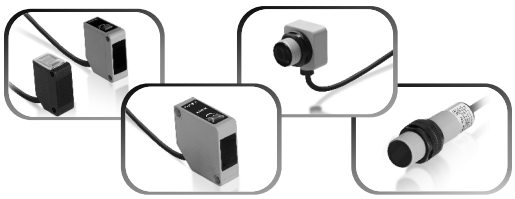
XI-BTR technology



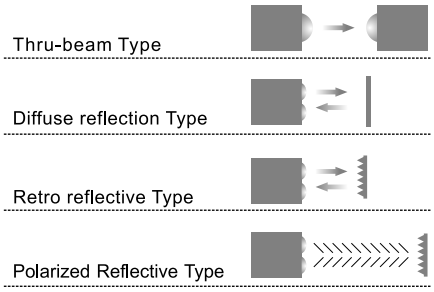
# Photoelectric Proximity Sensor



## Features

- Wide input voltage 20-240VAC/12-240VDC power for options.
- Multiple output mode, built-in relay output function.
- Sensing mode: Thru-beam type, Retro-reflective type, Diffuse Reflection type .
- Long sensing distance, maximum to 10 meters .






CE

# PC B A – D 100 N A – D 3 Y 2 / F

**1: Photoelectric Sensor shape**

PC: Cylindrical type
PS: Rectangular type
PU: U–shaped type

**2: Housing Material**

B: Nickel–plated brass
D: Die–cast
P: Plastic

**3: Housing Diameter**

AB: M12 A: M18
B: M30 VK: 25x12x30
K: 28X28X30 VC: 20X12X31
UA: 52x16.4x72 V: 50x50x18
.....

**4: Sensing Mode**

D: Diffuse Reflection type
R: Retro–reflective type
E: Thru–beam type (Emitter)
T: Thru–beam type (Receiver)
U: Slot Thru–beam type

**5: Sensing Distance**

7: 7mm 15: 15mm 30: 30mm 100: 100mm
300: 300mm 700: 700mm 1M: 1M 2M: 2M
5M: 5M 10M: 10M .....

**6: Output Mode**

P: PNP TR: AC/DC Relay output
N: NPN
A: AC 2 wires
B: AC 3 wires

**7: Output State**

A: N.O. B: N.C.
C: N.O.+N.C.
S: N.O./N.C. Changeover
I: 4–20mA
V: 0–10V

**8: Operating Voltage**

A: AC20–250V C: DC15–30V
D: DC10–30V E: DC10–60V
H: DC5V
T: AC24–240V/DC12–240V

**9: Cores / Pins**

Cable Connection
2: 2–core 3 : 3–core
4: 4–core 5: 5–core
.....
Connector Connection
2: 2–pin 3 : 3–pin
4: 4–pin 5 : 5–pin
.....

**10: Protection**

Y: short circuit , overload protection and reversed polarity protection

**11: Connection**

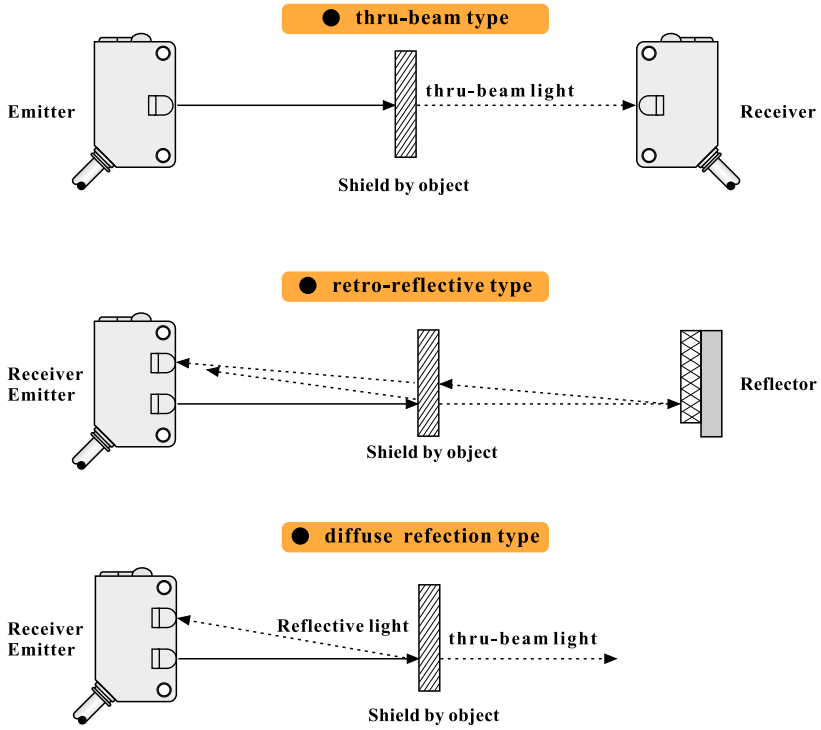
Cable type: 2: 2m 3: 3m 5: 5m
10: 10m .....
Connector type:
V1: M12 Connector, 4–pin
T: Terminal connection
.....

**12: Others**

F: Polarizing filter
C: Length of the body(C40 = 40mm)
W: Curve(90°)
.....

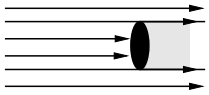
## Definition

Photoelectric sensor utilise the properties of visible light (red , green , blue ) or infrared light .
Photoelectric sensor consists of two parts:an emitter(the light source)and a receiver(the detector) . When there is a target shielding/ reflecting the light , the amount of light reaching the receiver will decrease / increase. Then the receiver will convert this change to electric signals and output it .

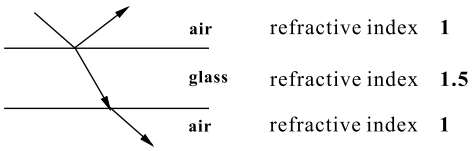



## Operating principle

**Collineation**
Light has the property of rectilinear propagation in one single medium , like air and water .
The through-beam sensor utilise this property.



**Refraction**
When light transmits from one medium to another medium , its travel direction will be changed when going through interface of two different mediums .

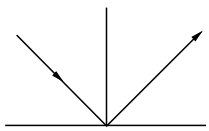


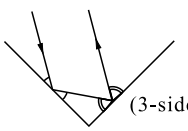

**Reflection(normal reflection、 retro reflection / diffuse reflection )**

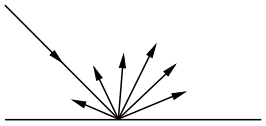
**Normal reflection:** on the mirror or glass face, the light reflected. The reflective angle is as the incident angle. This reflection also call direct reflection.

**Retro reflection :** A 3-side corner cube prism is consists of three orthogonal planes . When light projects on one plane of a 3-side corner cube prism , it will continue normal reflection repeatedly . Then reflected light will travels in the same direction as incident light . Most of the reflector is made up of several 3-side corner cube prisms , permutating at a regular .

**Diffuse reflection:** If light transmits to non-glossy surface like paper , the light will be reflected in various directions .


Normal reflection (glass )


(3-sides corner cube prism)
Retro reflection


Diffuse Reflection (paper)

## Characters

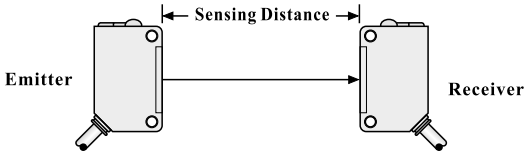
1. Long sensing distance
   Max to 10m , much longer than magnetic proximity sensors and ultrasonic proximity sensors .
2. A wide range of objects
   Not only can detect metal object but also other non-metal object(plastic,wood,glass,water ect).
3. High response frequency
   Light travels at high speed . The sensor is composed of electric components , no mechanical operation .
4. Non-contact detection
   No mechanical contact with detected objects .There won't be any abrasion to the sensor or detected objects, which ensures a long lifetime of sensors.

## Basic terms

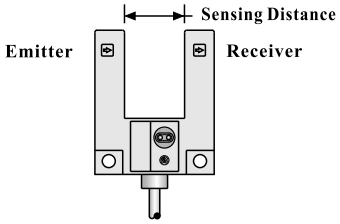
### Sensing distance & sensing mode

#### 1.Thru-beam type

The emitter and receiver are installed in parallel. When there is a target shielding the light , the amount of light reaching the receiver will decrease. The detection is operated based on this kind of decreased light .




U-shaped photoelectric sensors adopts this principle for detection , too . The difference is , the emitter and receiver is designed in the same unit .

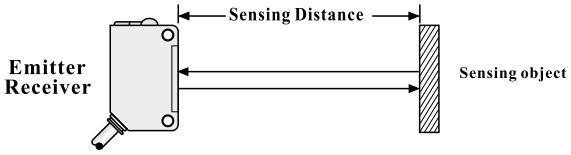



**Characters**

1. High stability , long sensing range to 10 meters .
2. No matter how the detected object will go through photoelectric sensors , the detection position is fixed .
3. Little affection from color , glossiness , inclination of detected object .

#### 2.Diffuse reflection type

The emitter and receiver is designed in the same unit , the same side . When light send out from the emitter is reflected by objects , the amount of light received by receiver will increase . The detection is operated based on this kind of increased light ..

