

BGS Type Photoelectric Switch

PD3 SERIES

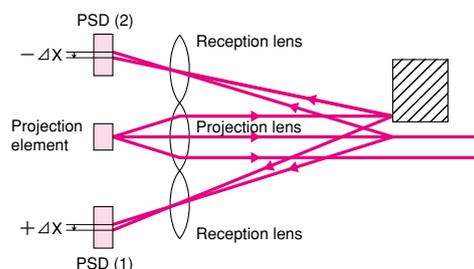
Not affected by colors or materials Stable detection

- It is less affected by colors, materials or shapes of detection objects.
It can detect under the same condition even if white, black or other colors are mixing.
- Not affected by background.
- Less affected by dirty lens surface.
- IP67 protective structure.



■ Detection principle

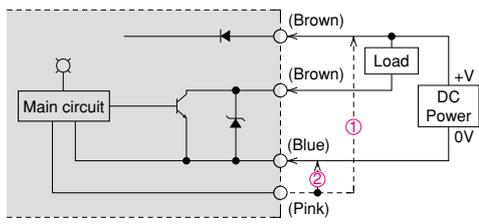
This is applying the principle of an optical triangulation measurement such as automatic focus camera. Using 2 pcs of PSD as the figure, distance is measured by averaging each error.



■ Specifications

Kind	BGS reflection type (Triple beam)		
	PD3-03C	PD3-20C	PD3-70C
Model No.	PD3-03C	PD3-20C	PD3-70C
Power source	12 to 24VDC ($\pm 10\%$, ripple 10% or less)		
Current consumption	30mA or less		
Projecting element	PSD		
Light source	Infrared LED		
Detecting distance (rated)	3cm (1×1cm white paper)	20cm (2×2cm white paper)	70cm (7.5×7.5cm white paper)
Detectable range	2 to 4cm	4 to 20cm	20 to 70cm
Detecting objects	Semi-transparent/opaque objects		
Hysteresis	10% or less (at rated setting distance)	20% or less (at rated setting distance)	
Response time	2msec or less		
Operating mode	Changeover by cable (pink) Light-ON: Connect pink cable to +V side (Brown) Dark-ON: Connect pink cable to 0V side (Blue)		
Output	NPN open-collector output, 100mA/30VDC or less, Residual voltage 1.2V or less		
Indication lamps	Operating lamp (Red LED): lights up when light will enter, Stable lamp (Red LED): Lights up when stable operation		
Connection	Cable type (length 2m, 0.3mm ² , heat-resistance vinyl cable)		
Distance adjuster	Provided		
Ambient illuminance	Incandescent lamp: 10,000lux or less		
Ambient temperature	-25 to +55°C		
Ambient humidity	85% or less, not icing/not condensing		
Insulation resistance	20MΩ or more (by 500VDC megger): between I/O terminal and fitting metal		
Vibration resistance	Double amplitude 1.5mm, 10 to 55Hz, each 2 hour in X, Y and Z directions		
Impact resistance	980m/s ² , each 6 time in X, Y and Z directions		
Withstand voltage	500VAC/min.: between I/O terminal and fitting metal		
Protective structure	IP67 (IEC standard)		
Time for stable circuit	100msec or less		
Case material	Case: Zinc die-cast, lens: polycarbonate		
Weight	Approx.110g	Approx.210g	
Accessory	Fitting metal		

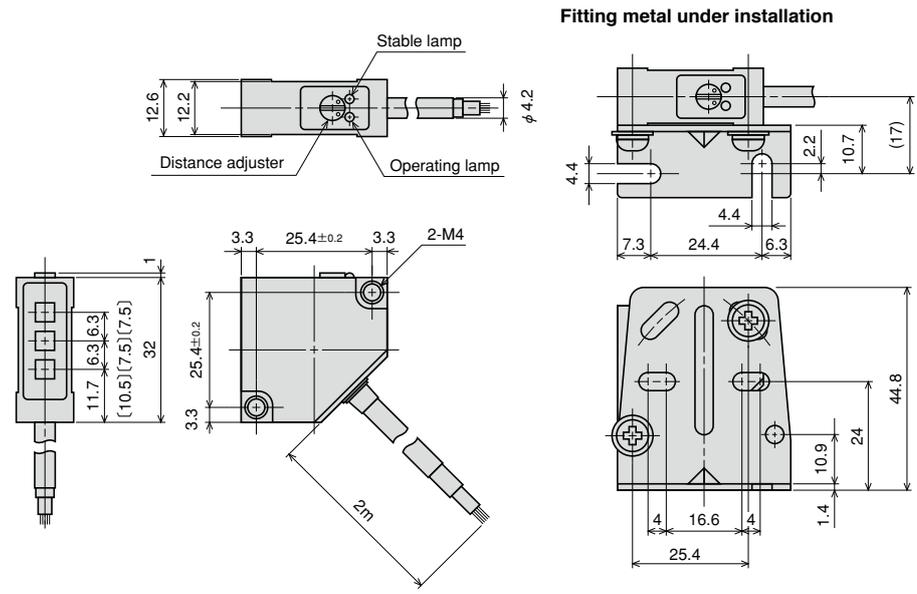
Output circuit



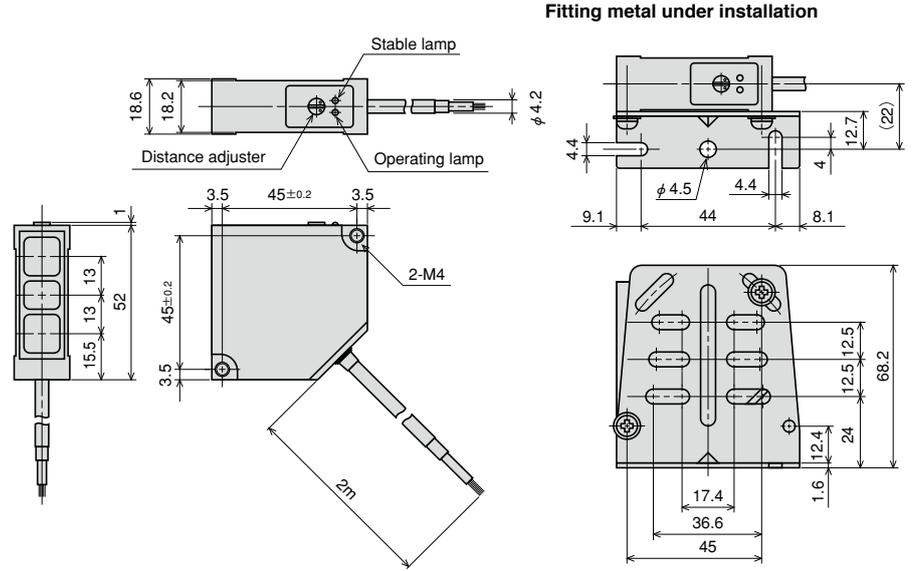
Changeover of operating mode (pink): ① Output transistor ON when light-entering (Connected to +V side)
 ② Output transistor ON when light-interruption (Connected to 0V side)

External dimensions

PD3-03C/PD3-20C



PD3-70C



Note) Parenthetic dimension is for PD3-20C.