

Photoelectric Sensor Y SERIES

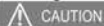
- YT-1180 ☐
- YR-140 ☐
- YD-15 ☐
- YD-L2 ☐
- YD-L1 ☐
- YR-Q39 ☐
- BGS-Y8 ☐

INSTRUCTION MANUAL

- Confirm if the item meets 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 proper use.

Carefully read and understand the safety precautions before operation. The important information is provided to protect your health and property. Do not apply any other installing or operating procedure other than that described in this manual.

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.
- Make sure to use the product with the protective cover attached and closed.
- 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 or digital display values 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 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.

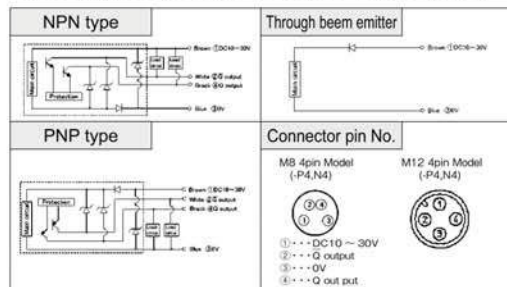
SPECIFICATION

Models	Through-beam	Retro reflective	Diffused reflective	Convergent (regular focus)	Convergent (close focus)
Cable type	YT-1180(N,P)	YR-140(N,P)	YD-15(N,P)	YD-L2(N,P)	YD-L1(N,P)
M8 Connector type	YT-1180C(N,P)	YR-140C(N,P)	YD-15C(N,P)	YD-L2C(N,P)	YD-L1C(N,P)
M12 pig tail type	YT-1180(N,P)-M12	YR-140(N,P)-M12	YD-15(N,P)-M12	YD-L2(N,P)-M12	YD-L1(N,P)-M12
Sensing range	30m	0.05 ~ 3.5m (V-61)	0.4m	43mm	16mm
Spot size	φ 610mm/30m	φ 75mm/3.5m	φ 12mm/0.4m	φ 4mm/43mm	φ 2mm/16mm
Supply Voltage	10 to 30V DC including 10% of ripple (P-P)				
Current consumption	Emitter: 15mA MAX Receiver: 20mA MAX	30mA MAX			
Response time	500 μ s MAX				
Control output	NPN or PNP Open collector, 100mA MAX / 30V DC				
Output	Q or Q output				
Sensitivity adjustment	1 turn volume				
Indicator	Incident (Yellow LED) / Over-current Alarm (Red LED) / Stable (Green LED) ※ Emitter of YT type is Power indicator (Green LED) only.				
Ambient Temp./Humidity	-25 up to 55℃ /35 up to 85%RH				
Shock resistance	100G, xyz three directions				
Protection category	IP67				
Material	Case: ABS (glass included) Front cover, Lens: PMMA				

Models	Retro-Glass	BGS
Cable type	YR-Q39(N,P)	BGS-Y8(N,P)
M8 Connector type	YR-Q39C(N,P)	BGS-Y8C(N,P)
M12 pig tail type	YR-Q39(N,P)-M12	BGS-Y8(N,P)-M12
Sensing range	0.15 ~ 1m (P45A)	0 ~ 200mm (sensing distance) 30 ~ 200mm (scanning range)
Spot size	Φ 25mm/1m	Φ 15mm/200mm
Supply Voltage	10 to 30V DC including 10% of ripple (P-P)	
Power consumption	30mA MAX	
Response time	500 μs MAX	
Control output	NPN/PNP Open collector, 100mA MAX/30V DC	
Output	Q or Q output	
Sensitivity adjustment	1 turn volume	4 turn (endless)
Indicator	Incident (Yellow LED) / Over-current Alarm (Red LED) / Stable (Green LED)	
Ambient Temp./Humidity	-25 up to +55°C /35 up to 85%RH	
Shock resistance	100G, xyz three directions	
Protection category	IP67	
Material	Case: ABS (glass included) Front cover, Lens: PMMA	

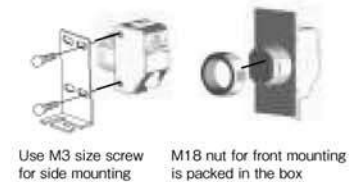
※ NPN/PNP different model.

INPUT AND OUTPUT CIRCUIT DIAGRAMS



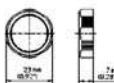
Attachment

Tightening torque need to be under 0.5N · m.



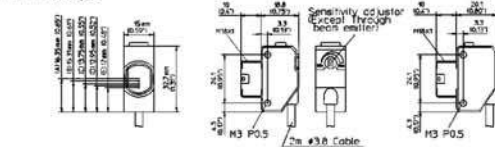
DIMENSIONS

M18 x1 Nut

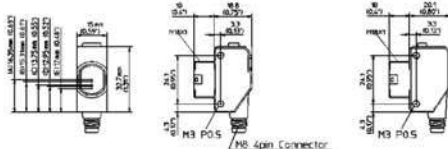


Cable type

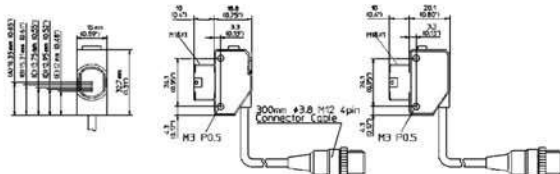
- (A) ... Through-beam type
- (B) ... Convergent (proximity) short type
- (C) ... Convergent (proximity) long type
- (D) ... Retro Reflective type
- (E) ... Diffuse Reflective type
- (F) ... BGS type



M8 Connector type



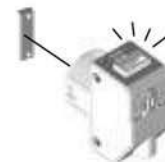
M12 Connector Pigtail type



Sensitivity adjustment of Transparent Type YR-Q39

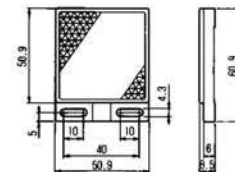
High transparent object may need adjustment as follows;

Set YR-Q39 face to reflector without any object, and slow down the pot till Yellow LED solely lights.

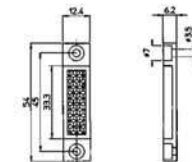


Reflectors

- Type : V-61
Standard for YR-140,
3.5m : YR-140



- Type : P45A
Standard for YR-Q39,
1m : YR-Q39



(Unit: mm)

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