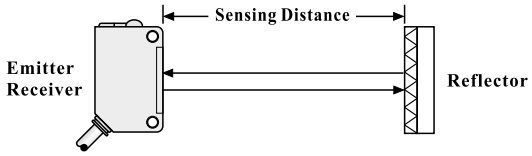



**Characters:**

1. Long sensing range to 700mm .
2. Easy to install and adjust .
3. When detecting the surface conditions ( like convex-concave content ) ,the amount of reflected light will increase . Meanwhile , detection stability will change .

#### 3.Retro reflective type

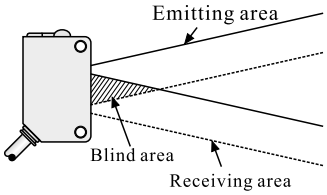
The emitter and receiver is designed on one side , while the reflector is installed on the other side . Generally , light sent out from the emitter will project on the reflector . Then the reflected light will back to the receiver .
When there is a target shielding the light , the amount of light reaching the receiver will decrease. The detection is operated based on this kind of decreased light .




**Characters**

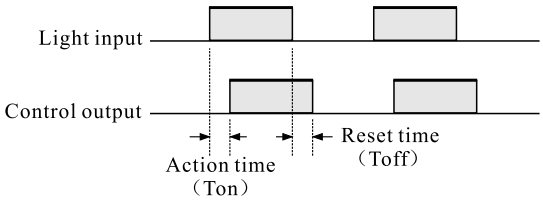
1. Long sensing range to 4 meters .
2. Little affection from color , inclination of detected objects .

### Blind area




The blind area is overlap area between emitting area and receiving area .(as shown above )

### Response time

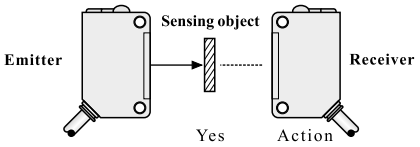



Response time : interval between the moment of light input and the moment of signal output
As for photoelectric sensors , response time =Action time (Ton) = Reset time (Toff )

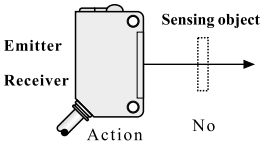
## Operation mode

### Dark on

Through-beam type & Retro-reflective type



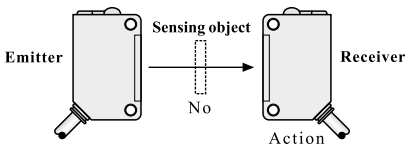

Diffuse reflection type



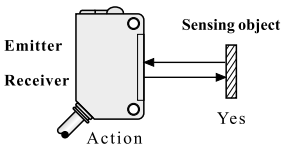

Dark on：There is an output when the light amount arriving the receiver is decreased (for through beam type and retro-reflective type ) . or when the light amount arriving the receiver doesn't increase. (for diffuse reflection type )

### Light on

Through-beam type & Retro-reflective type




Diffuse sensor



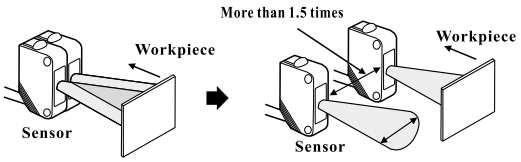
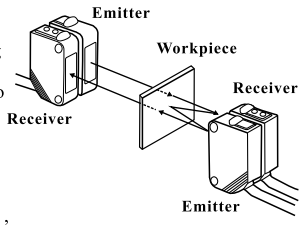

Light on : There is an output when the light amount arriving the receiver is decreased (for through beam type and retro-reflective type ) . or when the light amount arriving the receiver doesn't increase. (for diffuse reflection type )

## Reset time

The sensor enters detection status within 100ms after the supply power on.

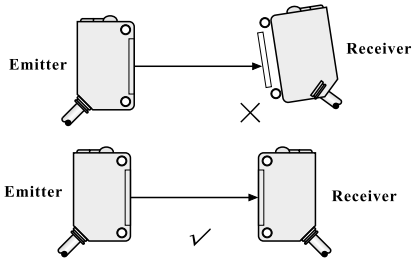
## Inter jamming

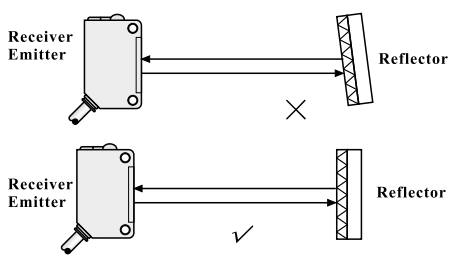
When inter jamming occurs , there might be instable outputs .
Ways to avoid inter jamming

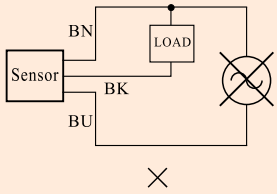
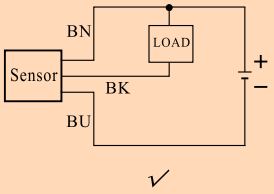
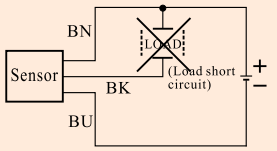
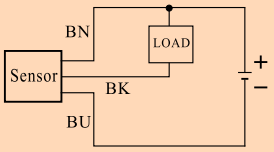
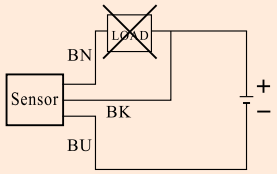
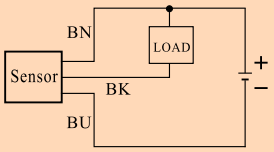
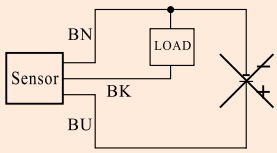
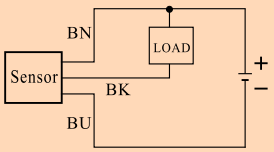
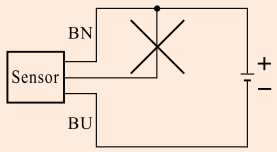
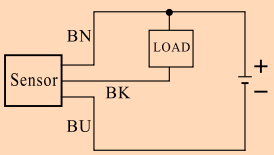
| | Solution | Thru-beam photoelectric sensor | Diffuse reflection photoelectric sensor |
|---|---|---|---|
| 1 | Make sure no jamming happened in the minimum separation distance | Verify that the setting distance between adjacent photoelectric sensors is at least 1.5 times of parallel moving distance . | Ensure that the distance between two adjacent photoelectric sensors is at least 1.5 times of acting area .<br>  |
| 2 | Make sure the emitter and receiver is mounted interactively and parallel . | Tight fit of two sets of photoelectric sensors can be conducted by installing the emitters and receivers alternatively ( at most two sets ) . But when the workpiece comes close to photoelectric sensors , the receiver of one set might receive light from emitter of another set . In this way , there might be a wrong output of light on .<br>  | ---------- |

## Installation

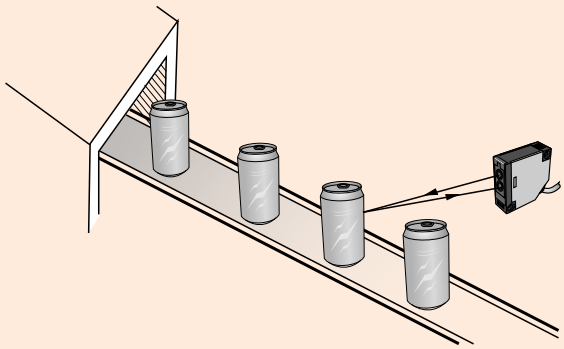
Make sure the emitter and receiver are mounted in parallel and align the center of them .



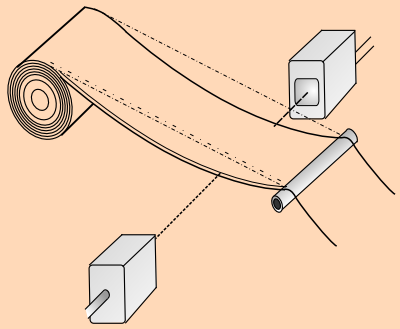
| Item | Example | |
|---|---|---|
| **Voltage input**<br>Please don not use voltage which exceed rating voltage. And pay attention, do not connect the sensor that only support DC input to AC power supply . | **DC 3 wires NPN**<br>  <br>× | **DC 3 wires NPN**<br>  <br>✓ |
| **Shorted Load**<br>Try to avoid shorted load . Or the sensor might be burned or bursted . | **DC 3 wires NPN**<br>  <br>× | **DC 3 wires NPN**<br>  <br>✓ |
| **Wiring error**<br>Please confirm the load is connected to the sensor correctly . Or the sensor might be burned or bursted. | **DC 3 wires NPN**<br>  <br>× | **DC 3 wires NPN**<br>  <br>✓ |
| | **DC 3 wires NPN**<br>  <br>× | **DC 3 wires NPN**<br>  <br>✓ |
| **Connection without load**<br>If the sensor is connected to the power supply without load , the inner components might be burned . | **DC 3 wires NPN**<br>  <br>× | **DC 3 wires NPN**<br>  <br>✓ |

