
		3-pole XES D2201*(1)*	1 N/C + N/C + N/C XAC S3991	3 kW	**XAC B4931**	1.480

(1) Reference of double contact block for reversing operation.

Characteristics: page 6/36
Dimensions: page 6/55
Application schemes: pages 6/56 and 6/57

Pendant control stations

Double insulated, type XAC B
For power circuits (direct switching)
Complete stations “ready for use”

DF565573

XAC B691
XAC B693

DF565574

XAC B6913
XAC B6933

DF565575

XAC B6911
XAC B6931

DF565576

XAC B229

DF565577

XAC B3291

For control of single-speed motors (continued)

Functions	Number of operators	Contact blocks: Per direction	Contact blocks: For Emergency stop	Maximum operational power/400 V	Reference	Weight kg
	6 mechanically interlocked between pairs	2-pole XES D1191*(1)*	–	2.2 kW	**XAC B691**	1.350
		3-pole XES D2201*(1)*	–	3 kW	**XAC B693**	1.550
	6 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54	2-pole XES D1191*(1)*	1 N/C + N/C + N/C XAC S499	2.2 kW	**XAC B6913**	1.410
		3-pole XES D2201*(1)*	1 N/C + N/C + N/C XAC S499	3 kW	**XAC B6933**	1.610
	6 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 mounted in base	2-pole XES D1191*(1)*	1 N/C + N/C + N/C XAC S3991	2.2 kW	**XAC B6911**	1.500
		3-pole XES D2201*(1)*	1 N/C + N/C + N/C XAC S3991	3 kW	**XAC B6931**	1.700

For control of 2-speed motors

Functions	Number of operators	Contact blocks: Per direction	Contact blocks: For Emergency stop	Maximum operational power/400 V	Reference	Weight kg
	2 mechanically interlocked	2-pole XES D1291*(1)*	–	2.2 kW	**XAC B229**	0.405
	2 mechanically interlocked + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54	2-pole XES D1291*(1)*	1 N/C + N/C + N/C XAC S499	2.2 kW	**XAC B3291**	0.990

(1) Reference of double contact block for reversing operation.

Characteristics: page 6/36
Dimensions: page 6/55
Application schemes: pages 6/56 and 6/57

Pendant control stations

Double insulated, type XAC B
For control or power circuits
Empty enclosures

DF565578

XAC B020

DF565579

XAC B030

DF566580

XAC B02●

DF565581

XAC B04●

DF565582

XAC B06●

DF565583

XAC B08●

DF565584

XAC B12●

Empty enclosures for control circuits or power circuits *(1)*

Description	Protective cable sleeve	Number of cut-outs	Cut-out in base of enclosure	Reference	Weight kg
Empty enclosures *(1)* **Double insulated for "Small hoist" applications** Operator cut-out centres: 40 mm	For cable Ø 7…13 mm	2	Without	**XAC B020**	0.760
		3	Without	**XAC B030**	0.760
Empty enclosures *(1)* **Double insulated for "General purpose" applications** Operator cut-out centres: 40 mm	For cable Ø 10…22 mm	2	Without	**XAC B02**	0.760
			With	**XAC B021**	0.760
		4	Without	**XAC B04**	1.000
			With	**XAC B041**	1.000
		6	Without	**XAC B06**	1.160
			With	**XAC B061**	1.160
		8	Without	**XAC B08**	1.330
			With	**XAC B081**	1.330
		12 in 2 rows of 6	Without	**XAC B12**	1.460
			With	**XAC B121**	1.460

(1) Enclosure comprising:
- *the enclosure,*
- *protective cable sleeve,*
- *cable tie (for tightening sleeve onto cable),*
- *internal cable clamp,*
- *suspension ring,*
- *bezel tightening key.*

Characteristics: pages 6/34 and 6/36
Dimensions: page 6/55
Application schemes: pages 6/56 and 6/57
Presentation: page 6/58

Pendant control stations

Double insulated, type XAC B
For control or power circuits
Empty enclosures

DF565580

XAC B02●●

DF565581

XAC B04●●

DF565582

XAC B06●●

DF565583

XAC B08●●

DF565584

XAC B12●●

Empty enclosures for control circuits or power circuits (1) (continued)

Description	Protective cable sleeve	Number of cut-outs	Cut-out in base of enclosure	Reference	Weight kg
Empty enclosures (1) **Double insulated for "General purpose" applications** Operator cut-out centres: 40 mm	For cable Ø 22…35 mm	2	Without	**XAC B025**	0.960
			With	**XAC B0215**	0.960
		4	Without	**XAC B045**	1.200
			With	**XAC B0415**	1.200
		6	Without	**XAC B065**	1.360
			With	**XAC B0615**	1.360
		8	Without	**XAC B085**	1.530
			With	**XAC B0815**	1.530
		12 in 2 rows of 6	Without	**XAC B125**	1.660
			With	**XAC B1215**	1.660

(1) Enclosure comprising:
- *the enclosure,*
- *protective cable sleeve,*
- *cable tie (for tightening sleeve onto cable),*
- *internal cable clamp,*
- *suspension ring,*
- *bezel tightening key.*

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Characteristics: pages 6/34 and 6/36
Dimensions: page 6/55
Application schemes: pages 6/56 and 6/57
Presentation: page 6/58

Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control circuits
Empty enclosures (XAC M: products for maintenance purposes only)

DF565585

XAC B120

DF565586

XAC M04●

DF565587

XAC M08●

Empty enclosures for control circuits (1)

Description	Protective cable sleeve	Number of cut-outs	Cut-out in base of enclosure	Reference	Weight kg
Empty enclosures (1) **Double insulated for "General purpose" applications** Operator cut-out centres: 30 mm	For cable Ø 10…22 mm	12 in 1 row	Without	**XAC B120**	1.330
			With	**XAC B1201**	1.330
	For cable Ø 22…35 mm	12 in 1 row	Without	**XAC B1205**	1.530
			With	**XAC B12015**	1.530
Empty enclosures (1) **Metal for "General purpose" applications** Operator cut-out centres: 40 mm	For cable Ø 10…22 mm	4	Without	**XAC M04**	1.540
			With	**XAC M041**	1.540
		8	Without	**XAC M08**	2.210
			With	**XAC M081**	2.210
	For cable Ø 22…35 mm	4	Without	**XAC M045**	1.740
			With	**XAC M0415**	1.740
		8	Without	**XAC M085**	2.410
			With	**XAC M0815**	2.410

Variable composition stations, factory assembled

Use the order form on page 6/59 to define the required configuration

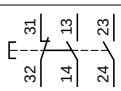
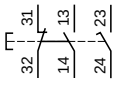
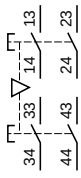
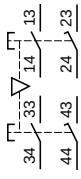
Equipment: contact blocks, operating heads (control and signalling), complementary accessories	See separate components, pages 6/42 to 6/54

(1) Enclosure comprising:
- *the enclosure,*
- *protective cable sleeve for cable Ø 10…22 mm or Ø 22…35 mm,*
- *cable tie (for tightening sleeve onto cable),*
- *internal cable clamp,*
- *suspension ring,*
- *bezel tightening key.*

Characteristics: page 6/34
Dimensions: page 6/55
Application schemes: pages 6/56 and 6/57
Presentation: page 6/58

Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control circuits
Separate components and spare parts

Contact blocks for front mounting, slow break

Description	Application	Function	Scheme	Operator centres	Reference	Weight
				mm		kg
Spring return						
Single block 1 spring return operator	Single-speed	N/O		30 or 40	**XEN C1111**	0.020
		N/C		30 or 40	**XEN C1121**	0.020
		N/O + N/O		30 or 40	**XEN C1131**	0.020
		N/C + N/C		30 or 40	**XEN C1141**	0.020
		N/C + N/O		30 or 40	**XEN C1151**	0.020
		C/O + N/O		30 or 40	**XEN B1491**	0.050
	2-speed	2 step N/O + N/O staggered		30 or 40	**XEN B1181**	0.050
		2 step C/O + N/O staggered		30 or 40	**XEN B1191**	0.050
Double block 2 spring return operators mechanically interlocked	Single-speed	N/O + N/O simultaneous		30	**XEN D1611**	0.110
				40 *(1)*	**XEN D2611**	0.110
	2-speed	2 step N/O + N/O staggered		30	**XEN D1621**	0.110
				40 *(1)*	**XEN D2621**	0.110

DF565588

XEN C1111

DF565589

XEN B1181

DF565590

XEN D2611

(1) These contact blocks cannot be mounted in enclosures XAC B120● (12 operators in 1 row).

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Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control circuits
Separate components and spare parts

DF566593

XEN D2641

DF566592

XEN D3801

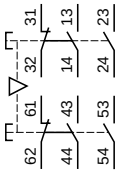
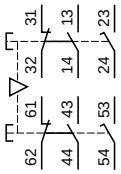
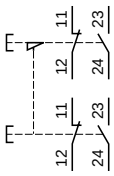
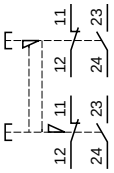
DF566591

XES B2011

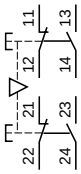
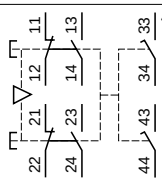
DF566594

XES D1181

Contact blocks for front mounting, slow break (continued)

Description	Application	Function	Scheme	Operator centres	Reference	Weight
				mm		kg
Spring return (continued)						
Double block 2 spring return operators mechanically interlocked	Single-speed	C/O + N/O		30	**XEN D1631**	0.110
				40 (1)	**XEN D2631**	0.110
	2-speed	2 step C/O + N/O staggered		30	**XEN D1641**	0.110
				40 (1)	**XEN D2641**	0.110
Latching						
Double block 1 latching operator released by 1 spring return operator	Single-speed	N/C + N/O		30	**XEN D3801**	0.170
				40 (1)	**XEN D4801**	0.170
Double block 2 latching operators	Single-speed	N/C + N/O		30	**XEN D3811**	0.170
				40 (1)	**XEN D4811**	0.170

Contact blocks for front mounting, snap action

Description	Application	Function	Scheme	Operator centres	Reference	Weight
				mm		kg
Spring return						
Single block 1 spring return operator (2)	Single-speed	C/O		40 (1)	**XES B2011**	0.030
Double block 2 spring return operators mechanically interlocked	Single-speed	C/O		40 (1)	**XES D1181**	0.140
	2-speed	C/O + N/O staggered		40 (1)	**XES D1281**	0.190

(1) These contact blocks cannot be mounted in enclosures XAC B120● (12 operators in 1 row).
(2) Only for mounting with operators XAC B91●●.

Characteristics: page 6/34
Dimensions: page 6/55
Application schemes: page 6/56
Presentation: page 6/58

Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control circuits
Separate components and spare parts

530240

XAC S41●

Contact blocks for front mounting *(1)*

Description	Function	Scheme	Reference	Weight kg
Spring return **Slow break** Operator centres 30 or 40 mm	N/O		**XAC S411**	0.070
	N/C		**XAC S412**	0.070
	N/O + N/O		**XAC S413**	0.070
	N/C + N/C		**XAC S414**	0.070
	N/C + N/O		**XAC S415**	0.070

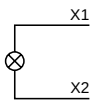
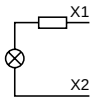
Contact blocks for base mounting *(1)*

Description	Function	Scheme	Reference	Weight kg
Spring return **Slow break**	N/O		**XAC S4111**	0.100
	N/C		**XAC S4121**	0.100
	N/O + N/O		**XAC S4131**	0.100
	N/C + N/C		**XAC S4141**	0.100
	N/C + N/O		**XAC S4151**	0.100

530240

XAC S4111

Pilot light bodies for front mounting

Description	Supply voltage	Scheme	Reference	Weight kg
Direct supply Bulb not included *(2)*	⩽ 400 V		**XAC V06**	0.050
Direct supply, through resistor Incandescent BA 9s base fitting 130 V bulb included	230 V		**XAC V07**	0.055

DF565595

XAC V06

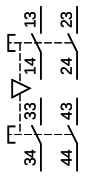
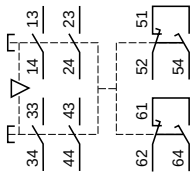
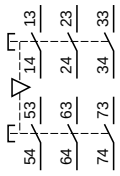
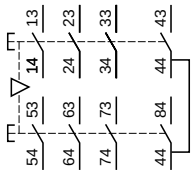
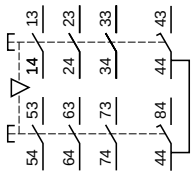
(1) Mounting with operating heads ZA2 B●●● (see page 6/47).
(2) Bulb type for use with direct supply units: BA 9s base fitting incandescent bulb U ⩽ 130 V or neon bulb 110 V ⩽ U ⩽ 400 V. Maximum power: 2.6 W, maximum Ø: 11 mm, maximum length: 26 mm. See page 6/50.

Characteristics: page 6/34 | Dimensions: page 6/55 | Application schemes: page 6/56 | Presentation: page 6/58

Pendant control stations

Double insulated, type XAC B
For power circuits (direct switching)
Separate components and spare parts

Contact blocks, snap action

Description	Application	Function	Max. power/ 400 V	Scheme	Reference	Weight kg
Double block 2-pole 2 spring return operators mechanically interlocked (operator centres: 40 mm)	Single-speed	N/O + N/O	2.2 kW		**XES D1191**	0.140
	2-speed	N/O + N/O + 1 C/O staggered auxiliary contact *(1)*	2.2 kW		**XES D1291**	0.190
Double block 3-pole 2 spring return operators mechanically interlocked (operator centres: 40 mm)	Single-speed	N/O + N/O + N/O	3 kW		**XES D2201**	0.200
		N/O + N/O + N/O + 1 N/O simultaneous auxiliary contact *(1)*	3 kW		**XES D2241**	0.210
		N/O + N/O + N/O + 1 N/O staggered auxiliary contact *(1)*	3 kW		**XEN D2251**	0.210

DF506594

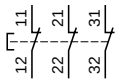
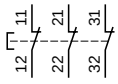
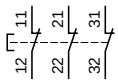
XES D1191

530368

XES D2201

Isolating block, slow break

In the interests of safety, it is imperative that these isolating blocks only be used with a stay put or latching type operating head to ensure complete isolation when the pendant station is not in use.

Mounting position	Application	Function	Max. power/ 400 V	Scheme	Reference	Weight kg
On front 40 mm centres *(2)*	Emergency stop	N/C + N/C + N/C with positive opening operation	3 kW		**XAC S399**	0.100
On front 30 mm centres *(2)*	Emergency stop	N/C + N/C + N/C with positive opening operation	3 kW		**XAC S499**	0.100
In base *(3)*	Emergency stop	N/C + N/C + N/C with positive opening operation	3 kW		**XAC S3991**	0.110

530369

XAC S399

530391

XAC S499

530366

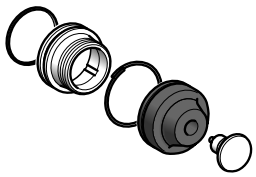
XAC S3991

(1) Auxiliary contacts are slow break.
(2) Mounting with operating heads ZA2 B●●●, except ZA2 BD● and ZA2 BG● (see page 6/47).
(3) Mounting with operating head ZA2 BS14 (see page 6/47).

Characteristics: page 6/36
Dimensions: page 6/55
Application schemes: pages 6/56 and 6/57
Presentation: page 6/58

Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control or power circuits
Separate components and spare parts

DF565596

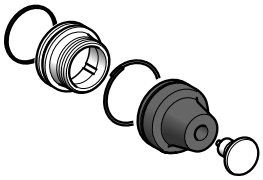


XAC B911●

Booted operators

For use with contact block	Travel	Operating temperature	Colour of insert	Sold in lots of	Unit reference	Weight kg
XEN B●●●● XEN C●●●● XEN D●●●● XES B2011 XES D2201 XES D2241 XES D2251	4 mm	- 25…+ 70 °C *(1)*	White	10	**XAC B9111**	0.005
			Black	10	**XAC B9112**	0.005
			Green	10	**XAC B9113**	0.005
			Red	10	**XAC B9114**	0.005
			Yellow	10	**XAC B9115**	0.005
			Blue	10	**XAC B9116**	0.005
			Brown	10	**XAC B9119**	0.005
		- 40…+ 70 °C *(2)*	White	10	**XAC B9121**	0.005
			Black	10	**XAC B9122**	0.005
			Green	10	**XAC B9123**	0.005
			Red	10	**XAC B9124**	0.005
			Yellow	10	**XAC B9125**	0.005
			Blue	10	**XAC B9126**	0.005
			Brown	10	**XAC B9129**	0.005

DF565597



XAC B921●

For use with contact block	Travel	Operating temperature	Colour of insert	Sold in lots of	Unit reference	Weight kg
XES D1181 XES D1191 XES D1281 XES D1291	16 mm	- 25…+ 70 °C *(1)*	White	10	**XAC B9211**	0.005
			Black	10	**XAC B9212**	0.005
			Green	10	**XAC B9213**	0.005
			Red	10	**XAC B9214**	0.005
			Yellow	10	**XAC B9215**	0.005
			Blue	10	**XAC B9216**	0.005
			Brown	10	**XAC B9219**	0.005
		- 40…+ 70 °C *(2)*	White	10	**XAC B9221**	0.005
			Black	10	**XAC B9222**	0.005
			Green	10	**XAC B9223**	0.005
			Red	10	**XAC B9224**	0.005
			Yellow	10	**XAC B9225**	0.005
			Blue	10	**XAC B9226**	0.005
			Brown	10	**XAC B9229**	0.005

DF565598

ZA2 BP●

Booted operators (silicone boot)

For use with contact block	Operating temperature	Colour of boot	Reference	Weight kg
XAC S41●	- 25…+ 70 °C	Black	**ZA2 BP2**	0.015
		Green	**ZA2 BP3**	0.015
		Red	**ZA2 BP4**	0.015
		Yellow	**ZA2 BP5**	0.015
		Blue	**ZA2 BP6**	0.015

(1) Polychloroprene boots.
(2) Silicone boots.

Characteristics: pages 6/34 and 6/36
Dimensions: page 6/55
Application schemes: pages 6/56 and 6/57
Presentation: page 6/58

Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control or power circuits
Separate components and spare parts

530385

ZA2 BS54

530384

ZA2 BS14

530382

ZA2 BD●

530383

ZA2 BG●

530381

ZA2 BB●

530390

ZA2 BV0●

Operating heads for front or base mounting *(1)*

Description	Colour	Type	Reference	Weight kg
Mushroom head, latching Turn to release (Emergency stop function)	Red	Ø 30 mm	**ZA2 BS44**	0.028
		Ø 40 mm	**ZA2 BS54**	0.033
Mushroom head, latching Key release (n° 455) Key withdrawal in rest (unactuated) position (Emergency stop function)	Red	Ø 30 mm	**ZA2 BS74**	0.060
		Ø 40 mm	**ZA2 BS14**	0.065
Selector switches, standard handle	Black	2 position, stay put	**ZA2 BD2**	0.018
		3 position, stay put *(2)*	**ZA2 BD3**	0.018
Key switches (key n° 455) Key withdrawal in left and right-hand positions	–	2 position, stay put	**ZA2 BG4**	0.042
		3 position, stay put *(1)*	**ZA2 BG5**	0.042
Wobblesticks Operates in all directions for fast stop	Black	–	**ZA2 BB2**	0.060
	Red	–	**ZA2 BB4**	0.060

Operating head for isolating block

Description	Colour	Type	Reference	Weight kg
Mushroom head, latching Key release (n° 455) Key withdrawal in rest (unactuated) position (Emergency stop function)	Red	Ø 40 mm	**ZA2 BS14**	0.065

Pilot light heads

Description	Colour	Reference	Weight kg
For use with incandescent bulbs			
Lens cap with fixing bezel	White	**ZA2 BV01**	0.015
	Green	**ZA2 BV03**	0.015
	Red	**ZA2 BV04**	0.015
	Yellow	**ZA2 BV05**	0.015
	Blue	**ZA2 BV06**	0.015
	Clear	**ZA2 BV07**	0.015
For use with neon bulbs			
Lens cap with fixing bezel	Green	**ZA2 BV033**	0.015
	Red	**ZA2 BV043**	0.015
	Yellow	**ZA2 BV053**	0.015
	Clear	**ZA2 BV073**	0.015

(1) The technical characteristics of pendant control stations XAC B and M can only be guaranteed by using the operating heads ZA2 B●● listed above.
(2) Only suitable for front mounting.

Other versions
Key release mushroom head pushbuttons with other key numbers.
Selector switches with other mechanical functions.
Key switches with other mechanical functions and with other key numbers.
Please consult your Regional Sales Office.

Characteristics: pages 6/34 and 6/36
Dimensions: page 6/55
Application schemes: pages 6/56 and 6/57
Presentation: page 6/58

Pendant control stations

Double insulated, type XAC B
Metal, type XAC M
For control circuits
Separate components: pushbuttons with analogue output *(1)*

Environment

Conformity to standards			IEC 947-5-1, EN 60947-5-1
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation	**°C**	- 25…+ 70
Degree of protection			IP 65 conforming to IEC 529
Pushbutton operator travel		**mm**	11
Operating force		**N**	4 (start of travel) 9 (end of travel)
Mechanical durability (in millions of operating cycles)			1
Connection		**mm²**	Terminal connectors, maximum clamping capacity: 2 x 1.5 mm² or 1 x 2.5 mm²

Contact block characteristics

Thermal current (Ithe)	**A**	6
Rated insulation voltage (Ui)	**V**	250, degree of pollution 3, conforming to IEC 947-1

Rated operational characteristics
conforming to 947-5-1 Appendix C
Utilisation categories AC-15 and DC-13

Inductive circuit

a.c. supply ∿ 50/60 Hz
Power broken in VA
for 1 million operating cycles

Voltage V	48	110	230
VA	30	30	30

d.c. supply ⎓
Power broken in W
for 1 million operating cycles

Voltage V	48	110
W	48	12

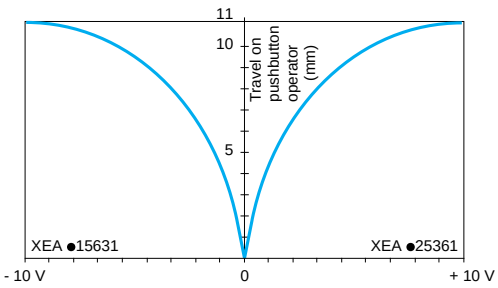
Analogue circuit characteristics

Type of current		d.c.
Rated supply voltage	**V**	15
Voltage limits	**V**	14…18
Current consumption	**mA**	< 15

Analogue signal output curves and schemes

Analogue signal output curves

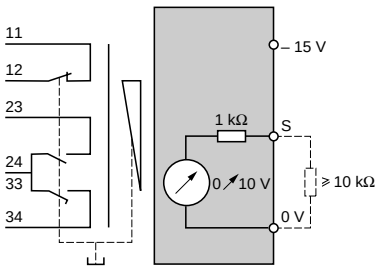
with 15 V supply voltage



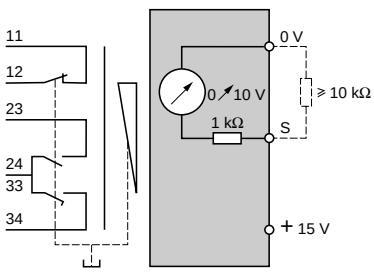
Note: *supply voltage = 15 V, output voltage = 10 V (if supply voltage < 15 V, output voltage < 10 V)*

Equivalent output schemes

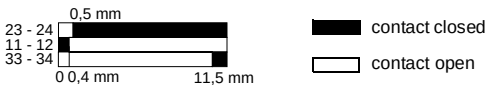
XEA ●15361



XEA ●25361



Contact state



(1) Pushbuttons providing an analogue output signal proportional to the distance travelled by the pushbutton operator.

References: page 6/49
Dimensions: page 6/49

Pendant control stations

Double insulated, type XAC B
Metal, type XAC M
For control circuits
Separate components: pushbuttons with analogue output *(1)*

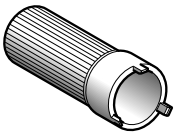
530386

XEA C●5361

530392

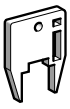
XEA B●5361

530306



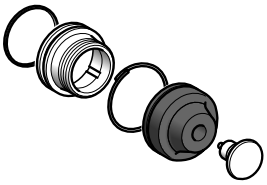
ZA2 BZ905

530305



XAC X1

DF566601



XAC B9112

References

Complete pushbuttons (body + operating head), non booted *(2)*

Supply voltage	Contact block	Reference	Weight kg
0…- 15 V	N/C + N/O at start of travel N/O at end of travel	**XEA C15361**	0.065
0…+ 15 V	N/C + N/O at start of travel N/O at end of travel	**XEA C25361**	0.065

Complete pushbuttons (body + operating head), booted (2)

Supply voltage	Contact block	Reference	Weight kg
0…- 15 V	N/C + N/O at start of travel N/O at end of travel	**XEA B15361**	0.065
0…+ 15 V	N/C + N/O at start of travel N/O at end of travel	**XEA B25361**	0.065

Mounting accessories

Description	For use with	Reference	Weight kg
Tightening key for fixing nut	XEA C●5361	**ZA2 BZ905**	0.060
	XEA B●5361	**XAC X1**	0.010

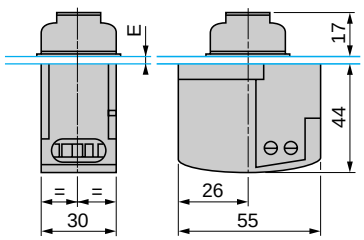
Separate components and spare parts

Description	Colour of insert	Unit reference	Weight kg
Booted operator (Sold in lots of 10)	White	**XAC B9111**	0.005
	Black	**XAC B9112**	0.005

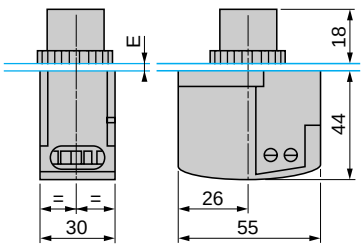
(1) Pushbuttons providing an analogue output signal proportional to the distance travelled by the pushbutton operator.
(2) Pushbutton supplied with 1 white insert and 1 black insert.

Dimensions

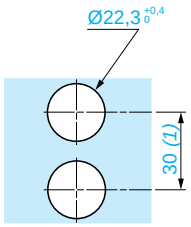
XEA B●5361



XEA C●5361



Panel cut-out



E = support panel thickness, 1 to 3.5 mm.

(1) Minimum fixing centres between 2 operators.

