

## Range Finder Reflective Sensor

### PD4 series

#### ▶▶ General

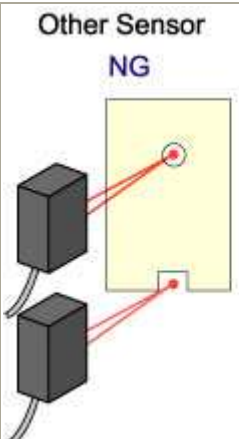
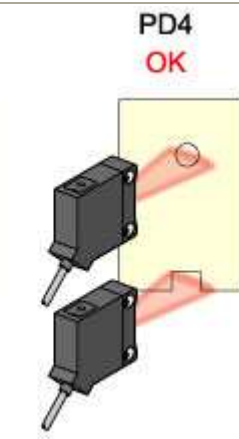
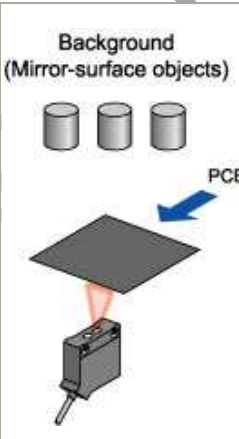
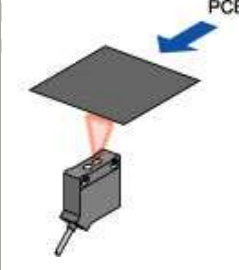
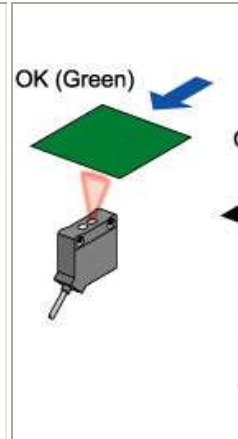
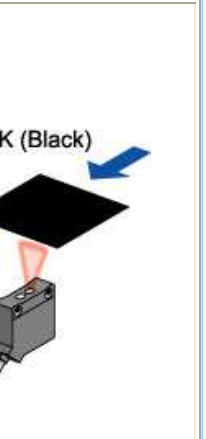
##### \* Sharp detection characteristics

This sensor doesn't detect background because of range finder reflection type.

##### \* Detection of notch or hole

This sensor realizes oval detection area (25mm by 1.5mm) by applying non-spherical surface toric lens.

#### ▶▶ Feature

Detection of notch or hole	It doesn't detect background	Stable detection for black PCB
<p>Other Sensor NG</p>  <p>PD4 OK</p> 	<p>Background (Mirror-surface objects)</p>  <p>PCB</p> 	<p>OK (Green)</p>  <p>OK (Black)</p> 