## Presence Detection



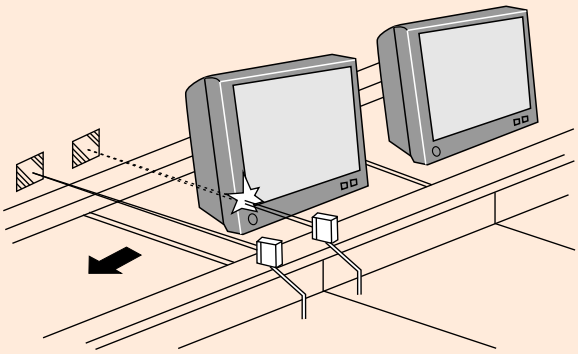
Diffuse type

## Detecting the target straight or not



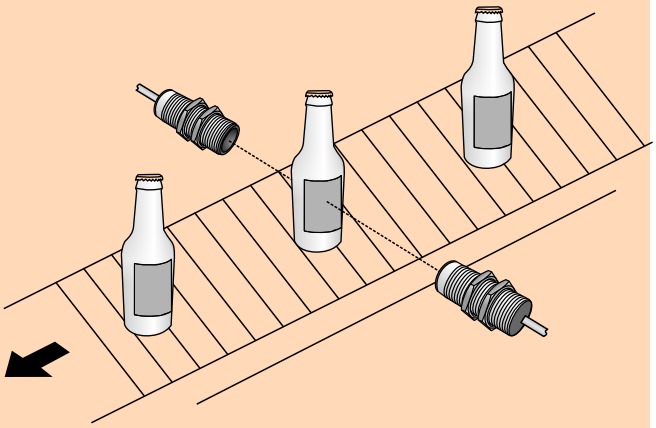
Thru-beam type

## Presence Detection



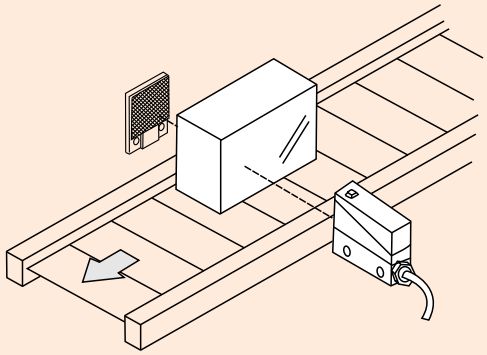
Retro reflective

## Label checking



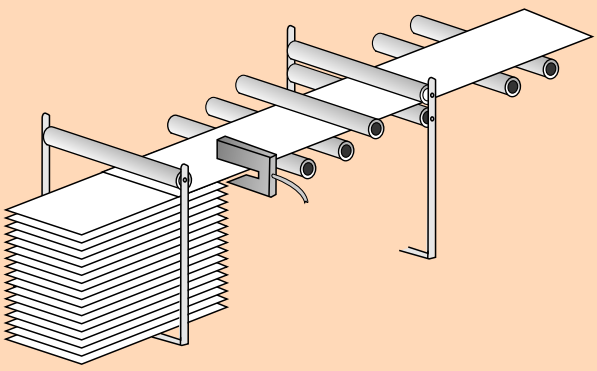
Thru-beam type

## Presence Detection



Retro reflective

## Paper checking



Slot type

**Warning:** **Do not use photoelectronic sensor for dangerous machines , as it is not a kind of safety protection device . They are mostly applied for counting and positioning**

## Note

1. Please do not use the unit in flammable and explosive gas areas .
2. Not any repair , disassembling and modification without a qualified person is allowed .
3. Be sure the input is within the rated supply voltage range. Or there might be damages like crack , burn-out .
4. Try to avoid any shorted load , or there might be damages like burn-out.
5. Pay attention to power polarity to avoid any damages to the unit .

## Installation

When installing the sensor please do not use spanner or high power, for fear that result in function error or product damage.

## Operation environment

**Water tolerance**

Please do not use the sensor in water, in the rain and outdoor.

**Avoid installation in areas as below**

1、Dusty area
2、Direct sunlight area
3、Area with corrosive gas
4、Organic solvent area
5、Having vibration,impaction.
6、Water,oil,medicine
7、High humidity area

## Regular maintenance and inspection

1、Correct link&connection
2、Be sure no loose screw
3、Be sure light beam, sensitivity adjustment finished
4、Target&workpiece speed accord with the rated regulation.
5、No dirt or stain attached on the receiver or emitter face.
6、No direct sunlight to the receiver.
7、Do not demolish or repair without authorization.

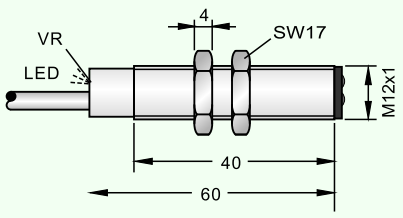
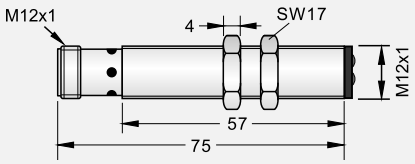
**Lens coat**

Generally clean the lens coat with soft cloth, do not use thinner etc.

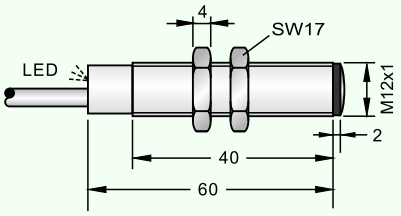
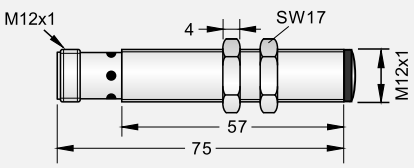
## Accessories

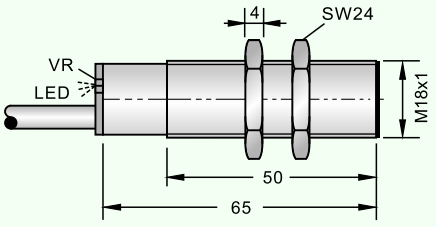
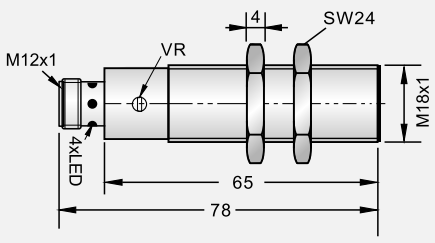
**Reflector**

1、Clean up the dust & stain before using the adhesive tapes of reflector.
2、Do not press or scrape the reflector.
3、Do not operate in the area has oil or medicine.

| | M12x1, L60 | | M12x1, L75 | |
|---|---|---|---|---|
| PICTURE |  | |  | |
| DC–3 wires NPN N.O. | PCBAB-D100NA-D3Y2 | *01 | PCBAB-D100NA-D4YV1 | *29 |
| DC–3 wires NPN N.C. | PCBAB-D100NB-D3Y2 | *02 | PCBAB-D100NB-D4YV1 | *30 |
| DC–3 wires PNP N.O. | PCBAB-D100PA-D3Y2 | *03 | PCBAB-D100PA-D4YV1 | *31 |
| DC–3 wires PNP N.C. | PCBAB-D100PB-D3Y2 | *04 | PCBAB-D100PB-D4YV1 | *32 |
| Sensing mode | Diffuse reflection | | | |
| Sensing distance | 100mm | | | |
| Sensing object | opaque / translucent objects | | | |
| Standard target | 100x100mm(white paper) | | | |
| Response time | ≤3ms | | | |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. | | | |
| Output type | NPN NO/NC & PNP NO/NC | | | |
| Consumption | ≤20mA | | | |
| Load current | 200mA | | | |
| Voltage drop($V_P$) | ≤1.8V(200mA) | | | |
| Display | Red LED | | | |
| Sensitivity adjustment | adjustable | | non-adjustable | |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection | | | |
| Operating temperature | -10...+55°C(no condensation) | | | |
| Insulation Resistance | ≥50MΩ(500VDC) | | | |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | | | |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times | | | |
| Protection | IP67 | | | |
| Connection | Cable: ϕ4.0mm 2M | | M12 connector, LEDx4 | |
| Housing material | nickel-plated brass | | | |
| Accessories | —— | | | |
| Dimensional drawing |   | |   | |
| Remark | 01 . 02 . 03 . 04 . 29 . 30 . 31 . 32—NO of wiring diagram( refers to page 12...15 ) | | | |

| | M12x1, L60 | | M12x1, L75 | |
|---|---|---|---|---|
| PICTURE |  | |  | |
| Emitter | PCBAB-E2M-D2Y2 | *24 | PCBAB-E2M-D4YV1 | *39 |
| Receiver: | | | | |
| DC–3 wires NPN N.O. | PCBAB-T2MNA-D3Y2 | *01 | PCBAB-T2MNA-D4YV1 | *29 |
| DC–3 wires NPN N.C. | PCBAB-T2MNB-D3Y2 | *02 | PCBAB-T2MNB-D4YV1 | *30 |
| DC–3 wires PNP N.O. | PCBAB-T2MPA-D3Y2 | *03 | PCBAB-T2MPA-D4YV1 | *31 |
| DC–3 wires PNP N.C. | PCBAB-T2MPB-D3Y2 | *04 | PCBAB-T2MPB-D4YV1 | *32 |

