



## Photoelectric sensors GR18S, Through-beam photoelectric sensor

GRSE18S-F233W



**Model Name** > GRSE18S-F233W  
**Part No.** > 1059551



*Illustration may differ*

#### At a glance

- Low-cost cylindrical M18 sensor with extra short housing
- Five different housing styles
- Variety of plastic and metal housing styles, with straight or right angle optics
- Bright and highly visible PinPoint-LED
- Special flush type, one-piece metal housing
- Highly visible signal indicator LED
- IP 67 rating

#### Your benefits

- Space-saving solution due to short housing
- Flexible mounting options due to versatile housing styles
- Easy installation and precise detection due to PinPoint LED
- Reduced maintenance costs due to high tightening torque of single piece flush metal housing
- Rugged and reliable with proven SICK technology
- Highly visible signal indicator LED saves maintenance and commissioning time



#### Features

|                                  |                                              |
|----------------------------------|----------------------------------------------|
| Sensor/detection principle:      | Through-beam photoelectric sensor            |
| Housing design (light emission): | Cylindrical, angled, fully flush, angled 90° |
| Optical axis:                    | Fully flush                                  |
| Sensing range max.:              | 0 m ... 15 m                                 |
| Sensing range:                   | 0 m ... 10 m                                 |
| Type of light:                   | Visible red light                            |
| Light source:                    | PinPoint LED <sup>1)</sup>                   |
| Wave length:                     | 650 nm                                       |
| Light spot size (distance):      | Ø 250 mm (10 m)                              |

<sup>1)</sup> Average service life of 100,000 h at  $T_A = +25\text{ °C}$

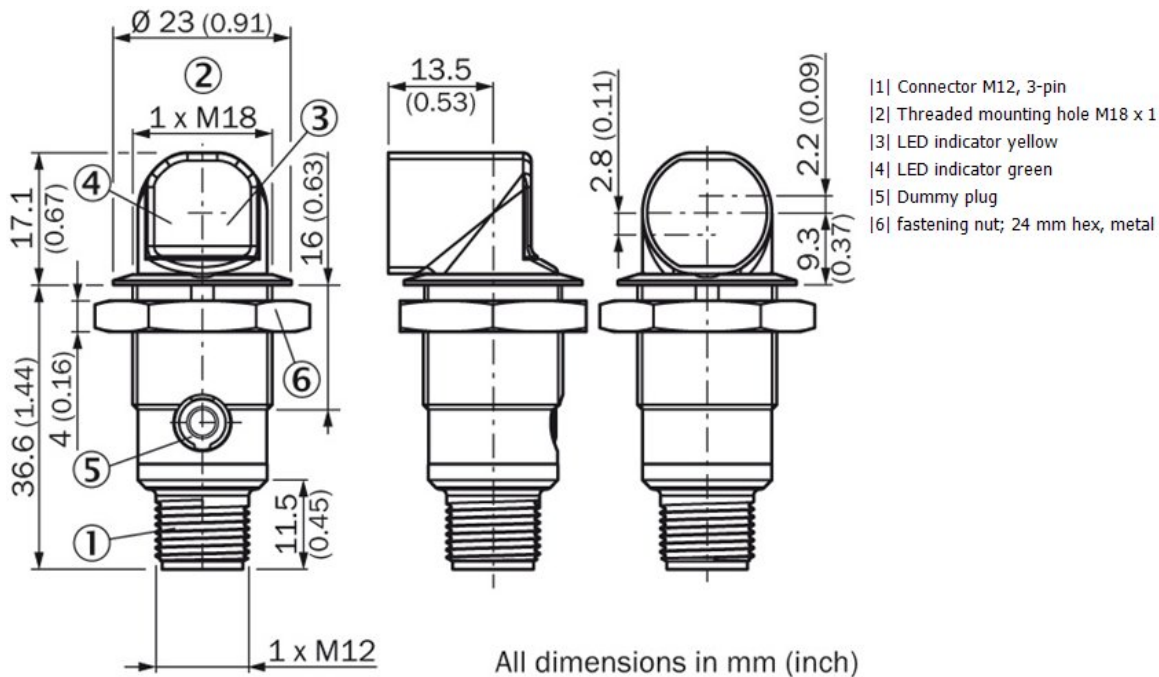
#### Mechanics/electronics

|                    |                                   |
|--------------------|-----------------------------------|
| Supply voltage:    | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:            | $\pm 5\text{ Vpp}$ <sup>2)</sup>  |
| Power consumption: | $\leq 30\text{ mA}$               |
| Output type:       | PNP                               |
| Switching mode:    | Dark-switching                    |

