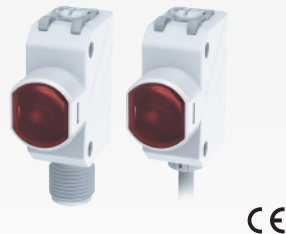


Operation Instruction



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Precautions

- The maximum allowable voltage of the sensor is 10% of the rated voltage. Please confirm that the supply voltage is less than the maximum allowable value before powering on.
- The time from powering-on to normal detection of the sensor is 100ms, please ensure that the sensor is used after 100ms of powering-on.
- When using different power sources for the sensor and load, be sure to turn on the power of the sensor first.
- When the sensor is not used, it is recommended to cut off the power of the load first and then turn off the power of the sensor.
- When installing do not subject the sensor to severe external force (such as hammering, etc.), which may damage the sensor performance.
- Avoid using thinner, alcohol or other organic solvents when cleaning.

Safety Warning

- Do not use in an environment with flammable, explosive or corrosive gases.
- Do not use in oil or chemical environments.
- Do not use in a high humidity environment.
- Do not use in direct sunlight
- Do not use in other environmental conditions that exceed the rated value.
- Do not disassemble, repair or modify this product without authorization.

Scrap Treatment

- When the product is scrapped, please dispose of it as industrial waste.

■ Accessory Dimensions

Mounting bracket: ZJP-8	M18 nut
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■ Technical specifications

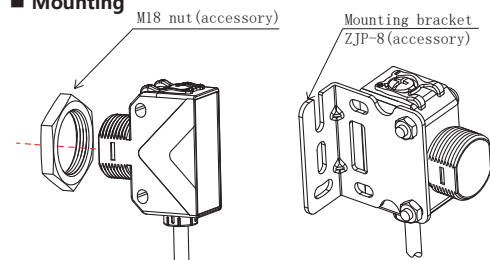
Detection type		Through beam		Polarized reflection	Diffuse reflection	Background suppression
Part number	NPN cable	Emitter PSR-TM20D	Receiver PSR-TM20DNB	PSR-PM3DNBR	PSR-BC30DNBR	PSR-YC10DNBR
	NPN connector	Emitter PSR-TM20D-E2	Receiver PSR-TM20DNB-E2	PSR-PM3DNBR-E2	PSR-BC30DNBR-E2	PSR-YC10DNBR-E2
	PNP cable	Emitter PSR-TM20D	Receiver PSR-TM20DPB	PSR-PM3DPBR	PSR-BC30DPBR	PSR-YC10DPBR
	PNP connector	Emitter PSR-TM20D-E2	Receiver PSR-TM20DPB-E2	PSR-PM3DPBR-E2	PSR-BC30DPBR-E2	PSR-YC10DPBR-E2
Sensing distance		0.3...20m		0...3m*	0.5...30cm	10cm
Light spot		/		180*180mm@3m	18*18mm@30cm	8*8mm@10cm
Standard target		> φ15mm opaque object		/		
Hysteresis range		/			3...20%	≤5%
Direction angle		>4°		/		
Light source		Infrared LED (850nm)		Red LED (660nm)		
NO/NC adjustment		Cable: NO: white line is connected to the positive electrode; NC: white line is connected to the negative electrode Connector: NO: 2 feet is connected to the positive electrode; NC: 2 feet is connected to the negative electrode				
Supply voltage		10...30 VDC				
Consumption current		Emitter: ≤15mA; Receiver: ≤18mA		≤20mA		≤25mA
Load current		≤200mA				≤100mA
Residual voltage		≤1V				≤1.8V
Circuit protection		Short-circuit, overload, reverse polarity and zener protection				
Distance adjustment		Single-turn potentiometer				Non-adjustable
Response time		≤1ms				
Indicator display	Green	Power supply		power indication, stable indication (blinking means unstable signal)		power indicator stable indication (low brightness, weak signal)
	Yellow	output indication Short circuit or overload indication (flashing)		output indication, short circuit or overload indication (flashing)		output indication short circuit or overload indication (flashing)
Anti-ambient light		Anti-ambient light interference ≥10,000lux; Incandescent light interference ≥3,000lux				
Ambient temperature		-15℃...60℃				
Storage temperature		-25℃...70℃				
Protection degree		IP67				
Certification		CE				
Production standards		EN60947-5-2:2012; IEC60947-5-2:2012				
Installation		Composite installation				
Optical components		Housing material: ABS; Filter: PMMA				
Weight		Connector:10g; Cable:52g				
Accessories		Operation Instruction, M18*1 nut, reflectorTD-09(Polarized reflection type sensor only)、Mounting bracket ZJP-8				

*This data is the result of the TD-09 test of the reflector of the Lanbao PSR polarized sensor.