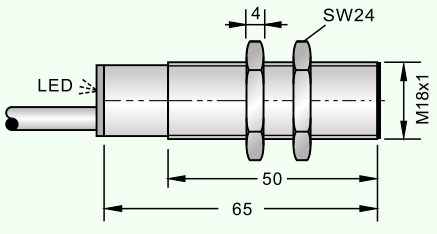
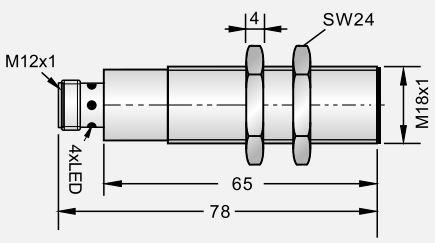
| | | |
|---|---|---|
| Sensing mode | Thru-beam | |
| Sensing distance | 2M | |
| Sensing object | Opaque object , min ø10mm | |
| Standard target | ——— | |
| Response time | ≤3ms | |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. | |
| Output type | NPN NO/NC & PNP NO/NC | |
| Consumption | ≤20mA | |
| Load current | 200mA | |
| Voltage drop($V_P$) | ≤1.8V(200mA) | |
| Display | Red LED | |
| Sensitivity adjustment | non-adjustable | |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection | |
| Operating temperature | -10...+55°C(no condensation) | |
| Insulation Resistance | ≥50MΩ(500VDC) | |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times | |
| Protection | IP67 | |
| Connection | Cable: ϕ4.0mm 2M | M12 connector, LEDx4 |
| Housing material | nickel-plated brass | |
| Accessories | ——— | |
| Dimensional drawing |   |   |
| Remark | 01 . 02 . 03 . 04 . 24 . 29 . 30 . 31 . 32 . 39—NO of wiring diagram( refers to page 12...15 ) | |

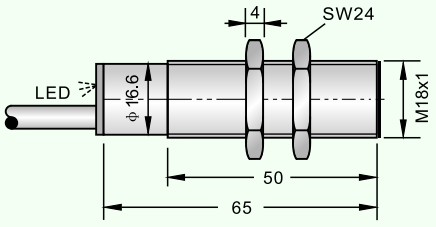
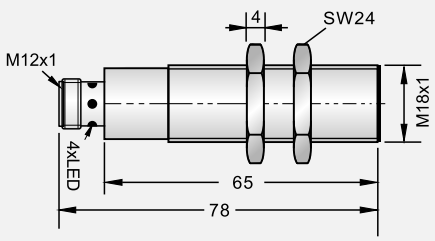
| | M18x1, L65 | | | M18x1, L78 | |
|---|---|---|---|---|---|
| PICTURE |  | | |  | |
| DC–3 wires NPN N.O. | PCBA-D100NA-D3Y2 | PCPA-D100NA-D3Y2 | *01 | PCBA-D100NA-D4YV1 | *29 |
| DC–3 wires NPN N.C. | PCBA-D100NB-D3Y2 | PCPA-D100NB-D3Y2 | *02 | PCBA-D100NB-D4YV1 | *30 |
| DC–3 wires PNP N.O. | PCBA-D100PA-D3Y2 | PCPA-D100PA-D3Y2 | *03 | PCBA-D100PA-D4YV1 | *31 |
| DC–3 wires PNP N.C. | PCBA-D100PB-D3Y2 | PCPA-D100PB-D3Y2 | *04 | PCBA-D100PB-D4YV1 | *32 |
| Sensing mode | Diffuse reflection | | | | |
| Sensing distance | 100mm | | | | |
| Sensing object | opaque / translucent objects | | | | |
| Standard target | 100x100mm(white paper) | | | | |
| Response time | ≤3ms | | | | |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. | | | | |
| Output type | NPN NO/NC & PNP NO/NC | | | | |
| Consumption | ≤20mA | | | | |
| Load current | 200mA | | | | |
| Voltage drop($V_P$) | ≤1.8V(200mA) | | | | |
| Display | Red LED | | | | |
| Sensitivity adjustment | adjustable | | | | |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection | | | | |
| Operating temperature | -10...+55°C(no condensation) | | | | |
| Insulation Resistance | ≥50MΩ(500VDC) | | | | |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | | | | |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times | | | | |
| Protection | IP67 | | | | |
| Connection | Cable: ϕ4.8mm 2M | | | M12 connector, LEDx4 | |
| Housing material | nickel-plated brass | PBT | | nickel-plated brass | |
| Accessories | | | | | |
| Dimensional drawing |  | | |  | |

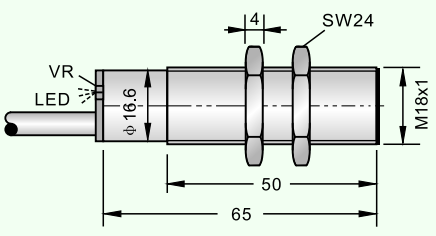
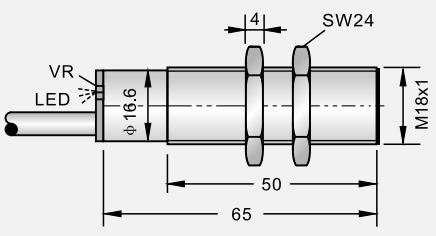


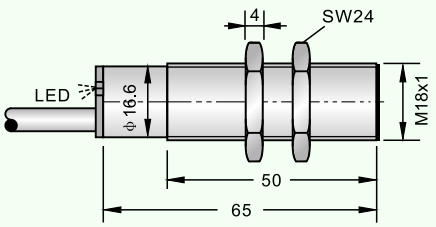
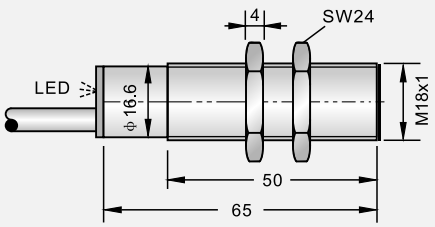


| Remark | 01 . 02 . 03 . 04 . 29 . 30 . 31 . 32—NO of wiring diagram( refers to page 12...15 ) |
|---|---|

| | M18x1, L65 | | | M18x1, L78 | |
|---|---|---|---|---|---|
| PICTURE |  | | |  | |
| Emitter | PCBA-E5M-D2Y2 | PCPA-E5M-D2Y2 | *23 | PCBA-E5M-D4YV1 | *39 |
| Receiver: | | | | | |
| DC–3 wires NPN N.O. | PCBA-T5MNA-D3Y2 | PCPA-T5MNA-D3Y2 | *01 | PCBA-T5MNA-D4YV1 | *29 |
| DC–3 wires NPN N.C. | PCBA-T5MNB-D3Y2 | PCPA-T5MNB-D3Y2 | *02 | PCBA-T5MNB-D4YV1 | *30 |
| DC–3 wires PNP N.O. | PCBA-T5MPA-D3Y2 | PCPA-T5MPA-D3Y2 | *03 | PCBA-T5MPA-D4YV1 | *31 |
| DC–3 wires PNP N.C. | PCBA-T5MPB-D3Y2 | PCPA-T5MPB-D3Y2 | *04 | PCBA-T5MPB-D4YV1 | *32 |
| Sensing mode | Thru-beam | | | | |
| Sensing distance | 5M | | | | |
| Sensing object | Opaque object , min ø20mm | | | | |
| Standard target | ——— | | | | |
| Response time | ≤3ms | | | | |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. | | | | |
| Output type | NPN NO/NC & PNP NO/NC | | | | |
| Consumption | ≤20mA | | | | |
| Load current | 200mA | | | | |
| Voltage drop($V_P$) | ≤1.8V(200mA) | | | | |
| Display | Red LED | | | | |
| Sensitivity adjustment | non-adjustable | | | | |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection | | | | |
| Operating temperature | -10...+55°C(no condensation) | | | | |
| Insulation Resistance | ≥50MΩ(500VDC) | | | | |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | | | | |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times | | | | |
| Protection | IP67 | | | | |
| Connection | Cable: ϕ4.8mm 2M | | | M12 connector, LEDx4 | |
| Housing material | nickel-plated brass | PBT | | nickel-plated brass | |
| Accessories | ——— | | | | |
| Dimensional drawing |  | | |  | |
| Remark | 01 . 02 . 03 . 04 . 23 . 29 . 30 . 31 . 32 . 39—NO of wiring diagram( refers to page 12...15 ) | | | | |

| PICTURE | M18x1, L65 | | | M18x1, L78 | |
|---|---|---|---|---|---|
| |  | | |  | |
| DC–3 wires NPN N.O. | PCBA-R2MNA-D3Y2 | PCPA-R2MNA-D3Y2 | *01 | PCBA-R2MNA-D4YV1 | *29 |
| DC–3 wires NPN N.C. | PCBA-R2MNB-D3Y2 | PCPA-R2MNB-D3Y2 | *02 | PCBA-R2MNB-D4YV1 | *30 |
| DC–3 wires PNP N.O. | PCBA-R2MPA-D3Y2 | PCPA-R2MPA-D3Y2 | *03 | PCBA-R2MPA-D4YV1 | *31 |
| DC–3 wires PNP N.C. | PCBA-R2MPB-D3Y2 | PCPA-R2MPB-D3Y2 | *04 | PCBA-R2MPB-D4YV1 | *32 |
| Sensing mode | Retro-reflective | | | | |
| Sensing distance | 2M | | | | |
| Sensing object | Opaque object , min ø55mm | | | | |
| Standard target | Reflector | | | | |
| Response time | ≤3ms | | | | |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. | | | | |
| Output type | NPN NO/NC & PNP NO/NC | | | | |
| Consumption | ≤20mA | | | | |
| Load current | 200mA | | | | |
| Voltage drop($V_P$) | ≤1.8V(200mA) | | | | |
| Display | Red LED | | | | |
| Sensitivity adjustment | non-adjustable | | | | |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection | | | | |
| Operating temperature | -10...+55°C(no condensation) | | | | |
| Insulation Resistance | ≥50MΩ(500VDC) | | | | |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | | | | |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times | | | | |
| Protection | IP67 | | | | |
| Connection | Cable: ϕ4.8mm 2M | | | M12 connector, LEDx4 | |
| Housing material | nickel-plated brass | PBT | | nickel-plated brass | |
| Accessories | Reflector: 1PCS | | | | |
| Dimensional drawing |  | | |  | |
| Remark | 01 . 02 . 03 . 04 . 29 . 30 . 31 . 32—NO of wiring diagram( refers to page 12...15 ) | | | | |