Characteristics:
page 6/48

Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control or power circuits
Separate components and spare parts

530307

DL1 C●●●●

530308

DL1 CF●●●

Bulbs

Description	Voltage	Sold in lots of	Unit reference	Weight kg
Incandescent BA 9s base fitting Maximum power: 2.6 W Maximum Ø: 11 mm Maximum length: 28 mm	6 V	10	**DL1 CB006**	0.002
	12 V	10	**DL1 CE012**	0.002
	24 V	10	**DL1 CE024**	0.002
	48 V	10	**DL1 CE048**	0.002
	130 V	10	**DL1 CE130**	0.002
Neon BA 9s base fitting Maximum power: 2.6 W Maximum Ø: 11 mm Maximum length: 28 mm	120 V	10	**DL1 CF110**	0.002
	230 V	10	**DL1 CF220**	0.002
	400 V	10	**DL1 CF380**	0.002

Accessories for booted operators

Description	Travel	Material/ Colour	Operating temperature	Sold in lots of	Unit reference	Weight kg
Boots with circlip, without coloured insert	4 mm	Polychloroprene	- 25…+ 70° C	10	**XAC B911**	0.002
		Silicone	- 40…+ 70° C	10	**XAC B912**	0.002
	16 mm	Polychloroprene	- 25…+ 70° C	10	**XAC B921**	0.002
		Silicone	- 40…+ 70° C	10	**XAC B922**	0.002
Coloured inserts for booted operators (4 and 16 mm travel)		White	–	10	**XAC B901**	0.001
		Black	–	10	**XAC B902**	0.001
		Green	–	10	**XAC B903**	0.001
		Red	–	10	**XAC B904**	0.001
		Yellow	–	10	**XAC B905**	0.001
		Blue	–	10	**XAC B906**	0.001
		Brown	–	10	**XAC B909**	0.001

530311

XAC B91●

530310

XAC B92●

530309

XAC B90●

6

Characteristics: pages 6/34 and 6/36
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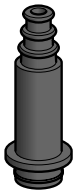
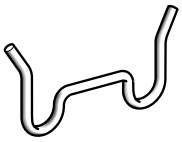
Application schemes: pages 6/56 and 6/57
Presentation: page 6/58

Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control or power circuits
Separate components and spare parts

530312

XAC B913

530313

XAC B960

530314

XAC B971

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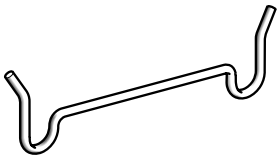
XAC B972

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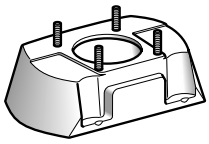
XAC B983

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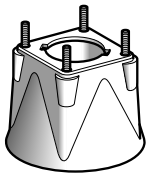
XAC B982

530318

XAC X1

530319

XAC X905

Complementary accessories

Description	For use with		Reference	Weight kg
Protective cable sleeve with cable tie (for tightening sleeve onto cable)	Enclosures XAC B219 and XAC B220 (2 operators)	For cable Ø 7…13 mm	**XAC B913**	0.065
	Enclosures XAC B●●● with 4 to 12 operators and XAC M●●● with 4 and 8 operators	For cable Ø 10…22 mm	**XAC B960**	0.110
		For cable Ø 22…35 mm	**XAC B965**	0.160
Blanking plug with seal and fixing nut	–		**ZB2 SZ3**	0.005
Adaptor for use with protective cable sleeve for cable Ø 10…22 mm	Self-supporting cable type BBAP		**XAC B961**	0.025
Lower support ring	Single row enclosures XAC B and XAC M		**XAC B971**	0.015
	2 row enclosures XAC B		**XAC B972**	0.020
Protective guards for base mounted units	Mushroom head pushbutton		**XAC B983**	0.050
	Key release latching mushroom head pushbutton		**XAC B982**	0.050

Tools

Description	For use with	Reference	Weight kg
Tightening key	Bezels	**XAC X1**	0.010
	Units mounted in base of enclosure	**XAC X905**	0.015
Bulb extractor	BA 9s base fitting bulbs	**XBF X13**	0.003

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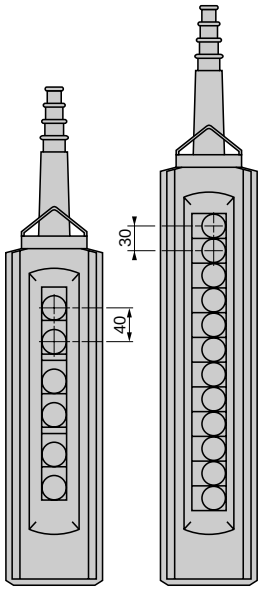
Presentation: page 6/58

Pendant control stations

Double insulated, type XAC B
Metal, type XAC M
For control or power circuits
Legends 30 x 40 mm (with symbols conforming to NF E 52-124)

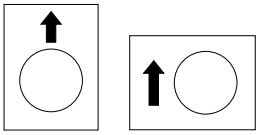
DF565666



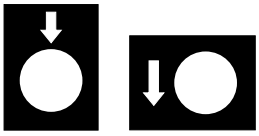
Vertical mounting
40 mm centres

Horizontal mounting
30 mm centres

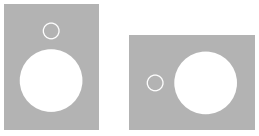
DF565665



White background, black symbol



Black background, white symbol



Red background, white symbol

Symbol	Reference	Symbol	Reference	Weight
Vertical mounting 40 mm centres		Horizontal mounting 30 mm centres		kg
Raise, slow	**ZB2 BY4951**		**ZB2 BY4901**	0.001
Raise, fast	**ZB2 BY4952**		**ZB2 BY4902**	0.001
Raise, slow-fast	**ZB2 BY4953**		**ZB2 BY4903**	0.001
Right, slow	**ZB2 BY4901**		**ZB2 BY4907**	0.001
Right, fast	**ZB2 BY4902**		**ZB2 BY4908**	0.001
Right, slow-fast	**ZB2 BY4903**		**ZB2 BY4909**	0.001
Forward, slow	**ZB2 BY4963**		**ZB2 BY4913**	0.001
Forward, fast	**ZB2 BY4964**		**ZB2 BY4914**	0.001
Forward, slow-fast	**ZB2 BY4965**		**ZB2 BY4915**	0.001
Slew right, slow	**ZB2 BY4919**		**ZB2 BY4919**	0.001
Slew right, fast	**ZB2 BY4920**		**ZB2 BY4920**	0.001
Slew right, slow-fast	**ZB2 BY4921**		**ZB2 BY4921**	0.001
Slow	**ZB2 BY4933**		**ZB2 BY4933**	0.001
Klaxon	**ZB2 BY4982**		**ZB2 BY4932**	0.001
Start	**ZB2 BY4980**		**ZB2 BY4930**	0.001

Symbol	Reference	Symbol	Reference	Weight
Vertical mounting 40 mm centres		Horizontal mounting 30 mm centres		kg
Lower, slow	**ZB2 BY2954**		**ZB2 BY2904**	0.001
Lower, fast	**ZB2 BY2955**		**ZB2 BY2905**	0.001
Lower, slow-fast	**ZB2 BY2956**		**ZB2 BY2906**	0.001
Left, slow	**ZB2 BY2904**		**ZB2 BY2910**	0.001
Left, fast	**ZB2 BY2905**		**ZB2 BY2911**	0.001
Left, slow-fast	**ZB2 BY2906**		**ZB2 BY2912**	0.001
Reverse, slow	**ZB2 BY2966**		**ZB2 BY2916**	0.001
Reverse, fast	**ZB2 BY2967**		**ZB2 BY2917**	0.001
Reverse, slow-fast	**ZB2 BY2968**		**ZB2 BY2918**	0.001
Slew left, slow	**ZB2 BY2922**		**ZB2 BY2922**	0.001
Slew left, fast	**ZB2 BY2923**		**ZB2 BY2923**	0.001
Slew left, slow-fast	**ZB2 BY2924**		**ZB2 BY2924**	0.001
Fast	**ZB2 BY4934**		**ZB2 BY4934**	0.001
Start-Klaxon	**ZB2 BY4985**		**ZB2 BY4935**	0.001
Stop	**ZB2 BY2931**		**ZB2 BY2931**	0.001

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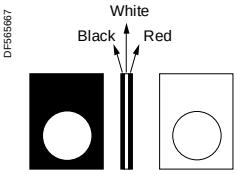
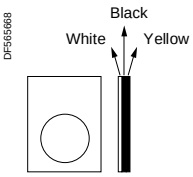
Presentation: page 6/58

Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control or power circuits
Legends 30 x 40 mm



ZB2 BY2101



ZB2 BY4101

Text	Reference	Weight kg	Text	Reference	Weight kg
■ Start functions: white characters on black background ■ Stop functions: white characters on red background					
Blank					
Black or red background	**ZB2 BY2101**	0.001	White or yellow background	**ZB2 BY4101**	0.001
With French text			**With English text**		
For pushbuttons			**For pushbuttons**		
Marche	**ZB2 BY2103**	0.001	Start	**ZB2 BY2303**	0.001
Arrêt	**ZB2 BY2104**	0.001	Stop	**ZB2 BY2304**	0.001
Avant	**ZB2 BY2105**	0.001	Forward	**ZB2 BY2305**	0.001
Arrière	**ZB2 BY2106**	0.001	Reverse	**ZB2 BY2306**	0.001
Montée	**ZB2 BY2107**	0.001	Up	**ZB2 BY2307**	0.001
Descente	**ZB2 BY2108**	0.001	Down	**ZB2 BY2308**	0.001
Droite	**ZB2 BY2109**	0.001	Right	**ZB2 BY2309**	0.001
Gauche	**ZB2 BY2110**	0.001	Left	**ZB2 BY2310**	0.001
En service	**ZB2 BY2111**	0.001	On	**ZB2 BY2311**	0.001
Hors service	**ZB2 BY2112**	0.001	Off	**ZB2 BY2312**	0.001
Sous tension	**ZB2 BY2126**	0.001	Power on	**ZB2 BY2326**	0.001
Lent	**ZB2 BY2127**	0.001	Slow	**ZB2 BY2327**	0.001
Vite	**ZB2 BY2128**	0.001	Fast	**ZB2 BY2328**	0.001
Klaxon	**ZB2 BY2125**	0.001	–	–	–
For selector switches			**For selector switches**		
Arrêt-Marche	**ZB2 BY2166**	0.001	–	–	–
Hors-En	**ZB2 BY2167**	0.001	Off-On	**ZB2 BY2367**	0.001
With special texts					
■ Specify text when ordering, ■ 2 lines maximum, 11 characters per line.					
White characters on black background	**ZB2 BY2002**	0.001	Black characters on white background	**ZB2 BY4001**	0.001
White characters on red background	**ZB2 BY2004**	0.001	Black characters on yellow background	**ZB2 BY4005**	0.001
Other versions	Legends with texts in other languages. Please consult your Regional Sales Office.				

Characteristics: pages 6/34 and 6/36
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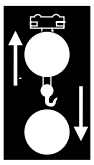
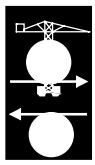
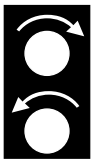
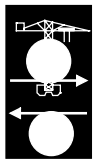
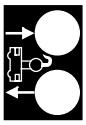
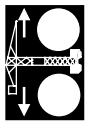
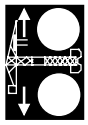
Pendant control stations

Double insulated, type XAC B
Metal, type XAC M
For control or power circuits
Twin legends for tower cranes

Legends with white symbols on black background

Function	Symbol	Reference	Weight kg	Function	Symbol	Reference	Weight kg
40 mm operator centres (for enclosures with 2 to 8 operators and 12 operators in 2 rows)							
Hoist Raise Lower		**XAC Y4970**	0.002	**Long travel** Forward Reverse		**XAC Y4972**	0.002
Slew Right Left		**XAC Y4971**	0.002	**Trolley** Forward Reverse		**XAC Y4973**	0.002
30 mm operator centres (for enclosures with 12 operators in 1 row)							
Hoist Raise Lower		**XAC Y3970**	0.002	**Long travel** Forward Reverse		**XAC Y3972**	0.002
Slew Right Left		**XAC Y3971**	0.002	**Trolley** Forward Reverse		**XAC Y3973**	0.002

6

Characteristics: pages 6/34 and 6/36
Dimensions: page 6/55
Application schemes: pages 6/56 and 6/57
Presentation: page 6/58

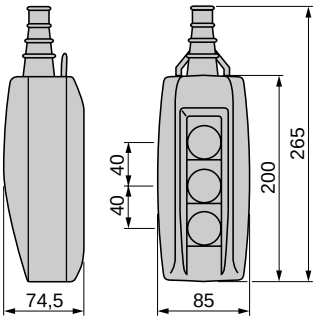
Pendant control stations

Double insulated, type XAC B
Metal, type XAC M
For control or power circuits

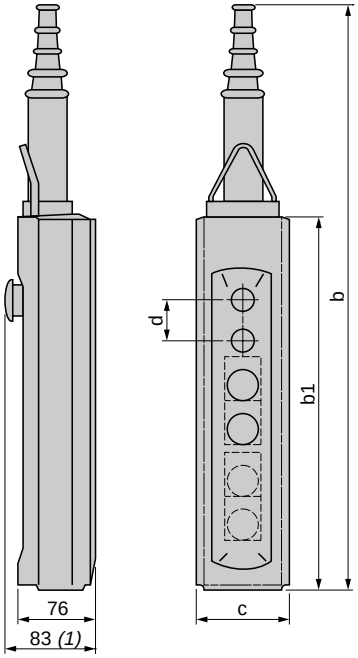
(XAC M: products for maintenance purposes only)

Pendant control stations

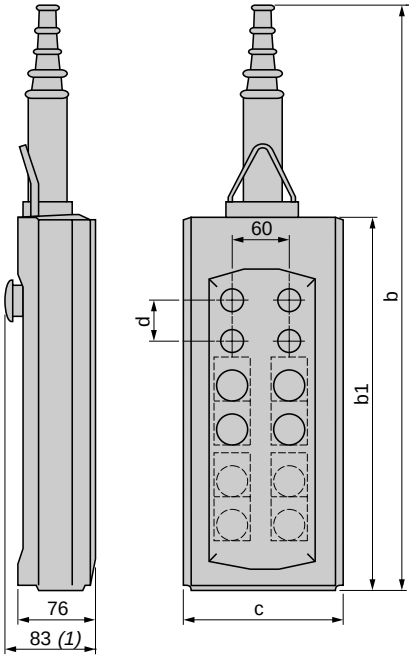
XAC B●●● (2 and 3-way)



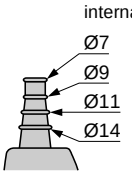
XAC B●●● (2 to 12-way, 1 row)
XAC M●●● (4 to 8-way, 1 row)

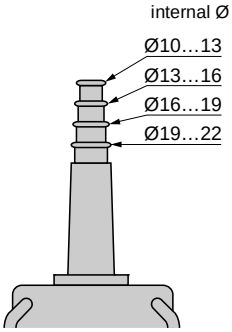


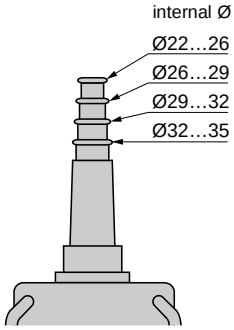
XAC B●●● (12-way, 2 rows)



Protective cable sleeves





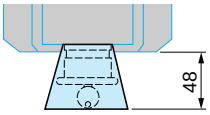


(1) With mushroom head operator.

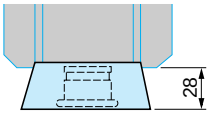
Number of operators	2	4	6	8	12 (1 row)	12 (2 rows)
b	409	499	589	679	679	593
b1	220	310	400	490	490	404
c	98	98	98	98	98	158
d	40	40	40	40	30	40

Protective guards

XAC B982

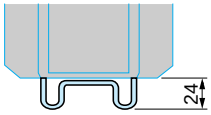


XAC B983



Lower support rings

XAC B971, B972

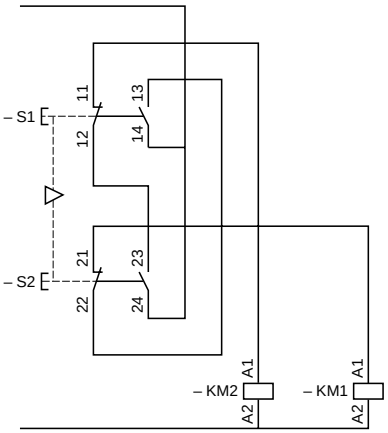


Characteristics: pages 6/34 and 6/36
References: pages 6/35 to 6/54
Application schemes: pages 6/56 and 6/57
Presentation: page 6/58

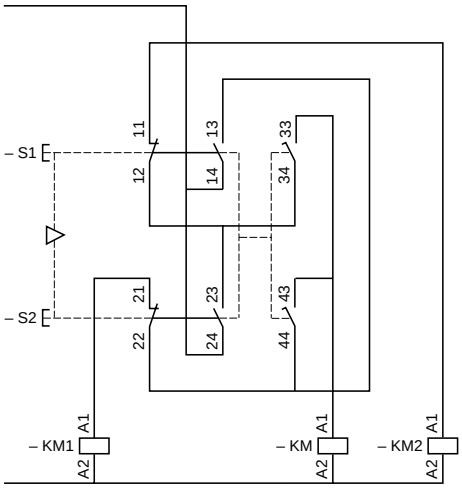
Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control or power circuits

Control circuits

For control of single-speed reversing motor
Contact block **XES D1181**



For control of 2-speed reversing motor
Contact block **XES D1281**

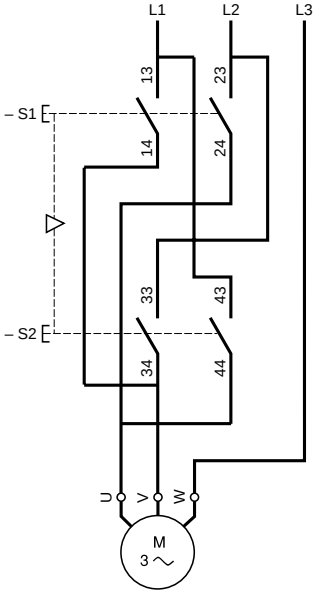


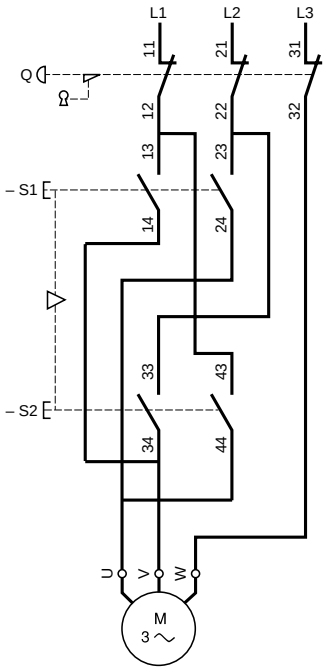
KM: high speed contactor

Power circuits

For control of single-speed reversing motor. 2-phase switching
Contact block **XES D1191**

Application example:
Combined with 3-pole isolating block XAC S399 or XAC S3991, shown in the unoperated position (pendant station “supplied”), fitted with key release mushroom head operator (ZA2 BS14).





6

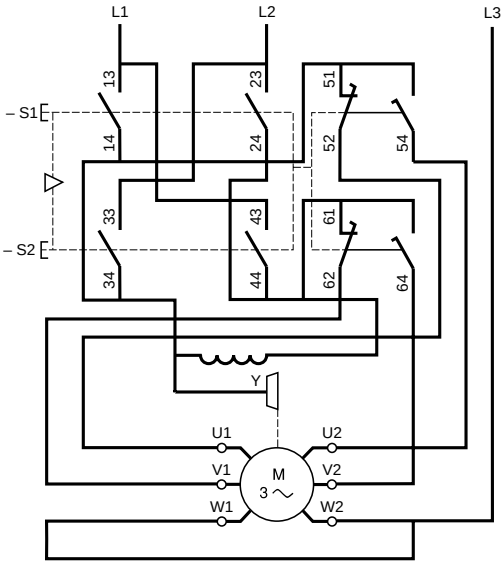
Pendant control stations
Double insulated, type XAC B
Metal, type XAC M
For control or power circuits

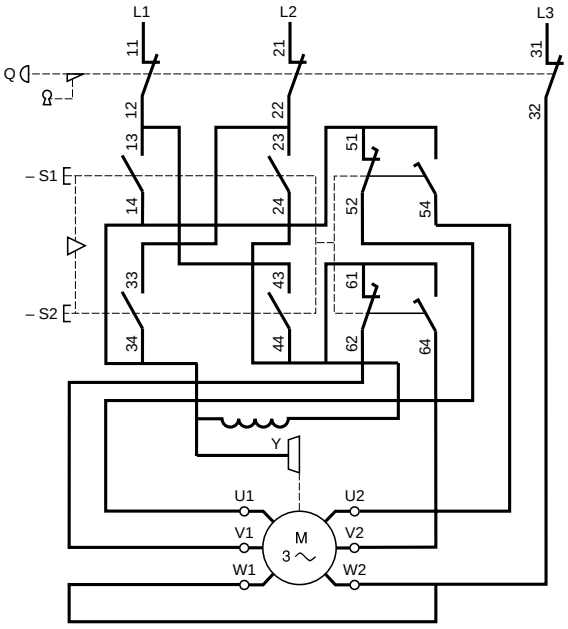
Power circuits *(continued)*

For control of 2-speed reversing motor (motors with separate windings only). 2-phase switching

Contact block **XES D1291**

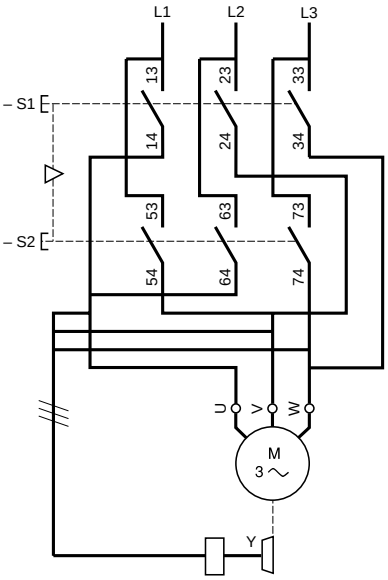
Application example:
Combined with 3-pole isolating block XAC S399 or XAC S3991, shown in the unoperated position (pendant station “supplied”), fitted with key release mushroom head operator (ZA2 BS14).



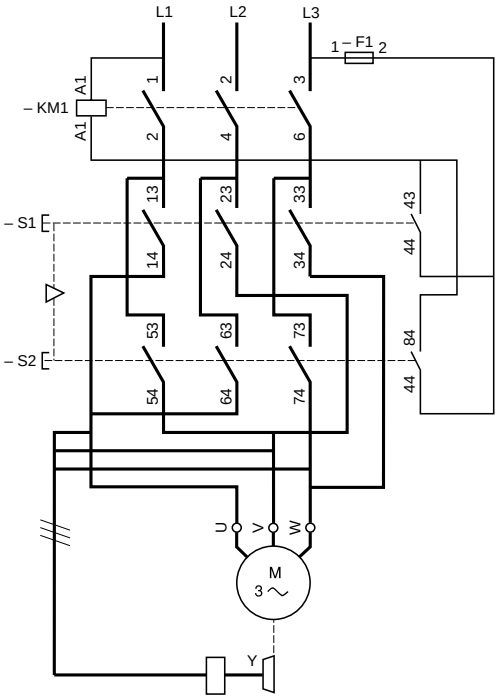


For control of single-speed reversing motor. 3-phase switching, reversing by 2-phase inversion

Contact block **XES D2201**



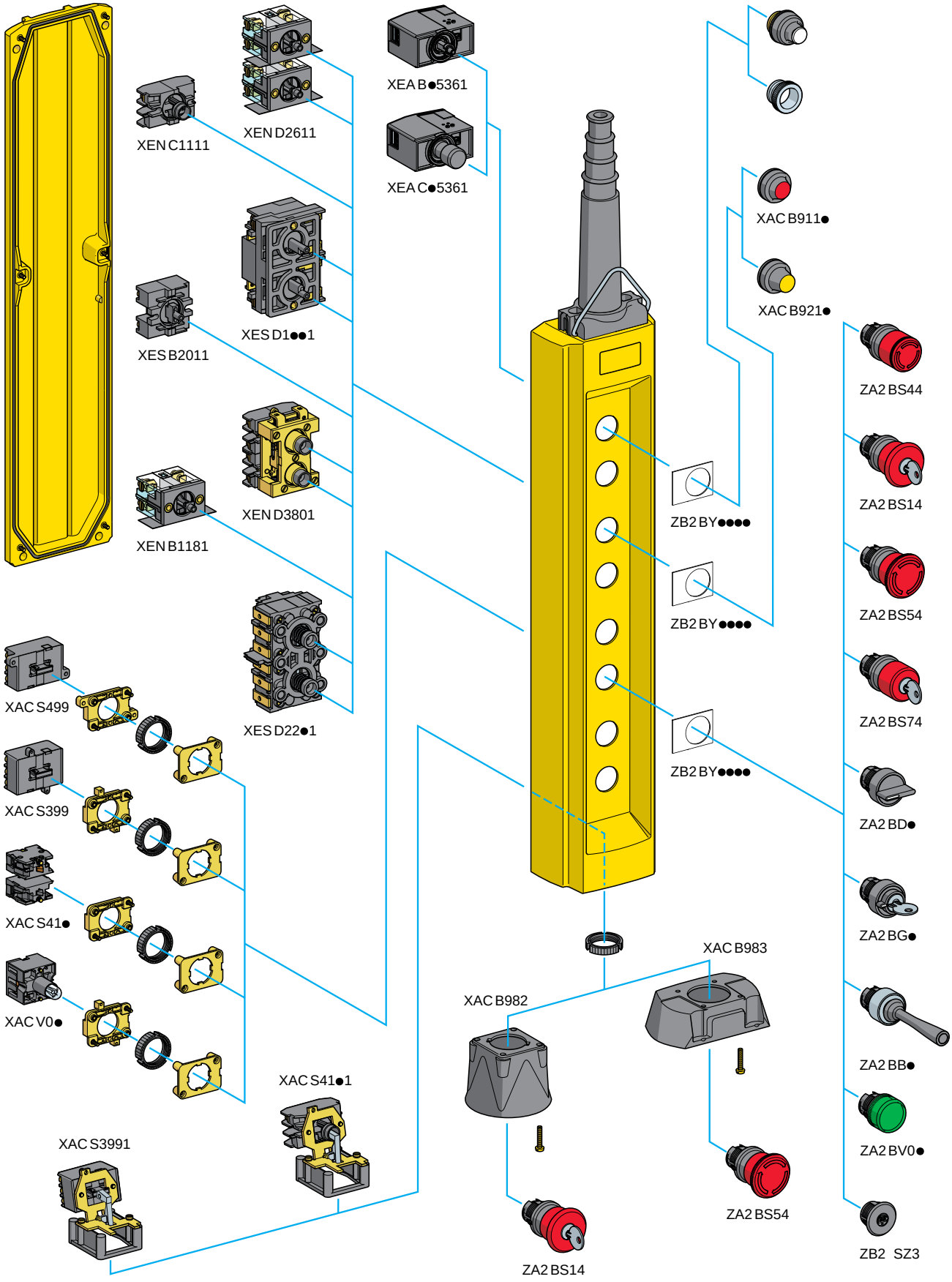
Contact block **XES D2241** with line contactor



6

Pendant control stations

Double insulated, type XAC B
Metal, type XAC M
For control or power circuits

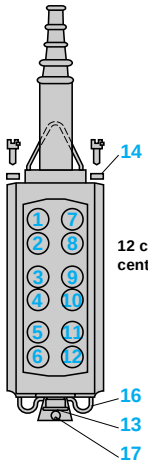


Order form (specimen suitable for photocopying)

Pendant control stations

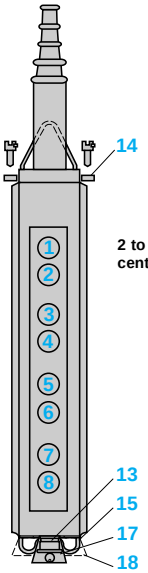
Double insulated, type XAC B
Metal, type XAC M **(XAC M: products for maintenance purposes only)**
For control or power circuits
Variable composition stations, factory assembled

530343



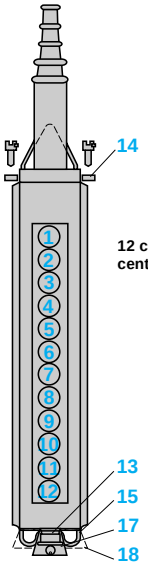
12 cut-outs, centres: 40 mm

530344



2 to 8 cut-outs, centres: 40 mm

530345



12 cut-outs, centres: 30 mm

Customer			**Schneider Electric Industries**	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

Enter the order with XAC B09 reference (for enclosures XAC B) or XAC M09 reference (for enclosures XAC M)

Unit reference of empty enclosure, see pages 6/39 to 6/41	**Number of identical stations**	**Enclosure price** *(1)*
XAC ☐☐☐☐☐☐		

	Legends see pages 6/52 to 6/54		**Contact blocks or pilot light bodies** see pages 6/42 to 6/45		**Operating heads or pilot light heads or blanking plug** see pages 6/46 and 6/51		
	Reference	Unit price	Reference	Unit price	Reference	Unit price	**Total price**
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

Unit mounted in base of enclosure (if required)

13							

Factory assembled: Number of heads or blanking plugs to be fitted: ☐ X Additional cost **XAC 9VA** for fitting of 1 head or 1 blanking plug: ☐ = ☐

Complementary accessories, see page 6/51 (cross the appropriate box or boxes)

	Description	☒	Reference	Unit price	
14	Adaptor for self-supporting cable type BBAP for use with cable entry sleeve Ø 10 to 22 mm		**XAC B961**		
15	Lower support ring for single row enclosures		**XAC B971**		
15	Lower support ring for 2 row enclosures		**XAC B972**		
16	Protective guard for key release latching mushroom head pushbutton, mounted in base		**XAC B982**		
17	Protective guard for mushroom head pushbutton, mounted in base		**XAC B983**		

Total price of assembled pendant station

(1) Obtain the empty enclosure price.

