

Photoelectric Sensor
Cylindrical Type



C-R Series

- CTD-2500 □-R
- CTD-2500□-IR
- CRD- 400 □-R
- CDD-100□-IR
- CDD- 100□-R
- CDD-40□-IR
- CDD- 11□-R
- CDD-11□-IR

INSTRUCTION MANUAL

- Please confirm if specifications fulfill your needs.
- Please read this manual carefully before the use and keep this for future reference.

Specifications

	Through Beam	Retro Reflective	Diffuse Reflective		Limited Range
Cable type (Red LED)	CTD-2500(N/P)-R	CRD-400(N/P)-R	CDD-100(N/P)-R	—	CDD-11(N/P)-R
Cable type (IR LED)	CTD-2500(N/P)-IR	—	CDD-100(N/P)-IR	CDD-40(N/P)-IR	CDD-11(N/P)-IR
Sensing distance *1	25m	0.01~4m	0~1m	0~400mm	0~110mm
Light Source	Red LED/ IR LED	Red LED	Red LED/ IR LED	IR LED	Red LED/ IR LED
Spot size (approx.)	φ 1600mm /25 m	φ 240mm /4 m	φ 70mm /1 m	φ 30mm /400mm	φ 5mm /110mm
Supply voltage	DC10 ~ 30V Including ripple (P-P) 10%				
Current consumption	Emitter :20mA max. Receiver : 25mA max.	25mA max.	30mA max.	30mA max.	25mA max.
Response time	500μs max				
Control output	NPN/PNP Open collector 100mA max. / DC30V max. (Residual voltage 1.8V max.)				
Operation mode	Light ON, Dark ON Selectable by control wires				
Sensitivity adjustment	1 turn volume				
Indicator	Output indicator (orange LED) / Stability indicator (green LED)				
Vibration Resistance	10 to 100 Hz; max.1.5mm(p-p), max.150m/s ² , 8 hours in each of the X, Y, and Z directions				
Shock Resistance	Approximately 50G, 3 times in each of the X, Y, and Z directions				
Ambient temp. / humidity	-25 ~ 55°C /35 ~ 85%RH (No condensation or freezing)				
Storage temp. / humidity	-30 ~ 70°C /35 ~ 95%RH (No condensation or freezing)				
Applicable regulations/ standards	EMC (2014/30/EU); Rohs(2011/65/EU,MIIT Order No.32) / IEC 60947-5-2 : 2007/A1 : 2012				
Protection category/Material	IEC 60529 : IP67 / Case :Brass Ni plated, Front Cover : PMMA				

- *1 • Retro Reflective type : Reflector V-61
- Diffuse Reflective type : White paper 90% 200x200mm
- Limited Range type : White paper 90% 100x100mm