| PICTURE | M18x1, L65  CE | M18x1, L65  CE |
|---|---|---|
| AC–2 wires N.O. | PCBA-D100AA-A2N2 * 20 | PCPA-D100AA-A2N2 * 20 |
| AC–2 wires N.C. | PCBA-D100AB-A2N2 * 21 | PCPA-D100AB-A2N2 * 21 |
| AC–3 wires N.O. | PCBA-D100BA-A3N2 * 09 | PCPA-D100BA-A3N2 * 09 |
| AC–3 wires N.C. | PCBA-D100BB-A3N2 * 09 | PCPA-D100BB-A3N2 * 09 |
| Sensing mode | Diffuse reflection | |
| Sensing distance | 100mm | |
| Sensing object | opaque / translucent objects | |
| Standard target | 100x100mm(white paper) | |
| Response time | ≤50ms | |
| Supply voltage | 20...250V AC (50/60Hz) | |
| Output type | Solid state isolate output | |
| Consumption | ≤20mA | |
| Load current | 200mA | |
| Voltage drop($V_P$) | ≤3V(200mA) | |
| Display | Red LED | |
| Sensitivity adjustment | adjustable | |
| Circuit Protection | ——— | |
| Operating temperature | -10...+55°C(no condensation) | |
| Insulation Resistance | ≥50MΩ(500VDC) | |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times | |
| Protection | IP67 | |
| Connection | Cable: Φ4.8mm 2M | |
| Housing material | nickel-plated brass | PBT |
| Accessories | ——— | ——— |
| Dimensional drawing |   |   |
| Remark | 09 . 20 . 21—NO of wiring diagram( refers to page 12...15 ) | |

| | M18x1, L65 | | M18x1, L65 | |
|---|---|---|---|---|
| PICTURE |  | |  | |
| AC–2 wires N.O. | PCBA-R2MAA-A2N2 | * 20 | PCPA-R2MAA-A2N2 | * 20 |
| AC–2 wires N.C. | PCBA-R2MAB-A2N2 | * 21 | PCPA-R2MAB-A2N2 | * 21 |
| AC–3 wires N.O. | PCBA-R2MBA-A3N2 | * 09 | PCPA-R2MBA-A3N2 | * 09 |
| AC–3 wires N.C. | PCBA-R2MBB-A3N2 | * 09 | PCPA-R2MBB-A3N2 | * 09 |
| Sensing mode | Retro-reflective | | | |
| Sensing distance | 2M | | | |
| Sensing object | Opaque object , min ø55mm | | | |
| Standard target | Reflector | | | |
| Response time | ≤50ms | | | |
| Supply voltage | 20...250V AC (50/60Hz) | | | |
| Output type | Solid state isolate output | | | |
| Consumption | ≤20mA | | | |
| Load current | 200mA | | | |
| Voltage drop($V_P$) | ≤3V(200mA) | | | |
| Display | Red LED | | | |
| Sensitivity adjustment | non-adjustable | | | |
| Circuit Protection | ——— | | | |
| Operating temperature | -10...+55°C(no condensation) | | | |
| Insulation Resistance | ≥50MΩ(500VDC) | | | |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | | | |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times | | | |
| Protection | IP67 | | | |
| Connection | Cable: ϕ4.8mm 2M | | | |
| Housing material | nickel-plated brass | | PBT | |
| Accessories | Reflector: 1PCS | | Reflector: 1PCS | |
| Dimensional drawing |   | |   | |
| Remark | 09 . 20 . 21—NO of wiring diagram( refers to page 12...15 ) | | | |

PICTURE

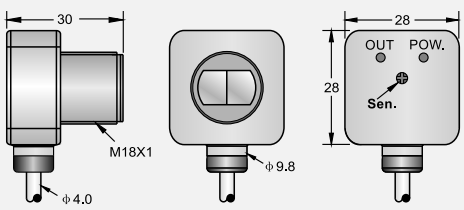
W28xH28xL30

CE

| | | |
|---|---|---|
| DC–3 wires NPN N.O. | PCPK-D100NA-D3Y2 | * 01 |
| DC–3 wires NPN N.C. | PCPK-D100NB-D3Y2 | * 02 |
| DC–3 wires PNP N.O. | PCPK-D100PA-D3Y2 | * 03 |
| DC–3 wires PNP N.C. | PCPK-D100PB-D3Y2 | * 04 |

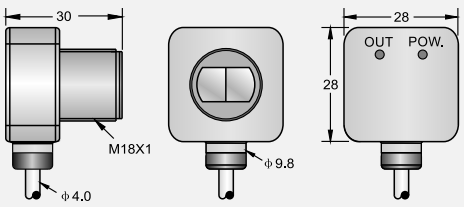
| | |
|---|---|
| Sensing mode | Diffuse reflection |
| Sensing distance | 100mm( can be customzied ) |
| Sensing object | opaque / translucent objects |
| Standard target | 100x100mm(white paper) |
| Response time | ≤3ms |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| Output type | NPN NO/NC & PNP NO/NC |
| Consumption | ≤20mA |
| Load current | 200mA |
| Voltage drop($V_P$) | ≤2.5V(200mA) |
| Display | Power: Red LED; Output: Green LED |
| Sensitivity adjustment | adjustable |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection |
| Operating temperature | -10...+55°C(no condensation) |
| Insulation Resistance | ≥50MΩ(500VDC) |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times |
| Protection | IP66 |
| Connection | Cable: ϕ4.0mm 2M |
| Housing material | PBT |
| Accessories | ——— |

Dimensional drawing




Remark

01 . 02 . 03 . 04—NO of wiring diagram( refers to page 12...15 )

| | | |
|---|---|---|
| PICTURE | W28xH28xL30  CE | |
| **Emitter** | **PCPK-E5M-D2Y2** | *23 |
| **Receiver:** | | |
| **DC–3 wires NPN N.O.** | **PCPK-T5MNA-D3Y2** | *01 |
| **DC–3 wires NPN N.C.** | **PCPK-T5MNB-D3Y2** | *02 |
| **DC–3 wires PNP N.O.** | **PCPK-T5MPA-D3Y2** | *03 |
| **DC–3 wires PNP N.C.** | **PCPK-T5MPB-D3Y2** | *04 |
| | | |
| | | |
| | | |
| **Sensing mode** | Thru-beam | |
| **Sensing distance** | 5M | |
| **Sensing object** | Opaque object of min. ϕ20mm | |
| **Standard target** | ———— | |
| **Response time** | ≤3ms | |
| **Supply voltage** | 12...24V DC (10...30V DC), ripple(p-p):10% max. | |
| **Output type** | NPN NO/NC & PNP NO/NC | |
| **Consumption** | ≤20mA | |
| **Load current** | 200mA | |
| **Voltage drop($V_P$)** | ≤2V(200mA) | |
| **Display** | Power: Red LED; Output: Green LED | |
| **Sensitivity adjustment** | non-adjustable | |
| **Circuit Protection** | Short circuit protection, reversed polarity protection and overload protection | |
| **Operating temperature** | -10...+55°C(no condensation) | |
| **Insulation Resistance** | ≥50MΩ(500VDC) | |
| **Anti–vibration** | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | |
| **Anti–impact** | 500m/s²(50G) X、Y、Z direction, each 10 times | |
| **Protection** | IP66 | |
| **Connection** | Cable: ϕ4.0mm 2M | |
| **Housing material** | PBT | |
| **Accessories** | ———— | |
| **Dimensional drawing** |   | |
| **Remark** | 01 . 02 . 03 . 04 . 24—NO of wiring diagram( refers to page 12...15 ) | |

PICTURE

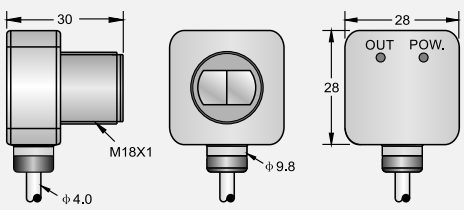
W28xH28xL30

CE

| | | |
|---|---|---|
| DC–3 wires NPN N.O. | PCPK-R2MNA-D3Y2 | * 01 |
| DC–3 wires NPN N.C. | PCPK-R2MNB-D3Y2 | * 02 |
| DC–3 wires PNP N.O. | PCPK-R2MPA-D3Y2 | * 03 |
| DC–3 wires PNP N.C. | PCPK-R2MPB-D3Y2 | * 04 |

| | |
|---|---|
| Sensing mode | Retro-reflective |
| Sensing distance | 2M |
| Sensing object | Opaque object , min ø55mm |
| Standard target | Reflector |
| Response time | ≤3ms |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| Output type | NPN NO/NC & PNP NO/NC |
| Consumption | ≤20mA |
| Load current | 200mA |
| Voltage drop($V_P$) | ≤2.5V(200mA) |
| Display | Power: Red LED; Output: Green LED |
| Sensitivity adjustment | non-adjustable |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection |
| Operating temperature | -10...+55°C(no condensation) |
| Insulation Resistance | ≥50MΩ(500VDC) |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times |
| Protection | IP66 |
| Connection | Cable: ϕ4.0mm 2M |
| Housing material | PBT |
| Accessories | Reflector: 1PCS |

