



Photoelectric Sensor
D SERIES Laser type

- Transparent type
 •DR-Q150T□□
 •DR-Q400T□□

INSTRUCTION MANUAL

- Confirm if the item meets to your needs.
- Before the use, you should first thoroughly read this manual and operate correctly as mentioned.
- You should keep this manual at hand for the proper use.

Specifications

Type	Short range type	Long range type
	Cable type	DR-Q150T (N,P)-(E)
M8 connector type	DR-Q150TC (N,P)-(E)	DR-Q400TC (N,P)-(E)
Sensing range *1	1.5m	4m
Supply voltage	10 ~ 30V DC including 10% ripple (P-P)	
Current consumption	35mA max.	
Response time	0.35ms / 0.7ms / 2ms / 5ms	
Repeat accuracy *2	0.2mm / at 1.5m	0.3mm / at 4m
Light source	Red laser diode (wave length: 655nm, 2mW max. class 2)	
Indicator	Output indicator (Orange LED), Laser emitter indication (Green LED)	
Digital display	7 segment, 3 digits (function indicator, 0~999 Incoming light level)	
Control output	NPN/PNP open collector 30V DC 100mA max.	
Operation mode	Light ON / Dark ON switchable	
Sensitivity setting	Teaching (threshold adjustment)	
Operating temp./humid.	-10~+40°C / 35~95%RH (no freezing and no condensation)	
Protection category	IEC IP67	
Material	Housing : heat-resistant ABS / Lens cover : PMMA / Button : TEEE	
Weight	Cable type: approx. 66g / Connector type: approx. 20g	

*1 with reflector P250F

*2 in the vertical direction of optical axis

Safety precautions

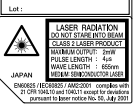
- Laser**
- This item utilizes visible light laser beam and is subject to safety standard class 2 (II) of JIS C6802 as well as IEC and FDA regulations.
 - Must not stare into laser beam directly or reflection by mirror.
 - Must not disassemble. Automatic stop function of laser emission is not equipped.
 - This product have already been registered at CDRH (Center for Devices and Radiological Health).

Keylock

Push ◀ ▶ button at the same time until appears.
 Same procedure for unlock (:unlock)

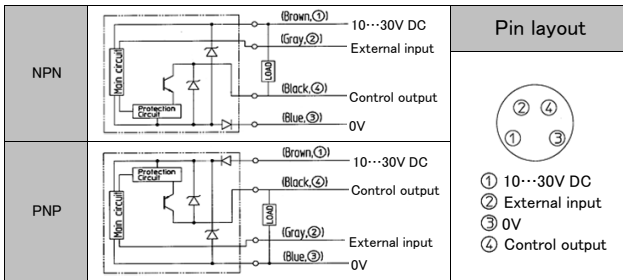
Cautions

- Warm-up period (approx. 100 msec) must be secured.
- Should avoid parallel wiring with high-voltage wire and/ or power line. Never install in same conduit.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