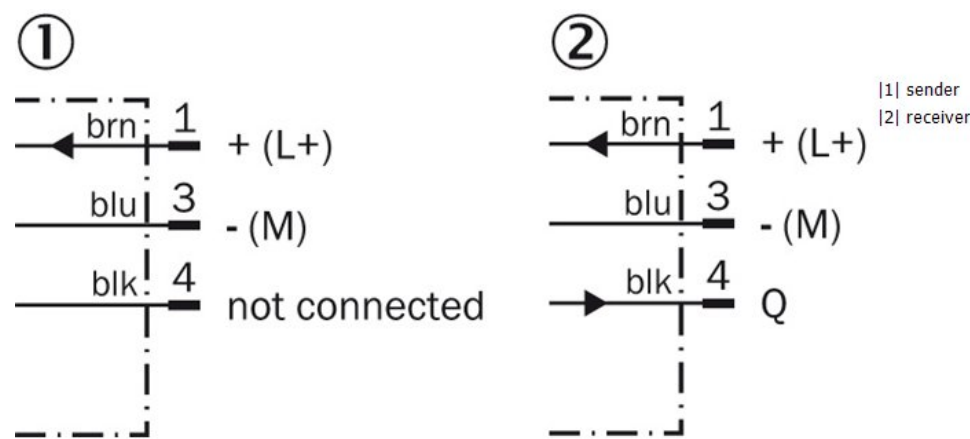
|                                   |                                                   |
|-----------------------------------|---------------------------------------------------|
| Output current I <sub>max</sub> : | 100 mA <sup>3)</sup>                              |
| Response time:                    | < 500 µs <sup>4)</sup>                            |
| Switching frequency:              | 1,000 Hz                                          |
| Connection type:                  | Connector M12, 3-pin                              |
| Circuit protection:::             | A, B, D <sup>5)</sup> <sup>6)</sup> <sup>7)</sup> |
| Protection class:                 | III                                               |
| Housing material:                 | Metal                                             |
| Enclosure rating:                 | IP 67                                             |
| Ambient operating temperature:    | -25 °C ... 55 °C <sup>8)</sup>                    |
| Ambient storage temperature:      | -40 °C ... 70 °C                                  |

<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> At  $V_S > 24$  V or ambient temperature  $> 49$  °C,  $I_A$  max = 50 mA <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup>  $A = V_S$  connections reverse-polarity protected <sup>6)</sup> B = inputs and output reverse-polarity protected <sup>7)</sup> D = outputs overcurrent and short-circuit protected <sup>8)</sup> At  $U_V \leq 24$  V and  $I_A$

## Dimensional drawing



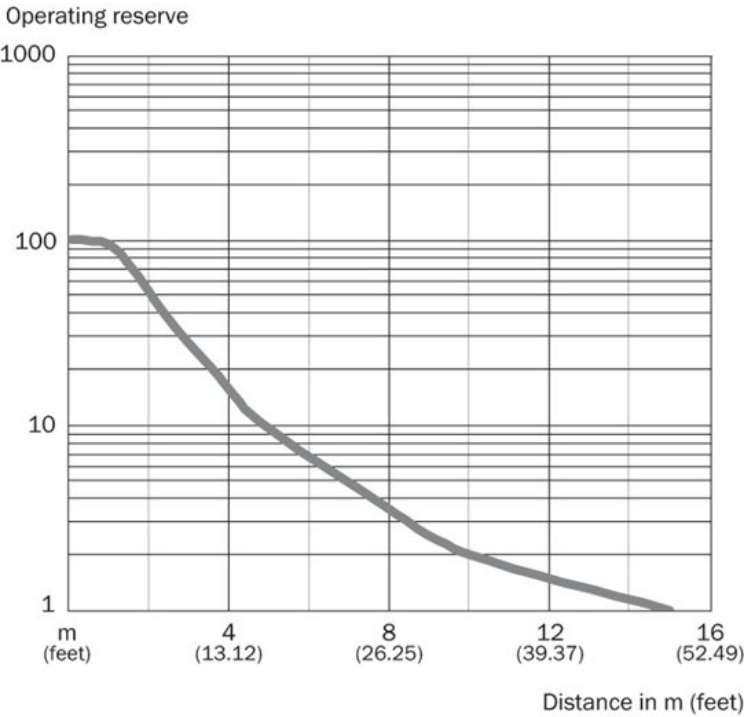
Connection diagram



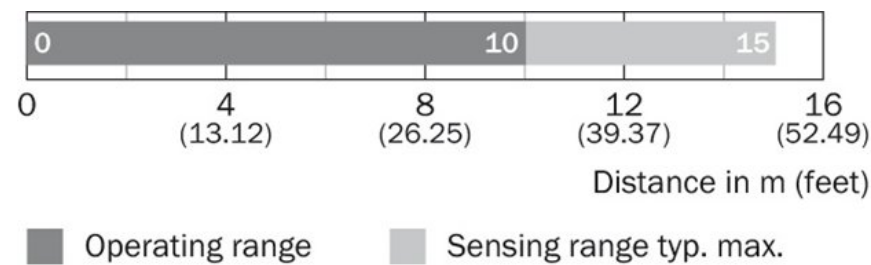
[1] sender

[2] receiver

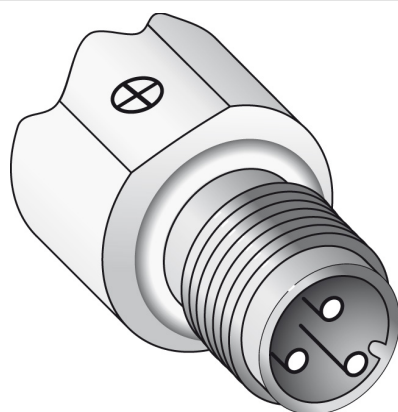
Characteristic curve



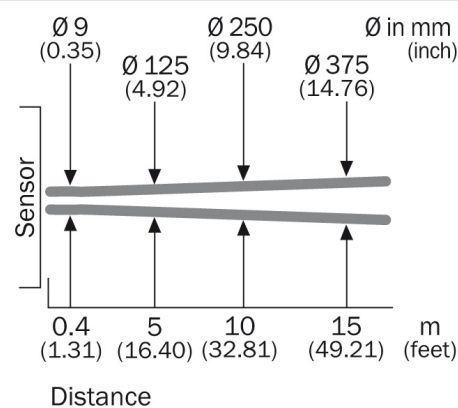
**Sensing range diagram**



**Connection type**



**Light spot size**



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