

Compact Laser Sensor

ZX



CE



Class I/ II LASER Product



Model Number Legend

ZX - □ - □□ - □
 1 2 3 4 5

1. Series

ZX

2. Type

T: Through Beam
 R: Retro Reflective
 D: Diffuse Reflective

3. Sensing Distance

400: 400 mm
 10M: 10 Meter
 30M: 30 Meter

4. Output

N: NPN
 P: PNP

5. Connection

2M: 2m Cable
 M8C: M8 Connector

#. Accessories included

Mounting Bracket : 1 set
 Screws : 1 set

Example:

ZX-D-400P-2M

ZX Series - Diffuse Reflective Type - 400mm Sensing Distance, PNP - 2m Cable

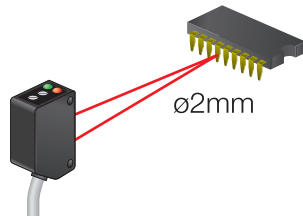
NOTE: Contact us for models not shown in catalogue.
 Connector cables are sold separately; look in CC series catalogue for the same (www.inno.sg/cc).

Product Highlights

ZX

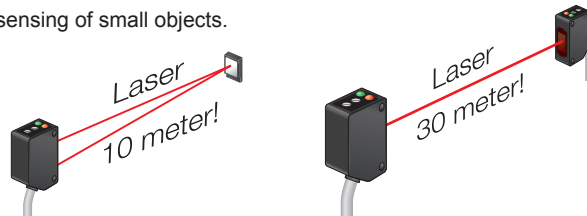
◆ Small Spot size!

The ZX-D models projects a very small spot of Ø2mm at 400mm distance.



◆ Long distance Laser.

The ZX series realizes long distance spot sensing in a compact form factor. The ZX-T models have a rated sensing distance of 40 meters & work upto 50 meters. This makes it an ideal sensor for use long distance sensing of small objects.



Ratings and Specifications

Type		Through Beam		Retro Reflective		Diffuse Reflective	
Models	NPN	ZX-T-30MN-2M	ZX-T-30MN-M8C	ZX-R-10MN-2M	ZX-R-10MN-M8C	ZX-D-400N-2M	ZX-D-400N-M8C
	PNP	ZX-T-30MP-2M	ZX-T-30MP-M8C	ZX-R-10MP-2M	ZX-R-10MP-M8C	ZX-D-400P-2M	ZX-D-400P-M8C
Sensing Distance		30 meters		10 meters*		400mm	
Spot Size		Ø 30mm at 30 meter		Ø 10mm at 8 meter		Ø 2mm at 400mm	
Hysteresis		-				20% max. at 400mm	
Test Object		-		P250F reflector		White Paper 100*100mm	
Response Time		250 µs					
Light Source		Red Laser Diode, Class II FDA					
Peak Power		390 µW max.		3 mW max.			
Sensitivity Adjustment		Built-in externally adjustable 1 turn pot.					
Operation Mode		Light ON/ Dark ON selectable					
Supply Voltage		10 - 30 VDC (Ripple Max 10%)					
Current Consumption		Emitter: 15mA; Receiver: 15mA		20mA			
Protection Circuits		Output short- circuit protection, Interference Prevention Function					
Connection		Prewired 2 meter cable outgoing type or M8 Connector (Male) type (depending on model)					
Control Output		NPN or PNP open collector output (depending on model)					
Control Output Rating		Load Voltage: max. 30 VDC; Load Current: max 100mA; Residual Voltage: NPN- max 1 V, PNP- min (-2.5 V)					
Operation Indication		Laser ON - Green; Output ON - Orange					
Shock Resistance		upto 50G					
Ambient Temperature		Operation: -10° ~ 50°C; Storage: -25° ~ 70°C (non- freezing; non- condensing)					
Ambient Humidity		Operation: 35 ~ 85% RH; Storage: 35 ~ 90% RH (non- condensing)					
Protection Class		IP67					
Weight		approx. 10g without cable		approx. 20g without cable			
Material		Housing: ABS with Glass, Lens: PMMA or Eqv.					