Dimensional drawing




Remark

01 . 02 . 03 . 04—NO of wiring diagram( refers to page 12...15 )

PICTURE

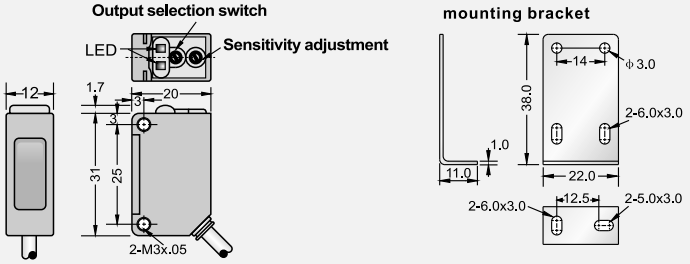
W20xH12xL31

CE

| | | |
|---|---|---|
| DC-3 wires NPN N.O./N.C. Changeover | **PSPVC-D100NS-D3Y2** | * 05 |
| DC-3 wires PNP N.O./N.C. Changeover | **PSPVC-D100PS-D3Y2** | * 06 |

| | |
|---|---|
| **Sensing mode** | Diffuse reflection |
| **Sensing distance** | 100mm |
| **Sensing object** | opaque / translucent objects |
| **Standard target** | 100x100mm(white paper) |
| **Response time** | ≤3ms |
| **Supply voltage** | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| **Output type** | NPN/PNP output(N.O./N.C. changeover) |
| **Consumption** | ≤20mA |
| **Load current** | 200mA |
| **Voltage drop($V_P$)** | ≤1.8V(200mA) |
| **Display** | Power: Red LED; Output: Green LED |
| **Sensitivity adjustment** | adjustable |
| **Circuit Protection** | Short circuit protection, reversed polarity protection and overload protection |
| **Operating temperature** | -10...+55°C(no condensation) |
| **Insulation Resistance** | ≥50MΩ(500VDC) |
| **Anti-vibration** | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| **Anti-impact** | 500m/s²(50G) X、Y、Z direction, each 10 times |
| **Protection** | IP66 |
| **Connection** | Cable: ϕ4.0mm 2M |
| **Housing material** | ABS |
| **Accessories** | mounting bracket: 1PCS |

**Dimensional drawing**




**Remark**

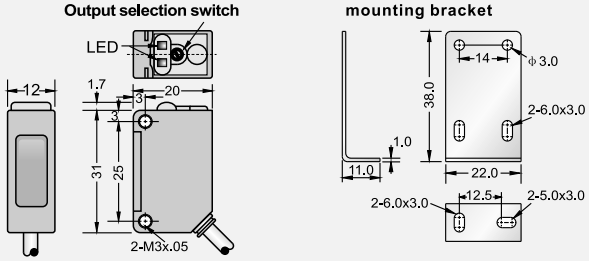
05 . 06—NO of wiring diagram( refers to page 12...15 )

PICTURE

W28xH28xL30

CE

| | | |
|---|---|---|
| **Emitter** | **PSPVC-E10M-D2Y2** | *23 |
| **Receiver:** | | |
| DC-3 wires NPN N.O./N.C. Changeover | **PSPVC-T10MNS-D3Y2** | *05 |
| DC-3 wires PNP N.O./N.C. Changeover | **PSPVC-T10MPS-D3Y2** | *06 |
| | | |
| | | |
| | | |
| | | |
| | | |
| **Sensing mode** | Thru-beam | |
| **Sensing distance** | 10M | |
| **Sensing object** | Opaque object of min. ϕ20mm | |
| **Standard target** | ———— | |
| **Response time** | ≤3ms | |
| **Supply voltage** | 12...24V DC (10...30V DC), ripple(p-p):10% max. | |
| **Output type** | NPN/PNP output(NO/NC changeover) | |
| **Consumption** | ≤20mA | |
| **Load current** | 200mA | |
| **Voltage drop($V_P$)** | ≤1.8V(200mA) | |
| **Display** | Power: Red LED; Output: Green LED | |
| **Sensitivity adjustment** | non-adjustable | |
| **Circuit Protection** | Short circuit protection, reversed polarity protection and overload protection | |
| **Operating temperature** | -10...+55°C(no condensation) | |
| **Insulation Resistance** | ≥50MΩ(500VDC) | |
| **Anti-vibration** | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | |
| **Anti-impact** | 500m/s²(50G) X、Y、Z direction, each 10 times | |
| **Protection** | IP66 | |
| **Connection** | Cable: ϕ4.0mm 2M | |
| **Housing material** | ABS | |
| **Accessories** | mounting bracket: 2PCS | |
| **Dimensional drawing** | Output selection switch / mounting bracket | |
| **Remark** | 05. 06 . 23—NO of wiring diagram( refers to page 12...15 ) | |



W20xH12xL31

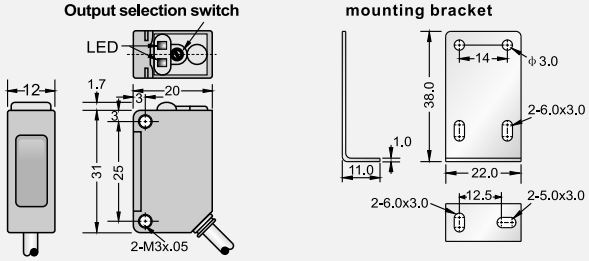
PICTURE

CE

| | | |
|---|---|---|
| DC-3 wires NPN N.O./N.C. Changeover | **PSPVC-R2MNS-D3Y2** | * 05 |
| DC-3 wires PNP N.O./N.C. Changeover | **PSPVC-R2MPS-D3Y2** | * 06 |

| | |
|---|---|
| **Sensing mode** | Retro-reflective |
| **Sensing distance** | 2M |
| **Sensing object** | Opaque object , min ø55mm |
| **Standard target** | Reflector |
| **Response time** | ≤3ms |
| **Supply voltage** | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| **Output type** | NPN/PNP output(N.O./N.C. changeover) |
| **Consumption** | ≤20mA |
| **Load current** | 200mA |
| **Voltage drop($V_P$)** | ≤1.8V(200mA) |
| **Display** | Power: Red LED; Output: Green LED |
| **Sensitivity adjustment** | non-adjustable |
| **Circuit Protection** | Short circuit protection, reversed polarity protection and overload protection |
| **Operating temperature** | -10...+55°C(no condensation) |
| **Insulation Resistance** | ≥50MΩ(500VDC) |
| **Anti-vibration** | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| **Anti-impact** | 500m/s²(50G) X、Y、Z direction, each 10 times |
| **Protection** | IP66 |
| **Connection** | Cable: ϕ4.0mm 2M |
| **Housing material** | ABS |
| **Accessories** | mounting bracket: 1PCS; Reflector: 1PCS |

**Dimensional drawing**




**Remark**

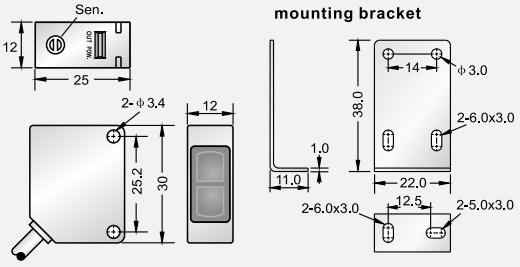
05 . 06—NO of wiring diagram( refers to page 12...15 )

PICTURE

W25xH12xL30

CE

| | | |
|---|---|---|
| DC–3 wires NPN N.O. | PSPVK-D100NA-D3Y2 | * 01 |
| DC–3 wires NPN N.C. | PSPVK-D100NB-D3Y2 | * 02 |
| DC–3 wires PNP N.O. | PSPVK-D100PA-D3Y2 | * 03 |
| DC–3 wires PNP N.C. | PSPVK-D100PB-D3Y2 | * 04 |

| | |
|---|---|
| Sensing mode | Diffuse reflection |
| Sensing distance | 100mm( can be customzied ) |
| Sensing object | opaque / translucent objects |
| Standard target | 100x100mm(white paper) |
| Response time | ≤3ms |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| Output type | NPN NO/NC & PNP NO/NC |
| Consumption | ≤20mA |
| Load current | 200mA |
| Voltage drop($V_P$) | ≤1.8V(200mA) |
| Display | Power: Red LED |
| Sensitivity adjustment | adjustable |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection |
| Operating temperature | -10...+55°C(no condensation) |
| Insulation Resistance | ≥50MΩ(500VDC) |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times |
| Protection | IP66 |
| Connection | Cable: ϕ4.0mm 2M |
| Housing material | PBT |
| Accessories | mounting bracket: 1PCS |
| Dimensional drawing |  |
| Remark | 01 . 02 . 03 . 04—NO of wiring diagram( refers to page 12...15 ) |