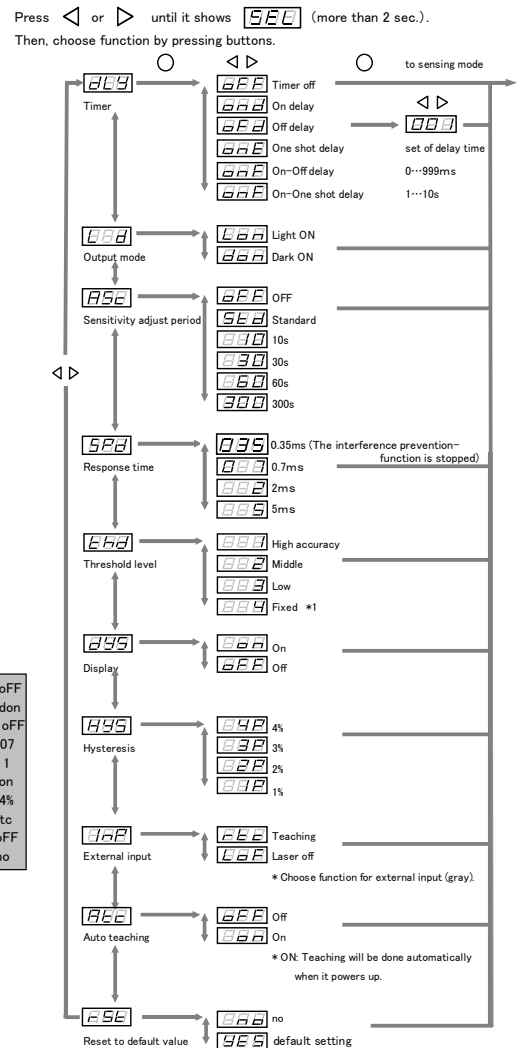


! Must not use this item as safety equipment for the purpose of human body protection.

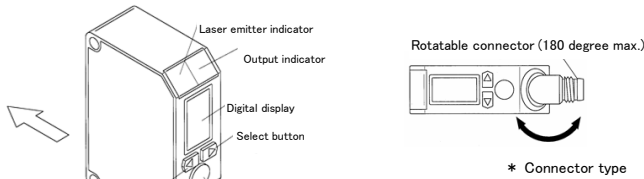
Input/ Output schematic



Setting chart



Display/Indicators/Buttons



Turn the connector as Arrow indicates up to 180 degree max. Turning over 180 degree may cause unreparable damage.

*The torque of tightening mounting screw: 0.5N·m max.

Threshold setting

Teaching

- ① Align the optical axis of the sensor and reflector correctly.
- ② Press ◯, until it shows (around 2 sec.).
- ③ Setting is completed with indication on the display.

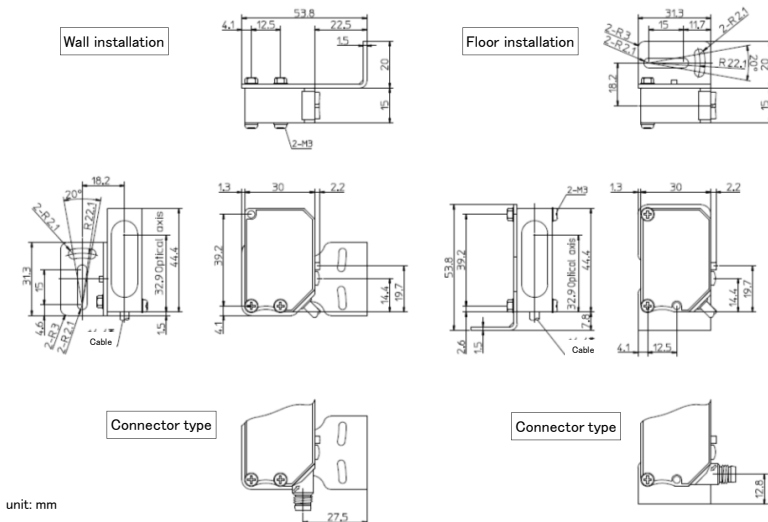
Threshold adjustment (manual adjustment)

- ① Push ◀ or ▶ shortly (2 sec. Max.). Then, present threshold will be blinking on the display.
- ② While the threshold is blinking, adjust with ◀ or ▶. (adjustment range: 20~96)
- ③ By pressing ◯, go back to detecting mode. or automatically back to detecting mode in 10 sec with no operation.

Default value

Timer	: oFF
Output mode	: don
Sensitivity adjust	: oFF
Response time	: 07
Threshold level	: 1
Display	: on
Hysteresis	: 4%
External input	: rtc
Auto teaching	: oFF
Reset	: no

Dimensions



unit: mm

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- *1 Keep threshold level as it's set manually. It isn't changed by teaching.
- * Automatic fitting in function: When the light level from reflector keeps over 105% of base level for 3 seconds, it adjusts the base level into 100 automatically.
- * When it's out of adjustable level, it can't adjust correctly and shows blinking on the display. In this case, please execute teaching.

- Specifications and equipment are subject to change without any obligations on the part of manufacture.
- For more information questions and comments regarding products, please of manufacture.

① → http://www.optex-fa.com/rohs_cn/

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