Note:

* - The sensing distance 10 meters is when used with P250F reflector.
The sensor receiving unit may get damaged if there are highly reflective objects around the targets.

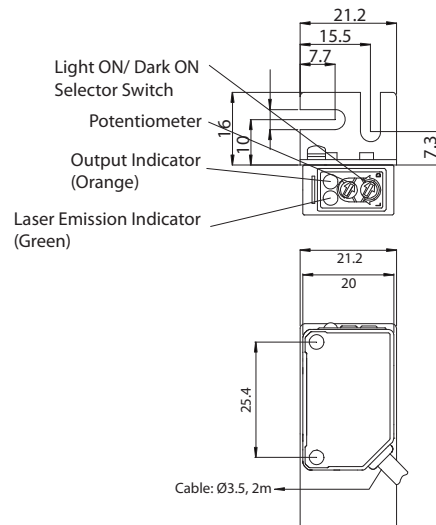
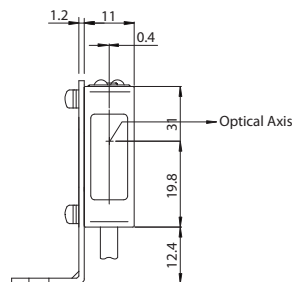
Sensor Dimension Drawing

ZX

All dimensions are in mm

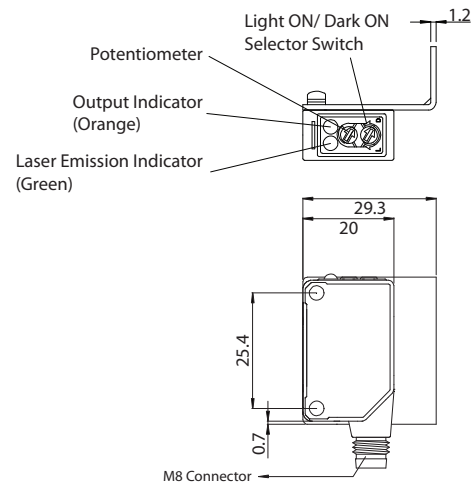
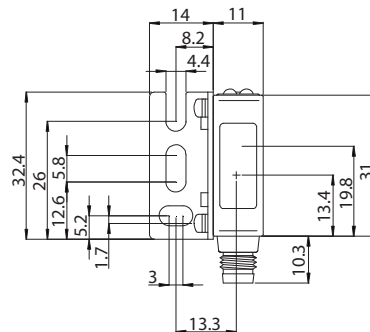
Outgoing Cable Type

