

IG-010

Sensor Head





## SPECIFICATIONS

Department principle   CPD method   Separation principle   Separat				
Wavelength   660 nm (Visible light semiconductor laser)	Model		IG-010	
FDA Class 1 <sup>1</sup> IEC/JIS Class 1  IEC/JIS Class 1  O to 1000 mm  Measurement range  Sampling cycle  High sensitivity mode so 1 mm (Setting distance: 100 mm) <sup>2</sup> Standard mode so 2 mm (Setting distance: 40 mm), so 5 mm (Setting distance: 40 mm), so 5 mm (Setting distance: 500 mm) <sup>2</sup> Standard mode so 2 mm (Setting distance: 40 mm), so 5 mm (Setting distance: 40 mm), so 5 mm (Setting distance: 500 mm) <sup>2</sup> Repeatability  Sym (Setting distance: 500 mm)  Sym (Setting distance: 40 mm), so 5 mm (Setting distance: 500 mm)  Sym (Setting distance: 40 mm), so 5 mm (Setting distance: 500 mm)  Sym (Setting distance: 40 mm), so 5 mm (Setting distance: 500 mm)  Sym (Setting distance: 40 mm), so 5 mm (Setting distance: 500 mm)  Sym (Setting distance: 40 mm), so 5 mm (Setting distance: 500 mm)  Sym (Setting distance: 40 mm), so 5 mm (Setting distance: 40 mm), so 5 mm (Setting distance: 40 mm)  Sym (S	Operation principle		CCD method	
Mounting distance  Mounting distance  Mounting distance  10 to 1000 mm  Measurement range  30 ps (When the number of times for averaging is set to [hsp]: 490 µs)  Millimum detectable object  High sensitivity mode  Standard mode  30.1 mm (Setting distance: 100 mm) <sup>2</sup> Suppose the standard mode  30.5 mm (Setting distance: 500 mm) <sup>3</sup> Sp µm (Setting distance: 500 mm) <sup>3</sup> Sp µm (Setting distance: 500 mm) <sup>3</sup> No presentability  10 pm (Setting distance: 100 mm) <sup>3</sup> 10 pm (Setting distance: 100 mm) <sup>3</sup> 10 pm (Setting distance: 500 mm)  10 pm (Setting distance: 100 mm) <sup>3</sup> 10 pm (Setting distance: 100 m	Light source	Wavelength	660 nm (Visible light semiconductor laser)	
Measurement range  10 mm  Measurement range  10 mm  10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm 10 mm		FDA	Class 1 <sup>™</sup>	
Measurement range Sampling cycle  Fligh sensitivity mode Standard mode  80.1 mm (Setting distance: 100 mm) <sup>2</sup> 81.0 mm (Setting distance: 40 mm), 80.5 mm (Setting distance: 500 mm) <sup>2</sup> 81.0 mm (Setting distance: 500 mm) <sup>2</sup> 82.0 mm (Setting distance: 500 mm) <sup>2</sup> 83.0 mm (Setting distance: 500 mm) <sup>2</sup> 84.0 mm (Setting distance: 500 mm) <sup>2</sup> 85.0 mm (Setting distance: 500 mm) <sup>3</sup> 86.0 mm (Setting distance: 500 mm) <sup>3</sup> 87.0 mm (Setting distance: 500 mm) <sup>3</sup> 87.0 mm (Setting distance: 100 mm)  88.0 mm (Setting distance: 100 mm)  89.0 mm (Setting distance: 100 mm)  99.0 mm (Setting distance: 100		IEC/JIS	Class 1	
Sampling cycle  Minimum detectable object  Standard mode  0.0.1 mm (Setting distance: 100 mm) <sup>2</sup> 0.0.2 mm (Setting distance: 40 mm), 0.0.5 mm (Setting distance: 500 mm) <sup>2</sup> In (Setting distance: 100 mm)  10 µm (Setting dista	Mounting distance		0 to 1000 mm	
High sensitivity mode sol. 1 mm (Setting distance: 100 mm) <sup>2</sup> Standard mode 60.2 mm (Setting distance: 40 mm), 80.5 mm (Setting distance: 500 mm) <sup>2</sup> Sum (Setting distance: 100 mm) <sup>3</sup> Sum (Setting distance: 100 mm) Sum (State Park (Setting distance: 100 mm) Sum (State Park (Setti	Measurement range		10 mm	
Standard mode   0.2 mm (Setting distance: 40 mm), e0.5 mm (Setting distance: 500 mm) <sup>2</sup>    Sepeatability   5 µm (Setting distance: 500 mm)   8 µm (Setting distance: 500 mm)   8 µm (Setting distance: 500 mm)   8 µm (Setting distance: 1,000 mm)   8 µm (Seting distance: 1,000 mm)   8 µm (Seting distance: 1,000 mm)   8 µm (Seting distance: 1,000 mm)   9 µm (S	Sampling cycle		980 μs (When the number of times for averaging is set to [hsp]: 490 μs)	
Repeatability  Repeatability  Repeatability  Repeatability  Repeatability  Repeatability  Repeatability  Sum (Setting distance: 500 mm) 10 µm (Setting distance: 500 mm) 80 µm (Setting distance: 1,000 mm) 90 µm (Seting distance: 1,000 mm) 90	Minimum detectable object	High sensitivity mode	ø0.1 mm (Setting distance: 100 mm) <sup>*2</sup>	
10 µm (Setting distance: 500 mm) 80 µm (Setting distance: 1,000 mm) 3		Standard mode		
Emperature characteristics  ±0.03 % of F.S./°C (±3 µm/°C)*5  Operation indicator  Transmitter  Optical axis alignment indicator: Green LED Power indicator: Green LED  Receiver  Optical axis alignment indicator: Green LED Position monitor: Dual bar LED (Red, Green)  Environmental resistance  Enclosure rating  IP67  Ambient light  Incandescent lamp: 5,000 lux, Sunlight: 5,000 lux*6  Ambient temperature  -10 to +45 °C (No freezing)  Relative humidity  35 to 85 % RH (No condensation)  Vibration resistance  10 to 55 Hz, Double amplitude 1.5 mm, 2 hours in each of the X, Y, and Z axis  Case  Zinc die-cast (Lower case), PBT (Upper case), Polyarylate (PAR) (Display part), SUS304 (Metallic part)  Lens cover  Glass  Cable  PVC  Accessories  Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2	Repeatability		10 µm (Setting distance: 500 mm)	