#### ▶▶ Principle of Detection

**It calculates the distance**

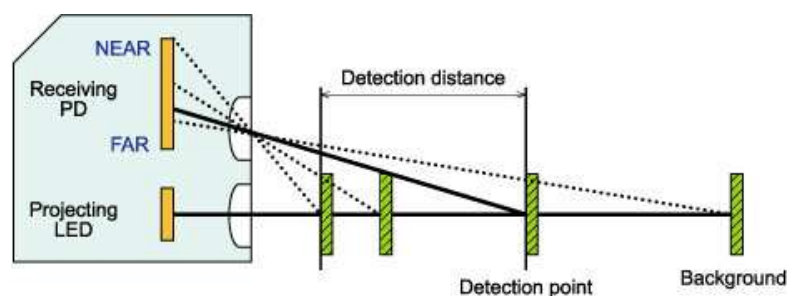
**operation with light-receiving**

**level ratio between near and far**

**light-receiving photo diode (PD)**

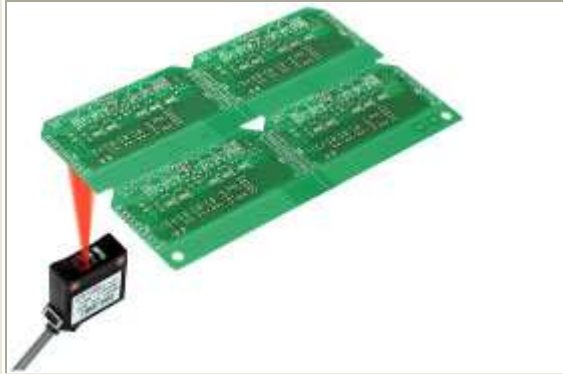
**in accordance with detecting**

**distance.**



▶ Application

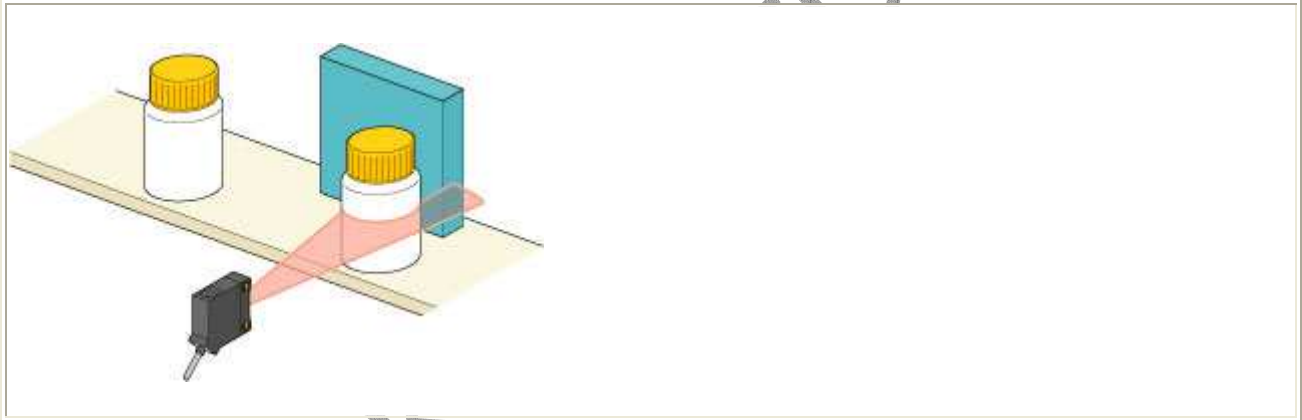
Detection of PCB



Detection of CD-ROM, etc.



Detection of round work without background influence



▶ Detection of round work

Other sensor

NG

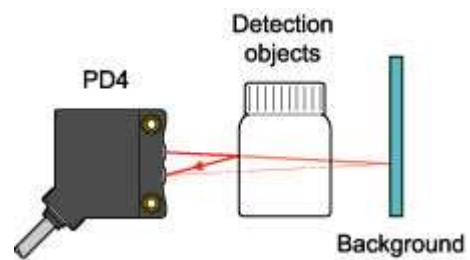


PD4

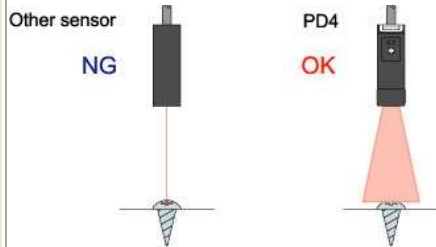
OK



▶ Detecting method of round work without background influence

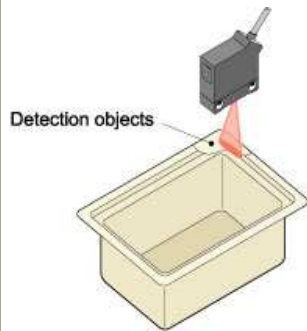


### Detection of screw-existing or not

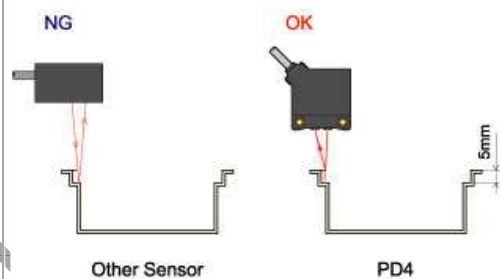


### Detection of same colors object in the near position

For example, PD4 can detect even if detecting object is closed to background and is the same color.



