

PLD Series

Amp built-in photo sensor

- Built in the reverse connection of power protective circuit and built in the output break protective circuit.
- Sensing range 2m, diffuse reflection type
- 1 ms response time
- Built in sensitivity adjustment volume
- IP 64 protective circuit (IEC)



Suffix code

| Model | Code | Description |
|----------------------|------------------------------|---------------------------|
| PLD- | R 2 <input type="checkbox"/> | Small size photosensor |
| Sensing method | R | Diffuse reflection |
| Sensing distance | 2 | 2 m |
| Output | N | NPN open collector output |
| | P | PNP open collector output |
| Protective structure | | IP 64 (IEC) |



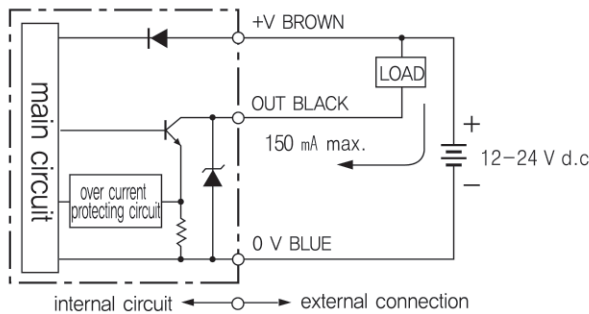
Specification

| Model | PLD-R2N | PLD-R2P |
|----------------------------|--|---|
| Sensing method | Diffuse reflection type | |
| Sensing distance | 2 m | |
| Sensing object | 200 × 200 mm White non-glossy paper | |
| Power supply voltage | 12 - 24 V DC ± 10 % | |
| Current consumption | max 30 mA DC | |
| Control output | NPN open collector output max 150 mA DC (resistive load) | PNP open collector output max 150 mA DC (resistive load) |
| Operation mode | Light ON | |
| Response time | max 1 ms | |
| Hysteresis | within 20 % of the sensing range | |
| Light source (wave length) | Infrared lightening LED (850 nm) | |
| LED | Control output indicator : Red LED, Stability indicator: Green LED | |
| Sensitivity adjustment | Built in the sensitivity control V/R (rotation angle : 220°) | |
| Protective circuit | Built in the reversed power supply connection protective circuit and output short protective circuit | |

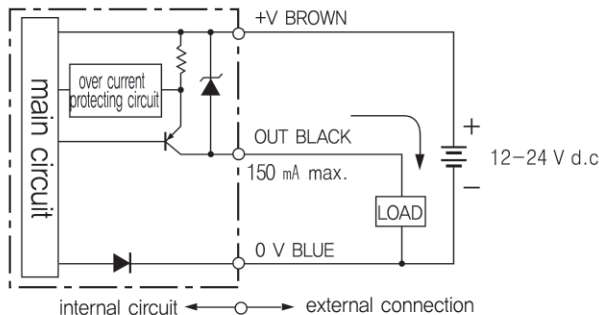
| | |
|-----------------------|---|
| Ambient illumination | Sunlight : max 11,000 Lux, Incandescent lamp: max 3,000 Lux |
| Ambient temperature | -25 ~ 55 °C (Surrounding storage temperature : -25 ~ 70 °C) |
| Ambient humidity | 35 ~ 85 % RH (With no condensation) |
| Protective structure | IP 64 (IEC) |
| Insulation resistance | min 20 M Ω (500 V DC Between the code and case) |
| Dielectric strength | 1,000 V AC, for 1 min |
| Vibration resistance | 10 - 55 Hz double amplitude 1.5 mm, for 2 hours each in X, Y and Z directions |
| Shock resistance | 500 %g X, Y, Z 3 times each in X, Y and Z directions |
| Connection method | Number of wires : 3P, Thickness : \varnothing 3 mm, Length : 2 m |
| Material | Case : PET, Lens cap : PC, Lens : PMMA |
| cable | 3P (26 AWG), Length : 2m |
| Accessory | Adjusting driver, Fixing volt (3-M3 \times 17L) |
| Weight | Approx. 60 g |

Input/Output circuit and connection diagram

■ NPN output



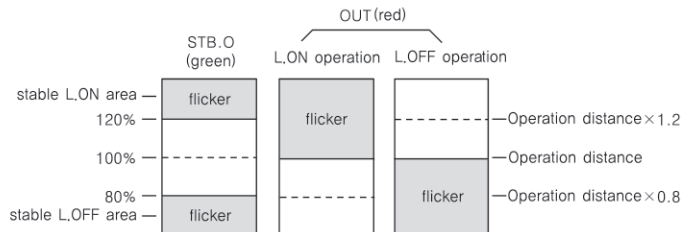
■ PNP output



●● Main functions

■ LED

- Operation indicator (Red LED) and stability indicator (Green LED) indicate the level of operation.
- After completing the optical axis adjustment or sensitivity adjustment, repeat the L.ON/D.ON operation and check whether they are in the area of stable L.ON/D.ON area.
- Setting as a stable area will provide the high reliability regarding the environmental changes or etc after setting up is completed.



