

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

- CAUTION**
- 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.

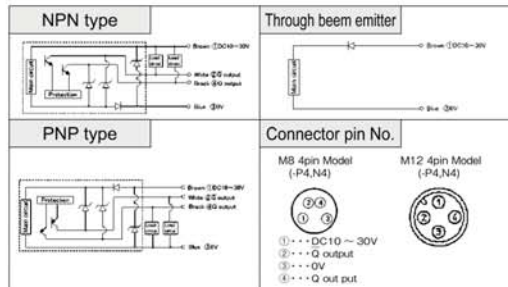
SPECIFICATION

| 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 | 30mA MAX | | | |
| | Receiver: 20mA 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°C /35 up to 85%RH | | | | |
| Shock resistance | 100G, xyz three directions | | | | |
| Protection category | IP67 | | | | |
| Material | Case: ABS (glass included) Front cover, Lens: PMMA | | | | |

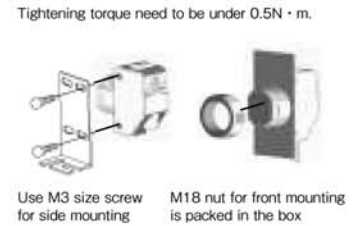
| Models | Retro-Glass | BGS |
|------------------------|---|---|
| Cable type | YR-Q39(N,P) | BGS-Y8(N,P) |
| M8 Connector type | YR-Q39C(N,P) | BGS-Y8C(N,P) |
| M12 pig tail type | YR-Q39(N,P)-M12 | BGS-Y8(N,P)-M12 |
| Sensing range | 0.15 ~ 1m (P45A) | 0 ~ 200mm (sensing distance) 30 ~ 200mm (scanning 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 μ s 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

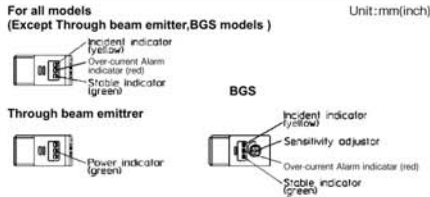
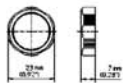


Attachment



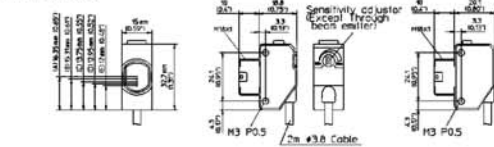
DIMENSIONS

M18 x1 Nut

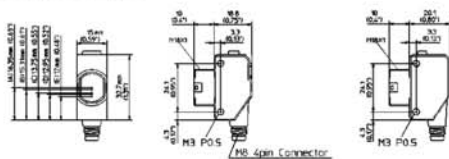


Cable type

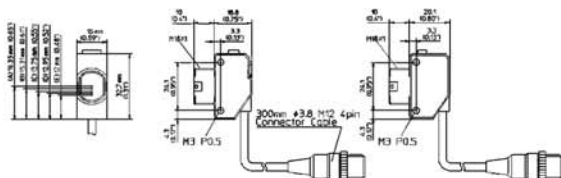
- Optical axis
- (A) ... Through-beam type
 - (B) ... Convergent (proximity) short type
 - (C) ... Retro Reflective type
 - (D) ... Diffuse Proximity type
 - (E) ... BGS type



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