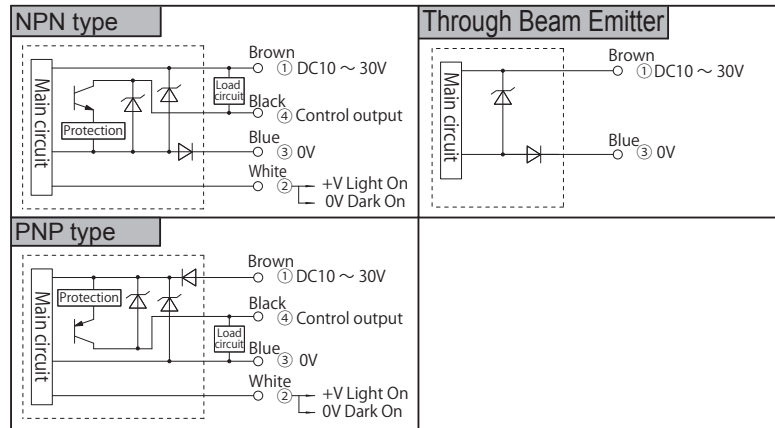
Safety Precautions



- It is dangerous to wire or attach/remove the connector with the power on. Make sure to turn off the power before operation.
- Installing in the following places may result in malfunction:
 1. A dusty or steamy place
 2. A place generating corrosive gas
 3. A place directly receiving scattering water or oil.
 4. A place suffered from heavy vibration or impact.
- The product is not designed for outdoor use.
- Do not use the sensor in transient state after power on (approx. 100 ms).
- Do not wire with the high voltage cable or the power line. Failure to do this will cause malfunction by induction or damage.
- The sensor performance may depend on the individual units or the condition of detected product.
- This product is not an explosion-proof construction. Do not use the product under flammable, explosive gas or liquid environment.
- Do not use the product in water.
- Do not bend a cable in below 0°C.
- Do not disassemble, repair, or convert the product. Failure to do this may cause failure, fire, or electric shock.
- Operate within the rated range.

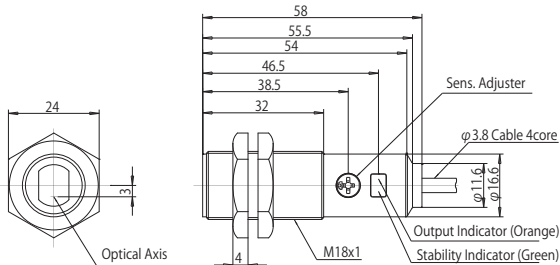
This product cannot be used as a safety device to protect human body

Input / Output Circuit Diagram



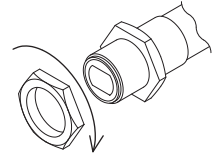
Dimensions

Retro Reflective, Diffuse Reflective, Limited Range



Set Up Torque

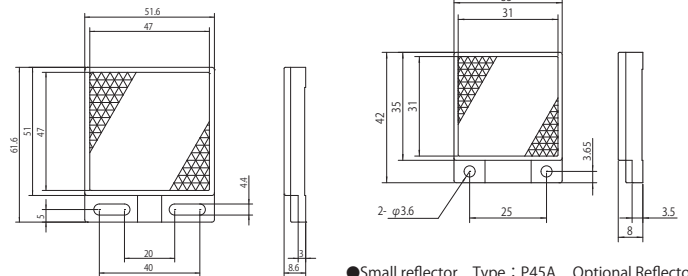
- Tightening torque needs to be under 20N•m.



Reflectors

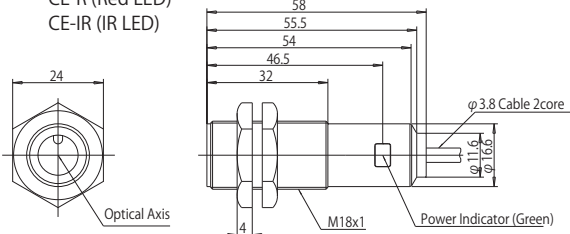
For Retro Reflective use only
Please confirm appropriate type considering sensing distance and conditions to use.

- Standard Type Type : V-61 Sensing distance : 0.01~4m
- Small reflector Type : V-42 Sensing distance : 0.01~2.4m
- Optional Reflector

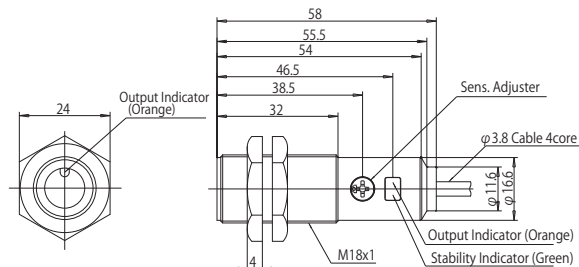


Through Beam (Emitter)

CE-R (Red LED)
CE-IR (IR LED)



Through Beam (Receiver)



for China Rohs, please refer to http://www.optex-fa.com/rohs_cn/

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