- ◆ ZX-T-30MN-2M
- ◆ ZX-T-30MP-2M
- ◆ ZX-R-10MN-2M
- ◆ ZX-R-10MP-2M
- ◆ ZX-D-400N-2M
- ◆ ZX-D-400P-2M



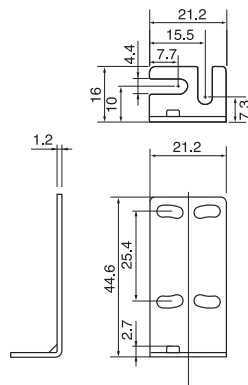
Connector Type

- ◆ ZX-T-30MN-M8C
- ◆ ZX-T-30MP-M8C
- ◆ ZX-R-10MN-M8C
- ◆ ZX-R-10MP-M8C
- ◆ ZX-D-400N-M8C
- ◆ ZX-D-400P-M8C

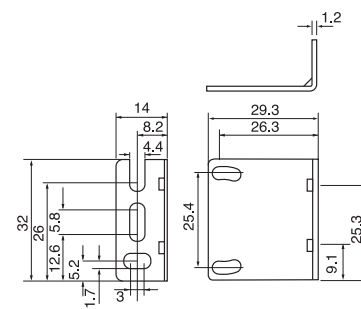


Mouting Bracket

- ◆ ZX-_-_-2M



- ◆ ZX-_-_-M8C

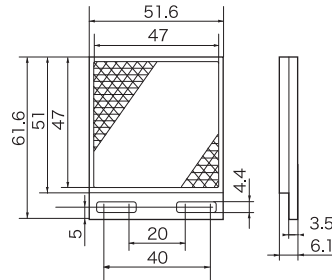


Sensor Dimension Drawing

All dimensions are in mm

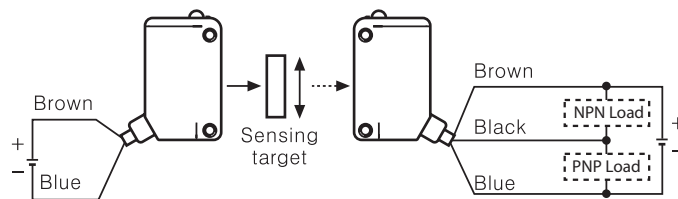
Reflector

◆ P250F

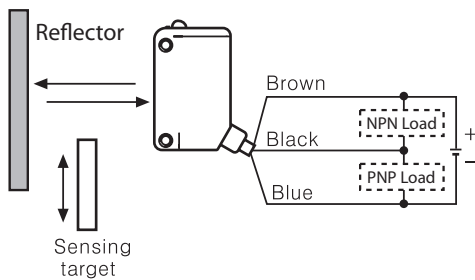


Connection

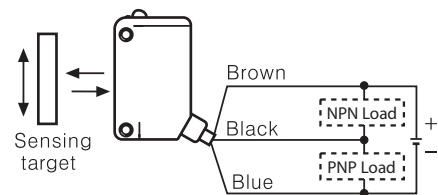
• Through Beam



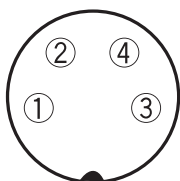
• Retro-reflective



• Diffusive



• Connector *



M8 Connector pin

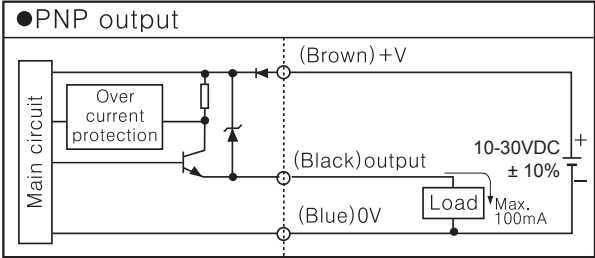
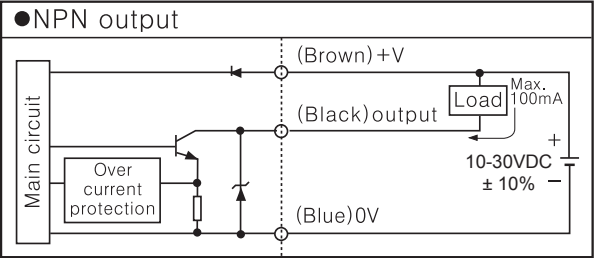
Pin	Cable colors	Function
①	Brown	Power Source(+V)
②	White	—
③	Blue	Power Source(0V)
④	Black	Output

② is N.C(Not Connected) terminal.

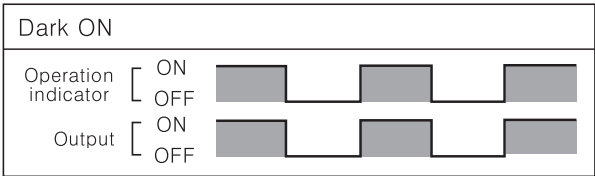
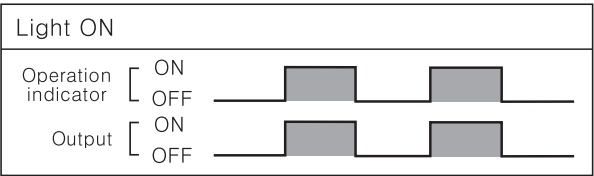
Note: * - Connector Cable is not supplied along with unit. (Sold Separately)

