

## Small size photoelectric sensors PSM series



### Features

- 18mm threaded cylindrical mounting for easy installation;
- Short case for small installation space;
- Big angle, long distance, easy to install and debug;
- With 360° visible bright LED status indicator;
- Excellent anti-light interference, high stability;



| Model     | Emitter      | Receiver       | Model     | Emitter      | Receiver       |
|-----------|--------------|----------------|-----------|--------------|----------------|
| NPN NO/NC | PSM-TM20D-E2 | PSM-TM20DNB-E2 | PNP NO/NC | PSM-TM20D-E2 | PSM-TM20DPB-E2 |

| Specifications      |   |                       |  |
|---------------------|---|-----------------------|--|
| Detection type      | Through beam  | Circuit protection    | Short-circuit, overload, reverse polarity protection |
| Rated distance      | 20m   | Connection            | M12 4-core connector                                 |
| Light source        | Infrared (850nm)  | Indicator             | Green LED: power, stable                             |
| Standard target     | > $\phi$ 15mm opaque object   |                       | Yellow LED: output, short circuit or overload        |
| Output              | NPN NO/NC or PNP NO/NC  | Anti-ambient light    | Anti-sunlight interference $\leq$ 10,000lux;         |
| Response time       | $\leq$ 1ms  |                       | Incandescent light interference $\leq$ 3,000lux      |
| Direction angle     | > 4°  | Operating temperature | -25...55 °C  |
| Supply voltage      | 10...30 VDC   | Storage temperature   | -35...70 °C  |
| Consumption current | Emitter: $\leq$ 20mA ; Receiver: $\leq$ 20mA  | Protection degree     | IP67   |
| Load current        | $\leq$ 200mA  | Certification         | CE   |
| Voltage drop        | $\leq$ 1V   | Material              | Housing: Nickel copper alloy; Filter: PMMA           |
| Distance adjustment | Single-turn potentiometer   | Annex                 | M18 nut (4PCS), instruction manual                   |
| NO/NC adjustment    | Feet 2 is connected to the positive pole or hang up, NO mode; Feet 2 is connected to the negative pole, NC mode |                       |  |

Remarks:①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

| Dimensions | Circuit Diagrams |
|------------|------------------|
|            |                  |

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| Model     |           |             |           |           |             |
|-----------|-----------|-------------|-----------|-----------|-------------|
|           | Emitter   |             | Receiver  |           |             |
| NPN NO/NC | PSM-TM20D | PSM-TM20DNB | PNP NO/NC | PSM-TM20D | PSM-TM20DPB |

| Specifications      |   |  |                       |  |  |
|---------------------|---|--|-----------------------|--|--|
| Detection type      | Through beam  |  | Circuit protection    | Short-circuit, overload, reverse polarity protection |  |
| Rated distance      | 20m   |  | Connection            | 2m PVC cable   |  |
| Light source        | Infrared (850nm)  |  | Indicator             | Green LED: power, stable                             |  |
| Standard target     | > $\phi 15$ mm opaque object  |  |                       | Yellow LED: output, short circuit or overload        |  |
| Output              | NPN NO/NC or PNP NO/NC  |  | Anti-ambient light    | Anti-sunlight interference $\leq 10,000$ lux;        |  |
| Response time       | $\leq 1$ ms   |  |                       | Incandescent light interference $\leq 30,000$ lux    |  |
| Direction angle     | $> 4^\circ$   |  | Operating temperature | $-25 \dots 55^\circ \text{C}$                        |  |
| Supply voltage      | 10...30 VDC   |  | Storage temperature   | $-35 \dots 70^\circ \text{C}$                        |  |
| Consumption current | Emitter: $\leq 20$ mA ; Receiver: $\leq 20$ mA  |  | Protection degree     | IP67   |  |
| Load current        | $\leq 200$ mA   |  | Certification         | CE   |  |
| Voltage drop        | $\leq 1$ V  |  | Material              | Housing: Nickel copper alloy; Filter: PMMA           |  |
| Distance adjustment | Single-turn potentiometer   |  | Annex                 | M18 nut (4PCS), instruction manual                   |  |
| NO/NC adjustment    | White wire is connected to the positive pole or hang up, NO mode; White wire is connected to the negative pole, NC mode |  |                       |  |  |

Remarks: ①Detection object is 90% white card with size 20cm \* 20cm;

②The green LED becomes weaker, which means that the signal is weaker and the sensor is unstable; The yellow LED flashes, which means that the sensor is shorted or overloaded;

| Dimensions   | Circuit Diagrams  |
|--|---|
| <p>Cable diameter <math>\phi 3.9</math>, Cable length 2m<br/>Bending radius 12mm</p> <p>42.7</p> <p>36</p> <p>26</p> <p>M18x1</p> <p>Operation LED<br/>Yellow</p> <p>Power LED<br/>Green</p> <p>Receiver</p> <p>5.8</p> <p>Emitter</p> | <p>Power indication (Green)</p> <p>Photoelectric sensor main circuit</p> <p>Power indication (Green)</p> <p>BN +</p> <p>BU -</p> <p>10...30V</p> <p>Emitter</p> <p>Output indication (Yellow)</p> <p>Photoelectric sensor main circuit</p> <p>Stability indication (Green)</p> <p>BN +</p> <p>BK Output</p> <p>BU -</p> <p>WH NO/NC</p> <p>Load</p> <p>10...30V</p> <p>Floating</p> <p>NPN</p> <p>Output indication (Yellow)</p> <p>Photoelectric sensor main circuit</p> <p>Stability indication (Green)</p> <p>BN +</p> <p>BK Output</p> <p>BU -</p> <p>WH NO/NC</p> <p>Load</p> <p>10...30V</p> <p>Floating</p> <p>PNP</p> |