Pendant control stations
Double insulated, type XAC F
For control circuits
(XAC F: Products for maintenance purposes only)

Environment

Conformity to standards			IEC 947-5-1, EN 60947-5-1
Protective treatment	Standard version		"TH"
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation	**°C**	- 25…+ 70
Vibration resistance			15 gn (10…500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			1
Enclosure			Double insulated glass-reinforced polyester (yellow)
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 10…22 mm or Ø 22…35 mm

Contact block characteristics

Rated operational characteristics			∿ AC-15: A300 or Ue = 240 V, Ie = 3 A ⎓ DC-13: Q300 or Ue = 250 V, Ie = 0.27 A conforming to IEC 947-5-1 Appendix A
Thermal current (Ithe)		**A**	10
Rated insulation voltage (Ui)	**XEN C●●●●**, **XEN D3●●●**, **XEN D4●●●**, **XES B2011**, **XAC S4**, **XES D1181**, **XES D1281**	**V**	500, degree of pollution 3
	XEN B●●●●, **XEN D1●●●**, **XEN D2●●●**		400, degree of pollution 3, conforming to IEC 947-1
Rated impulse withstand voltage (U imp)		**kV**	6, conforming to IEC 947-1
Positive operation			Mushroom head pushbutton: N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3
Contact operation			Slow break or snap action
Resistance across terminals		**MΩ**	⩽ 25
Operating force	With booted operator	**N**	**XAC S4●●●**: 10 (N/O), 8 (N/C); **XEN C●●●●**: 6 (N/O), 4 (N/C); **XEN B●●●●**, **XEN D1●●●**, **XEN D2●●●**: Single-speed: 9; 2-speed: 20 (1st speed), 30 (2nd speed); **XEN D3●●●**, **XEN D4●●●**: 25; **XES B2011**: 7; **XES D1181**, **XES D128**: 15 (1st speed), 25 (2nd speed)
	With spring return mushroom head operator	**N**	10
	With latching mushroom head operator	**N**	40
Terminal referencing			By numbers conforming to CENELEC EN 50013
Short-circuit protection			10 A cartridge fuse type gG (gl)
Connection		**mm²**	Screw and captive cable clamp terminals. Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end

Rated operational power
Conforming to IEC 947-5-1 Appendix C
Utilisation categories AC-15 and DC-13
For 1 million operating cycles
Operating rate: 3600 operating cycles/hour
Load factor: 0.5
⎍ Inductive circuit

Contact blocks XEN C●●●●, XEN D3●●●, XEN D4●●●, XAC S4●●●

a.c. supply ∿ 50/60 Hz

Voltage	**V**	**24**	**48**	**127**	**230**
⎍	VA	140	385	525	455

d.c. supply ⎓

Voltage	**V**	**24**	**48**	**120**
⎍	W	60	45	42

Contact blocks XEN B●●●●, XEN D1●●●, XEN D2●●●

a.c. supply ∿ 50/60 Hz

Voltage	**V**	**24**	**48**	**127**	**230**
⎍	VA	140	210	640	680

d.c. supply ⎓

Voltage	**V**	**24**	**48**	**120**
⎍	W	48	31	35

Contact blocks XES B2011, XES D1181, XES D1281

a.c. supply ∿ 50/60 Hz

Voltage	**V**	**24**	**48**	**127**	**230**
⎍	VA	50	100	450	750

d.c. supply ⎓

Voltage	**V**	**24**	**48**	**120**
⎍	W	140	140	95

References: page 6/61 | Dimensions: page 6/62 | Application schemes: page 6/63 | Presentation: page 6/64

Pendant control stations

Double insulated, type XAC F
For control circuits
Empty enclosures

(XAC F: Products for maintenance purposes only)

DF565680

XAC F00●0

DF565681

XAC F00●1

Empty enclosures *(1)*

Description		Protective cable sleeve	Reference	Weight kg
Enclosures without cut-outs	Without guard rails	Ø 10…22 mm	**XAC F0010**	2.100
		Ø 22…35 mm	**XAC F0050**	2.300
	With guard rails	Ø 10…22 mm	**XAC F0011**	2.300
		Ø 22…35 mm	**XAC F0051**	2.500
Enclosures with cut-outs in positions requested on the order form, see page 6/65	Without guard rails	Ø 10…22 mm	**XAC F3210**	2.100
		Ø 22…35 mm	**XAC F3250**	2.300
	With guard rails	Ø 10…22 mm	**XAC F3211**	2.300
		Ø 22…35 mm	**XAC F3251**	2.500

Variable composition stations, factory assembled

Use the order form on page 6/65 to define the required configuration

Equipment: separate components as for control circuit pendant stations XAC B and XAC M. Units XB2 B can be mounted using a stiffening plate, please consult us.	See separate components, pages 6/42 to 6/54

(1) Enclosure comprising:
- *the enclosure,*
- *protective cable sleeve for cable Ø 10…22 mm or Ø 22…35 mm,*
- *cable tie (for tightening sleeve onto cable,*
- *internal cable clamp.*

6

Pendant control stations

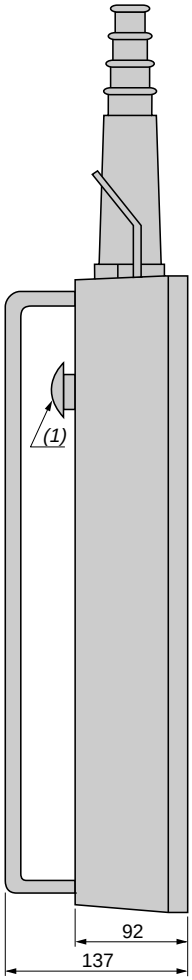
Double insulated, type XAC F

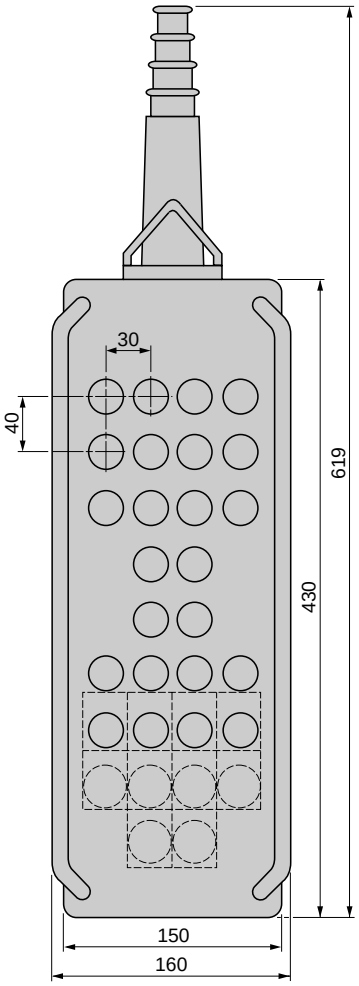
For control circuits

(XAC F: Products for maintenance purposes only)

Pendant control stations

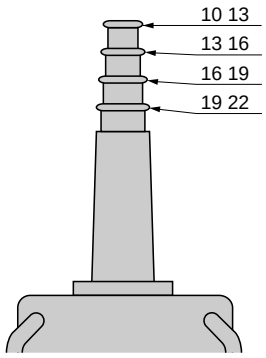
XAC F●●●1 (30 operators maximum, front mounting)



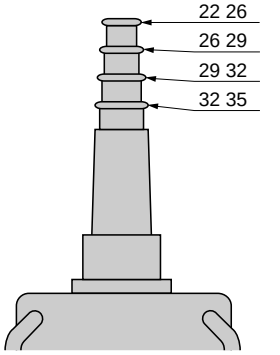


Protective cable sleeves

internal Ø



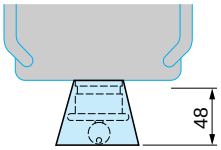
internal Ø



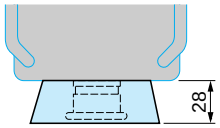
(1) With mushroom head operator.

Protective guards

XAC B982



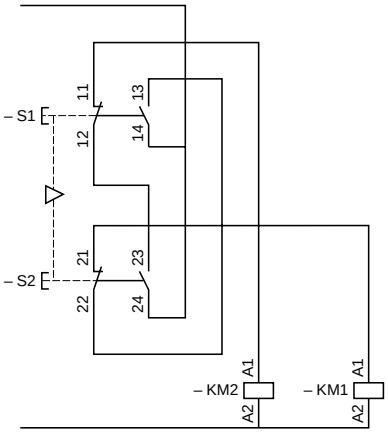
XAC B983



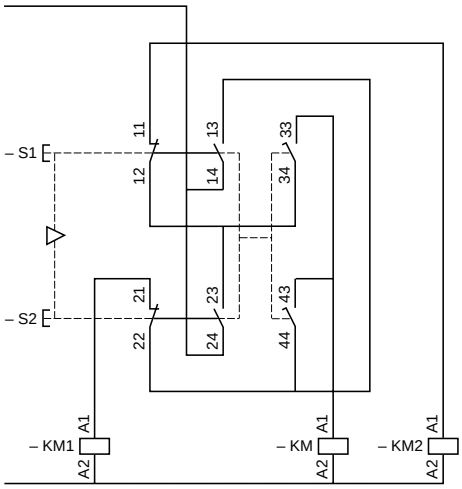
Characteristics: page 6/60
References: page 6/61
Application schemes: page 6/63
Presentation: page 6/64

Pendant control stations
Double insulated, type XAC F
For control circuits
(XAC F: Products for maintenance purposes only)

For control of single-speed reversing motor
Contact block **XES D1181**



For control of 2-speed reversing motor
Contact block **XES D1281**



KM: high speed contactor

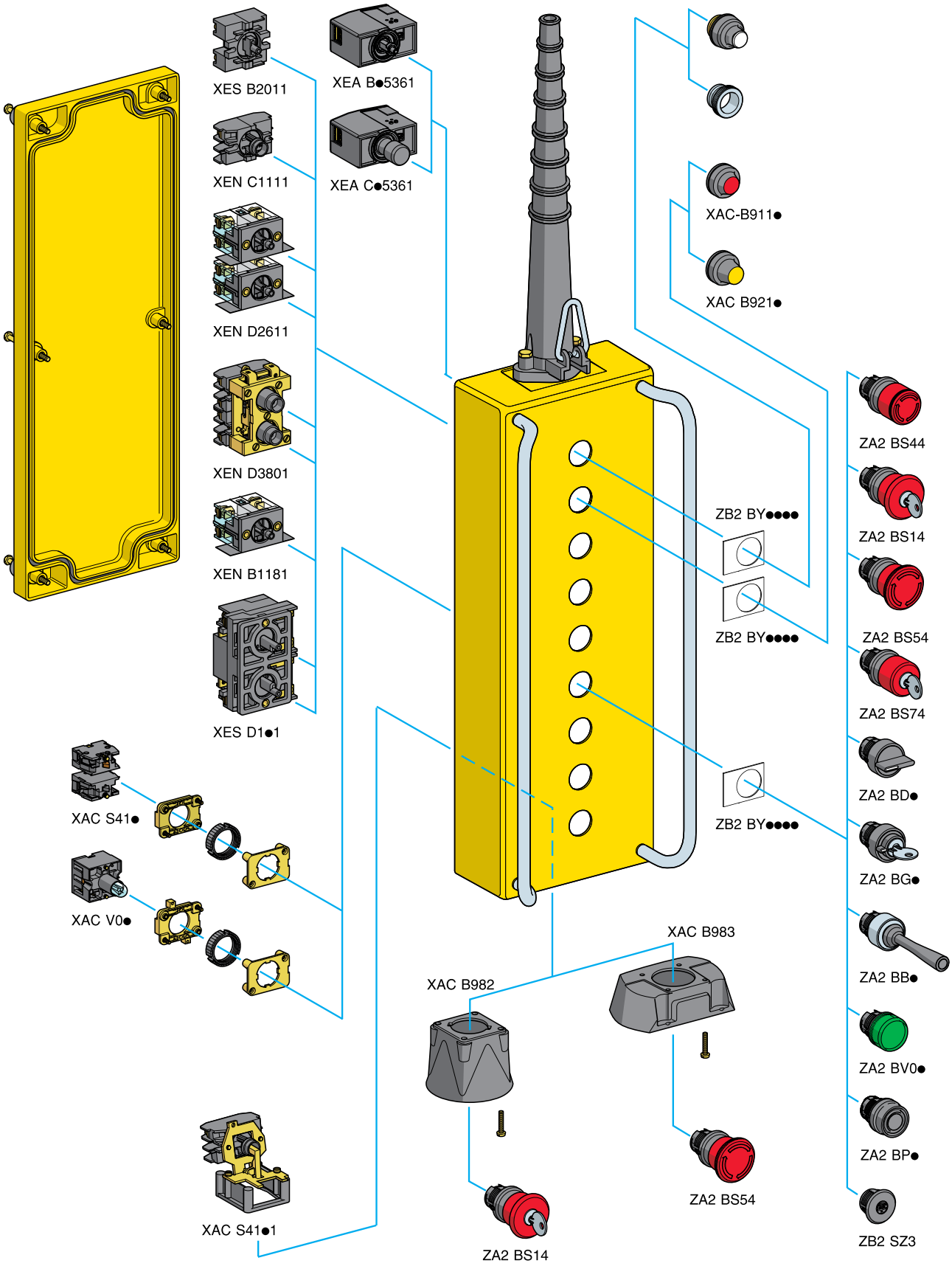
6

Pendant control stations

Double insulated, type XAC F

For control circuits

(XAC F: Products for maintenance purposes only)



Order form (specimen suitable for photocopying)

Pendant control stations

Double insulated, type XAC F
For control circuits
Variable composition stations, factory assembled

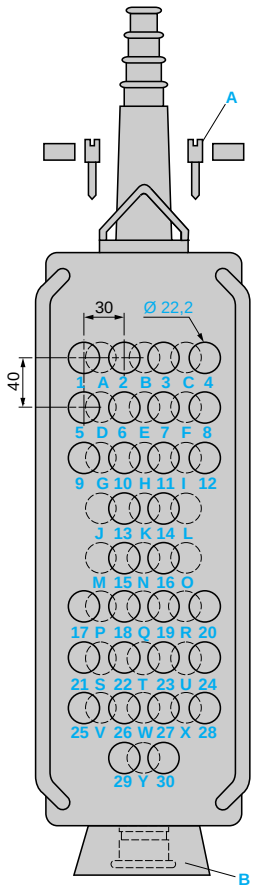
(XAC F: Products for maintenance purposes only)

Customer			**Schneider Electric Industries**	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

Enter the order with XAC F09 reference

Unit reference of empty enclosure with cut-outs, see page 6/61	**Number of identical stations**	**Enclosure price** *(1)*
XAC **F** **3** ☐ ☐ ☐		

The cut-outs indicated below only enable the mounting of contact and pilot light bodies XAC in association with operating heads/lenses ZA2 B. For other configurations, the arrangement of the cut-outs must be specifically designed. In this case, attach the configuration of the units to be mounted to this order form.



Position of cut-outs (number or letter)	**Legends**, see pages 6/52 to 6/54		**Contact blocks or pilot light bodies**, see pages 6/42 to 6/45		**Operating heads or pilot light heads or blanking plug**, see pages 6/46 and 6/51		**Total price**
	Reference	Unit price	Reference	Unit price	Reference	Unit price	

Controllers
For hoisting applications, types **XD** and **XK**

Applications			**"Light hoisting"** **Compact and light weight**		
			For control of small materials handling equipment, elevating work platforms, fork-lift trucks, etc. **Can be installed on control panels or enclosures types XAL, XAM and XAP**	**For control of materials handling equipment, public work cranes, etc.** **Can be installed on portable controller stations type XJP**	
Mechanical durability (in millions of operating cycles)			1 in each direction	1 in each direction	1 in each direction
Number of directions	Basic		2 or 4 depending on model	4	4
	Variable composition		–	8	8
Number of movements			1 or 2	2	2
Maximum number of notches in each direction			**XD2**: 1 or 2 **XD4**, **XD5**: 1	3	3
Types of lever movement	Notched	with stayput operation	■	■	■
		with spring return to zero operation	■	■	■
	Unnotched	with spring return to zero operation	–	■	■
Operating schemes			Predefined cams	Predefined cams	Variable composition cams
Maximum number of contacts per movement			**XD2**: 4 (1 or 2 N/O contacts in each direction) **XD4**, **XD5**: 2 (1 N/O contact in each direction)	4 or 4 + 1 zero (centre) position contact	4 or 4 + 1 zero (centre) position contact
Contact *(1)*	Supply		∿ and ⎓	∿ and ⎓	∿ and ⎓
	Nominal thermal current		10 A	10 A	10 A
Mechanical durability of contact blocks (in millions of operating cycles)			5	1	1
Control device			Vertical lever	Vertical lever	Vertical lever
Handles *(2)*	a simple		■	■	■
	b1 with zero (centre) position mechanical interlocking		–	■	■
	b2 with zero (centre) position mechanical and electrical interlocking		–	■	■
	c1 "Dead man's" type		–	■	■
	c2 with built-in pushbutton		–	■	■
Lever gate			Fixed composition 30° in each direction	Variable composition	Variable composition
Maximum number of potentiometers per movement			–	1 or 2 depending on contact block arrangement	1 or 2 depending on contact blocks arrangement
Type references			**XD2, XD4, XD5**	**XKB A**	**XKB E**
Page(s)			1/97, 1/165 and 1/183	6/72	6/74

(1) N/C slow break contacts with positive opening operation. Contacts closed in absence of cam lobe.
(2) Handles type b1 and b2 are designed in accordance with the French hoisting standard NF E 52070 (Dec. 1985): Electrical equipment of hoisting devices, paragraph 8231: all control devices must be designed, constructed and positioned in such a manner as to avoid any accidental operation...

“Medium hoisting”	“Heavy hoisting”		
Compact and fully configurable unit	**Extremely robust and fully configurable unit**		
For control of cranes, overhead travelling cranes, etc. Can be installed on fixed seated controller desks type XJC	**For control of overhead travelling cranes (iron and steelworks, rolling mills) etc. Can be installed on seated controller desks type XJC**		
3 in each direction	4 in each direction	4 in each direction	4 in each direction
4	4	2	2
8	8	2	2
2	2	1	1
5	6	6	9
■	■	■	■
■	■	■	■
■	■	■	■
Variable composition cams	Variable composition cams	Variable composition cams	Variable composition cams
16	24	24	12
∿ and ⎓	∿ and ⎓	∿ and ⎓	∿ and ⎓
10 A	20 A	20 A	20 A
3	4	4	4
Vertical lever	Vertical lever	Vertical lever	Side lever
■	■	■	■
■	■	■	–
■	■	■	–
■	■	■	–
■	■	■	–
Predefined or customised	Predefined or customised	–	–
2	2	2	1
XKD F	**XKM A**	**XKM B**	**XKM C**
6/80	6/88	6/88	6/94

Controllers
For hoisting applications, type **XK**

Controller

The controllers are units designed to control hoisting and materials handling equipment by grouping their electrical circuits.
They comprise adaptable sub-assemblies that enable the construction of many different versions.
Used in association with automation system equipment, they ensure the starting, acceleration and braking of the drive motors.
They are designed for fitting into portable controller stations or controller desks. The mounting is dust and damp protected.

Mechanical block

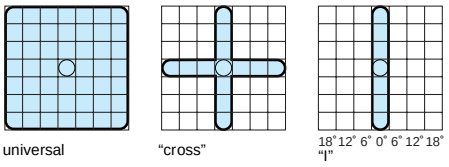
Articulated mechanical assembly that holds the control lever, lever gate, actuating mechanism, cam carriers, contacts and potentiometer adaptation device.

Control lever

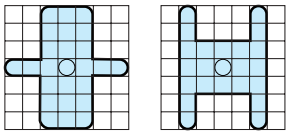
Operating device that enables separate or simultaneous control of the movements. Fitted to it are dust and damp protecting bellows, the handle and mechanical and electrical safety devices that are actuated when the controller lever is returned to its zero (centre) position.

Lever gate

Standard lever gates



Examples of special lever gates



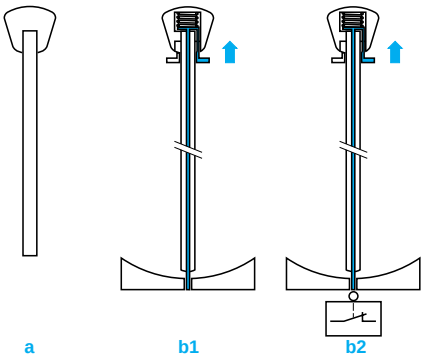
2 types of lever gate:
■ Standard types:
□ universal: allows the lever to move to its maximum travel in 1 or 2 directions simultaneously ("universal" or "8-direction" controller),
□ "cross" or "I" gates: only allow the lever to move to its maximum travel in 1 direction at a time.

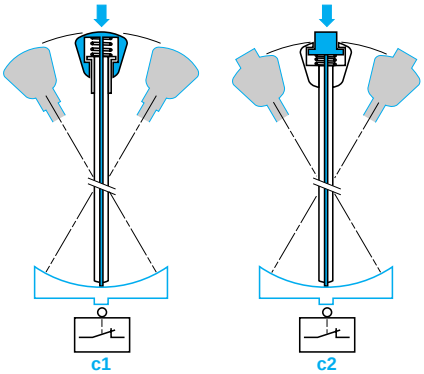
■ Special types: related to the application, they are used to control the required combination of movements.

End stops

Additional devices for limiting the lever travel to a number of positions in a given direction.

Handles





a **Simple handle:** fixed knob screwed onto the control lever.

b1 **Handle with zero (centre) position mechanical interlock**.
Operation:
The knob of the handle comprises a fixed part (upper section) and a moving part (lower section).
When the lever is in the zero (centre) position, it is mechanically locked by a sliding rod within the lever.
To disengage the lock, the lower part of the handle is pulled upwards thus freeing the rod.

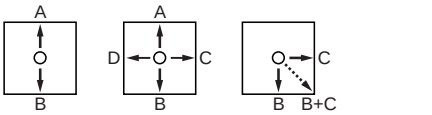
b2 **Handle with zero (centre) position mechanical interlock + electrical contact.**
Mechanical operation identical to that described above.
When the lever is in the zero (centre) position, the rod actuates a contact block.
The disengagement of the lock causes the contact(s) in the block to change state.

c1 **"Dead man's" handle.**
Operation:
The knob of the handle comprises a fixed part (lower section) and a moving part (upper section).
When the upper section of the knob is pushed downwards it pushes a sliding rod within the lever.
This rod actuates a moving bowl which, in turn, causes a contact block (located in the lower part of the mechanism) to change state and remain in this condition irrespective of the control lever position.

c2 **Handle with built-in flush or projecting pushbutton (audible alarm type).**
Mechanical operation identical to that described above.
The handle is fixed and it is only the pushbutton that operates the sliding rod.

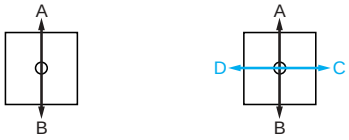
Controllers
For hoisting applications, type **XK**

Direction



This is the direction of operation of the control lever away from its zero (centre) position towards one of 2 or 4 directions (either 2 directions directly in line or 4 directions at 90°).
Diagonal movement is the operation of 2 directions simultaneously.

Movement

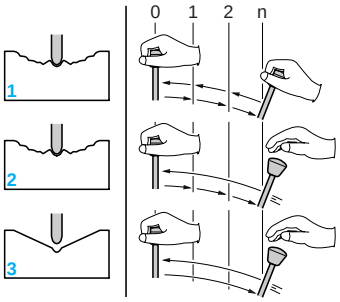


The movement is the combination of 2 directions either side of the zero position that are directly in line.

Electrical position

This is the change of state of a contact block obtained by angular displacement of the control lever.

Types of lever movement



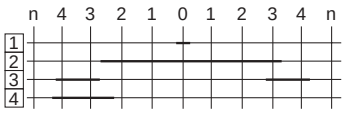
Three different types of lever operation for each direction:
1 **Notched positions, with stayput operation.**
The control lever is moved notch by notch from its zero (centre) position to its maximum travel position in the required direction.
The lever maintains its position when the operator releases the handle.
2 **Notched positions, with spring return to zero operation.**
Notched operation identical to that described above but with an automatic device that returns the lever to its zero (centre) position when the operator releases the handle.
3 **Unnotched positions, with spring return to zero operation.**
The control lever of the controller is moved from its zero (centre) position to its maximum travel position in the required direction without notching.
Irrespective of its position, the lever spring returns to the zero (centre) position when the operator releases the handle.

Electrical contacts

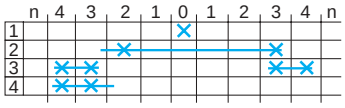
When designing the scheme take into account that all contacts are closed until actuated (opened) by an operating cam.

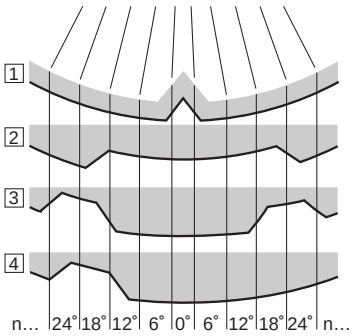
Cam schemes

Electrical scheme in accordance with IEC 113-4



Controller scheme in accordance with IEC 337-2A





The contact blocks are actuated by a series of various length cams which are arranged to provide the required scheme.
These cams can either be:
□ variable composition, i.e. comprising different sub-assemblies mounted on a cam carrier,
□ predetermined, i.e. for a function that is widely used in conventional schemes.
Example: reversing cams for direction of operation.

Cam carriers

Mechanism designed for mounting cams on for controllers with variable composition cams.

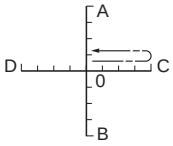
Cam actuation of contacts

When actuated by the cam lobe, the contact opens thus ensuring positive opening operation. Therefore, the presence of a cam corresponds to the absence of a cross or line on the scheme.

Example of graphic representation of a scheme

The various methods for indicating the operating sequence of the contacts are represented by schemes in accordance with IEC 113-4 or IEC 337-2A (section 2).
The ordering grids for XK controllers are designed in accordance with IEC 337-2A (section 2).
Take particular note of the way an assured electrical overlapping is represented as is shown for contacts 2 and 4 between positions 2 and 3 (see diagram to left).

Operating cycle



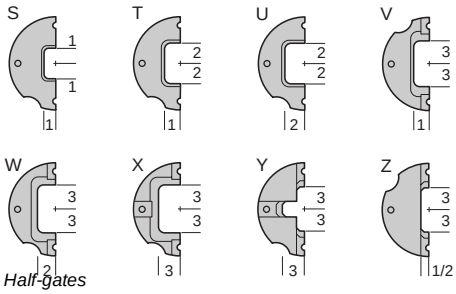
An operating cycle applied from an initial common O position is the passing from this initial position to the extreme position in each direction and subsequent return to the initial O position.