Control Output Diagram

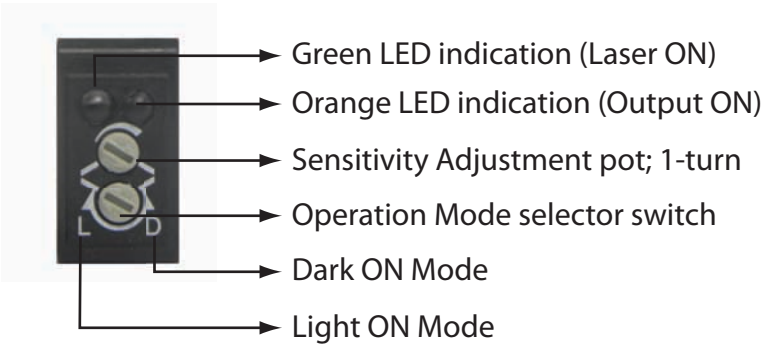
ZX



Operation Type




Nomenclature



Sensitivity Adjustment

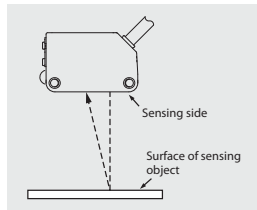
	The sensivity adjuster is a single turn potentiometer found on the top of the sensor unit. The adjuster is positioned just below the indication lamps.
	The adjuster is to be rotated in the clockwise direction to increase the sensitivity. The adjuster is to be rotated in the anti-clockwise direction to decrease the sensitivity.

Operation Mode Adjustment

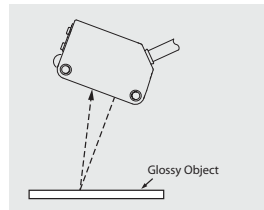
	Light ON Mode Turn the operation switching adjuster to the left to set it in Light ON mode.		Dark ON Mode Turn the operation switching adjuster to the right to set it in Light OFF/ Dark ON mode.
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Mounting and Adjustments

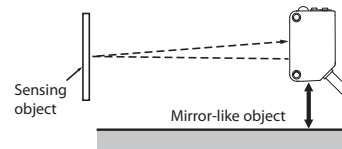
Make sure that the sensing side of the sensor is parallel with the surface of the sensing object. Normally, do not incline the sensor towards the sensing object.



If the sensing object has a glossy surface, incline the sensor by 5° to 10° as shown in the illustration, provided that the sensor is not influenced by background objects.



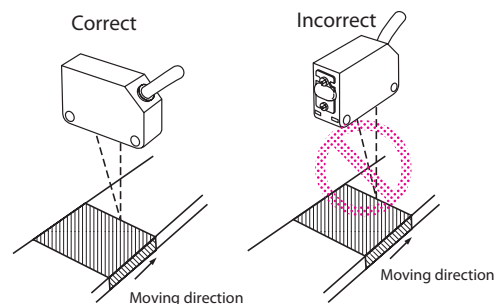
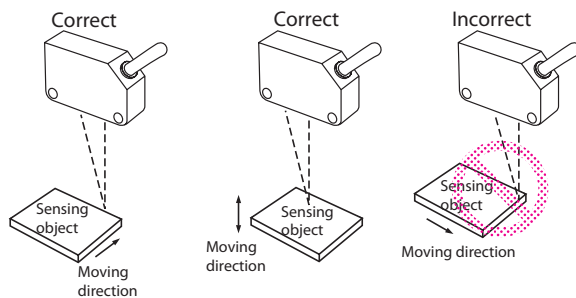
If there is a mirror like object below the sensor, the sensor may not operate correctly. Therefore ensure a separation or minimum distance of 10mm from the mirror like object.



◆ Direction of mounting

Do not install the sensor in the wrong direction; refer to the following diagram.

Install the sensor as shown in the following illustration if the object greatly differs in color or reflectivity.



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