PICTURE

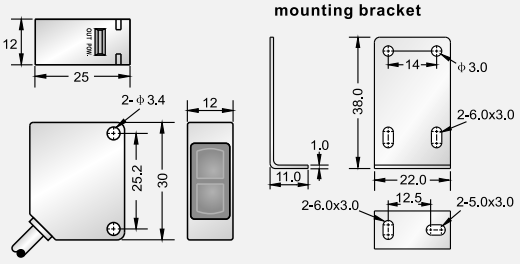
W25xH12xL30

CE

| | | |
|---|---|---|
| **Emitter** | **PSPVK-E2M-D2Y2** | *23 |
| **Receiver:** | | |
| **DC–3 wires NPN N.O.** | **PSPVK-T2MNA-D3Y2** | *01 |
| **DC–3 wires NPN N.C.** | **PSPVK-T2MNB-D3Y2** | *02 |
| **DC–3 wires PNP N.O.** | **PSPVK-T2MPA-D3Y2** | *03 |
| **DC–3 wires PNP N.C.** | **PSPVK-T2MPB-D3Y2** | *04 |

| | |
|---|---|
| **Sensing mode** | Thru-beam |
| **Sensing distance** | 2M |
| **Sensing object** | Opaque object , min ø10mm |
| **Standard target** | ———— |
| **Response time** | ≤3ms |
| **Supply voltage** | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| **Output type** | NPN NO/NC & PNP NO/NC |
| **Consumption** | ≤20mA |
| **Load current** | 200mA |
| **Voltage drop($V_P$)** | ≤1.8V(200mA) |
| **Display** | Power: Red LED |
| **Sensitivity adjustment** | non-adjustable |
| **Circuit Protection** | Short circuit protection, reversed polarity protection and overload protection |
| **Operating temperature** | -10...+55°C(no condensation) |
| **Insulation Resistance** | ≥50MΩ(500VDC) |
| **Anti–vibration** | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| **Anti–impact** | 500m/s²(50G) X、Y、Z direction, each 10 times |
| **Protection** | IP66 |
| **Connection** | Cable: ϕ4.0mm 2M |
| **Housing material** | PBT |
| **Accessories** | mounting bracket: 2PCS |

**Dimensional drawing**




**Remark**

01 . 02 . 03 . 04 . 23—NO of wiring diagram( refers to page 12...15 )

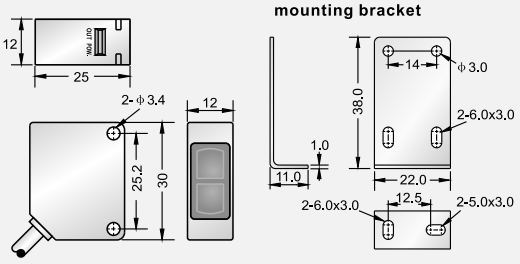
PICTURE

W25xH12xL30

| | | |
|---|---|---|
| DC–3 wires NPN N.O. | PSPVK-R2MNA-D3Y2 | * 01 |
| DC–3 wires NPN N.C. | PSPVK-R2MNB-D3Y2 | * 02 |
| DC–3 wires PNP N.O. | PSPVK-R2MPA-D3Y2 | * 03 |
| DC–3 wires PNP N.C. | PSPVK-R2MPB-D3Y2 | * 04 |

| | |
|---|---|
| Sensing mode | Retro-reflective |
| Sensing distance | 2M |
| Sensing object | Opaque object , min ø55mm |
| Standard target | Reflector |
| Response time | ≤3ms |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| Output type | NPN NO/NC & PNP NO/NC |
| Consumption | ≤20mA |
| Load current | 200mA |
| Voltage drop($V_P$) | ≤1.8V(200mA) |
| Display | Power: Red LED |
| Sensitivity adjustment | non-adjustable |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection |
| Operating temperature | -10...+55°C(no condensation) |
| Insulation Resistance | ≥50MΩ(500VDC) |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times |
| Protection | IP66 |
| Connection | Cable: ϕ4.0mm 2M |
| Housing material | PBT |
| Accessories | mounting bracket: 1PCS; Reflector: 1PCS |

Dimensional drawing




Remark

01 . 02 . 03 . 04—NO of wiring diagram( refers to page 12...15 )

PICTURE

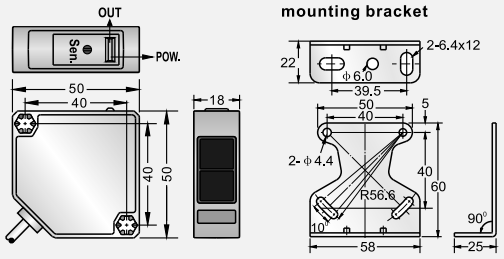
W50xH18xL50

CE

| | | |
|---|---|---|
| DC–3 wires NPN N.O. | PSPV-D700NA-D3Y2 | * 01 |
| DC–3 wires NPN N.C. | PSPV-D700NB-D3Y2 | * 02 |
| DC–4 wires NPN N.O.+N.C. | PSPV-D700NC-D4Y2 | * 14 |
| DC–3 wires PNP N.O. | PSPV-D700PA-D3Y2 | * 03 |
| DC–3 wires PNP N.C. | PSPV-D700PB-D3Y2 | * 04 |
| DC–4 wires PNP N.O.+N.C. | PSPV-D700PC-D4Y2 | * 15 |

| | |
|---|---|
| Sensing mode | Diffuse reflection |
| Sensing distance | 700mm |
| Sensing object | opaque / translucent objects |
| Standard target | 200x200mm(white paper) |
| Response time | ≤3ms |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| Output type | NPN NO/NC & PNP NO/NC |
| Consumption | ≤20mA |
| Load current | 200mA |
| Voltage drop($V_P$) | ≤1.8V(200mA) |
| Display | Power: Red LED |
| Sensitivity adjustment | adjustable |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection |
| Operating temperature | -10...+55°C(no condensation) |
| Insulation Resistance | ≥50MΩ(500VDC) |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times |
| Protection | IP66 |
| Connection | Cable: ϕ4.8mm 2M |
| Housing material | PBT |
| Accessories | mounting bracket: 1PCS |

Dimensional drawing




Remark

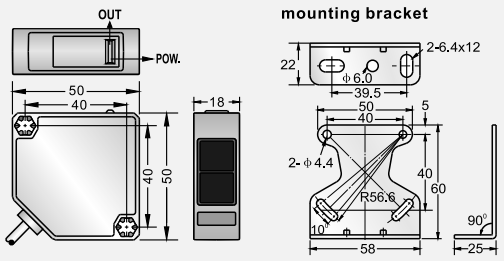
01 . 02 . 03 . 04 . 14 . 15—NO of wiring diagram( refers to page 12...15 )

PICTURE

W50xH18xL50

CE

| | | |
|---|---|---|
| **Emitter** | **PSPV-E5M-D2Y2** | * 23 |
| **Receiver:** | | |
| **DC–3 wires NPN N.O.** | **PSPV-T5MNA-D3Y2** | * 01 |
| **DC–3 wires NPN N.C.** | **PSPV-T5MNB-D3Y2** | * 02 |
| **DC–4 wires NPN N.O.+N.C.** | **PSPV-T5MNC-D4Y2** | * 14 |
| **DC–3 wires PNP N.O.** | **PSPV-T5MPA-D3Y2** | * 03 |
| **DC–3 wires PNP N.C.** | **PSPV-T5MPB-D3Y2** | * 04 |
| **DC–4 wires PNP N.O.+N.C.** | **PSPV-T5MPC-D4Y2** | * 15 |

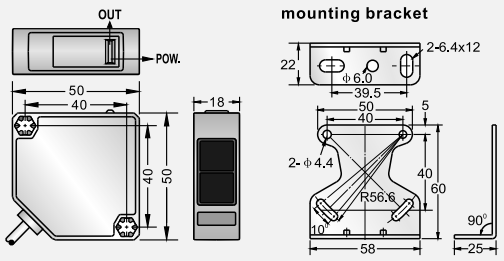
| | |
|---|---|
| **Sensing mode** | Thru-beam |
| **Sensing distance** | 5M |
| **Sensing object** | Opaque object , min ø20mm |
| **Standard target** | ———— |
| **Response time** | ≤3ms |
| **Supply voltage** | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| **Output type** | NPN NO/NC & PNP NO/NC |
| **Consumption** | ≤20mA |
| **Load current** | 200mA |
| **Voltage drop($V_P$)** | ≤1.8V(200mA) |
| **Display** | Power: Red LED |
| **Sensitivity adjustment** | non-adjustable |
| **Circuit Protection** | Short circuit protection, reversed polarity protection and overload protection |
| **Operating temperature** | -10...+55°C(no condensation) |
| **Insulation Resistance** | ≥50MΩ(500VDC) |
| **Anti–vibration** | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| **Anti–impact** | 500m/s²(50G) X、Y、Z direction, each 10 times |
| **Protection** | IP66 |
| **Connection** | Cable: ϕ4.8mm 2M |
| **Housing material** | PBT |
| **Accessories** | mounting bracket: 2PCS |
| **Dimensional drawing** |  |
| **Remark** | 01 . 02 . 03 . 04 . 14 . 15 . 23—NO of wiring diagram( refers to page 12...15 ) |