■ Sensitivity adjustment method

| Order | Installation method | Set image | Sensitivity volume | Output operation |
|-------|---|-----------|--------------------|------------------|
| 1 | After removing the sensing object, turn sensitivity volume gradually to the max direction and once indicator lights up, that position will be refer to as 'A' from now on. (If indicator does not get turned ON (OFF) even in the position of maximum then it is max) | | | Light ON |
| 2 | Place the sensing object in the desirable setting position and gradually turn the sensitivity volume from 'A' to the 'min' direction and once the indicator gets to turned OFF than that position will be refer to as 'B'. | | | |
| 3 | Place the sensitivity adjustment volume halfway between 'A' and 'B' then the adjustment is completed. Once confirming they are in a stable condition, fix the sensors. | | | |



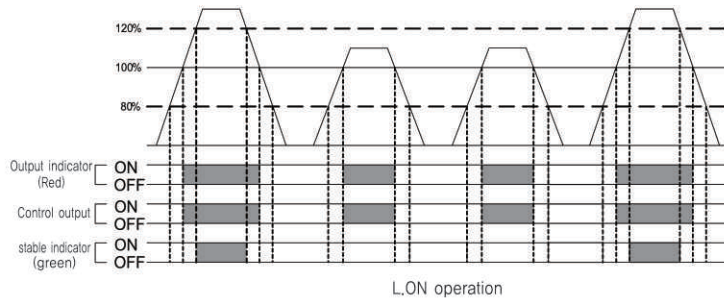
Photo Sensor

■ Things to consider when installing

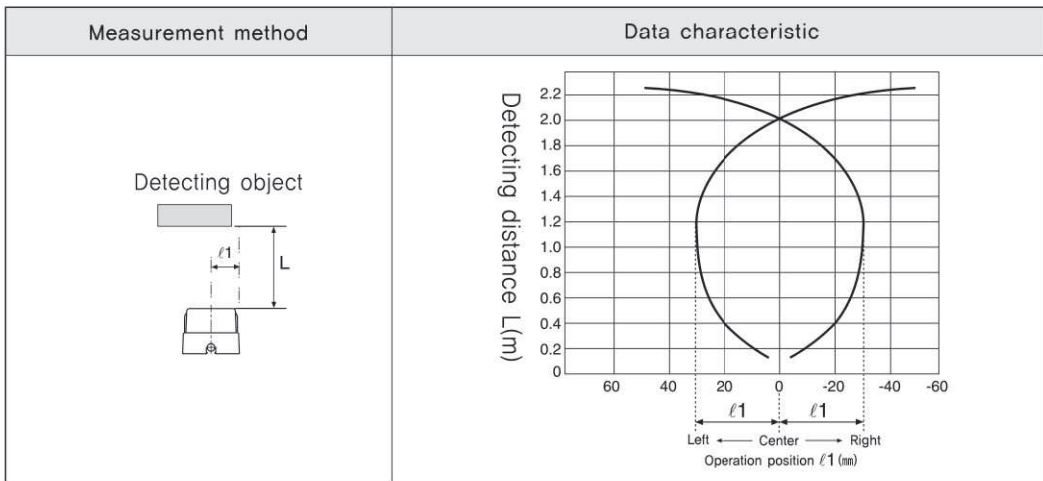
When using the photo sensor under the fluorescent lamp, there is a possibility that malfunction may occur so please shade the photo sensor with the light trap. Also, in case of using the switching regulator, users must earth the frame ground (F.G) terminal. Not doing so may cause the malfunction which caused by the switching noise of power.

●● Operation chart

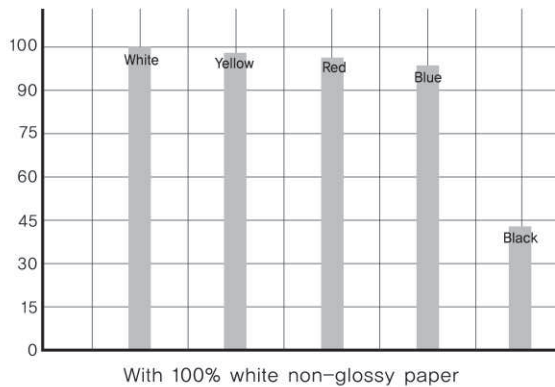
Possible to use as the environmental changing, level down during operation and initial check of operation after setting is completed. Stability indicator is lighted when operation level exceeds 120% (stable L.ON range).



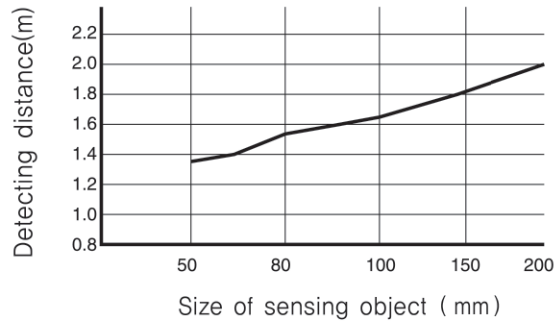
●● Graph characteristic (characteristic of sensing range)



●● Characteristic of sensing range according to the colors



●● Characteristic of sensing range according to the size of sensing object



●● Dimension (Unit : mm)