6

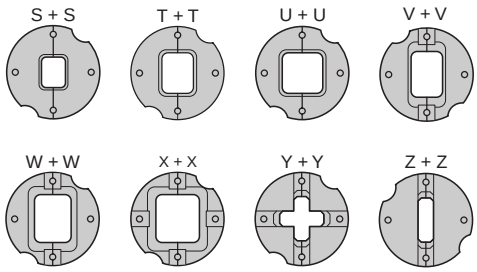
Controllers
For “light hoisting” applications, type **XKB**

109229-34_M

XKB ●



Half-gates



9 main combinations

Compact and lightweight units, designed to control “light hoisting” and materials handling equipment. Mainly for use in portable stations.
2 models:
- **XKB A**: controllers with predefined, non modifiable, scheme.
- **XKB E**: controllers with variable composition schemes.

Control lever
Length: 130 mm. Travel in each direction: 28° maximum.

Lever gate
Universal and modifiable.
Specific, by adding half-gates to the universal lever gate (referenced by letter) 9 main combinations. .

End stops
The total lever travel can be limited to 20° or 12° by using removable end stops (**XKB Z972** for 20°, **XKB Z971** for 12°) when the lever gate comprises half-gates Y or Z.

Handles
- Simple handle with zero (centre) position contact (closed at zero).
- Handle with zero (centre) position mechanical interlock + contact (closed at zero).
- “Dead man’s” handle with contact (open when handle released).
- Handle with built-in flush or projecting pushbutton and contact (open when pushbutton or handle released).

***Note:** it is important to decide which type of handle is required when selecting the controller, since modification cannot be affected after installation.*

Electrical positions
3 positions maximum in each direction.

Types of lever movement
- **Notched positions, with stayput operation**: 3 notches maximum in each direction (12°, 20°, 28°).
- **Notched positions, with spring return to zero operation**: 3 notches maximum in each direction (12°, 20°, 28°). (XKB E: only 1 contact may be used at each notch.)
- **Unnotched positions, with spring return to zero operation**: 28° maximum travel in each direction. (XKB E: only 1 contact may be used for each spring return to zero position.)

Contacts
The contact blocks used for establishing the scheme are located in a monobloc assembly. There are 2 types:
- □ Block with 4 contacts per movement.
- □ Block with 4 contacts per movement + 1 zero (centre) position contact.

For both types, an additional contact is available. Its function depends on the type of handle.

Cam schemes
- **XKB A**: standard schemes can be established using predefined cams. These cams are moulded and cannot be modified.

2 versions:
- □ Using a block with 4 contacts per movement: 2 reversing cams and 2 function cams per movement.
- □ Using a block with 4 contacts per movement + 1 zero (centre) position contact: 2 reversing cams and 2 function cams per movement + 1 zero (centre) position cam.

- **XKB E**: special schemes can be established using snap-on cams (for each position) mounted on cam carriers. (overlapping contact operation is not possible).

2 versions:
- □ Using a block with 4 contacts per movement: 4 variable composition cams per movement.
- □ Using a block with 4 contacts per movement + 1 zero (centre) position contact: 4 variable composition cams per movement + 1 fixed composition zero (centre) position cam.

Legend
One 100 x 100 mm anodised aluminium legend plate with matt satin finish.
Standard “hoist-long travel” and “traverse-slew” symbols or text (to be stated on Order form, see page 6/73).

Potentiometer adaptation
- 2 potentiometers maximum per movement when using block with 4 contacts per movement.
- 1 potentiometer maximum per movement when using block with 4 contacts per movement + 1 zero (centre) position contact.

Characteristics: page 6/71
Order form: pages 6/73 and 6/74
Dimensions: page 6/100

Controllers
For “light hoisting” applications, type **XKB**

Environment

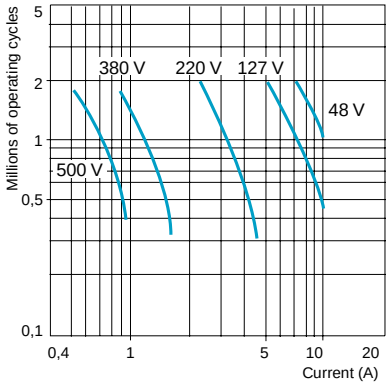
Conformity to standards			IEC 337-1, NF C 63-140, VDE 0660 part 2
Product certifications			XKB A: CSA ∼ 300 V “heavy duty”, ⎓ “standard duty”, ASE: 500 mV max., 10 A max., 100 VA max., USSR
Protective treatment			Standard version “TC”
Ambient air temperature	For storage	**°C**	- 40…+ 70
	For operation	**°C**	- 20…+ 70
Operating position			All positions
Vibration resistance			6 gn (1 to 70 Hz)
Shock resistance	Conforming to IEC 68-2-27		20 gn, duration 11 ms
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class I
Maximum operating lever force required in each direction		**daN**	< 1.7
Degree of protection	Conforming to IEC 529		IP 54 (unit with simple handle mounted in dust and damp proof enclosure)
Mechanical durability (In millions of operating cycles)			1 in each direction
Weight		**kg**	**XKB A** and **XKB E**: 0.850

Contact block characteristics

Type			Monobloc assembly comprising 9 double-break contacts (8 function contacts and 1 zero position contact mounted at lever base) or monobloc assembly comprising 11 double-break contacts (8 function contacts + 2 zero position contacts and 1 zero position contact mounted at lever base)
Conventional thermal current		**A**	10 conforming to IEC 337-1, NF C 63-140, VDE 0660, CSA C 22-2 n° 14
Rated insulation voltage		**V**	≂ 500 conforming to NF C 20-040, VDE 0110, IEC 158-1
Insulation category			Group C conforming to NF C 20-040 and VDE 0110
Contact operation			Slow break, double-break contacts with positive opening operation; N/O (green operator). N/C contact (red operator): zero position contact mounted at lever base
Resistance across terminals		**mΩ**	≤ 25 (in accordance with NF C 93-050, at 1 A)
Terminal referencing			Conforming to CENELEC EN 50013
Short-circuit protection			10 A cartridge fuse type gG conforming to IEC 337-1B, VDE 0660 part 2

Operational power
Conforming to IEC 337-1
Utilisation categories AC-11 and DC-11
Operating rate: 3600 operating cycles/hour
Load factor: 0.5

a.c. supply ∼ 50-60 Hz
⎓ Inductive circuit



d.c. supply ⎓

Power broken in W for 1 million operating cycles

Voltage V	**24**	**48**	**120**
⎓	90	90	75

Connection	Captive screw clamp terminals	Clamping capacity: □ minimum 1 x 0.5 mm², □ maximum, with or without cable end: 2 x 1.5 mm² or 1 x 2.5 mm², or by clips conforming to NF C 20-120

Order form:
pages 6/72 to 6/75

Dimensions:
page 6/100

Controllers

For “light hoisting” applications, types **XKB A** and **XKB E**

Grid for composing the reference of a controller

Reference of controller type XKB

	Model	Contacts	Handle	Lever movement AB	Lever movement CD	Potentiometer adaptation
XKB						

Model

With predefined scheme	**A**
With variable composition scheme	**E**

Contact blocks

Block with 4 contacts per movement	Screw clamp terminal connections	**1**
	6.3 clip connections	**2**
Block with 4 contacts per movement + 1 zero (centre) position contact	Screw clamp terminal connections	**3**
	6.3 clip connections	**4**

Handle

Simple + zero (centre) position electrical interlocking (contact closed in rest position)	**1**
With zero (centre) position mechanical and electrical interlocking (contact closed in rest position)	**2**
“Dead man’s” type (contact open when released)	**4**
With built-in flush pushbutton (contact open in rest position)	**5**
With built-in projecting pushbutton (contact open in rest position)	**6**

Type of lever movement

On movement AB

Movement not required (blocked)	**0**
Notched positions, with stayput operation	**1**
Unnotched positions, with spring return to zero operation	**2**
Notched positions, with spring return to zero operation *(1)*	**3**

On movement CD

Movement not required (blocked)	**0**
Notched positions, with stayput operation	**1**
Unnotched positions, with spring return to zero operation	**2**
Notched positions, with spring return to zero operation *(1)*	**3**

Potentiometer adaptation

Without adaptation nor potentiometer		**0**
Adaptation only (without potentiometer)	On movement AB	**4**
	On movement CD	**5**
	On movements AB + CD	**6**
Adaptation + potentiometer *(2)*	On movement AB	**7**
	On movement CD	**8**
	On movements AB + CD	**9**

(1) Type of lever operation recommended when using a potentiometer.

(2) Potentiometer type and value to be stated on the Order form. For standard application potentiometers, see page 6/104.

6

Characteristics: page 6/71

Dimensions: page 6/100

Order form

(specimen suitable for photocopying)

Controllers

For “light hoisting” applications, type **XKB A**

Controllers XKB A with predefined, non modifiable schemes, factory assembled

See example on page 6/75

Customer		Schneider Electric Industries			
Company	Customer’s reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/72)

			Model	Contacts	Handle	Lever movement AB	Lever movement CD	Potentiometer adaptation
Number of identical units		XKB	A					

For Schneider Electric Industries use only										
Order N°	Item N°		MOD	ETI	POI	GLV	CTS	MAB	MCD	PAB	PCD
		XKB									

Lever gate

In accordance with the half-gates available, sketch and crosshatch the lever’s field of movement on the scheme grids below.
In the absence of this information, the controller will be supplied with a “universal” gate.

Potentiometer adaptation

Cross ☒ the required position on the schemes below.

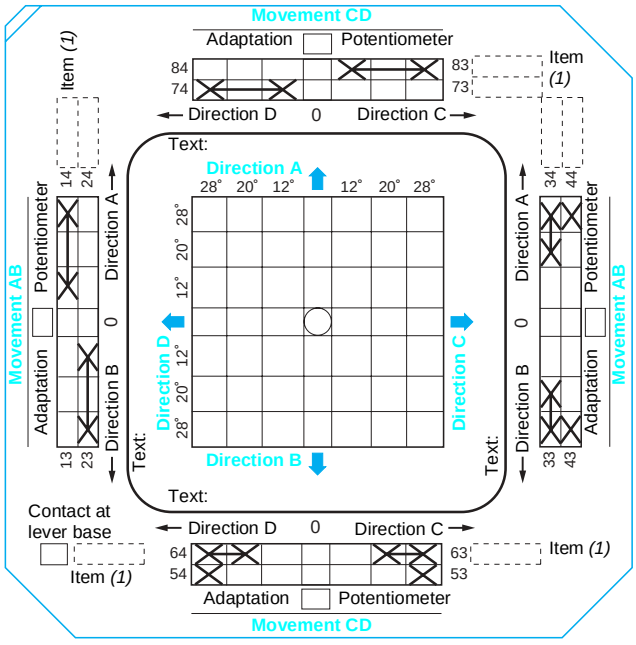
On movement AB	Type/size:
	Value:
On movement CD	Type/size:
	Value:

Legend

Without legend	
With blank legend **XKB Y1**	
With “traverse-slew” symbols, **XKB Y2**	
With “hoist-long travel” symbols, **XKB Y3**	
With specific engraved text, **XKB Y1001** (clearly state the text on the scheme below)	
Left-hand operated unit	
Right-hand operated unit	

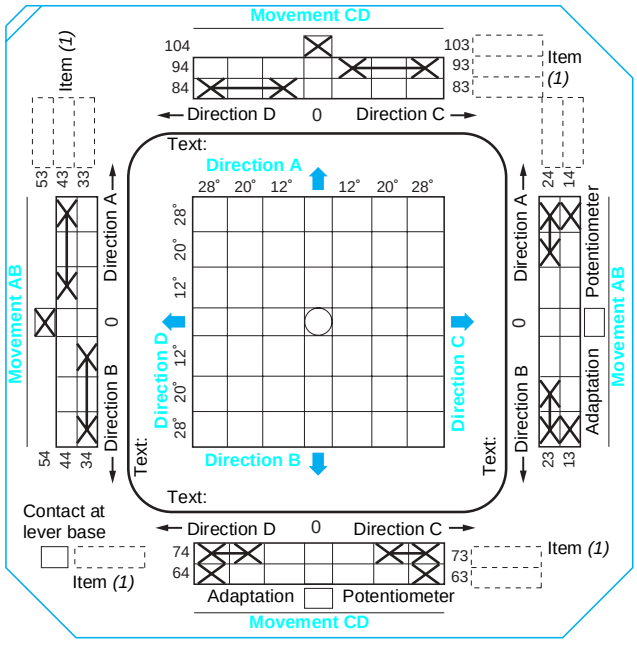
Scheme 1: 4 contacts per movement (viewed from above)

Orientation locater



Scheme 2: 4 contacts + 1 zero (centre) position contact per movement (viewed from above)

Orientation locater



(1) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Characteristics: page 6/71

Dimensions: page 6/100

6

Order form

(specimen suitable for photocopying)

Controllers

For “light hoisting” applications, type **XKB E**

Controllers XKB E with variable and modifiable schemes, factory assembled

Customer		Schneider Electric Industries			
Company	**Customer’s reference**	**Sales office - Subsid. - Plant**	**Editor**	**Geographical zone**	**Order N°**

Reference (use the grid for composing the reference of a controller on page 6/72)

			Model	Contacts	Handle	Lever movement AB	Lever movement CD	Potentiometer adaptation
Number of identical units		**XKB**	**E**					

For Schneider Electric Industries use only										
Order N°	Item N°		MOD	ETI	POI	GLV	CTS	MAB	MCD	PAB	PCD
		XKB									

Lever gate

In accordance with the half-gates available, sketch and crosshatch the lever’s field of movement on the scheme grids below.
In the absence of this information, the controller will be supplied with a “universal” gate.

Potentiometer adaptation

Cross ☒ the required position on the schemes below.

On movement AB	Type/size:
	Value:
On movement CD	Type/size:
	Value:

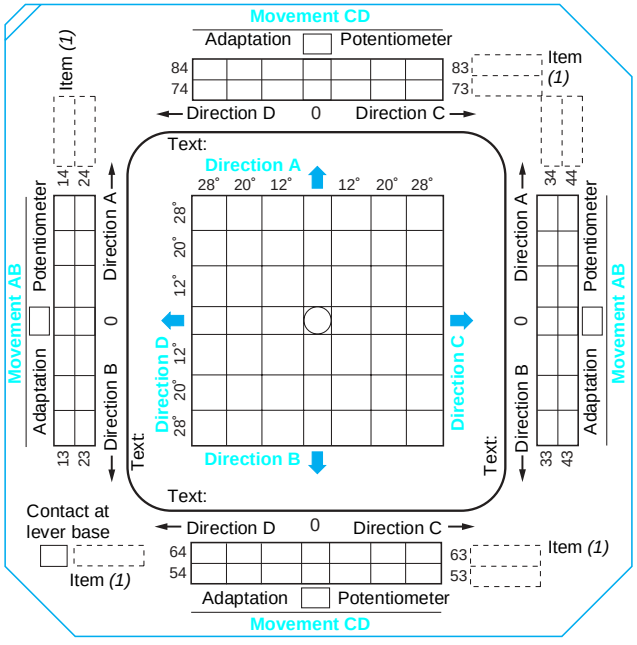
Legend

Without legend	☐
With blank legend, **XKB Y1**	☐
With “traverse-slew” symbols, **XKB Y2**	☐
With “hoist-long travel” symbols, **XKB Y3**	☐
With specific engraved text, **XKB Y1001** (clearly state the text on the scheme below)	☐
Left-hand operated unit	☐
Right-hand operated unit	☐

⚠ If the scheme is not defined, all **XKB E** controllers will be supplied with the standard scheme as used for XKB A.

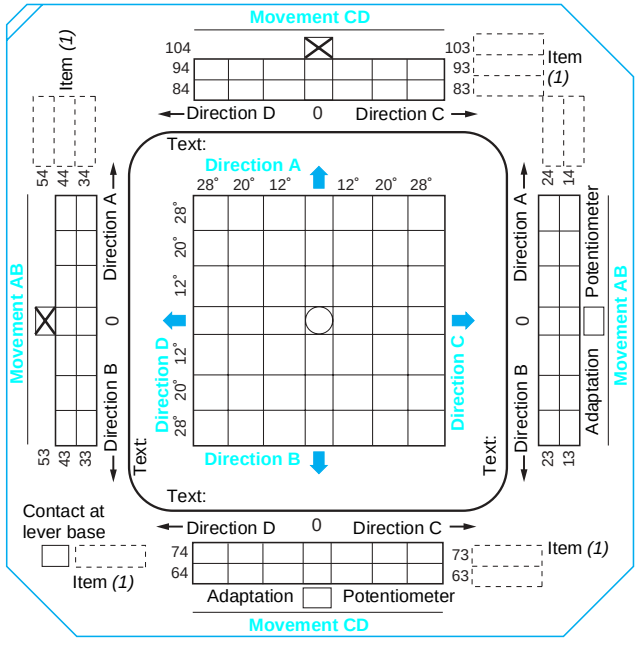
Scheme 1: 4 contacts per movement (viewed from above)

Orientation locater



Scheme 2: 4 contacts + 1 zero (centre) position contact per movement (viewed from above)

Orientation locater



(1) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.
Spring return operation: only 1 contact can be used with spring return at each notch.

Controllers

For “light hoisting” applications, type **XKB E**

Ordering form completion example

Requirement

A 2 movement controller:
“hoist-long travel”.
“Universal” lever gate, limited to 2 “lower” positions.

XKB

Composition of the reference (see page **6/72**)

E	3	4	2	3	7

Model
With variable composition scheme (customised electrical scheme as shown below) — **E**

Contact blocks
Block with 4 contacts + 1 zero (centre) position contact per movement (screw clamp terminals). — **3**

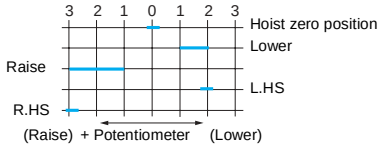
Handle
“Dead man’s” type — **4**

Type of lever operation on movement AB
Unnotched positions, with spring return to zero operation — **2**

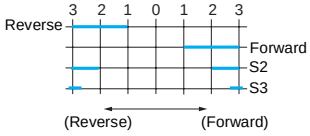
Type of lever operation on movement CD
Notched positions, with spring return to zero operation — **3**

Potentiometer adaptation
With adaptation device + potentiometer on movement AB, standard 4700 Ω, size 15, model — **7**

Electrical scheme for movement AB “hoist”



Electrical scheme for movement CD “long travel”



Lever gate
In accordance with the half-gates available, sketch and crosshatch the lever’s field of movement on the scheme grids below.
In the absence of this information, the controller will be supplied with a “universal” gate.

Potentiometer adaptation
Cross ☒ the required position on the schemes below.

On movement AB — Type/size: XKZ A15047
Value: 4700 Ω

On movement CD — Type/size:
Value:

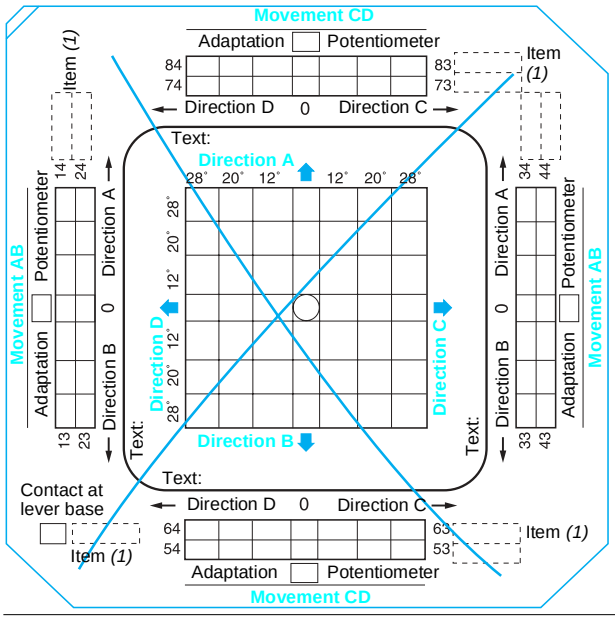
Legend

Without legend ☐
With blank legend, **XKB Y1** ☐
With “traverse-slew” symbols, **XKB Y2** ☐
With “hoist-long travel” symbols, **XKB Y3** ☐
With specific engraved text, **XKB Y1001** (clearly state the text on the scheme below)
Left-hand operated unit ☐
Right-hand operated unit ☒

⚠ If the scheme is not defined, all **XKB E** controllers will be supplied with the standard scheme as used for XKB A.

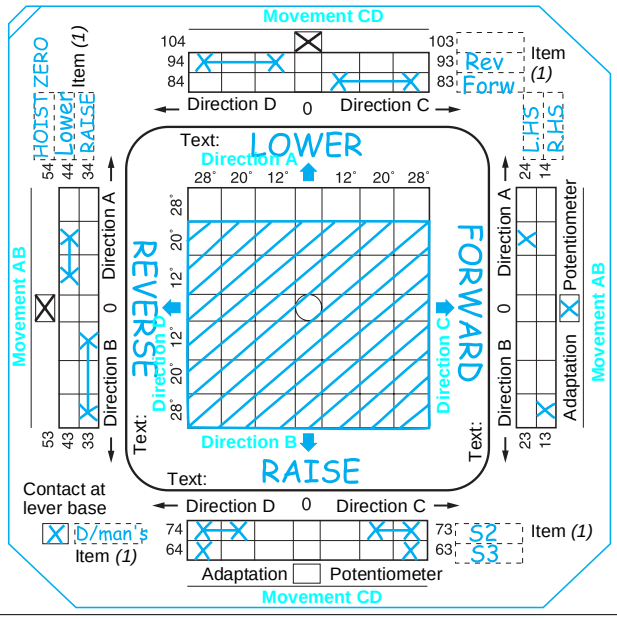
Scheme 1: 4 contacts per movement (viewed from above)

Orientation locater



Scheme 2: 4 contacts + 1 zero (centre) position contact per movement

Orientation locater

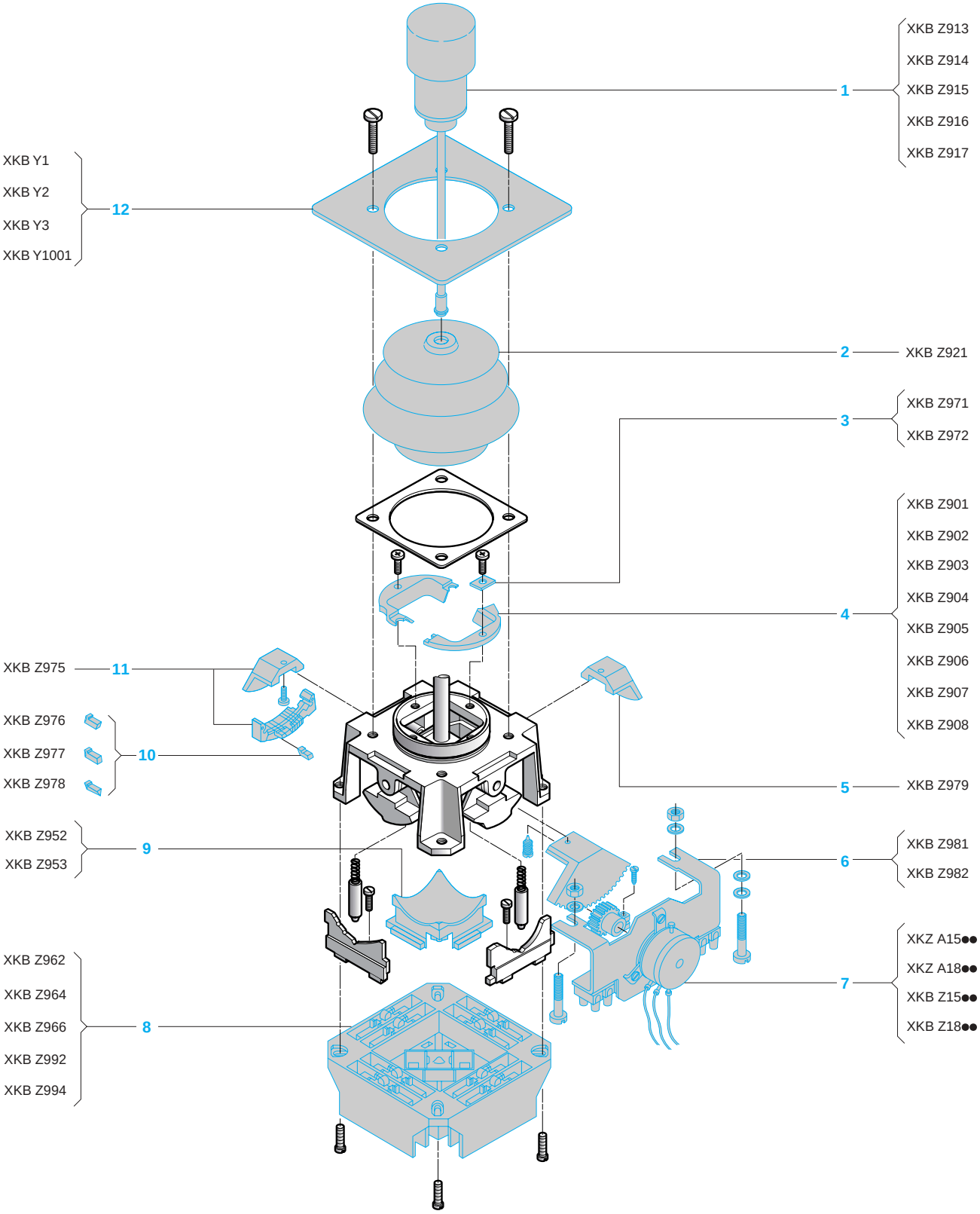


(1) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.
Spring return operation: only 1 contact can be used with spring return at each notch.

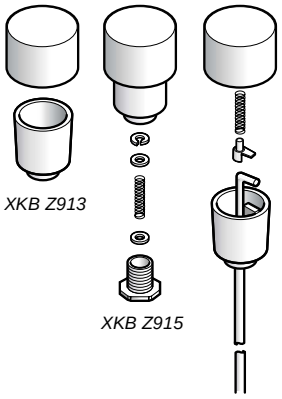
Controllers

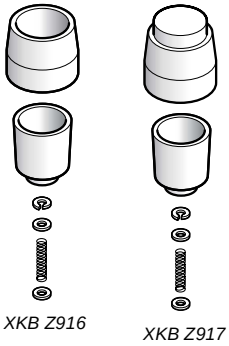
For “light hoisting” applications, type **XKB**

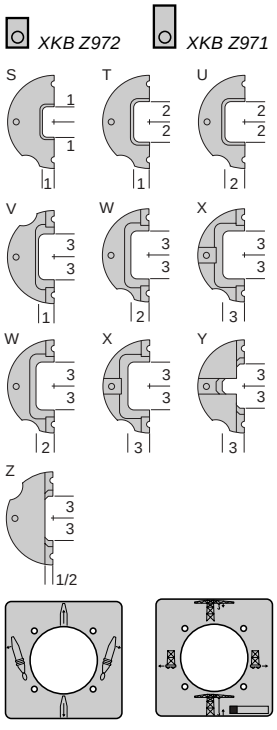
Separate components



Controllers
For “light hoisting” applications, type **XKB**
Separate components


XKB Z913 XKB Z915 XKB Z914


XKB Z916 XKB Z917



XKB Y2 XKB Y3

Description	Item	Characteristics	Unit reference	Weight kg
Bellows	2	–	**XKB Z921**	0.060
Handles ⚠ Not interchangeable between different models	1	Simple	**XKB Z913**	0.030
		With zero (centre) position interlocking	**XKB Z914**	0.040
		“Dead man’s” type	**XKB Z915**	0.045
		With built-in flush pushbutton	**XKB Z916**	0.030
		With built-in projecting pushbutton	**XKB Z917**	0.030
Lever gate Universal and modifiable Specific, by adding half-gates to the universal lever gate (referenced by letter)	4	S	**XKB Z901**	0.005
		T	**XKB Z902**	0.005
		U	**XKB Z903**	0.005
		V	**XKB Z904**	0.005
		W	**XKB Z905**	0.005
		X	**XKB Z906**	0.005
		Y	**XKB Z907**	0.005
		Z	**XKB Z908**	0.005
Removable end stops Sold in lots of 10	3	Stop limiting to 1 notch of movement	**XKB Z971**	0.025
		Stop limiting to 2 notches of movement	**XKB Z972**	0.020
Contacts: block with 4 contacts per movement Screw clamp terminal connections	8	For use with simple handle or handle with zero (centre) position interlocking	**XKB Z962**	0.185
		For use with “Dead man’s” handle or handle with built-in pushbutton	**XKB Z966**	0.185
Contacts: block with 4 contacts per movement + 1 zero (centre) position contact Screw clamp terminal connections	8	For use with simple handle or handle with zero (centre) position interlocking	**XKB Z992**	0.215
		For use with “Dead man’s” handle or handle with built-in pushbutton	**XKB Z994**	0.215
Cam carriers for variable composition cams (XKB E only) Sold in lots of 20	11	–	**XKB Z975**	0.105
Cams (XKB E only) Sold in lots of 50	10	Right-hand position (colour: green)	**XKB Z976**	0.010
		Left-hand position (colour: red)	**XKB Z977**	0.010
		Pass cam (colour: black)	**XKB Z978**	0.010
Zero (centre) position cam with fixing screw	5	–	**XKB Z979**	0.010
Lever base adaptations	9	Interlocking bowl	**XKB Z952**	0.010
		Bowl for “Dead man’s” handle or handle with built-in pushbutton	**XKB Z953**	0.010
Legends	12	Blank	**XKB Y1**	0.025
		“Traverse - slew”	**XKB Y2**	0.025
		“Hoist - long travel”	**XKB Y3**	0.025
		With specific engraved text	**XKB Y1001**	0.025
Potentiometer adaptation kits *(1)*	6	Size 15	**XKB Z981**	0.090
		Size 18 *(2)*	**XKB Z982**	0.090
Potentiometers for controllers XKB	7	–	**XKZ A15●●, A18●●** **XKB Z15●●, Z18●●** See pages 6/104 and 6/105	–

(1) Including 13 tooth pinion.
□ The maximum lever travel of 28° per direction corresponds to a potentiometer shaft rotation of 161°.
□ Levers with friction drive facility are available under certain conditions: please consult your Regional Sales Office.
(2) The size 18 potentiometer adaptation on an XKB controller prevents it from being mounted in an XJP controller station.