PICTURE

W50xH18xL50

CE

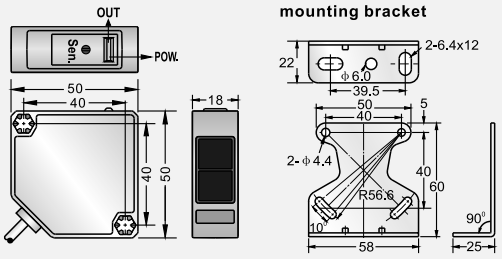
| | | |
|---|---|---|
| DC–3 wires NPN N.O. | PSPV-R4MNA-D3Y2 | *01 |
| DC–3 wires NPN N.C. | PSPV-R4MNB-D3Y2 | *02 |
| DC–4 wires NPN N.O.+N.C. | PSPV-R4MNC-D4Y2 | *14 |
| DC–3 wires PNP N.O. | PSPV-R4MPA-D3Y2 | *03 |
| DC–3 wires PNP N.C. | PSPV-R4MPB-D3Y2 | *04 |
| DC–4 wires PNP N.O.+N.C. | PSPV-R4MPC-D4Y2 | *15 |

| | |
|---|---|
| Sensing mode | Retro-reflective |
| Sensing distance | 4M |
| Sensing object | Opaque object , min ø75mm |
| Standard target | Reflector |
| Response time | ≤3ms |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| Output type | NPN NO/NC & PNP NO/NC |
| Consumption | ≤20mA |
| Load current | 200mA |
| Voltage drop($V_P$) | ≤1.8V(200mA) |
| Display | Power: Red LED |
| Sensitivity adjustment | non-adjustable |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection |
| Operating temperature | -10...+55°C(no condensation) |
| Insulation Resistance | ≥50MΩ(500VDC) |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times |
| Protection | IP66 |
| Connection | Cable: ϕ4.8mm 2M |
| Housing material | PBT |
| Accessories | mounting bracket: 1PCS; Reflector: 1PCS |
| Dimensional drawing |  |
| Remark | 01 . 02 . 03 . 04—NO of wiring diagram( refers to page 12...15 ) |

PICTURE

W50xH18xL50

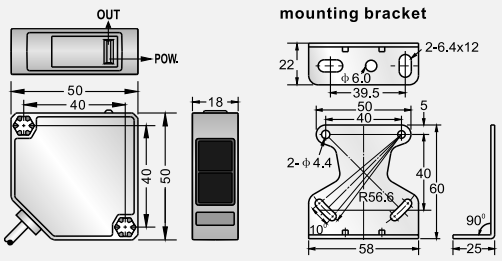
CE

| Relay output AC/DC | PSPV-D700TRC-T5N2 | * 26 |
|---|---|---|
| Sensing mode | Diffuse reflection | |
| Sensing distance | 700mm | |
| Sensing object | opaque / translucent objects | |
| Standard target | 200x200mm(white paper) | |
| Response time | ≤30ms | |
| Supply voltage | 20...240V AC/12...240V DC | |
| Output type | Relay output | |
| Consumption | ≤30mA | |
| Load current | 3A | |
| Voltage drop($V_P$) | ≤10V(3A) | |
| Display | Power: Red LED | |
| Sensitivity adjustment | adjustable | |
| Circuit Protection | ——— | |
| Operating temperature | -10...+55°C(no condensation) | |
| Insulation Resistance | ≥50MΩ(500VDC) | |
| Anti-vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | |
| Anti-impact | 500m/s²(50G) X、Y、Z direction, each 10 times | |
| Protection | IP66 | |
| Connection | Cable: ϕ4.8mm 2M | |
| Housing material | PBT | |
| Accessories | mounting bracket: 1PCS | |
| Dimensional drawing |  | |
| Remark | 26—NO of wiring diagram( refers to page 12...15 ) | |

W50xH18xL50

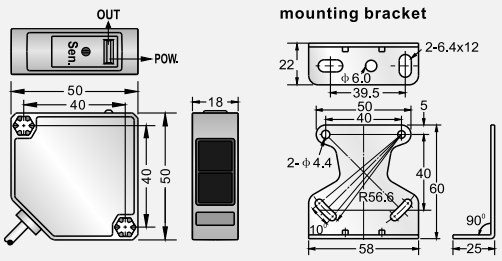
PICTURE

CE

| | | |
|---|---|---|
| **Emitter** | **PSPV-E5M-T2N2** | *24 |
| **Receiver:** | | |
| **Relay output AC/DC** | **PSPV-T5MTRC-T5N2** | *26 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| **Sensing mode** | Thru-beam | |
| **Sensing distance** | 5M | |
| **Sensing object** | Opaque object , min ø20mm | |
| **Standard target** | ———— | |
| **Response time** | ≤30ms | |
| **Supply voltage** | 20...240V AC/12...240V DC | |
| **Output type** | Relay output | |
| **Consumption** | ≤30mA | |
| **Load current** | 3A | |
| **Voltage drop($V_P$)** | ≤10V(3A) | |
| **Display** | Power: Red LED | |
| **Sensitivity adjustment** | non-adjustable | |
| **Circuit Protection** | Short circuit protection, reversed polarity protection and overload protection | |
| **Operating temperature** | -10...+55°C(no condensation) | |
| **Insulation Resistance** | ≥50MΩ(500VDC) | |
| **Anti-vibration** | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | |
| **Anti-impact** | 500m/s²(50G) X、Y、Z direction, each 10 times | |
| **Protection** | IP66 | |
| **Connection** | Cable: ϕ4.8mm 2M | |
| **Housing material** | PBT | |
| **Accessories** | mounting bracket: 2PCS | |
| **Dimensional drawing** |  | |
| **Remark** | 01 . 02 . 03 . 04 . 24—NO of wiring diagram( refers to page 12...15 ) | |

PICTURE

W50xH18xL50

| | | |
|---|---|---|
| **Relay output AC/DC** | **PSPV-R4MTRC-T5N2** | * 26 |
| **Sensing mode** | Retro-reflective | |
| **Sensing distance** | 4M | |
| **Sensing object** | Opaque object , min ø75mm | |
| **Standard target** | Reflector | |
| **Response time** | ≤30ms | |
| **Supply voltage** | 20...240V AC/12...240V DC | |
| **Output type** | Relay output | |
| **Consumption** | ≤30mA | |
| **Load current** | 3A | |
| **Voltage drop($V_P$)** | ≤10V(3A) | |
| **Display** | Power: Red LED | |
| **Sensitivity adjustment** | non-adjustable | |
| **Circuit Protection** | ———— | |
| **Operating temperature** | -10...+55°C(no condensation) | |
| **Insulation Resistance** | ≥50MΩ(500VDC) | |
| **Anti-vibration** | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours | |
| **Anti-impact** | 500m/s²(50G) X、Y、Z direction, each 10 times | |
| **Protection** | IP66 | |
| **Connection** | Cable: ϕ4.8mm 2M | |
| **Housing material** | PBT | |
| **Accessories** | mounting bracket: 1PCS; Reflector: 1PCS | |
| **Dimensional drawing** |  | |
| **Remark** | 26—NO of wiring diagram( refers to page 12...15 ) | |

W52xH16.4xL72

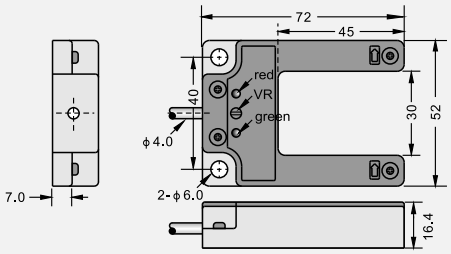
PICTURE

CE

| | | |
|---|---|---|
| DC–4 wires NPN N.O./N.C. Changeover | PUDUA-U30NS-D4Y2 | * 12 |
| DC–4 wires NPN N.O./N.C. Changeover | PUDUA-U30PS-D4Y2 | * 13 |
| DC–4 wires NPN N.O.+N.C. | PUDUA-U30NC-D4Y2 | * 14 |
| DC–4 wires PNP N.O.+N.C. | PUDUA-U30PC-D4Y2 | * 15 |

| | |
|---|---|
| Sensing mode | Slot thru-beam |
| Sensing distance | 30mm |
| Sensing object | opaque / translucent objects |
| Standard target | ——— |
| Response time | ≤3ms |
| Supply voltage | 12...24V DC (10...30V DC), ripple(p-p):10% max. |
| Output type | NPN NO/NC & PNP NO/NC |
| Consumption | ≤20mA |
| Load current | 200mA |
| Voltage drop($V_P$) | ≤2V(200mA) |
| Display | Power: Red LED; Output: Green LED |
| Sensitivity adjustment | adjustable |
| Circuit Protection | Short circuit protection, reversed polarity protection and overload protection |
| Operating temperature | -10...+55°C(no condensation) |
| Insulation Resistance | ≥50MΩ(500VDC) |
| Anti–vibration | 10...55Hz(amplitude 1.5mm)X、Y、Z direction each 2 hours |
| Anti–impact | 500m/s²(50G) X、Y、Z direction, each 10 times |
| Protection | IP66 |
| Connection | Cable: ϕ4.8mm 2M |
| Housing material | Die-cast |
| Accessories | ——— |

Dimensional drawing




Remark

12 . 13 . 14 . 15—NO of wiring diagram( refers to page 12...15 )