

Photoelectric Sensor  
Cylindrical Type



# C-R Series

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

## 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	CTD-2500(N/P)-R	CRD-400(N/P)-R	CDD-100(N/P)-R	CDD-11(N/P)-R
Sensing distance *1	25m	0.01~4m	0~1m	0~110mm
Light Source	Red LED			
Spot size (approx.)	φ 1600mm /25 m	φ 240mm /4 m	φ 70mm /1m	φ 5mm /110mm
Supply voltage	DC10 ~ 30V Including ripple (P-P) 10%			
Current consumption	Emitter :20mA max. Receiver :25mA max.	25mA 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 <sup>2</sup> , 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			

## Safety Precautions

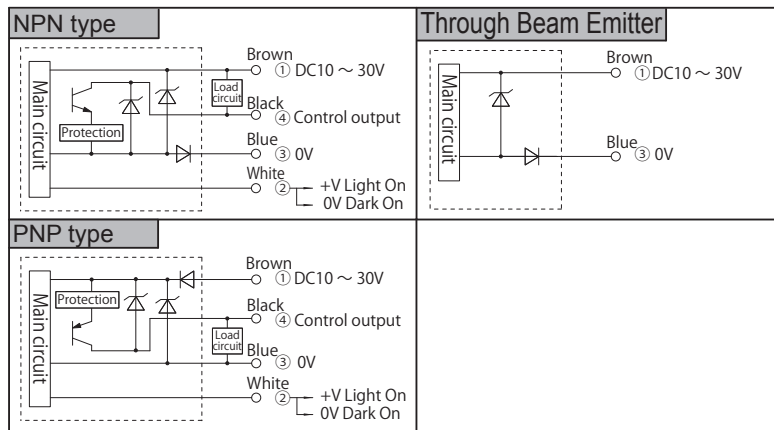


- It is dangerous to wire or attach/remove the connector with the power on. Make sure to turn off the power before operation.
- Installing in the following places may result in malfunction:
  1. A dusty or steamy place
  2. A place generating corrosive gas
  3. A place directly receiving scattering water 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**

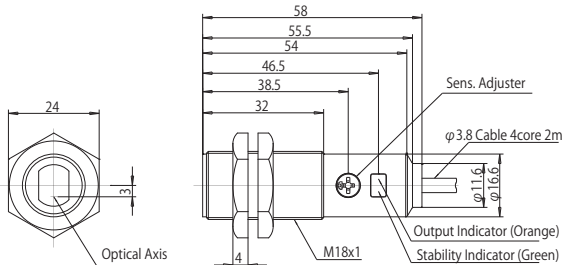
- \*1 · Retro Reflective type : Reflector V-61
- Diffuse Reflective type : White paper 90% 200x200mm
- Limited Range type : White paper 90% 100x100mm

## Input / Output Circuit Diagram

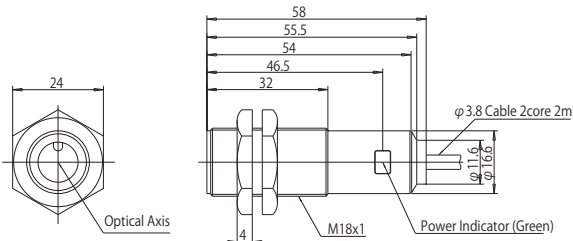


## Dimensions

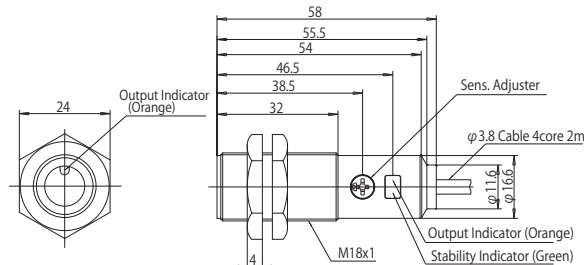
### Retro Reflective, Diffuse Reflective, Limited Range



### Through Beam (Emitter)

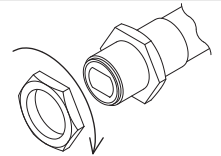


### Through Beam (Receiver)



## Set Up Torque

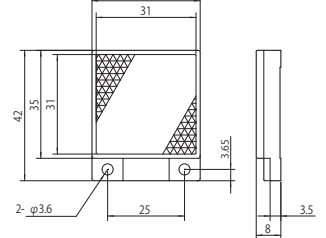
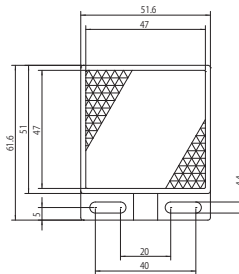
- Tightening torque needs to be under 20N·m.



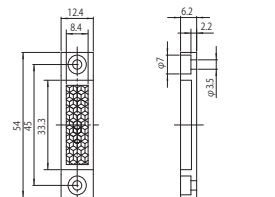
## Reflectors

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



- Small reflector Type : P45A Sensing distance : 0.01~1.4m
- Optional Reflector



for China Rohs, please refer to [http://www.optex-fa.com/rohs\\_cn/](http://www.optex-fa.com/rohs_cn/)

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