Controllers
For “medium hoisting” applications, type **XKD**

109230-34-

XKD F

Compact and fully configurable units designed to control “medium hoisting” equipment.
Mainly for use on fixed control stations or seated controller desks type **XJC**.
1 model:
■ **XKD F**: controller with variable composition schemes.

Control lever
Length: 200 mm. Travel in each direction: 36° maximum.

Lever gate
Integral, non removable, part of the mechanical block. Must be specified on the Order form.

Handles
■ Simple handle.
■ Handle with zero (centre) position mechanical interlock.
■ Handle with zero (centre) position mechanical interlock + 1 C/O snap action contact.
■ “Dead man’s” handle + slow break contact(s).
■ Handle with built-in flush or projecting pushbutton + slow break contact(s).

Angular electrical positions
■ 6 positions maximum in each direction.

Types of lever movement
■ **Notched positions, with stayput operation**
2 versions:
□ 5 notches maximum in each direction, at 12°, 18°, 24°, 30° and 36° (6° per notch), only when used with variable composition cam carriers comprising 4 or 8-contact blocks (1st notch at 6°).
□ 3 notches maximum in each direction, at 12°, 24° and 36° (12° per notch), only when used with variable composition cam carriers comprising 2-contact blocks.

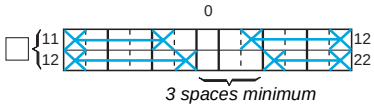
Note: *It is possible to use, on the same movement, a “5 notch max.” cam carrier combined with a “3 notch max.” cam carrier. The lever operation is “5 notch” type.*

■ **Notched positions, with spring return to zero operation**
3 or 5 notches maximum in each direction depending on the versions stated above.
⚠ 4 simultaneous contacts max. with spring return can be used at the 1st (12°) notch.
■ **Unnotched positions, with spring return to zero operation**
36° maximum travel in each direction.
⚠ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts maximum at each subsequent 6° position.

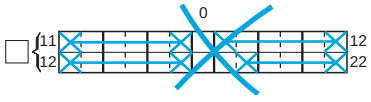
Contacts
16 contacts maximum per movement.
The contact blocks are mounted in pairs on a fixing plate.

Cam schemes
2 versions:
■ **Variable composition cams, 6° per position; 4 or 8-contact cam carriers.**
□ From 1 to 5 mechanical positions.
□ Overlapping contact operation possible (see graphic representation on page 6/69) except between the 4th and last position.
■ **Variable composition cams, 12° per position; 2-contact cam carriers.**
□ From 1 to 3 mechanical positions.
□ The contacts can be actuated 6° by 6° approx., except under the following conditions:
For technical reasons, it is essential to have at least 3 spaces on the electrical scheme for the same contact.

2 possible examples



2 impossible examples



The 2-contact cam carriers are compact and do not increase the size of the mechanical block base.

Legend
One 120 x 120 mm anodised aluminium legend plate with matt satin finish.
Text to be stated on Order form.

Potentiometer adaptation
2 potentiometers maximum per movement:
□ mounted directly on the mechanical block when used with 2-contact variable composition cams,
□ mounted at the extremity of the contact supports when used with 4 and 8-contact variable composition cams.

Order form:
pages 6/80 and 6/81

Dimensions:
page 6/101

Controllers
For “medium hoisting” applications, type **XKD**

Environment

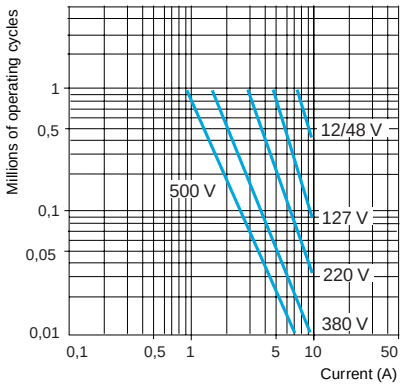
Conformity to standards			IEC 337-1, NF C 63-140, VDE 0660 part 2	
Product certifications			CSA A600, Q 600, Bureau Véritas, USSR	
Protective treatment			Standard version “TC”	
Ambient air temperature	For storage	**°C**	- 40…+ 70	
	For operation	**°C**	- 20…+ 70	
Operating position			All positions	
Vibration resistance			2 gn (10 to 500 Hz) conforming to IEC 68-2-6	
Shock resistance			15 gn, duration 11 ms, conforming to IEC 68-2-27	
Electric shock protection			Class I, conforming to IEC 536 and NF C 20-030	
Maximum operating lever force required in each direction		**daN**	Notched positions, with stayput operation: < 1.5	Notched or unnotched positions, with spring return to zero operation: < 3.5
Degree of protection			IP 54 conforming to IEC 529 (unit with simple handle mounted in dust and damp proof enclosure)	
Mechanical durability	In millions of operating cycles		**XKD F:** 3 in each direction	
Weight	**XKD F**	**kg**	Mechanical block: 0.950 4-contact assembly: 0.350 8-contact assembly: 0.560	

Contact block characteristics

Type		N/C contact (**ZB2 BE102**)
Conventional thermal current	**A**	10 conforming to IEC 337-1, NF C 63-140, VDE 0660, CSA C 22-2 n° 14
Rated insulation voltage	**V**	≂ 500 conforming to NF C 20-040, VDE 0110, IEC 158-1
Insulation category		Group C conforming to NF C 20-040 and VDE 0110
Contact operation		Slow break, double-break contacts with positive opening operation
Resistance across terminals	**mΩ**	⩽ 25 (in accordance with NF C 93-050, at 1 A)
Short-circuit protection		10 A cartridge fuse type gG conforming to IEC 337-1B, VDE 0660 part 2

Operational power
Conforming to IEC 337-1
Utilisation categories AC-11 and DC-11
Operating rate: 3600 operating cycles/hour
Load factor: 0.5

a.c. supply ∿ 50-60 Hz
⋒ Inductive circuit



d.c. supply ⎓

Power broken in W for 1 million operating cycles

Voltage V	**24**	**48**	**120**
⋒	65	48	40

Connection	Captive screw clamp terminals Clamping capacity: □ minimum 1 x 0.5 mm², □ maximum, with or without cable end: 2 x 1.5 mm² or 1 x 2.5 mm² conforming to NF C 20-120

Order form:
pages 6/80 and 6/81

Dimensions:
page 6/101

Controllers

For “medium hoisting” applications, type **XKD F**
Grid for composing the reference of a controller

Reference of controller type XKD

	Lever	Handle	Movement AB: No. of blocks	Movement AB: Lever movement	Movement AB: Potentiometer adaptation	Movement CD: No. of blocks	Movement CD: Lever movement	Movement CD: Potentiometer adaptation
XKD F	**1**							

Control lever

Standard model, length 200 mm	**1**

Handle

Simple (standard model)		**1**
With zero (centre) position mechanical interlocking		**2**
With zero (centre) position mechanical & electrical interlocking (1 C/O contact)		**3**
“Dead man’s” type	With N/C + N/O contact	**4**
	With N/O + N/O contact	**5**
With built-in flush pushbutton	With N/C + N/O contact	**6**
	With N/O + N/O contact	**7**
With built-in projecting pushbutton	With N/C + N/O contact	**8**
	With N/O + N/O contact	**9**

Movement AB

Number of 2-contact blocks

0 blocks	**0**
1 block	**1**
2 blocks	**2**
3 blocks	**3**
4 blocks	**4**
5 blocks	**5**
6 blocks	**6**
8 blocks	**8**

Type of lever movement

Notched positions, with stayput operation	3 notches *(1)*	**1**
	5 notches (starting from 12°) or 6 notches (from 6°) *(2) (3)*	**2**
Notched positions, with spring return to zero operation	3 notches *(1)*	**3**
	5 notches (starting from 12°) or 6 notches (from 6°) *(2) (3)*	**4**
Unnotched positions, with spring return to zero operation *(4)*		**5**

Potentiometer adaptation

Without adaptation nor potentiometer	**0**
With adaptation only (without potentiometer)	**1**
With adaptation + potentiometer *(5)*	**2**

Movement CD

Number of 2-contact blocks

0 blocks	**0**
1 block	**1**
2 blocks	**2**
3 blocks	**3**
4 blocks	**4**
5 blocks	**5**
6 blocks	**6**
8 blocks	**8**

Type of lever movement

Notched positions, with stayput operation	3 notches *(1)*	**1**
	5 notches (starting from 12°) or 6 notches (starting from 6°) *(2) (3)*	**2**
Notched positions, with spring return to zero operation	3 notches *(1)*	**3**
	5 notches (starting from 12°) or 6 notches (starting from 6°) *(2) (3)*	**4**
Unnotched positions, with spring return to zero operation *(4)*		**5**

Potentiometer adaptation

Without adaptation nor potentiometer	**0**
With adaptation only *(6)* (without potentiometer)	**1**
With adaptation *(6)* + potentiometer *(5)*	**2**

(1) 3 notches: restricted to 2-contact variable composition cams only.
(2) 5 notches: by using 1 or 2 variable composition 4 or 8-contact cams. 1st mechanical notch at 12° (6 electrical positions in each direction).
(3) It is possible to obtain 6 mechanical notches, 1st mechanical notch at 6° (6 electrical positions in each direction). Please consult your Regional Sales office.
(4) Type of lever operation recommended when using a potentiometer.
(5) Potentiometer type and value to be stated on the Order form, see pages 6/104 and 6/105.
(6) It is possible to obtain 6 mechanical notches, 1st mechanical notch at 6° (6 electrical positions in each direction). Please consult your Regional Sales office.

Characteristics: page 6/79
Dimensions: page 6/101

Order form

(specimen suitable for photocopying)

Controllers

For “medium hoisting” applications, type **XKD F**
Controllers with variable composition schemes, factory assembled

See example on page 6/83

Customer		Schneider Electric Industries			
Company	**Customer’s reference**	**Sales office - Subsid. - Plant**	**Editor**	**Geographical zone**	**Order N°**

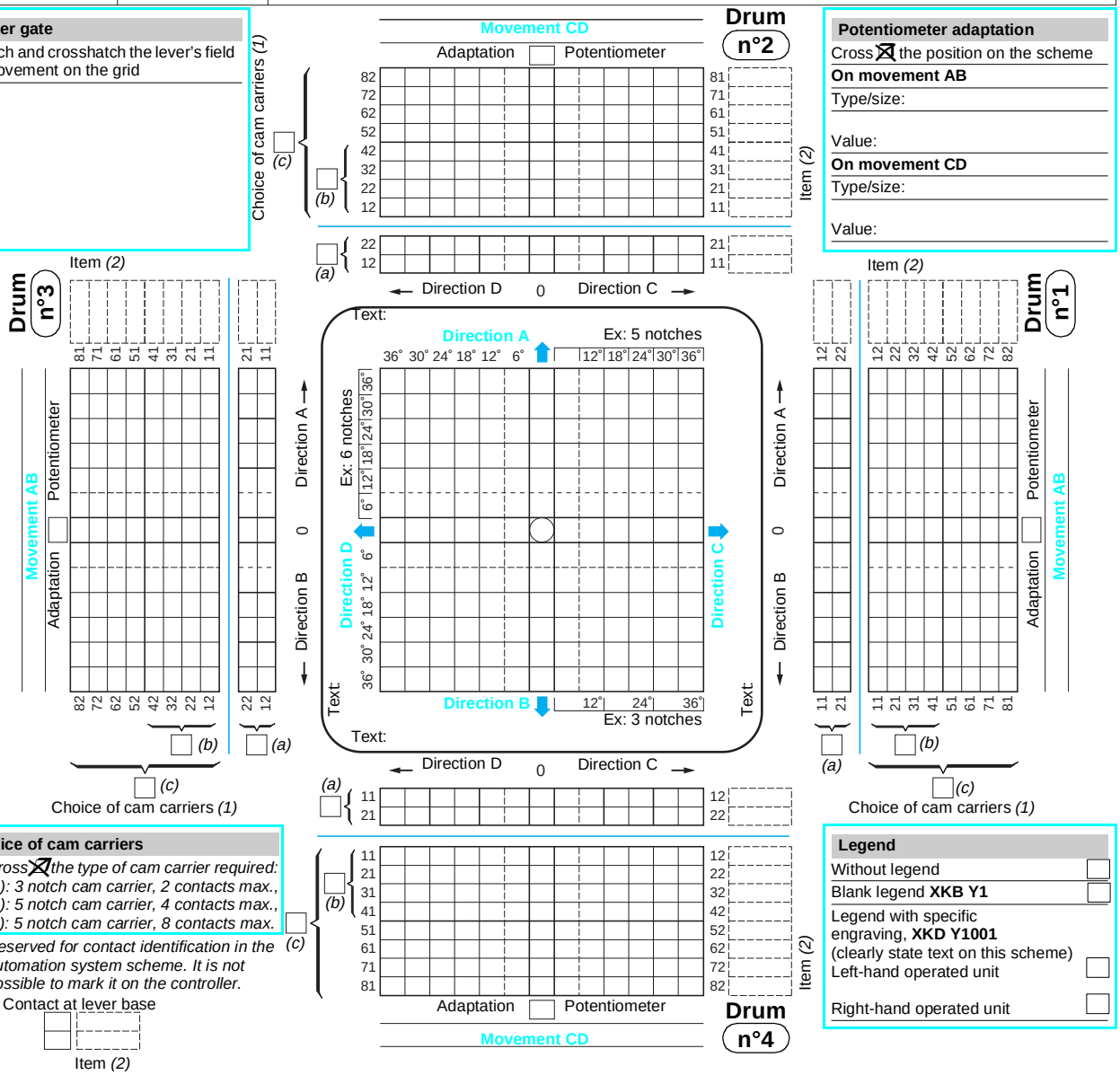
Reference (use the grid for composing the reference of a controller on page 6/80)

			Movement AB			Movement CD		
	Lever	Handle	No. of blocks	Lever movement	Potentiometer adaptation	No. of blocks	Lever movement	Potentiometer adaptation
Number of identical units ☐	**XKD F**	1	☐	☐	☐	☐	☐	☐

For Schneider Electric Industries use only													
Order N°	Item N°	MOD	LEV	POI	GLV	CT1	CT3	MAB	P13	CT2	CT4	MCD	P24
		XKD ☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Lever gate

Sketch and crosshatch the lever’s field of movement on the grid



Potentiometer adaptation

Cross ☒ the position on the scheme

On movement AB

Type/size:

Value:

On movement CD

Type/size:

Value:

Choice of cam carriers

(1) Cross ☒ the type of cam carrier required:
(a): 3 notch cam carrier, 2 contacts max.,
(b): 5 notch cam carrier, 4 contacts max.,
(c): 5 notch cam carrier, 8 contacts max.

(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Contact at lever base ☐

Item (2)

Legend

Without legend	☐
Blank legend **XKB Y1**	☐
Legend with specific engraving, **XKD Y1001** (clearly state text on this scheme)	
Left-hand operated unit	☐
Right-hand operated unit	☐

- Electrical overlapping of contacts is not possible between the 5th and 6th notches.
- Spring return operation: 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

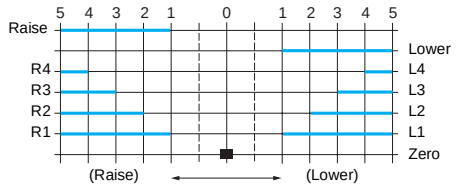
Controllers

For “medium hoisting” applications, type **XKD F**
Controller selection example

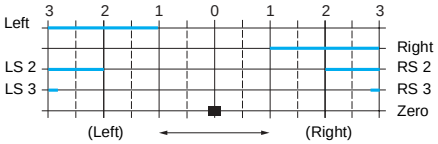
Requirement

A 2 movement controller: “hoist-traverse”.
“Cross” type lever gate. Controller conforming to NF E 52-070.
No potentiometer adaptation on movements AB or CD.

Scheme for movement AB “hoist”



Scheme for movement CD “traverse”



Notes:

Movement AB

The scheme for movement AB requires 7 contacts, therefore, select 4 blocks of 2 contacts.
The only alternative is the selection of either drum n° 3 or n° 1, depending on the available space.

Movement CD

The space between each notch indicated on the 3 position scheme cannot be adhered to.
Effectively, to obtain 5 contacts, a 2-contact block can be selected (drum n° 2), which does not increase the size of the base, together with 2 x 2-contact blocks (drum n° 4).
The lever gate will limit the lever travel to 3 notches.

Composition of the reference (see page 6/80)

XKD F	1	2	4	4	0	3	4	0

Control lever
Standard, length 200 mm — **1**

Handle
With zero (centre) position mechanical interlocking — **2**

Movement AB “hoist”

Number of 2-contact blocks
4 blocks — **4**

Type of lever movement
5 notched positions, with spring return to zero operation — **4**

Potentiometer adaptation
Without adaptation nor potentiometer — **0**

Movement CD “traverse”

Number of 2-contact blocks
3 blocks — **3**

Type of lever movement
5 notched positions, with spring return to zero operation — **4**

Potentiometer adaptation
Without adaptation nor potentiometer — **0**

6

Controllers

For “medium hoisting” applications, type **XKD F**
Ordering form completion example

Customer		Schneider Electric Industries			
Company	**Customer’s reference**	**Sales office - Subsid. - Plant**	**Editor**	**Geographical zone**	**Order N°**

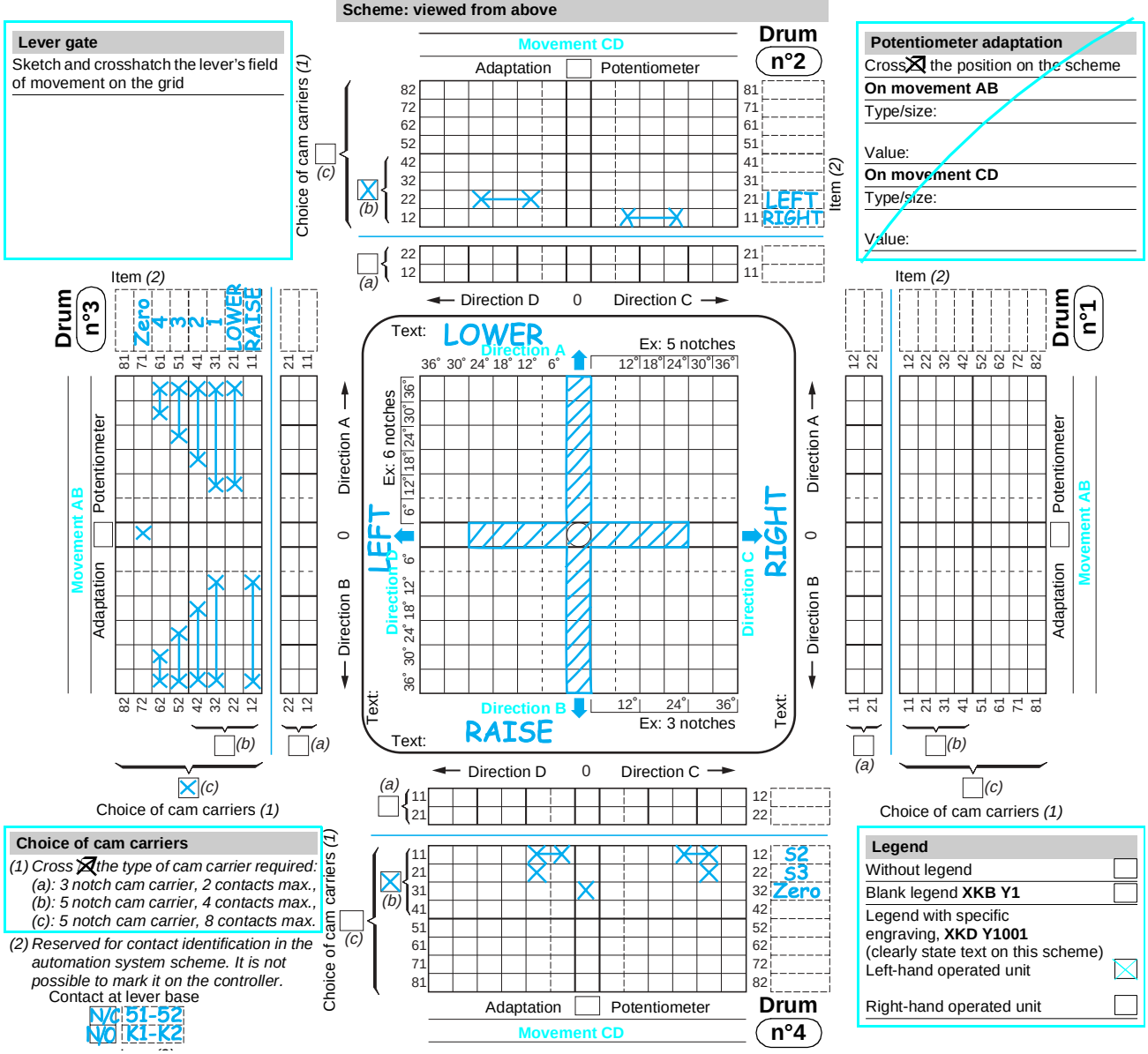
Reference (use the grid for composing the reference of a controller on page 6/80)

			Movement AB			Movement CD		
	Lever	Handle	No. of blocks	Lever movement	Potentiometer adaptation	No. of blocks	Lever movement	Potentiometer adaptation
Number of identical units: 1	XKD F	1	2	4	4	0	3	4	0

For Schneider Electric Industries use only													
Order N°	Item N°		MOD	LEV	POI	GLV	CT1	CT3	MAB	P13	CT2	CT4	MCD	P24
		XKD												

Scheme: viewed from above

Lever gate
Sketch and crosshatch the lever’s field of movement on the grid



Potentiometer adaptation
Cross ☒ the position on the scheme
On movement AB
Type/size:
Value:
On movement CD
Type/size:
Value:

Choice of cam carriers
(1) Cross ☒ the type of cam carrier required:
(a): 3 notch cam carrier, 2 contacts max.,
(b): 5 notch cam carrier, 4 contacts max.,
(c): 5 notch cam carrier, 8 contacts max.

(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.
Contact at lever base
NC 51-52
NO K1-K2

Legend

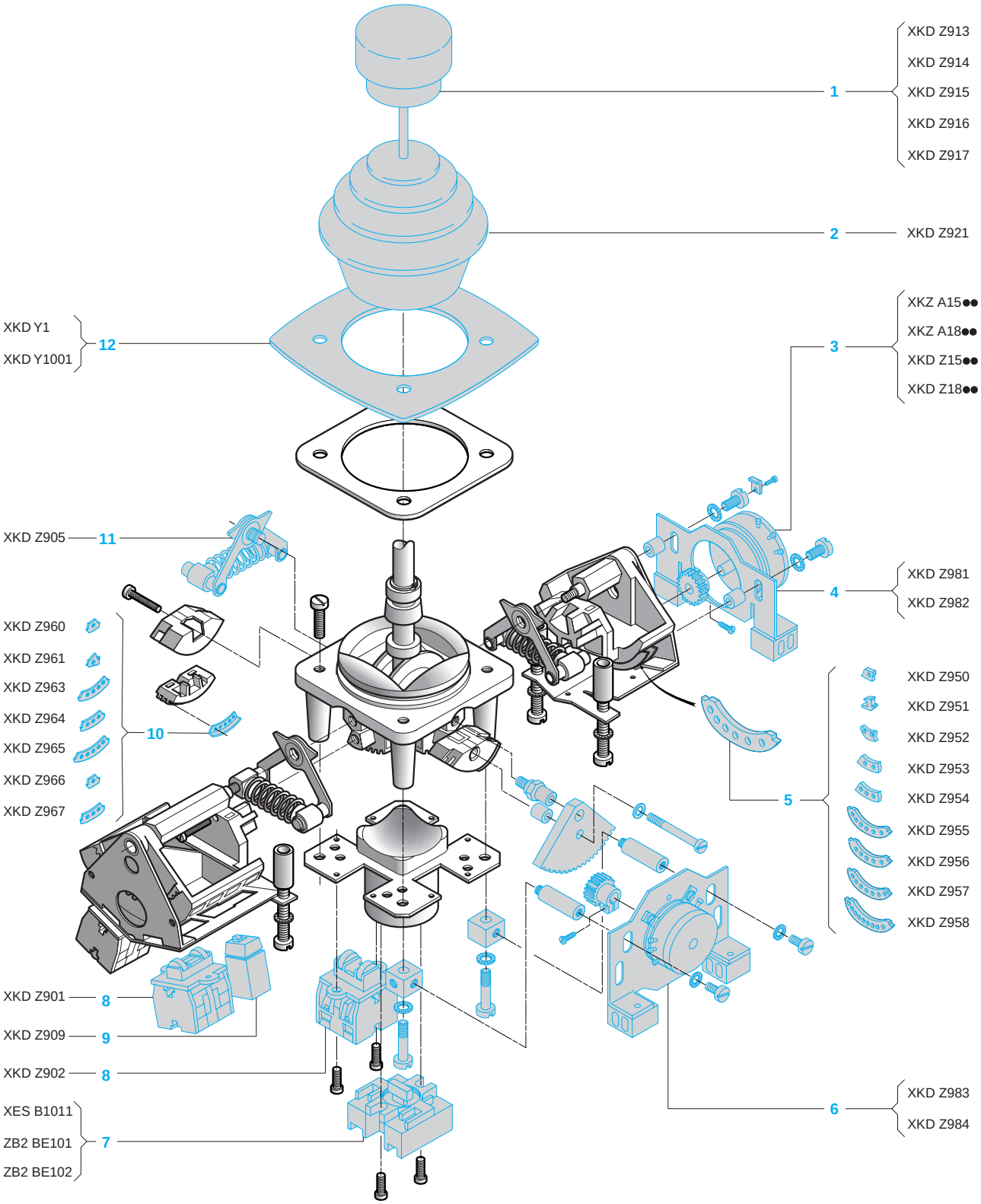
Without legend	☐
Blank legend **XKB Y1**	☐
Legend with specific engraving, **XKD Y1001** (clearly state text on this scheme)	
Left-hand operated unit	☒
Right-hand operated unit	☐

- Electrical overlapping of contacts is not possible between the 5th and 6th notches.
- Spring return operation: 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

Controllers

For “medium hoisting” applications, type **XKD F**

Separate components

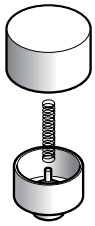


Controllers

For “medium hoisting” applications, type **XKD F**

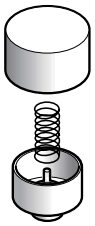
Separate components

XKD Z913

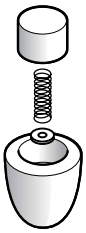


XKD Z914

XKD Z915



XKD Z916



XKD Z917

Description	Item	Characteristics		Unit reference	Weight kg
Bellows	2	Bellows + 1 flat seal		**XKD Z921**	0.075
Handles ⚠ Not interchangeable between different models	1	Simple		**XKD Z913**	0.060
		With zero (centre) position interlocking		**XKD Z914**	0.035
		“Dead man’s” type		**XKD Z915**	0.040
		With built-in flush pushbutton		**XKD Z916**	0.050
		With built-in projecting pushbutton		**XKD Z917**	0.050
Spring return operation mechanism Sold in lots of 2	11	Spring return to zero mechanism		**XKD Z905**	0.100
Notched operation mechanism	9	Position notching mechanism for variable composition cams		**XKD Z909**	0.010
Variable composition cams for support with 4 or 8 contacts Sold in lots of 50	5	Pass cam		**XKD Z950**	0.005
		Complementary, 1 position		**XKD Z951**	0.005
		Complementary, 1.5 position		**XKD Z952**	0.010
		Complementary, 2 positions		**XKD Z953**	0.010
		Complementary, 3 positions		**XKD Z954**	0.020
		Complementary, 6 positions		**XKD Z955**	0.035
		5 positions		**XKD Z956**	0.030
		7 positions		**XKD Z957**	0.040
		9 positions		**XKD Z958**	0.050
Variable composition cams for support with 2 contacts Sold in lots of 20	10	Complementary, half-position		**XKD Z960**	0.005
		Complementary, 1 position		**XKD Z961**	0.005
		Reversing, for notches 1+ 2 + 3		**XKD Z963**	0.020
		Acceleration, for notches 2 + 3		**XKD Z964**	0.005
		Acceleration, for notch 3		**XKD Z965**	0.010
		Pass cam		**XKD Z966**	0.010
		Cam for zero position contact		**XKD Z967**	0.010
Scheme contacts	8	2 x ZB2 BE102 contacts mounted on baseplate	Without marker	**XKD Z901**	0.050
			With marker	**XKD Z902**	0.050
Zero (centre) position electrical interlocking C/O contact	7	Snap action		**XES B1011**	0.030
Contacts for “Dead man’s” handle or handle with built-in pushbutton	7	Slow break	N/C, positive opening	**ZB2 BE102**	0.015
			N/O	**ZB2 BE101**	0.015
Legends	12	Blank		**XKD Y1**	0.035
		With specific engraved text		**XKD Y1001**	0.035
Potentiometer adaptation kits *(1)*	4	On end of contact supports	Size 15	**XKD Z981**	0.120
			Size 18	**XKD Z982**	0.130
	6	Directly on mechanical block	Size 15	**XKD Z983**	0.120
			Size 18	**XKD Z984**	0.130
Potentiometers for controllers XKD	3	–		**XKZ A15●●, A18●●** **XKD Z15●●, Z18●●** See pages 6/104 and 6/105	–

(1) Including 15 tooth pinion.