### Detection for mispeeling of seal



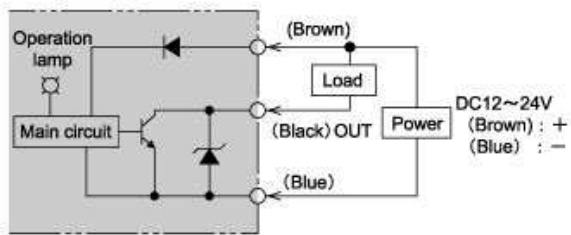
### ► Specifications

Kinds	Range finder reflection type (2-beam area reflection type)			
Model No.	PD4-35RT	PD4-35RS	PD4-45RT	PD4-45RS
Light-reception element	Dual photo-diode			
Power source	12-24VDC (+/-10% ripple 5% or less)			
Current consumption	30mA			
Light source	Infra-red LED (870nm), Red LED(620mm)			
Detection distance	35mm		45mm	
Detectable range	5-35mm		5-45mm	
Output	NPN open-collector (33VDC, 100mA or less)	PNP open-collector (33VDC, 100mA or less)	NPN open-collector (33VDC, 100mA or less)	PNP open-collector (33VDC, 100mA or less)
Response time	2ms or less			
Operation mode	LIGHT-ON			
Indications lamps	Operation lamp(Red LED) : Lights up when light-entering			
Connection	Cable length 2m, 0.3square mm, 3-core cabtyre cord			
Adjustment	Adjustment for background detection(It set the existing of object with mirror surface to reflecting object in background)			

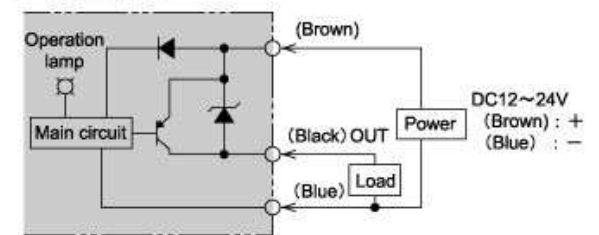
Protective circuit	Protective circuit for reverse connection, Protective circuit for short-circuited
Ambient illuminance (Light-reception surface)	Sunlight : 10,000lux or less Incandescent lamp : 3,000lux or less
Ambient temperature & humidity	From -10 to +55degreesC, 85%RH or less(not condensing)
Vibration resistance	Frequency :10-55Hz, Double amplitude : 1.5mm each 2 hour in X, Y & Z directions
Impact resistance	980m/S2 each 6 time in X, Y & Z directions
Protective structure	IP66 (IEC standard)
Case	ABS resin
Weight	Approx.60g

## ► Connection

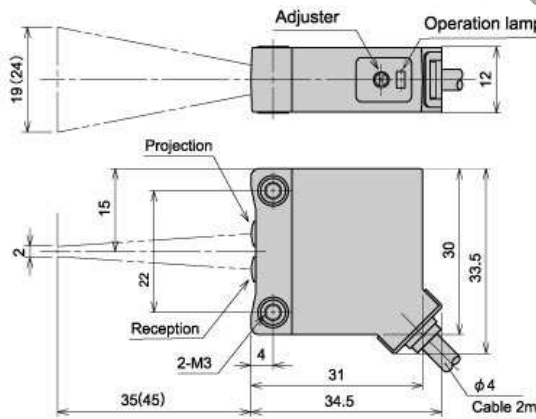
### NPN output type



### PNP output type



## ► External dimensions



Note) Figure in ( ) : dimension of PD4-45RT/45RS



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