Departion indicator  Transmitter  Optical axis alignment indicator: Green LED Power indicator: Green LED Power indicator: Green LED Position monitor: Dual bar LED (Red, Green)  Environmental resistance  Environmental resistance  Environmental light Incandescent lamp: 5,000 lux, Sunlight: 5,000 lux <sup>16</sup> Ambient lemperature -10 to +45 °C (No freezing)  Relative humidity 35 to 85 % RH (No condensation) Vibration resistance  Incandescent lamp: 5,000 lux Sunlight: 5,000 lux <sup>16</sup> Ambient temperature -10 to +45 °C (No freezing)  Relative humidity 35 to 85 % RH (No condensation) Vibration resistance Incandescent lamp: 5,000 lux, Sunlight: 5,000 lux <sup>16</sup> Ambient temperature -10 to +45 °C (No freezing)  Relative humidity 35 to 85 % RH (No condensation) Vibration resistance Incandescent lamp: 5,000 lux Sunlight: 5,000 lux <sup>16</sup> Ambient temperature -10 to +45 °C (No freezing)  Relative humidity 35 to 85 % RH (No condensation) Vibration resistance Incandescent lamp: 5,000 lux Sunlight: 5,000 lux <sup>16</sup> Ambient temperature -10 to +45 °C (No freezing)  Relative humidity 35 to 85 % RH (No condensation) Vibration resistance Incandescent lamp: 5,000 lux Sunlight: 5,000 lux <sup>16</sup> Ambient temperature -10 to +45 °C (No freezing)  Relative humidity 35 to 85 % RH (No condensation) Vibration resistance Incandescent lamp: 5,000 lux Sunlight: 5,000 lux <sup>16</sup> Ambient lemperature -10 to +45 °C (No freezing)  Relative humidity 35 to 85 % RH (No condensation) Vibration resistance -10 to +45 °C (No freezing)  Relative humidity -10 to +45 °C (No freezing) -10 to +45 °C (No freezin	Linearity		±0.28 % of F.S. (±28 µm)*4	
Power indicator: Green LED Receiver Optical axis alignment indicator: Green LED Position monitor: Dual bar LED (Red, Green)  Environmental resistance Enclosure rating IP67 Ambient light Incandescent lamp: 5,000 lux, Sunlight: 5,000 lux*6 Ambient temperature -10 to +45 °C (No freezing) Relative humidity 35 to 85 % RH (No condensation) Vibration resistance 10 to 55 Hz, Double amplitude 1.5 mm, 2 hours in each of the X, Y, and Z axis  Material Case Zinc die-cast (Lower case), PBT (Upper case), Polyarylate (PAR) (Display part), SUS304 (Metallic part) Lens cover Glass Cable PVC  Accessories Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2	Temperature characteristics		±0.03 % of F.S./°C (±3 µm/°C)' <sup>5</sup>	
Position monitor: Dual bar LED (Red, Green)  Environmental resistance  Enclosure rating  Ambient light  Ambient temperature  Relative humidity  Vibration resistance  Material  Case  Zinc die-cast (Lower case), PBT (Upper case), Polyarylate (PAR) (Display part), SUS304 (Metallic part)  Lens cover  Cable  PVC  Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2	Operation indicator	Transmitter		
Ambient light Incandescent lamp: 5,000 lux, Sunlight: 5,000 lux* <sup>6</sup> Ambient temperature -10 to +45 °C (No freezing)  Relative humidity 35 to 85 % RH (No condensation)  Vibration resistance 10 to 55 Hz, Double amplitude 1.5 mm, 2 hours in each of the X, Y, and Z axis  Valuerial Case Zinc die-cast (Lower case), PBT (Upper case), Polyarylate (PAR) (Display part), SUS304 (Metallic part)  Lens cover Glass  Cable PVC  Accessories Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2		Receiver		
Ambient temperature -10 to +45 °C (No freezing)  Relative humidity 35 to 85 % RH (No condensation)  Vibration resistance 10 to 55 Hz, Double amplitude 1.5 mm, 2 hours in each of the X, Y, and Z axis  Material Case Zinc die-cast (Lower case), PBT (Upper case), Polyarylate (PAR) (Display part), SUS304 (Metallic part)  Lens cover Glass  Cable PVC  Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2	Environmental resistance	Enclosure rating	IP67	
Relative humidity 35 to 85 % RH (No condensation)  Vibration resistance 10 to 55 Hz, Double amplitude 1.5 mm, 2 hours in each of the X, Y, and Z axis  Material Case Zinc die-cast (Lower case), PBT (Upper case), Polyarylate (PAR) (Display part), SUS304 (Metallic part)  Lens cover Glass  Cable PVC  Accessories Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2		Ambient light	Incandescent lamp: 5,000 lux, Sunlight: 5,000 lux*6	
Vibration resistance  10 to 55 Hz, Double amplitude 1.5 mm, 2 hours in each of the X, Y, and Z axis  Accessories  Vibration resistance  10 to 55 Hz, Double amplitude 1.5 mm, 2 hours in each of the X, Y, and Z axis  Zinc die-cast (Lower case), PBT (Upper case), Polyarylate (PAR) (Display part), SUS304 (Metallic part)  Case  Case  Case  Class  Cable  PVC  Accessories  Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2		Ambient temperature	-10 to +45 °C (No freezing)	
Material  Case  Zinc die-cast (Lower case), PBT (Upper case), Polyarylate (PAR) (Display part), SUS304 (Metallic part)  Lens cover  Glass  Cable  PVC  Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2		Relative humidity	35 to 85 % RH (No condensation)	
Lens cover         Glass           Cable         PVC           Accessories         Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2		Vibration resistance	10 to 55 Hz, Double amplitude 1.5 mm, 2 hours in each of the X, Y, and Z axis	
Cable PVC Accessories Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2	Material	Case	Zinc die-cast (Lower case), PBT (Upper case), Polyarylate (PAR) (Display part), SUS304 (Metallic part)	
Accessories Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2		Lens cover	Glass	
		Cable	PVC	
Neight Approx. 380 g (including supplied items)	Accessories		Transmitter × 1, Receiver × 1, Sensor head cables (2 m) × 2	
	Weight		Approx. 380 g (including supplied items)	