□ *The maximum lever travel of 36° per direction corresponds to a potentiometer shaft rotation of 168°.*

□ *Levers with friction drive facility are available under certain conditions. Please consult your Regional Sales Office.*

Controllers
For “heavy hoisting” applications, type **XKM**

109231_33_M

XKM A

109232_37_M

XKM B

109233_38_M

XKM C

Extremely robust and fully configurable units designed to control “heavy hoisting” equipment.
Mainly for use on fixed control stations or seated controller desks type **XJC**.
3 different controller models:
■ **XKM A**: with variable composition schemes, multidirectional control of 2 movements by central lever.
■ **XKM B**: with variable composition schemes, control of 1 movement by central lever.
■ **XKM C**: with variable composition schemes, control of 1 movement by side lever.

Control lever
XKM A and **XKM B**: length: 200 or 250 mm. Travel in each direction: 36° max.
XKM C: side lever, length 240 mm. Travel in each direction: 54° maximum.

Lever gate
XKM A: universal or specific (must be specified on Order form).
XKM B and **XKM C:** no lever gate.

End stops
Removable, attached to mechanical block to limit lever travel in 6° steps.

Handle
XKM A and **XKM B**; 5 versions:
■ Simple handle.
■ Handle with zero (centre) position mechanical interlock.
■ Handle with zero (centre) position mechanical interlock + 1 C/O snap action contact.
■ “Dead man’s” handle with 1 C/O snap action contact.
■ Handle with built-in flush or projecting pushbutton + 1 C/O snap action contact.
XKM C: simple handle.

Electrical positions
XKM A and **XKM B:** 6 positions maximum in each direction.
XKM C: 9 positions maximum in each direction.

Type of lever movement
■ **Notched positions, with stayput operation.**
XKM A and **XKM B**; 2 versions:
□ 6 notch sector in each direction: 6°, 12°, 18°, 24°, 30°, 36°.
□ 5 notch sector in each direction: 12°, 18°, 24°, 30°, 36°.

Note: *two different notching forces: Normal: operating lever force: 2 daN. Increased: operating lever force: 4 daN (for 4 simultaneously operated contacts).*

XKM C, 2 versions:
□ 9 notch sector maximum in each direction: 6°, 12°, 18°, 24°, 30°, 36°, 42°, 48°, 54°.
□ 8 notch sector maximum in each direction: 12°, 18°, 24°, 30°, 36°, 42°, 48°, 54°.
■ **Notched positions, with spring return to zero operation**.
XKM A, B and C, 2 versions:
□ 6 notches maximum in each direction: 6°, 12°, 18°, 24°, 30°, 36°.
□ 5 notches maximum in each direction: 12°, 18°, 24°, 30°, 36°.
⚠ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts maximum at each subsequent notch.
■ **Unnotched positions, with spring return to zero operation**:
XKM A, B and C: 36° maximum travel in each direction.
⚠ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts maximum at each subsequent 6° position.

Contacts
24 contacts maximum per movement (2 x 3 blocks of 4 contacts).
2 versions:
□ Standard, double-break contacts.
□ Double-break contacts with magnetic blow-out.

Cam schemes
24 cams maximum per movement (12 contacts on each side), mounted in groups of 4.
Warning: for technical reasons relating to mounting, the first cam (for contact 13-14) must be a reversing or zero position cam.

Legends
1 for each direction, interchangeable without dismantling the unit.
Material: anodised aluminium, anodic oxidation marking.
Standard markings: FORWARD, REVERSE, RAISE, LOWER, LEFT, RIGHT.
Other markings: to be stated on Order form.

Potentiometer adaptation
2 potentiometers maximum per movement.
Potentiometers mounted at the extremity of the contact supports or directly onto the faces of the mechanical block.

6

Order form:
pages 6/88 and 6/89

Dimensions:
pages 6/102 and 6/103

Controllers
For “heavy hoisting” applications, type **XKM**

Environment

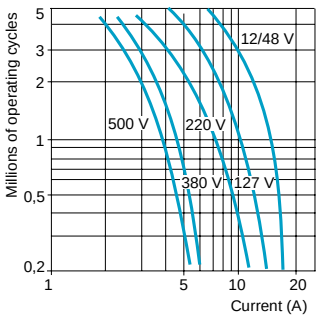
Conformity to standards			IEC 337-1, NF C 63-140, VDE 0660 part 2, CSA C 22-2 n° 14
Product certifications			CSA 600 V max. (≂) “heavy duty”, USSR
Protective treatment			Standard version “TC”
Ambient air temperature	For storage	**°C**	- 40…+ 70 °C
	For operation	**°C**	- 10…+ 70 °C
Operating position			All positions
Vibration resistance	Conforming to IEC 68-2-6		2 gn (10 to 500 Hz)
Shock resistance	Conforming to IEC 68-2-27		Direction of shocks on vertical axis: 15 gn Direction of shocks on horizontal and transversal axes: 100 gn
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class I
Maximum operating lever force required in each direction		**daN**	< 4 for 4 simultaneously actuated contacts (to 1st notch) < 4.5 for 4 simultaneously actuated contacts for spring return to zero version (maintained against end stop)
Degree of protection	Conforming to IEC 529		IP 54 (unit with simple handle mounted in dust and damp proof enclosure)
Mechanical durability (in millions of operating cycles)			4 in each direction (mechanical control device)
Weight		**kg**	**XKM A:** mechanical block: 4.6. 4-contact assembly: 0.7 **XKM B:** mechanical block: 3. 4-contact assembly: 0.7 **XKM C:** mechanical block: 3.7. 4-contact assembly: 0.7

Contact block characteristics

Type		Block of 4 double-break contacts
Conventional thermal current	**A**	20 conforming to IEC 337-1, NF C 63-140, VDE 0660
Rated insulation voltage	**V**	≂ 500 conforming to NF C 20-040, VDE 0110, IEC 158-1; 600 V conforming to CSA C 22-2 n° 14
Insulation category		Group C conforming to NF C 20-040 and VDE 0110
Contact operation		Slow break, double-break contacts with positive opening operation 2 versions: standard or with magnetic blow-out
Resistance across terminals	**mΩ**	⩽ 25 (in accordance with NF C 93-050, at 1 A)
Terminal referencing		Conforming to CENELEC EN 50013
Short-circuit protection		20 A cartridge fuse type gG conforming to IEC 337-1B, VDE 0660 part 2

Operational power
Conforming to IEC 337-1
Utilisation categories AC-11 and DC-11
Operating rate: 3600 operating cycles/hour
Load factor: 0.5

Standard double-break contact block
a.c. supply ∿ 50-60 Hz
ꟿ Inductive circuit



d.c. supply ⎓

Power broken in W for 3 million operating cycles

Voltage V	**24**	**48**	**120**
ꟿ	70	75	75

Double-break contact block with magnetic blow-out.
d.c. supply ⎓

Power broken in W for 3 million operating cycles

Voltage V	**24**	**48**	**120**
ꟿ	90	100	100

Connection	Captive screw clamp terminals Clamping capacity: □ minimum: 1.5 mm², □ maximum: 2 x 2.5 mm² with cable end

.

Order form:
pages 6/88 and 6/89

Dimensions:
pages 6/102 and 6/103

Controllers

For “heavy hoisting” applications, type **XKM**

Grid for composing the reference of a controller XKM A or XKM B

Reference of a controller type XKM A or XKM B

		Model	Lever	Handle	Contacts	Movement AB: No. of blocks	Movement AB: Lever movement	Movement AB: Potentiometer adaptation	Movement CD (*XKM A* only): No. of blocks	Movement CD (*XKM A* only): Lever movement	Movement CD (*XKM A* only): Potentiometer adaptation
XKM											
Model											
2 movement controller (AB + CD)		**A**									
1 movement controller (AB)		**B**									
Control lever											
Short: length 200 mm (standard)			**1**								
Long: length 250 mm			**2**								
Handle											
Simple (standard model)				**1**							
With zero (centre) position mechanical interlocking				**2**							
With zero (centre) position mechanical & electrical interlocking (1 C/O contact)				**3**							
“Dead man’s” type (1 C/O contact)				**4**							
With built-in flush pushbutton (1 C/O contact)				**5**							
With built-in projecting pushbutton (1 C/O contact)				**6**							
Type of contacts											
Block of 4 double-break contacts (standard model)					**1**						
Block of 4 double-break contacts with magnetic blow-out					**2**						
Movement AB											
Number of 4-contact blocks	0 blocks					**0**					
	1 block					**1**					
	2 blocks					**2**					
	3 blocks					**3**					
	4 blocks					**4**					
	5 blocks					**5**					
	6 blocks					**6**					
Type of lever movement											
Notched positions, with stayput operation	5 notches *(1)*	Normal lever force					**1**				
		Increased lever force					**2**				
	6 notches *(2)*	Normal lever force					**3**				
		Increased lever force					**4**				
Notched positions, with spring return to zero operation	5 notches *(1)*						**5**				
	6 notches *(2)*						**6**				
Unnotched positions, with spring return to zero operation *(3)*							**7**				
Potentiometer adaptation											
Without potentiometer support plate, or potentiometer								**0**			
With potentiometer support plate only *(4)* (potentiometer not included)								**1**			
With potentiometer support plate + potentiometer *(5)*								**2**			
Movement CD (for type XKM A only)											
Number of 4-contact blocks	0 blocks								**0**		
	1 block								**1**		
	2 blocks								**2**		
	3 blocks								**3**		
	4 blocks								**4**		
	5 blocks								**5**		
	6 blocks								**6**		
Type of lever movement											
Notched positions, with stayput operation	5 notches *(1)*	Normal lever force								**1**	
		Increased lever force								**2**	
	6 notches *(2)*	Normal lever force								**3**	
		Increased lever force								**4**	
Notched positions, with spring return to zero operation	5 notches *(1)*									**5**	
	6 notches *(2)*									**6**	
Unnotched positions, with spring return to zero operation *(3)*										**7**	
Potentiometer adaptation											
Without adaptation nor potentiometer											**0**
With adaptation only (without potentiometer)											**1**
With adaptation + potentiometer *(5)*											**2**

(1) 5 mechanical notches (1st notch at 12°) (6 electrical positions in each direction). (2) 6 mechanical notches (1st notch at 6°) (6 electrical positions in each direction).
(3) Type of lever operation recommended when using a potentiometer. (4) Adaptation including 15 tooth pinion.
(5) Potentiometer type and value to be stated on the Order form, see pages 6/104 and 6/105.

Order form

(specimen suitable for photocopying)

Controllers

For “heavy hoisting” applications, type **XKM**

Controllers XKM A and XKM B with variable composition schemes, factory assembled

See example on page 6/91

Customer		Schneider Electric Industries			
Company	Customer’s reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/88)

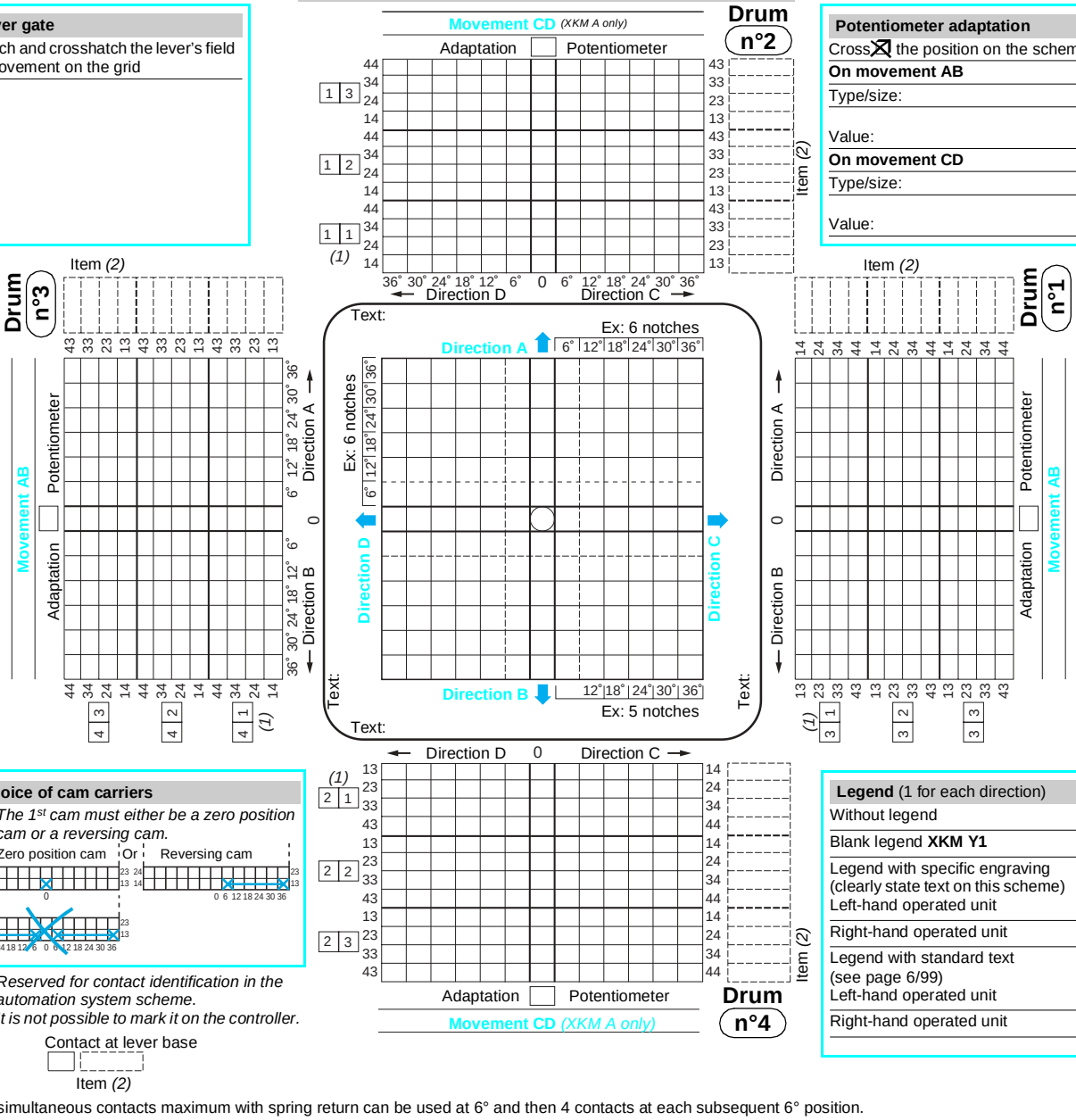
		Model	Lever	Handle	Type of contact	Movement AB: No. of blocks	Movement AB: Lever movement	Movement AB: Potentiometer adaptation	Movement CD (XKM A only): No. of blocks	Movement CD (XKM A only): Lever movement	Movement CD (XKM A only): Potentiometer adaptation
Number of identical units	XKM										

For Schneider Electric Industries use only			MOD	LEV	POI	GLV	CT1	CT3	MAB	P13	CT2	CT4	MCD	P24
Order N°	Item N°	XKM												

Scheme: viewed from above

Lever gate

Sketch and crosshatch the lever’s field of movement on the grid



Potentiometer adaptation

Cross ☒ the position on the scheme

On movement AB

Type/size:

Value:

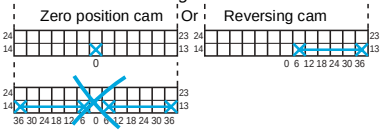
On movement CD

Type/size:

Value:

Choice of cam carriers

(1) The 1st cam must either be a zero position cam or a reversing cam.



(2) Reserved for contact identification in the automation system scheme.
It is not possible to mark it on the controller.

Contact at lever base

Item (2)

Legend (1 for each direction)

- Without legend ☐
- Blank legend **XKM Y1** ☐
- Legend with specific engraving (clearly state text on this scheme)
  - Left-hand operated unit ☐
  - Right-hand operated unit ☐
- Legend with standard text (see page 6/99)
  - Left-hand operated unit ☐
  - Right-hand operated unit ☐

⚠ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

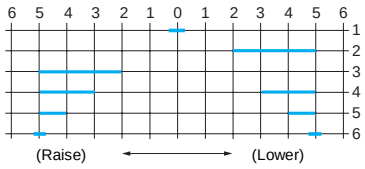
Controllers

For “heavy hoisting” applications, type **XKM A**
Controller selection example

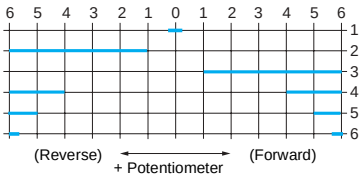
Requirement

A 2 movement controller: “hoist-long travel”.
Universal lever gate, limited to 4 notches on the “raise” and “lower” directions (1st notch at 12°).
Potentiometer adaptation on movement CD. Potentiometer selected: 4700 Ω, size 15, standard model.

Scheme for movement AB “hoist”



Scheme for movement CD “long travel”



Notes:
Movement AB
Two installation alternatives depending on the required size:
- 2 blocks of 4 contacts, both on the same side of the mechanical block (example shown),
- 1 block of 4 contacts on either side of the mechanical block.

Movement CD
Same installation alternatives as for movement AB.
Two alternatives for potentiometer installation:
- On end of cam carriers and contact supports (example shown).
- Directly on the mechanical block.

Composition of the reference (see page 6/88)

XKM	A	1	4	1	2	5	0	2	7	2
Model										
2 movements (AB + CD)	A									
Control lever										
Short: length 200 mm (standard)		1								
Handle										
“Dead man’s” type with 1 C/O contact			4							
Type of contacts										
Standard double-break				1						
Movement AB										
Number of 4-contact blocks										
2 blocks (i.e. 8 contacts when 6 contacts required)					2					
Type of lever movement										
Notched positions, with spring return to zero operation and 5 notch sectors (starting from 12°)						5				
Potentiometer										
Without adaptation device or potentiometer							0			
Movement CD										
Number of 4-contact blocks										
2 blocks (i.e. 8 contacts when 6 contacts required)								2		
Type of lever movement										
Unnotched positions, with spring return to zero operation									7	
Potentiometer										
With potentiometer adaptation device + size 15, 4700 Ω potentiometer										2

Controllers

For “heavy hoisting” applications, type **XKM A**
Ordering form completion example

Customer		Schneider Electric Industries			
Company	**Customer’s reference**	**Sales office - Subsid. - Plant**	**Editor**	**Geographical zone**	**Order N°**

Reference (use the grid for composing the reference of a controller on page 6/88)

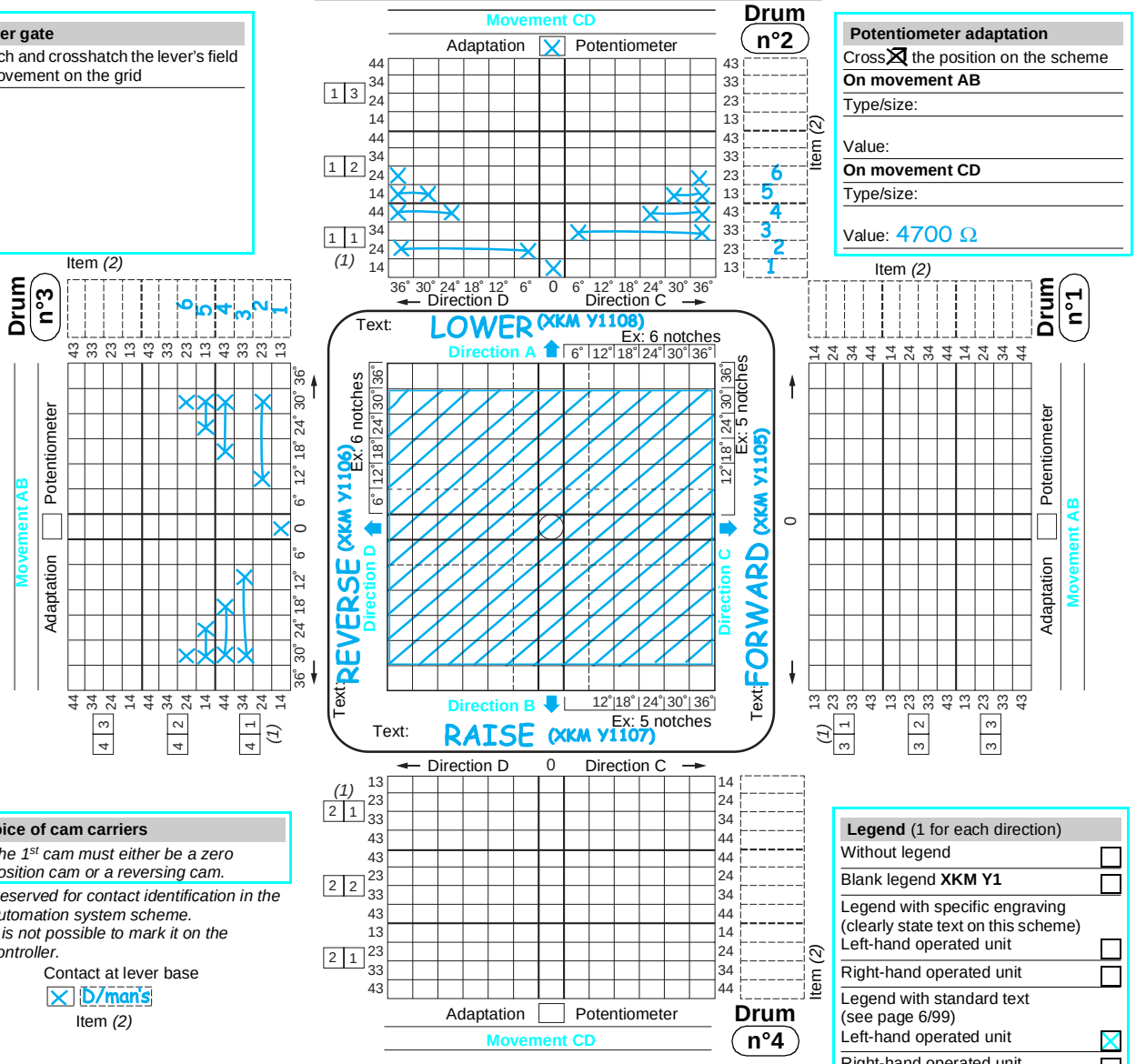
		Model	Lever	Handle	Type of contact	Movement AB: No. of blocks	Movement AB: Lever movement	Movement AB: Potentiometer adaptation	Movement CD: No. of blocks	Movement CD: Lever movement	Movement CD: Potentiometer adaptation
Number of identical units	1	XKM	A	1	4	1	2	5	0	2	7	2

For Schneider Electric Industries use only

Order N°	Item N°		MOD	LEV	POI	GLV	CT1	CT3	MAB	P13	CT2	CT4	MCD	P24
		XKM												

Scheme: viewed from above

Lever gate
Sketch and crosshatch the lever’s field of movement on the grid



Potentiometer adaptation
Cross ☒ the position on the scheme
On movement AB
Type/size:
Value:
On movement CD
Type/size:
Value: 4700 Ω

Choice of cam carriers
(1) The 1st cam must either be a zero position cam or a reversing cam.
(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.
Contact at lever base
☒ D/man’s
Item *(2)*

Legend (1 for each direction)

Without legend	☐
Blank legend **XKM Y1**	☐
Legend with specific engraving (clearly state text on this scheme)	
Left-hand operated unit	☐
Right-hand operated unit	☐
Legend with standard text (see page 6/99)	
Left-hand operated unit	☒
Right-hand operated unit	☐

⚠ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

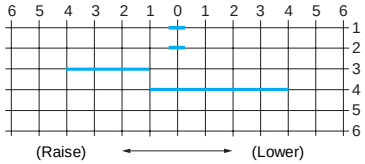
Controllers

For “heavy hoisting” applications, type **XKM B**
Controller selection example

Requirement

A single movement controller: “hoist”.

Scheme for movement AB “hoist”



Note:
Movement AB
Two installation alternatives depending on the required size (space in the enclosure or non symmetrical installation):
- 1 to 3 blocks of 4 contacts on each side of the mechanical block,
- 1 to 3 blocks on one side only.

