



## Photoelectric sensors GR18S, Through-beam photoelectric sensor

GRSE18S-P233Y



**Model Name** > GRSE18S-P233Y  
**Part No.** > 1062420



*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, straight, fully flush, straight |
| Optical axis:                    | Axial                                        |
| 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  $T_A = +25\text{ °C}$

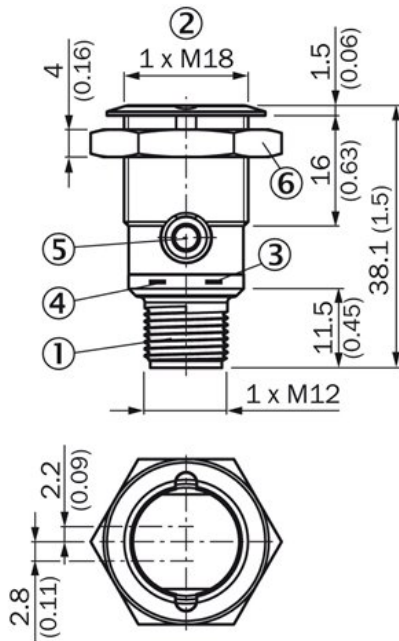
#### Mechanics/electronics

|                    |                                   |
|--------------------|-----------------------------------|
| 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:    | Light 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) 6) 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<sub>S</sub> tolerances <sup>3)</sup> At V<sub>s</sub> > 24 V or ambient temperature > 49 °C, I<sub>A</sub> max = 50 mA <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> A = V<sub>S</sub> 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<sub>V</sub> ≤ 24V and I<sub>A</sub>

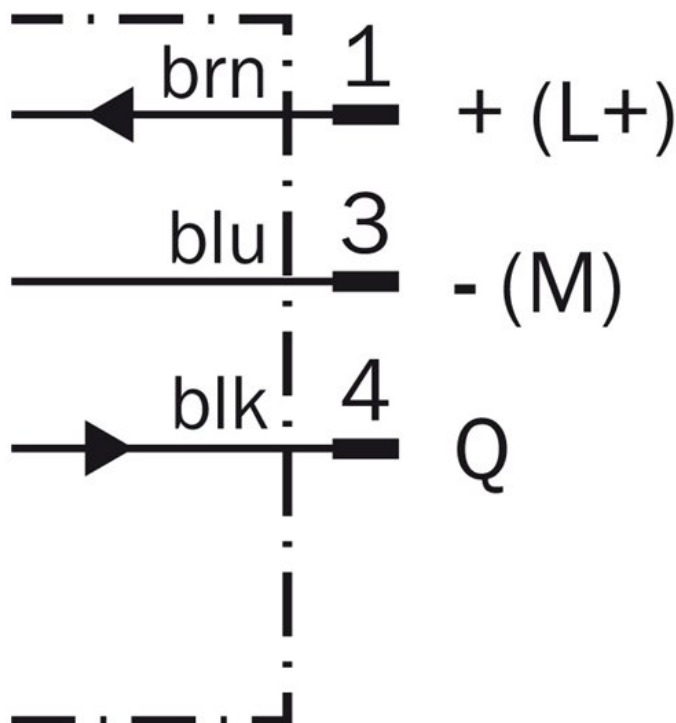
## Dimensional drawing



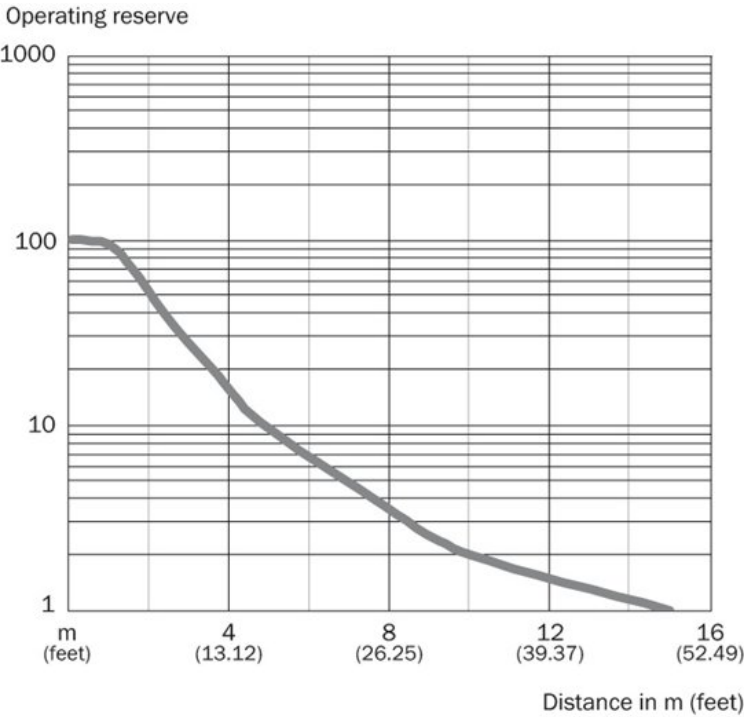
- [1] Connector M12, 3-pin
- [2] Threaded mounting hole M18 x 1
- [3] LED indicator yellow
- [4] LED indicator green
- [5] Dummy plug
- [6] fastening nut; 24 mm hex, metal

All dimensions in mm (inch)

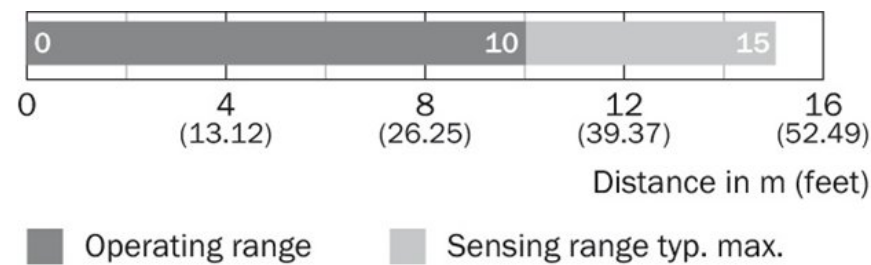
Connection diagram



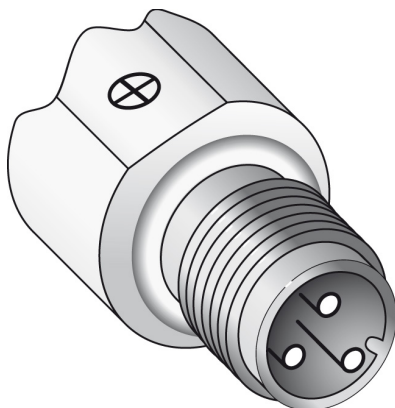
Characteristic curve



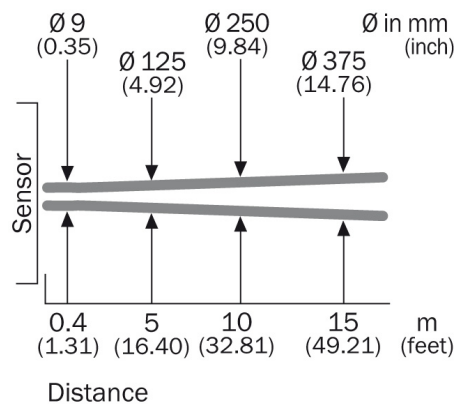
**Sensing range diagram**



**Connection type**



**Light spot size**



**Australia**

Phone +61 3 9457 0600  
1800 334 802 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail sac@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Ceská Republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail kundenservice@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6801000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 3358 1341  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederlands**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail austefjord@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail admin@sicksgp.com.sg

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886-2-2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 8865 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 800-325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)