



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.

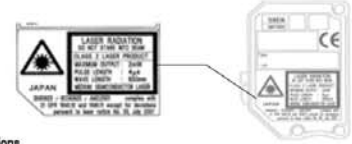
Specifications

Type	Short range type	Long range type
	Cable type	DR-Q150T (N,P)-(E)
M3 connector type	DR-Q150TC (N,P)-(E)	DR-Q400TC (N,P)-(E)
Sensing range #1	1.5m	4m
Supply voltage	DC10 ~ 30V including 10% ripple (P-P)	
Current consumption	35mA max.	
Response time	0.7ms max.	
Repeat accuracy #2	0.2mm / 1.5m	0.3mm / 4m
Light source	Red laser diode (wave length: 650nm, 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 DC30V 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: NBR	
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).

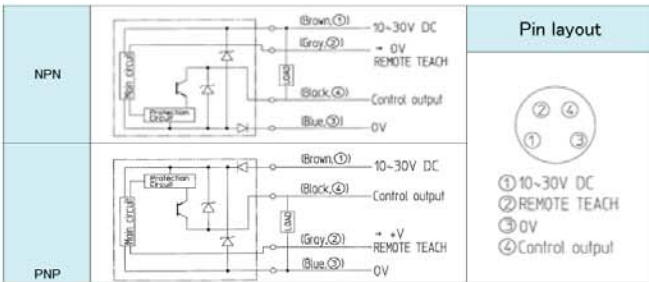


Cautions

- 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.

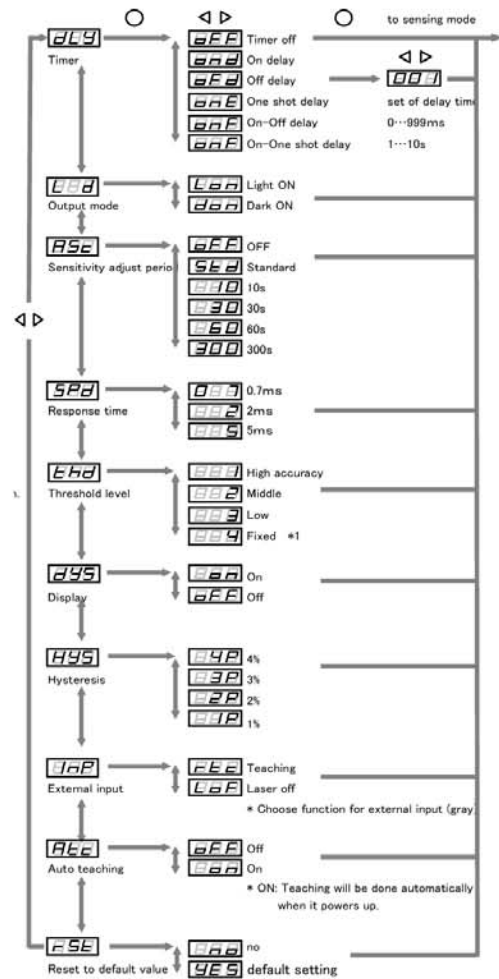
! Must not use this item as safety equipment for the purpose of human body protection.

Input/ Output schematic

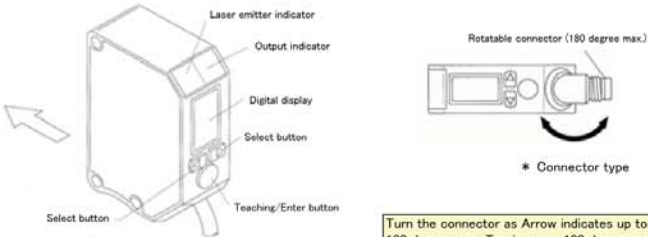


Setting chart

Press ◀ or ▶ until it shows **SEL** (more than 2 sec.). Then, choose function by pressing buttons.



Display/Indicators/Buttons



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

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

Threshold setting

Teaching

- Align the optical axis of the sensor and reflector correctly.
- Press **SEL**, until it shows **TECH** (around 2 sec.).
- Setting is completed with indication **100** on the display.

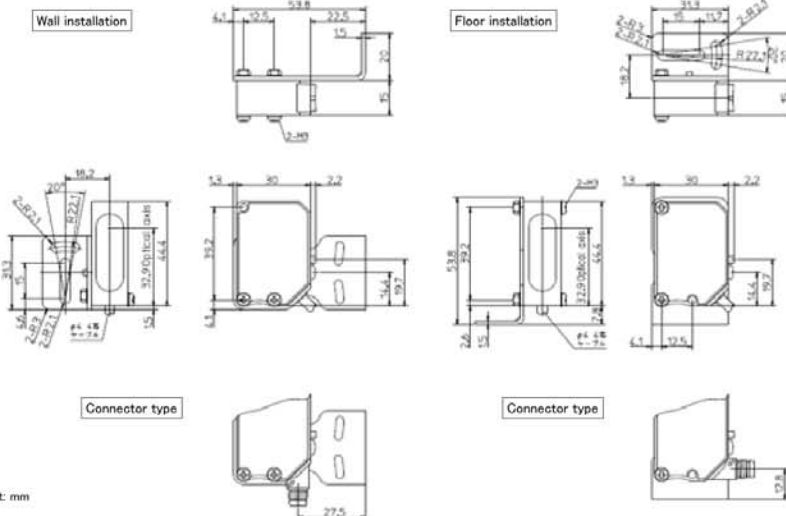
Threshold adjustment (manual adjustment)

- Push ◀ or ▶ shortly (2 sec. Max.). Then, present threshold will be blinking on the display.
- While the threshold is blinking, adjust with ◀ or ▶. (adjustment range: 0~96)
- By pressing **SEL** 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	: 1
Response time	:07
Threshold level	: 1
Display	:on
Hysteresis	: 4%
External input	:rtc
Auto teaching	:off
Reset	:no

Dimensions



unit: mm

- *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 **ALF** 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 contact us below.

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