Composition of the reference (see page 6/88)

XKM	**B**	**1**	**1**	**1**	**1**	**6**	**0**			

Model
1 movement controller (AB) — **B**

Control lever
Short: length 200 mm (standard) — **1**

Handle
Simple (standard model) — **1**

Type of contacts
Block of 4 double-break contacts (standard model) — **1**

Movement AB

Number of 4-contact blocks
1 block (i.e. 4 contacts) — **1**

Type of lever movement
6 notched positions, with spring return to zero operation — **6**

Potentiometer
Without potentiometer support plate, or potentiometer — **0**

Controllers

For “heavy hoisting” applications, type **XKM B**
Ordering form completion example

Customer		Schneider Electric Industries			
Company	**Customer’s reference**	**Sales office - Subsid. - Plant**	**Editor**	**Geographical zone**	**Order N°**

Reference (use the grid for composing the reference of a controller on page 6/88)

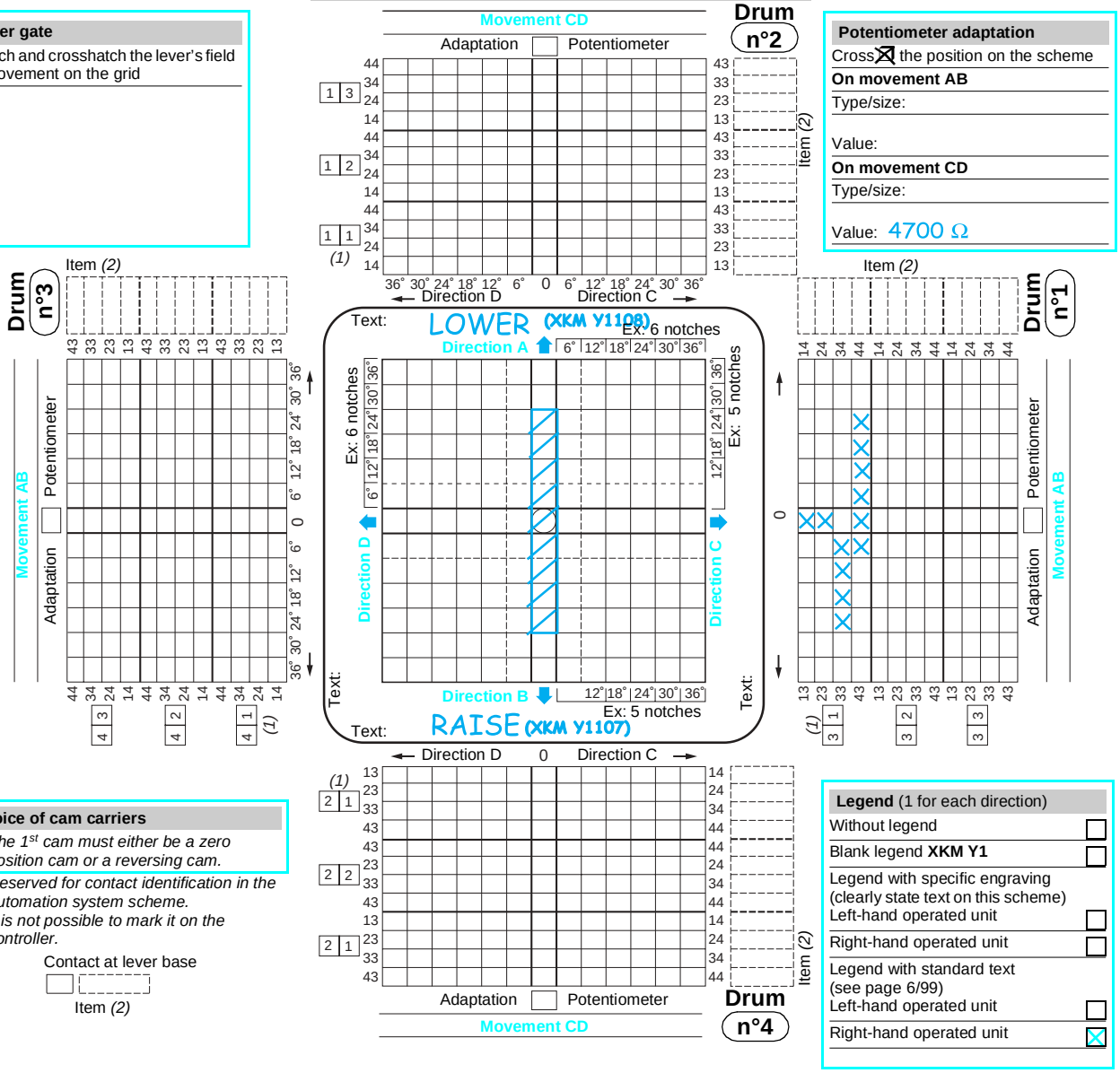
					Movement AB			Movement CD		
	Model	Lever	Handle	Type of contact	No. of blocks	Lever movement	Potentiometer adaptation	No. of blocks	Lever movement	Potentiometer adaptation
Number of identical units: 1	XKM B	1	1	1	1	6	0			

For Schneider Electric Industries use only

Order N°	Item N°		MOD	LEV	POI	GLV	CT1	CT3	MAB	P13	CT2	CT4	MCD	P24
		XKM												

Scheme: viewed from above

Lever gate
Sketch and crosshatch the lever’s field of movement on the grid



Potentiometer adaptation
Cross ☒ the position on the scheme
On movement AB
Type/size:
Value:
On movement CD
Type/size:
Value: 4700 Ω

Choice of cam carriers
(1) The 1st cam must either be a zero position cam or a reversing cam.
(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Contact at lever base ☐ ☐
Item (2)

Legend (1 for each direction)

Without legend	☐
Blank legend **XKM Y1**	☐
Legend with specific engraving (clearly state text on this scheme) Left-hand operated unit	☐
Right-hand operated unit	☐
Legend with standard text (see page 6/99) Left-hand operated unit	☐
Right-hand operated unit	☒

⚠ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

Controllers

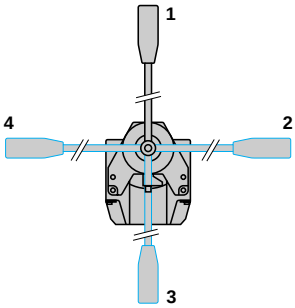
For “heavy hoisting” applications, type **XKM C**
Grid for composing the reference of a controller

Reference of controller type XKM C

	Lever	Contacts	Movement AB: No. of blocks	Movement AB: Lever movement	Potentiometer adaptation
XKM C					

Control lever

Side lever, position according to diagram below



Position **1**	**1**
Position **2**	**2**
Position **3**	**3**
Position **4**	**4**

Type of contacts

Block of 4 double-break contacts (standard model)	**1**
Block of 4 double-break contacts with magnetic blow-out	**2**

Movement AB

Number of 4-contact blocks

1 block	**1**
2 blocks	**2**
3 blocks	**3**

Type of lever movement

Notched positions, with stayput operation	5 notches *(1)*	Normal lever force	**1**
		Increased lever force	**2**
	6 notches *(2)*	Normal lever force	**3**
		Increased lever force	**4**
	8 notches *(1)*		**5**
	9 notches *(2)*		**6**
Notched positions, with spring return to zero operation	5 notches *(1)*		**7**
	6 notches *(2)*		**8**
Unnotched positions, with spring return to zero operation *(3)*			**9**

Potentiometer adaptation

Without adaptation nor potentiometer	**0**
With adaptation *(4)* only (without potentiometer)	**1**
With adaptation *(4)* + potentiometer *(5)*	**2**

(1) 1st mechanical notch at 12°.
(2) 1st mechanical notch at 6°.
(3) Type of lever operation recommended when using a potentiometer.
(4) Adaptation including 15 tooth pinion.
(5) Potentiometer type and value to be stated on the Order form, see page 6/104.

6

Order form: page 6/95
Characteristics: page 6/87
Dimensions: pages 6/102 and 6/103

Order form

(specimen suitable for photocopying)

Controllers

For “heavy hoisting” applications, type **XKM C**
Controllers with variable composition schemes, factory assembled

See example on page 6/96

Customer		Schneider Electric Industries			
Company	**Customer’s reference**	**Sales office - Subsid. - Plant**	**Editor**	**Geographical zone**	**Order N°**

Reference (use the grid for composing the reference of a controller on page 6/94)

			Model	Lever	Contacts	Movement AB: Number of blocks	Movement AB: Lever movement	Movement AB: Potentiometer adaptation
Number of identical units	☐	XKM	C	☐	☐	☐	☐	☐

For Schneider Electric Industries use only

Order N°	Item N°		MOD	LEV	POI	GLV	CTS	MAN	POT
		XKM	☐	☐	☐	☐	☐	☐	☐

Potentiometer adaptation

Cross ☒ the required position on the scheme below.

On movement AB

Type/size:

Value:

Legend

Without legend ☐

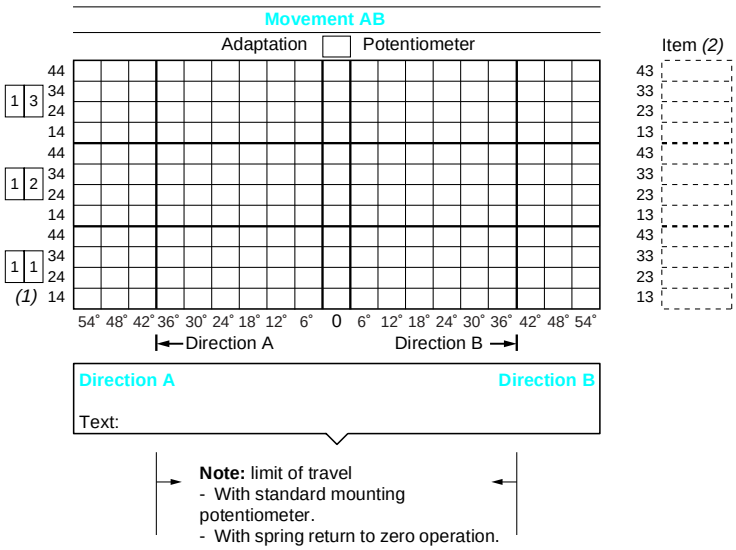
Blank legend **XKM CY1** ☐

Legend with specific engraving, **XKM CY1001**
(clearly state the text on the scheme below)

Left-hand operated unit ☐

Right-hand operated unit ☐

Scheme (viewed from above)



⚠ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

(1) The 1st cam must either be a zero position cam or a reversing cam.
(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Controllers
For “heavy hoisting” applications, type **XKM C**
Controller selection example

Requirement

A 1 movement (AB), 2 direction controller, fitted with a vertical (upward pointing) lever.

Movement AB:
Installation of 2 blocks of 4 standard double-break contacts.

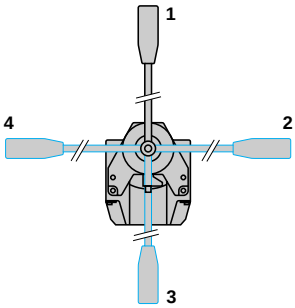
Lever movement with 6 notches at 6° intervals (1st mechanical notch at 6°), with notched cams and stayput angular positions.
No potentiometer.

Composition of the reference (see page 6/94)

		Lever	Contacts	Movement AB: No. of blocks	Movement AB: Lever movement	Potentiometer adaptation
	XKM C	1	1	2	3	0

Control lever

Side lever, position according to diagram below



Position **1**	**1**
Position **2**	**2**
Position **3**	**3**
Position **4**	**4**

Type of contacts

Block of 4 double-break contacts (standard model)	**1**
Block of 4 double-break contacts with magnetic blow-out	**2**

Movement AB

Number of 4-contact blocks

1 block	**1**
2 blocks	**2**
3 blocks	**3**

Type of lever movement

Notched positions, with stayput operation	5 notches *(1)*	Normal lever force	**1**
		Increased lever force	**2**
	6 notches *(2)*	Normal lever force	**3**
		Increased lever force	**4**
	8 notches *(1)*		**5**
	9 notches *(2)*		**6**
Notched positions, with spring return to zero operation	5 notches *(1)*		**7**
	6 notches *(2)*		**8**
Unnotched positions, with spring return to zero operation *(3)*			**9**

Potentiometer adaptation

Without adaptation nor potentiometer	**0**
With adaptation *(4)* only (without potentiometer)	**1**
With adaptation *(4)* + potentiometer *(5)*	**2**

(1) 1st mechanical notch at 12°.
(2) 1st mechanical notch at 6°.
(3) Type of lever operation recommended when using a potentiometer.
(4) Adaptation including 15 tooth pinion.
(5) Potentiometer type and value to be stated on the Order form, see page 6/104.

Controllers

For “heavy hoisting” applications, type **XKM C**

Ordering form completion example

Customer		Schneider Electric Industries			
Company	**Customer’s reference**	**Sales office - Subsid. - Plant**	**Editor**	**Geographical zone**	**Order N°**

Reference (use the grid for composing the reference of a controller on page 6/94)

			Model	Lever	Contacts	Movement AB Number of blocks	Movement AB Lever movement	Potentiometer adaptation
Number of identical units		**XKM**	C	1	1	2	3	0

For Schneider Electric Industries use only

Order N°	Item N°		MOD	LEV	POI	GLV	CTS	MAN	POT
		XKM							

Potentiometer adaptation

Cross ☒ the required position on the scheme below.

On movement AB

Type/size:

Value:

Legend

Without legend ☐

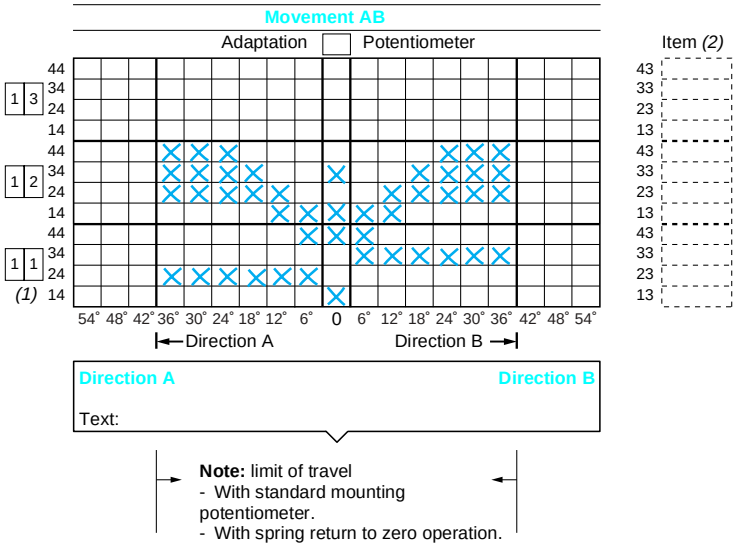
Blank legend **XKM CY1** ☒

Legend with specific engraving, **XKM Y1001**
(clearly state the text on the scheme below)

Left-hand operated unit ☐

Right-hand operated unit ☐

Scheme (viewed from above)



⚠ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

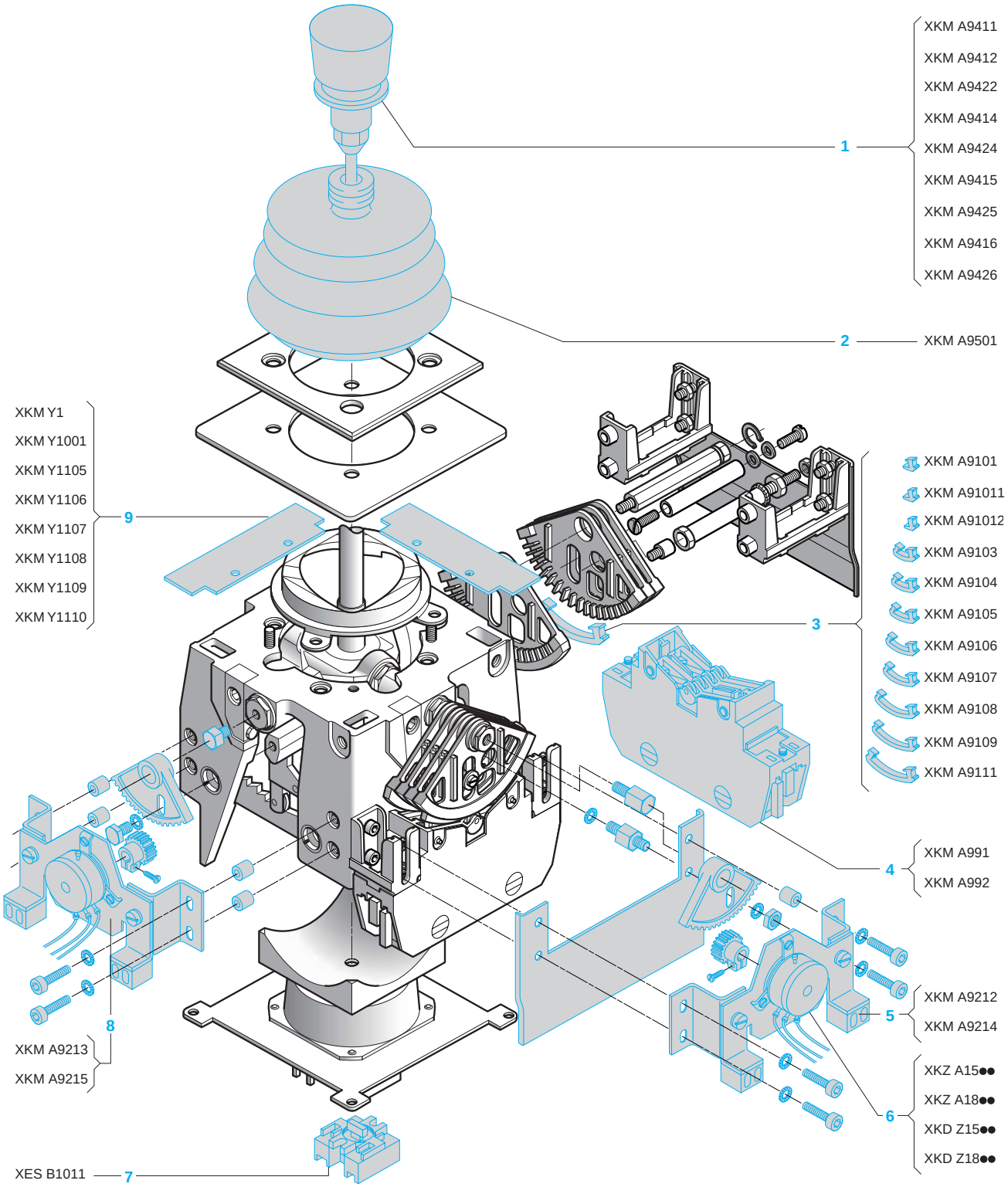
(1) The 1st cam must either be a zero position cam or a reversing cam.

(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Controllers

For “heavy hoisting” applications, type **XKM**

Separate components



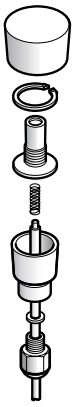
Controllers

For “heavy hoisting” applications, type **XKM**

Separate components

XKM A9411

XKM A94●4



XKM A94●2

XKM A94●5

XKM A94●6

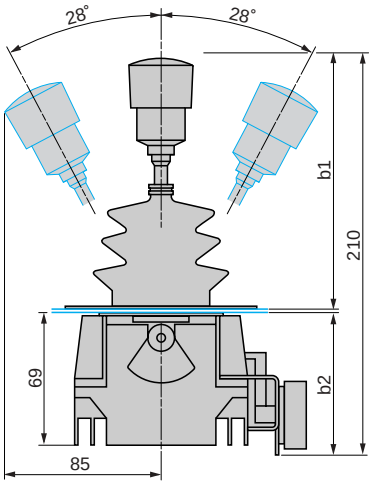
Description	Item	Characteristics		Unit reference	Weight kg
Bellows	2	–		**XKM A9501**	0.120
Simple handle	1	–	For short or long lever	**XKM A9411**	0.085
Handles + rods	1	With zero (centre) position interlocking	For short lever	**XKM A9414**	0.145
			For long lever	**XKM A9424**	0.155
		“Dead man’s” type	For short lever	**XKM A9412**	0.150
			For long lever	**XKM A9422**	0.160
		With built-in flush pushbutton	For short lever	**XKM A9415**	0.140
			For long lever	**XKM A9425**	0.150
		With built-in projecting pushbutton	For short lever	**XKM A9416**	0.140
			For long lever	**XKM A9426**	0.150
Variable composition cams Sold in lots of 50	3	Pass cam		**XKM A9101**	0.115
		Complementary		**XKM A91011**	0.120
		Overlapping		**XKM A91012**	0.105
		3 positions		**XKM A9103**	0.205
		4 positions		**XKM A9104**	0.245
		5 positions		**XKM A9105**	0.370
		6 positions		**XKM A9106**	0.400
		7 positions		**XKM A9107**	0.430
		8 positions		**XKM A9108**	0.460
		9 positions		**XKM A9109**	0.505
		11 positions		**XKM A9111**	0.560
Blocks of 4 contacts	4	Double-break		**XKM A991**	0.310
		Double-break with magnetic blow-out		**XKM A992**	0.335
Contact at lever base	7	1 C/O snap action		**XES B1011**	0.030
Legends	9	Blank		**XKM Y1**	0.010
		With specific engraving (specify text when ordering)		**XKM Y1001**	0.010
		With standard text	Forward	**XKM Y1105**	0.010
			Reverse	**XKM Y1106**	0.010
			Raise	**XKM Y1107**	0.010
			Lower	**XKM Y1108**	0.010
			Left	**XKM Y1109**	0.010
			Right	**XKM Y1110**	0.010
Potentiometer adaptation kits *(1)*	5	On end of contact supports	Size 15	**XKM A9214**	0.120
			Size 18	**XKM A9212**	0.130
	8	Directly on mechanical block	Size 15	**XKM A9215**	0.120
			Size 18	**XKM A9213**	0.130
Potentiometers for controllers XKM A, XKM B, XKM C	6	–		**XKZ A15●●, A18●●** **XKD Z15●●, Z18●●** See pages 6/104 and 6/105	–

(1) Including 15 tooth pinion.

- *The maximum lever travel of 36° per direction corresponds to a potentiometer shaft rotation of 168°.*
- *Levers with friction drive facility are available under certain conditions. Please consult your Regional Sales Office.*

Controllers
For “light hoisting” applications, type **XKB**

XKB A, XKB E

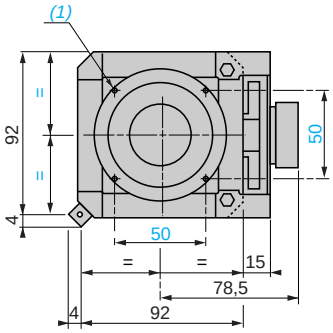


		b1	b2
XKB A, XKB E	**with size 15 (3 W) potentiometer**	129…134	75
	with size 18 (4 W) potentiometer	129…134	80

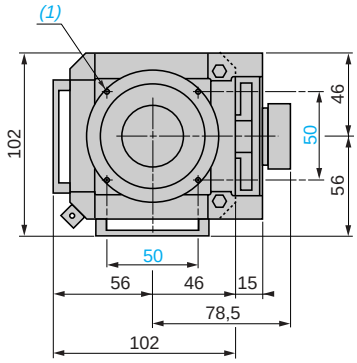
(1) Fixing by 4 M5 screws.

Note: *the size 18 potentiometer adaptation on an XKB controller prevents it from being mounted in an XJP controller station.*

4-contact block

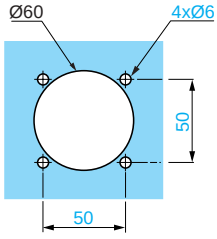


4-contact block + 1 zero position contact



Panel cut-out

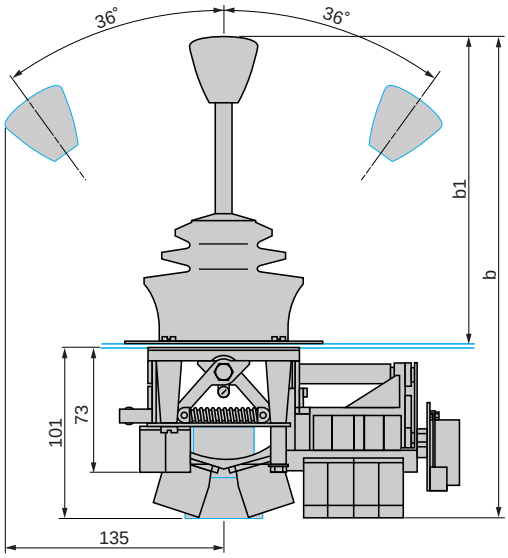
thickness 1 to 6 mm

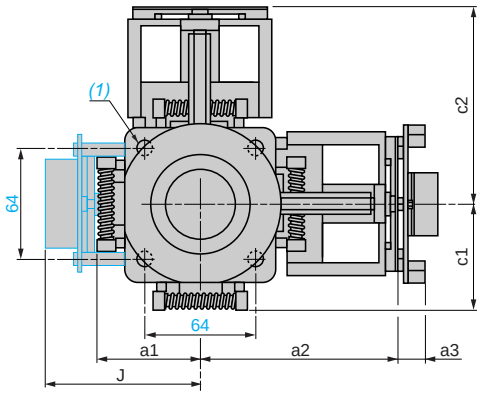


Presentation: page 6/70
Characteristics: page 6/71
Order form: pages 6/73 et 6/74

Controllers
For “medium hoisting” applications, type **XKD**

XKD F





		b	b1
XKD F	**with short lever**	288	181...186
	with long lever	338	236...241

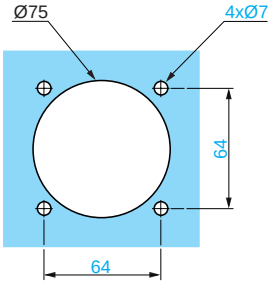
		a1	a2	c1	c2
XKD F	**with 2 contacts**	52	–	52	–
	with 2 contacts + spring return to zero	65	–	65	–
	with 4 contacts	–	90	–	90
	with 8 contacts	–	120	–	120

		J	a3
Adaptation for potentiometer	**size 15 (3 W)**	83.5	24.5
	size 18 (4 W)	85.5	26.5

(1) Fixing by 4 M6 screws.

Panel cut-out

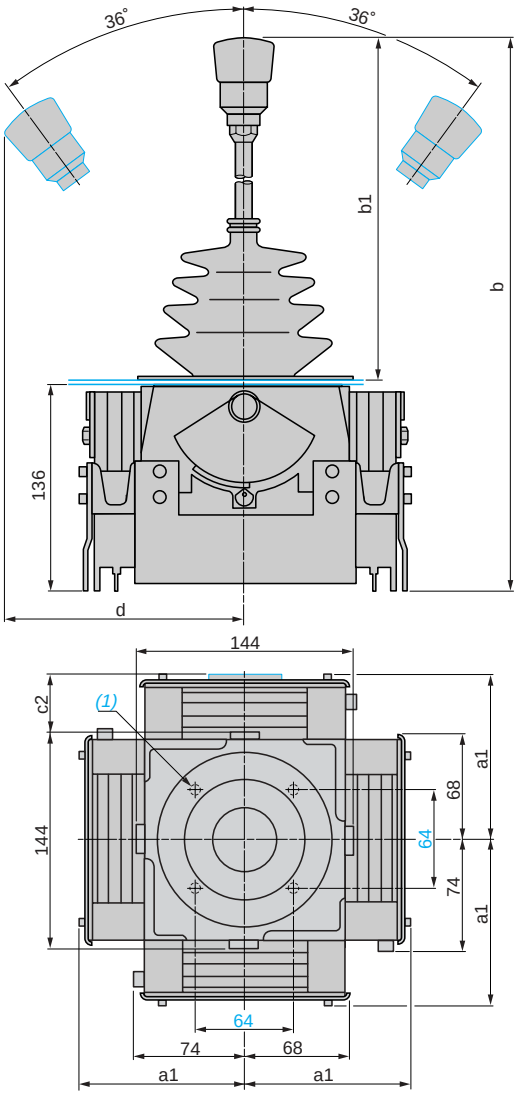
thickness 1 to 6 mm



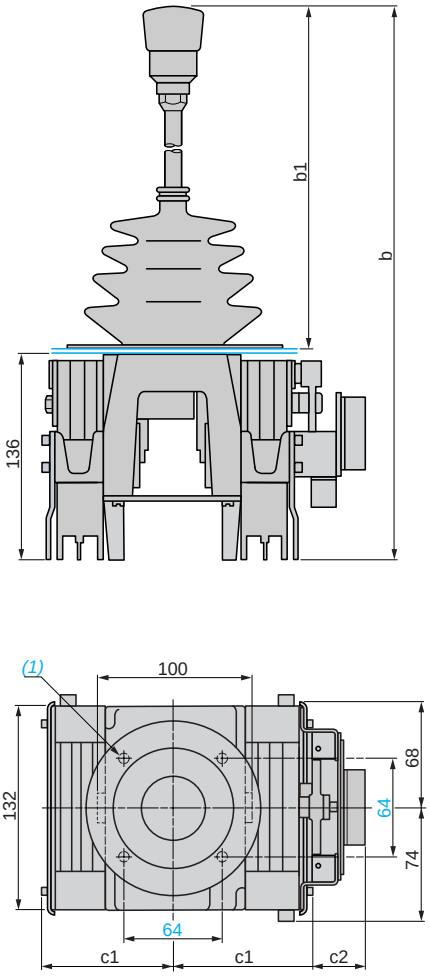
6

Controllers
For “heavy hoisting” applications, type **XKM**

XKM A



XKM B



		b	b1	d
XKM A, XKM B	**with short lever**	322	180 to 185	125
	with long lever	392	230 to 235	125

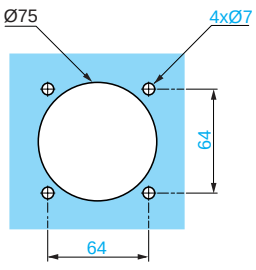
		a1	c1
XKM A, XKM B	**with 4 contacts**	110	88
	with 8 contacts	140	118
	with 12 contacts	170	148

		c2
Adaptation for potentiometer	**size 15 (3 W)**	37.5
	size 18 (4 W)	44.5

(1) Fixing by 4 M6 screws.