■ Wiring diagram

NPN Output	PNP Output	Emitter
<p>Output indication (Yellow)</p> <p>Photoelectric sensor main circuit</p> <p>Stability indication (Green)</p> <p>BN +</p> <p>BK -</p> <p>BU -</p> <p>WH NO/NC</p> <p>10-30V</p>	<p>Output indication (Yellow)</p> <p>Photoelectric sensor main circuit</p> <p>Stability indication (Green)</p> <p>BN +</p> <p>BK -</p> <p>BU -</p> <p>WH NO/NC</p> <p>10-30V</p>	<p>Power indication (Green)</p> <p>Photoelectric sensor main circuit</p> <p>Power indication (Green)</p> <p>BN +</p> <p>BU -</p> <p>WH NO/NC</p> <p>10-30V</p>

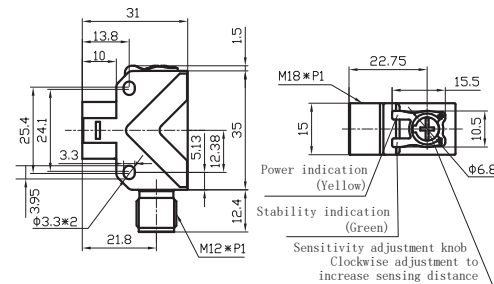
■ Mounting


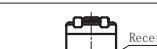


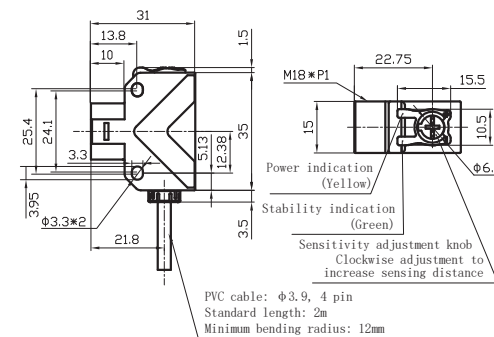
■ Terminal Wiring Diagram



Through beam Emitter	Polarized reflection/Diffuse reflection/Background suppression Receiver
 1: + 3: -	 1: + 4: OUT 3: - 2: -NC/+NO
BN: + BU: -	BN: + BK: OUT BU: - WH: -NC/+NO

■ Dimensions



Through beam	Polarized reflection/ Diffuse reflection/ Background suppression
 <p>The diagram shows two sensors facing each other. The left sensor is labeled 'Emitter' and the right is labeled 'Receiver'. Both have a vertical dimension line indicating a height of 17.5. A horizontal dashed line connects the centers of the two sensors.</p>	 <p>The diagram shows a single sensor with two internal components: a 'Receiver' at the top and an 'Emitter' at the bottom. A horizontal dashed line represents the 'Optic axis'. Vertical dimension lines on the left indicate a total height of 17.5 and a distance of 6.8 from the bottom to the optic axis.</p>



Through beam	Polarized reflection/ Diffuse reflection/ Background suppression
 <p>Diagram illustrating the Through beam sensor configuration. It shows two cylindrical components: an Emitter on the left and a Receiver on the right. Both have a vertical dimension of 17.5. A dashed horizontal line represents the beam path from the emitter to the receiver.</p>	 <p>Diagram illustrating the Polarized reflection sensor configuration. It shows a single cylindrical component with an internal horizontal dashed line representing the Optic axis. The component has a total vertical dimension of 17.5 and a smaller internal vertical dimension of 6.8. Labels indicate the Receiver at the top and the Emitter at the bottom.</p>

PS-PSR-1904LB V1.1

This specification doesn't relate to patent responsibility. Moreover, our company is always devoting to improving product quality, and reserves the right to improve products by changing pattern or size without prior notice. We have considered all the notes when compiling this specification, but for the wrong or clipped parts, and any loss caused by using this manual information, we bear no responsibility.

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