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<sup>1</sup> The classification for FDA (CDRH) is implemented based on IEC60825-1 in accordance with the requirements of Laser Notice No.50.

2 When the measurement target object is measured at the centre position of the setting distance.

When the measurement mode is set to the glass edge mode, a glass edge of C0.1 mm or more can be detected (Setting distance: 500 mm).

3 When the light is shielded by half at the centre position of the setting distance. Vibration width when the average number of times is set to 16 and sampling is performed for 30 seconds. (When the analogue output is used, the margin of error of analogue output is added.)

4 When the setting distance is 100 mm and light is shielded at 50 mm position from the receiver. Margin of error to the ideal line.

5 When the setting distance is 100 mm and light is shielded by half at 50 mm position from the receiver.

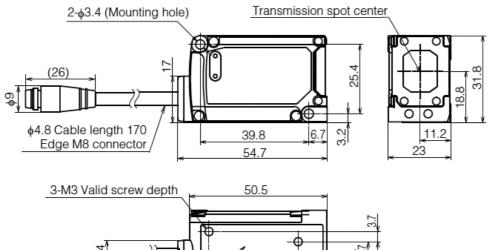
6 Excluding when the average number of times is set to [hsp].



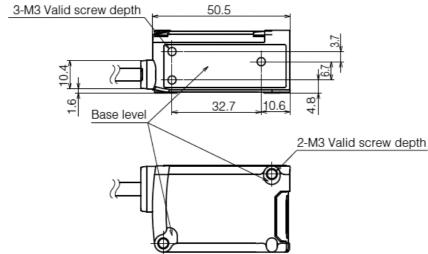
## Dimensions

IG-010 unit: mm

## ■ Transmitter



\*Transmission spot (reference value)



<sup>\*</sup> Download CAD file or product manual for larger image/text and more detail.



## **■** Receiver