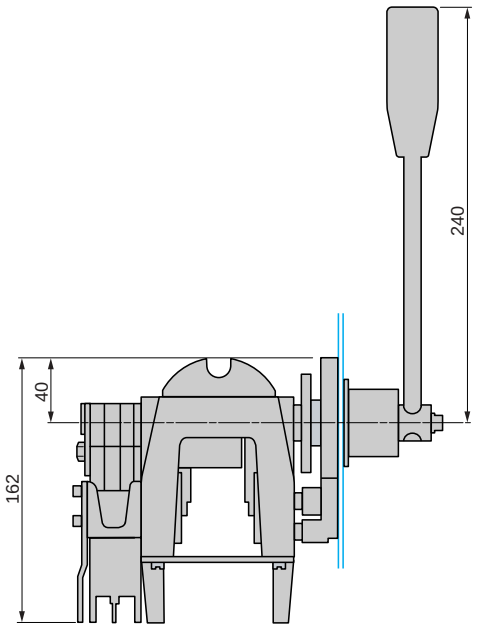
Panel cut-out

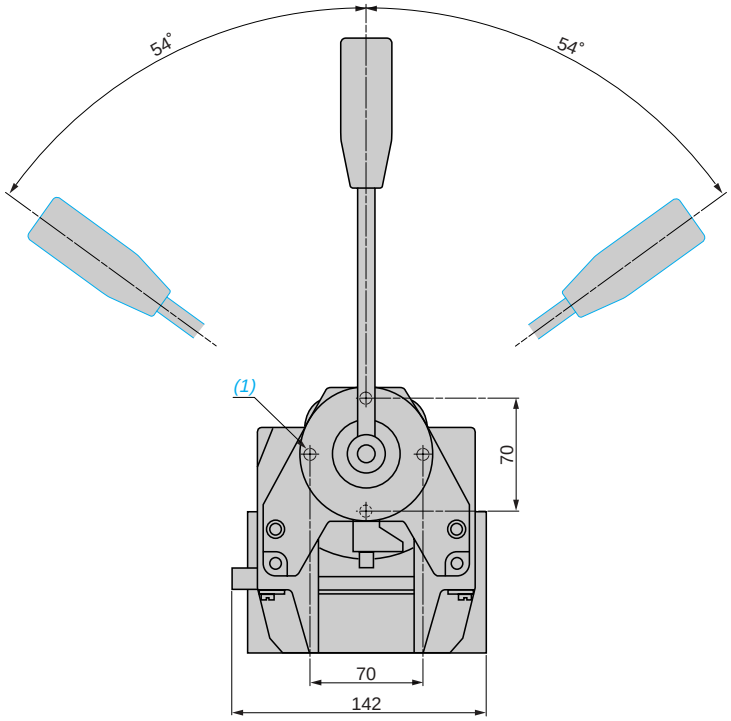
thickness 1 to 6 mm

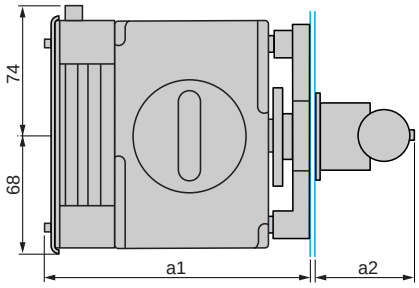


Presentation: page 6/86
Characteristics: page 6/87
Order form: pages 6/88 and 6/89

XKM C





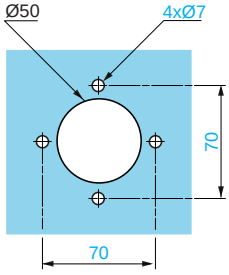


		a1	a2
XKM C	**with 4 contacts**	157	36 to 41
	with 8 contacts	187	36 to 41
	with 12 contacts	217	36 to 41

(1) Fixing by 4 M6 screws.

Panel cut-out

thickness 1 to 6 mm



Controllers
Potentiometers for controllers
For standard applications, type **XKZ A**

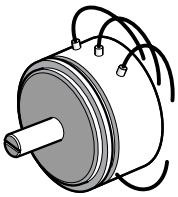
Mechanical characteristics

Potentiometer type	XKZ A15●●●	XKZ A18●●●
Size	15	18
Conformity to standards	UTE 93265	
Mounting method	By the body (“synchro” type)	
Rotational operation	Continuous	
Function	Linear (1% resolution)	
Operating angle	360°	
Mechanical durability (in millions of operating cycles)	3	1

Electrical characteristics

Centre tap	Wired out to terminal	
Dead zone around centre tap point (neutral zone)	2° ± 1°	
Nominal power (Pn)	3 W at 85 °C	4 W at 85 °C
Connections	Flying leads from soldered standard tags	

References



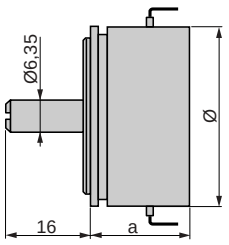
XKZ A●●●●

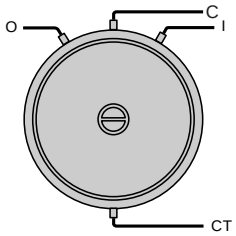
Resistance value Ω	Availability	Size	Reference	Weight kg
4700 (2 x 2350)	Stock item	15	**XKZ A15047**	0.060
	Short delivery	18	**XKZ A18047**	0.060
1000 (2 x 500)	Short delivery	15	**XKZ A15010**	0.060
	On demand	18	**XKZ A18010**	0.060
2200 (2 x 1100)	Short delivery	15	**XKZ A15022**	0.060
	On demand	18	**XKZ A18022**	0.060
10,000 (2 x 5000)	Stock item	15	**XKZ A15100**	0.060
	On demand	18	**XKZ A18100**	0.060
Other values	On demand	15	**XKZ A15000** *(1)*	0.060
	On demand	18	**XKZ A18000** *(1)*	0.060

(1) When ordering an XKZ A15000 or XKZ A18000, the total resistance value must be stated. The other characteristics are the same.

6

Dimensions

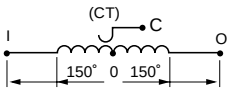




The pinion included with the adaptation simply clamps onto the potentiometer operating shaft (diameter 6.35 mm, length 16 mm).

	a	Ø
XKZ A15●●●	20	36.5
XKZ A18●●●	27	44.45

Connection



I = yellow
O = green
C = red
CT = black

Controllers

Potentiometers for controllers

For applications requiring an extended "neutral zone", types **XKB Z** and **XKD Z**

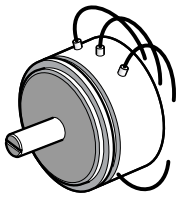
Mechanical characteristics

Potentiometer type	XKB Z15●●, XKD Z15●●	XKB Z18●●, XKD Z18●●
Size	15	18
Conformity to standards	UTE 93265	
Mounting method	By the body ("synchro" type)	
Rotational operation	Continuous	
Function	Linear (1% resolution)	
Operating angle	360°	
Mechanical durability (in millions of operating cycles)	3	1

Electrical characteristics

Centre tap	Wired out to terminal	
Dead zone around centre tap point (neutral zone)	40°, mainly for use with controllers XKB 30°, mainly for use with controllers XKD and XKM	
Nominal power (Pn)	3 W at 85 °C	4 W at 85 °C
Connections	Flying leads from soldered standard tags	

References



XKB Z1●●●, XKD Z1●●●

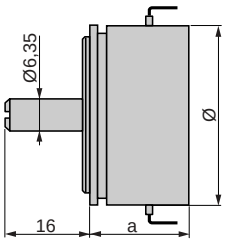
Potentiometers for controllers XKB

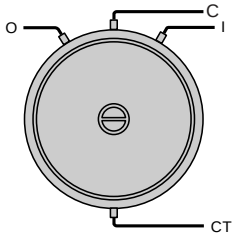
Resistance value Ω	Availability	Size	Reference	Weight kg
4700 (2 x 2350)	On demand	15	**XKB Z1547**	0.055
	On demand	18	**XKB Z1847**	0.065
800 (2 x 400)	On demand	15	**XKB Z1508**	0.055
	On demand	18	**XKB Z1808**	0.065

Potentiometers for controllers XKD and XKM

4700 (2 x 2350)	Stock item	15	**XKD Z1547**	0.055
	On demand	18	**XKD Z1847**	0.065
800 (2 x 400)	On demand	15	**XKD Z1508**	0.055
	On demand	18	**XKD Z1808**	0.065

Dimensions



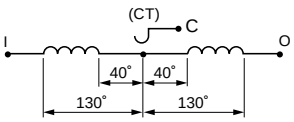


The pinion included with the adaptation simply clamps onto the potentiometer operating shaft (diameter 6.35 mm, length 16 mm).

	a	Ø
XKB Z15●●, XKD Z15●●	20	36.5
XKB Z18●●, XKD Z18●●	27	44.45

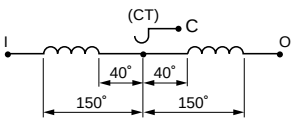
Connection

XKB Z15●●, XKB Z18●●



I = yellow
O = green
C = red
CT = black

XKD Z15●●, XKD Z18●●



I = yellow
O = green
C = red
CT = black

Contents

7 - Services

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- Product standards and approvals . . . . . *page 7/4*
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Schneider Electric worldwide

- Addresses . . . . . *page 7/8*

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- Product reference index . . . . . *page 7/14*

Depending on the climatic and environmental conditions in which the equipment is placed, Schneider Electric can offer specially adapted products to meet your requirements.

In order to make the correct choice of protective finish, two points should be remembered:
- the prevailing climate of the country is never the only criterion,
- only the atmosphere in the immediate vicinity of the equipment need be considered.

All climates treatment “TC”

This is the standard treatment for Telemecanique brand equipment and is suitable for the vast majority of applications. It is the equivalent of treatments described as “Klimafest”, “Climateproof”.
In particular, it meets the requirements specified in the following publications:
- Publication UTE C 63-100 (method I), successive cycles of humid heat at:
+ 40 °C and 95 % relative humidity.
- DIN 50016 - Variations of ambient conditions within a climatic chamber:
+ 23 °C and 83 % relative humidity,
+ 40 °C and 92 % relative humidity.

It also meets the requirements of the following marine classification societies:
BV-LR-GL-DNV-RINA.

Characteristics

- Steel components are usually treated with zinc chromate. When they have a mechanical function, they may also be painted.
- Insulating materials are selected for their high electrical, dielectric and mechanical characteristics.
- Metal enclosures have a stoved paint finish, applied over a primary phosphate protective coat, or are galvanised (e.g. some prefabricated busbar trunking components).

Limits for use of “TC” (All climates) treatment

- “TC” treatment is suitable for the following temperatures and humidity:

Temperature (°C)	**Relative humidity** (%)
20	95
40	80
50	50

“TC” treatment is therefore suitable for all latitudes and in particular tropical and equatorial regions where the equipment is mounted in normally ventilated industrial premises. Being sheltered from external climatic conditions, temperature variations are small, the risk of condensation is minimised and the risk of dripping water is virtually non-existent.

Extension of use of “TC” (All climates) treatment

In cases where the humidity around the equipment exceeds the conditions described above, or in equatorial regions if the equipment is mounted outdoors, or if it is placed in a very humid location (laundries, sugar refineries, steam rooms, etc.), “TC” treatment can still be used if the following precautions are taken:
- The enclosure in which the equipment is mounted must be protected with a “TH” finish (see next page) and must be well ventilated to avoid condensation and dripping water (e.g. enclosure base plate mounted on spacers).
- Components mounted inside the enclosure must have a “TC” finish.
- If the equipment is to be switched off for long periods, a heater must be provided (0.2 to 0.5 kW per square decimetre of enclosure), that switches on automatically when the equipment is turned off. This heater keeps the inside of the enclosure at a temperature slightly higher than the outside surrounding temperature, thereby avoiding any risk of condensation and dripping water (the heat produced by the equipment itself during normal running is sufficient to provide this temperature difference).
- Special considerations for "Operator dialog" and "Detection" products:
for certain pilot devices, the use of “TC” treatment can be extended to outdoor use provided their enclosure is made of light alloys, zinc alloys or plastic material. In this case, it is also essential to ensure that the degree of protection against penetration of liquids and solid objects is suitable for the applications involved.

"TH" treatment for hot and humid environments

This treatment is suitable for hot and humid atmospheres where installations are regularly subject to condensation, dripping water and the risk of fungi.

In addition, plastic insulating components are resistant to attacks from insects such as termites and cockroaches. These properties have often led to this treatment being described as "Tropical Finish", but this does not mean that all equipment installed in tropical and equatorial regions must systematically have undergone "TH" treatment. On the other hand, certain operating conditions in temperate climates may well require the use of "TH" treated equipment (see limitations for use of "TC" treatment).

Special characteristics of "TH" treatment

■ All insulating components are made of materials which are either resistant to fungi or treated with a fungicide, and which have increased resistance to creepage (Standards IEC 60112, NF C 26-220, DIN 5348).

■ Metal enclosures receive a top-coat of stoved, fungicidal paint, applied over a rust inhibiting undercoat. Components with "TH" treatment may be subject to a surcharge *(1)*. Please consult your Regional Sales Office.

Protective treatment selection guide

Surrounding environment	Duty cycle	Internal heating of enclosure when not in use	Type of climate	Protective treatment	
				of equip-ment	of enclo-sure
Indoors					
No dripping water or condensation	Unimportant	Not necessary	Unimportant	"TC"	"TC"
Presence of dripping water or condensation	Frequent switching off for periods of more than 1 day	No	Temperate	"TC"	"TH"
			Equatorial	"TH"	"TH"
		Yes	Unimportant	"TC"	"TH"
	Continuous	Not necessary	Unimportant	"TC"	"TH"
Outdoors (sheltered)					
No dripping water or dew	Unimportant	Not necessary	Temperate	"TC"	"TC"
			Equatorial	"TH"	"TH"
Exposed outdoors or near the sea					
Frequent and regular presence of dripping water or dew	Frequent switching off for periods of more than 1 day	No	Temperate	"TC"	"TH"
			Equatorial	"TH"	"TH"
		Yes	Unimportant	"TC"	"TH"
	Continuous	Not necessary	Unimportant	"TC"	"TH"

These treatments cover, in particular, the applications defined by methods I and II of guide UTE C 63-100.

Special precautions for electronic equipment

Electronic products always meet the requirements of "TC" treatment. A number of them are "TH" treated as standard.

Some electronic products (for example: programmable controllers, flush mountable controllers CCX and flush mountable operator terminals XBT) require the use of an enclosure providing a degree of protection to at least IP 54, as defined by standards IEC 60664 and NF C 20 040, for use in industrial applications or in environmental conditions requiring "TH" treatment.

These electronic products, including flush mountable products, must have a degree of protection to at least IP 20 (provided either by their own enclosure or by their installation method) for restricted access locations where the degree of pollution does not exceed 2 (a test booth not containing machinery or other dust producing activities, for example).

Special treatments

For particularly harsh industrial environments, Schneider Electric is able to offer special protective treatments. Please consult your Regional Sales Office.

(1) A large number of the Telemecanique brand products are "TH" treated as standard and are, therefore, not subject to a surcharge.

Standardisation

Conformity to standards

Telemecanique brand products satisfy, in the majority of cases, national (for example: BS in Great Britain, NF in France, DIN in Germany), European (for example: CENELEC) or international (IEC) standards. These product standards precisely define the performance of the designated products (such as IEC 60947 for low voltage equipment).
When used correctly, as designated by the manufacturer and in accordance with regulations and correct practices, these products will allow users to build equipment, machine systems or installations that conform to their appropriate standards (for example: IEC 60204-1, relating to electrical equipment used on industrial machines).
Schneider Electric is able to provide proof of conformity of its production to the standards it has chosen to comply with, through its quality assurance system.
On request, and depending on the situation, Schneider Electric can provide the following:

- a declaration of conformity,
- a certificate of conformity (ASEFA/LOVAG),
- a homologation certificate or approval, in the countries where this procedure is required or for particular specifications, such as those existing in the merchant navy.

Code	Certification authority		Country
	Name	Abbreviation	
ANSI	American National Standards Institute	ANSI	USA
BS	British Standards Institution	BSI	Great Britain
CEI	Comitato Elettrotecnico Italiano	CEI	Italy
DIN/VDE	Verband Deutscher Electrotechniker	VDE	Germany
EN	Comité Européen de Normalisation Electrotechnique	CENELEC	Europe
GOST	Gosudarstvenne Komitet Standartov	GOST	Russia
IEC	International Electrotechnical Commission	IEC	Worldwide
JIS	Japanese Industrial Standard	JISC	Japan
NBN	Institut Belge de Normalisation	IBN	Belgium
NEN	Nederlands Normalisatie Institut	NNI	Netherlands
NF	Union Technique de l'Electricité	UTE	France
SAA	Standards Association of Australia	SAA	Australia
UNE	Asociacion Española de Normalizacion y Certificacion	AENOR	Spain

European EN standards

These are technical specifications established in conjunction with, and with approval of, the relative bodies within the various CENELEC member countries (European Union, European Free Trade Association and many central and eastern European countries having «member» or «affiliated» status). Prepared in accordance with the principle of consensus, the European standards are the result of a weighted majority vote. Such adopted standards are then integrated into the national collection of standards, and contradictory national standards are withdrawn.
European standards incorporated within the French collection of standards carry the prefix NF EN. At the 'Union Technique de l'Electricité' (*Technical Union of Electricity*) (UTE), the French version of a corresponding European standard carries a dual number: European reference (NF EN …) and classification index (C …).
Therefore, the standard NF EN 60947-4-1 relating to motor contactors and starters, effectively constitutes the French version of the European standard EN 60947-4-1 and carries the UTE classification C 63-110.
This standard is identical to the British standard BS EN 60947-4-1 or the German standard DIN EN 60947-4-1.
Whenever reasonably practical, European standards reflect the international standards (IEC).
With regard to automation system components and distribution equipment, in addition to complying with the requirements of French NF standards, Telemecanique brand components conform to the standards of all other major industrial countries.

Regulations

European Directives

Opening up of European markets assumes harmonisation of the regulations pertaining to each of the member countries of the European Union.
The purpose of the European Directive is to eliminate obstacles hindering the free circulation of goods within the European Union, and it must be applied in all member countries. Member countries are obliged to transcribe each Directive into their national legislation and to simultaneously withdraw any contradictory regulations. The Directives, in particular those of a technical nature which concern us, only establish the objectives to be achieved, referred to as "essential requirements".
The manufacturer must take all the necessary measures to ensure that his products conform to the requirements of each Directive applicable to his production.
As a general rule, the manufacturer certifies conformity to the essential requirements of the Directive(s) for his product by affixing the CE mark.
The CE mark is affixed to Telemecanique brand products concerned, in order to comply with French and European regulations.

Significance of the CE mark

- The CE mark affixed to a product signifies that the manufacturer certifies that the product conforms to the relevant European Directive(s) which concern it; this condition must be met to allow free distribution and circulation within the countries of the European Union of any product subject to one or more of the E.U. Directives.
- The CE mark is intended solely for national market control authorities.
- The CE mark must not be confused with a conformity marking.

European Directives (continued)

For electrical equipment, only conformity to standards signifies that the product is suitable for its designated function, and only the guarantee of an established manufacturer can provide a high level of quality assurance.
For Telemecanique brand products, one or several Directives are likely to be applicable, depending on the product, and in particular:

- the Low Voltage Directive 73/23/EEC amended by Directive 93/68/EEC: the CE mark relating to this Directive has been compulsory since 1st January 1997.
- the Electromagnetic Compatibility Directive 89/336/EEC, amended by Directives 92/31/EEC and 93/68/EEC: the CE mark on products covered by this Directive has been compulsory since 1st January 1996

ASEFA-LOVAG certification

The function of ASEFA (Association des Stations d'Essais Française d'Appareils électriques - *Association of French Testing Stations for Low Voltage Industrial Electrical Equipment*) is to carry out tests of conformity to standards and to issue certificates of conformity and test reports.
ASEFA laboratories are authorised by the French authorisation committee (COFRAC).
ASEFA is now a member of the European agreement group LOVAG (Low Voltage Agreement Group). This means that any certificates issued by LOVAG/ASEFA are recognised by all the authorities which are members of the group and carry the same validity as those issued by any of the member authorities.

Quality labels

When components can be used in domestic and similar applications, it is sometimes recommended that a "Quality label" be obtained, which is a form of certification of conformity.

Code	Quality label	Country
CEBEC	Comité Electrotechnique Belge	Belgium
KEMA-KEUR	Keuring van Electrotechnische Materialen	Netherlands
NF	Union Technique de l'Electricité	France
ÖVE	Österreichischer Verband für Electrotechnik	Austria
SEMKO	Svenska Electriska Materiel Kontrollanatalten	Sweden

Product certifications

In some countries, the certification of certain electrical components is a legal requirement. In this case, a certificate of conformity to the standard is issued by the official test authority.
Each certified device must bear the relevant certification symbols when these are mandatory:

Code	Certification authority	Country
CSA	Canadian Standards Association	Canada
UL	Underwriters Laboratories	USA

Note on certifications issued by the Underwriters Laboratories (UL). There are two levels of approval:

"Recognized" ( ) The component is fully approved for inclusion in equipment built in a workshop, where the operating limits are known by the equipment manufacturer and where its use within such limits is acceptable by the Underwriters Laboratories.
The component is not approved as a "Product for general use" because its manufacturing characteristics are incomplete or its application possibilities are limited.
A "Recognized" component does not necessarily carry the certification symbol.

"Listed" (UL) The component conforms to all the requirements of the classification applicable to it and may therefore be used both as a "Product for general use" and as a component in assembled equipment. A "Listed" component must carry the certification symbol.

Marine classification societies

Prior approval (= certification) by certain marine classification societies is generally required for electrical equipment which is intended for use on board merchant vessels.

Code	Classification authority	Country
BV	Bureau Veritas	France
DNV	Det Norske Veritas	Norway
GL	Germanischer Lloyd	Germany
LR	Lloyd's Register	Great Britain
NKK	Nippon Kaiji Kyokaï	Japan
RINA	Registro Italiano Navale	Italy
RRS	Register of Shipping	Russia

Note

For further details on a specific product, please refer to the "Characteristics" pages in this catalogue or consult your Regional Sales Office.

Degrees of protection against the penetration of solid bodies, water and personnel access to live parts

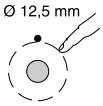
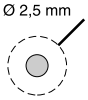
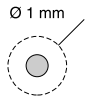
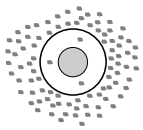
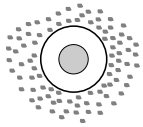
The European standard EN 60529 dated October 1991, IEC publication 529 (2nd edition - November 1989), defines a coding system (IP code) for indicating the degree of protection provided by electrical equipment enclosures against accidental direct contact with live parts and against the ingress of solid foreign objects or water.
This standard does not apply to protection against the risk of explosion or conditions such as humidity, corrosive gasses, fungi or vermin.
Certain equipment is designed to be mounted on an enclosure which will contribute towards achieving the required degree of protection (example : control devices mounted on an enclosure).
Different parts of an equipment can have different degrees of protection (example : enclosure with an opening in the base).
Standard NF C 15-100 (May 1991 edition), section 512, table 51 A, provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors.
Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.

IP ●●● code

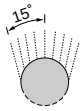
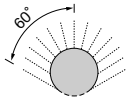
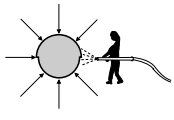
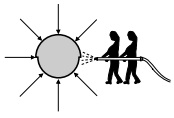
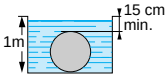
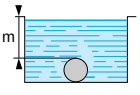
The IP code comprises **2 characteristic numerals** (e.g. **IP 55**) and may include **an additional letter** when the actual protection of personnel against direct contact with live parts is better than that indicated by the first numeral (e.g. IP 20C).

Any characteristic numeral which is unspecified is replaced by an X (e.g. IP XXB).

1st characteristic numeral : corresponds to **protection of the equipment against penetration of solid objects** and **protection of personnel against direct contact with live parts.**

		Protection of the equipment	Protection of personnel
0		Non-protected	Non-protected
1		Protected against the penetration of solid objects having a diameter greater than or equal to 50 mm.	Protected against direct contact with the back of the hand (accidental contacts).
2		Protected against the penetration of solid objects having a diameter greater than or equal to 12.5 mm.	Protected against direct finger contact.
3		Protected against the penetration of solid objects having a diameter greater than or equal to 2.5 mm.	Protected against direct contact with a Ø 2.5 mm tool.
4		Protected against the penetration of solid objects having a diameter > 1 mm.	Protected against direct contact with a Ø 1 mm wire.
5		Dust protected (no harmful deposits).	Protected against direct contact with a Ø 1 mm wire.
6		Dust tight.	Protected against direct contact with a Ø 1 mm wire.

2nd characteristic numeral : corresponds to **protection of the equipment against penetration of water with harmful effects.**

0	Non-protected	
1		Protected against vertical dripping water, (condensation).
2		Protected against dripping water at an angle of up to 15°.
3		Protected against rain at an angle of up to 60°.
4		Protected against splashing water in all directions.
5		Protected against water jets in all directions.
6		Protected against powerful jets of water and waves.
7		Protected against the effects of temporary immersion.
8		Protected against the effects of prolonged immersion under specified conditions.

Degrees of protection against mechanical impact

The European standard EN 50102 dated March 1995 defines a coding system (IK code) for indicating the degree of protection provided by electrical equipment enclosures against external mechanical impact.
Standard NF C 15-100 (May 1991 edition), section 512, table 51 A, provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors.
Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.

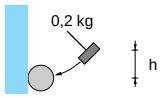
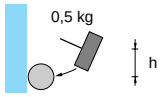
Additional letter : corresponds to **protection of personnel against direct contact with live parts**.

A	With the back of the hand.
B	With the finger.
C	With a Ø 2.5 mm tool.
D	With a Ø 1 mm wire.

IK ●● code

The IK code comprises **2 characteristic numerals** (e.g. **IK 05**).

2 characteristic numerals : corresponding to a **value of impact energy**.

		h (cm)	Energy (J)
00	Non-protected		
01		7.5	0.15
02		10	0.2
03		17.5	0.35
04		25	0.5
05		35	0.7
06		20	1
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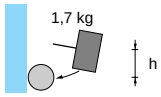
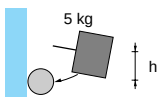
08		30	5
09		20	10
10		40	20

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