



Photoelectric sensors  
GR18, Through-beam photoelectric sensor

GRSE18-N1142



**Model Name** > GRSE18-N1142  
**Part No.** > 1066572



*Illustration may differ*

**At a glance**

- Economical M18 cylindrical sensors with standard housing design
- Two different housing types made of plastic and metal with straight optical output
- Very bright and highly visible PinPoint LEDs
- Highly visible status indicator
- IP 67 enclosure rating

**Your benefits**

- A whole range of mounting options thanks to the different housing types
- Simple alignment and precise detection using PinPoint LEDs
- Easy to mount with simple M18 hole mounting. No special mounting brackets required.
- Rugged and reliable operation due to proven SICK sensing technology
- Clearly visible status display reduces setup time and maintenance time



**Features**

Sensor/detection principle:	Through-beam photoelectric sensor
Housing design (light emission):	Cylindrical, 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<sub>A</sub> = +25 °C

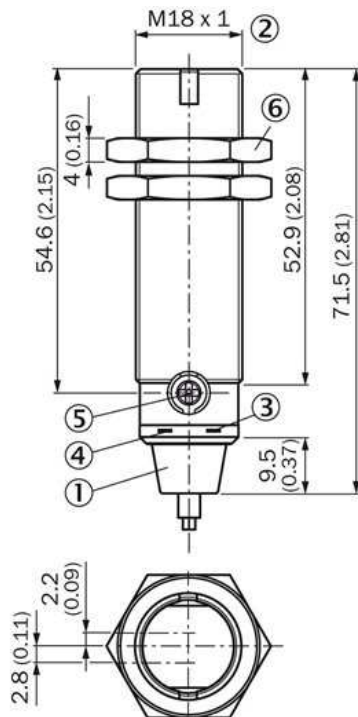
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	± 5 Vpp <sup>2)</sup>
Power consumption:	≤ 30 mA
Output type:	NPN
Output function:	Complementary
Switching mode:	Light/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 <sup>5)</sup>
Electrical connection:	Cable, 4-wire, 2 m <sup>6)</sup>
Cable material:	PVC
Circuit protection:::	A, B, D <sup>7) 8) 9)</sup>
Protection class:	III
Special device:	-
Enclosure rating:	IP 67
Items supplied:	Fastening nuts (4 x)
EMC:	EN 60947-5-2
Test input:	-
Ambient operating temperature:	-25 °C ... +55 °C <sup>10)</sup>
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	E348498
Signal voltage NPN HIGH/LOW:	Approx. $V_S / \leq 3 V$
Housing material:	Metal

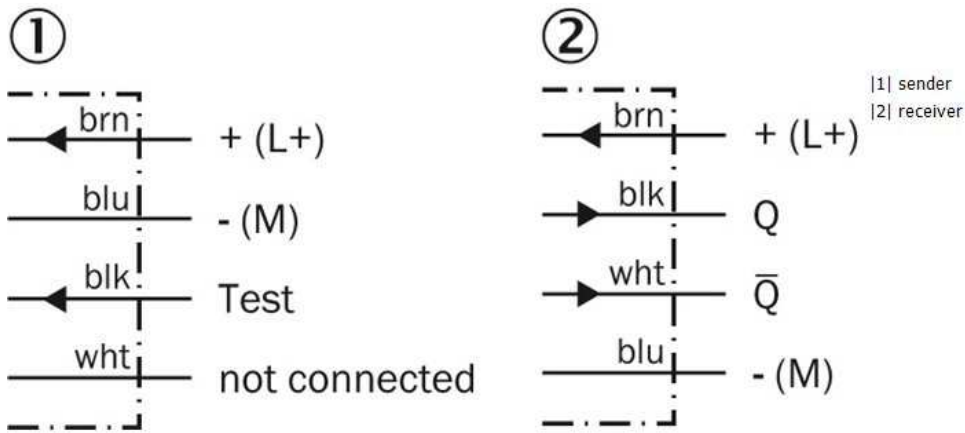
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> At  $V_S > 24 V$  or ambient temperature  $> 49 °C$ , I max = 50 mA <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> Do not bend below 0 °C <sup>7)</sup> A =  $V_S$  connections reverse-polarity protected <sup>8)</sup> B = inputs and output reverse-polarity protected <sup>9)</sup> D = outputs overcurrent and short-circuit protected <sup>10)</sup> At  $U_v \leq 24V$  and  $I_A$

## Dimensional drawing

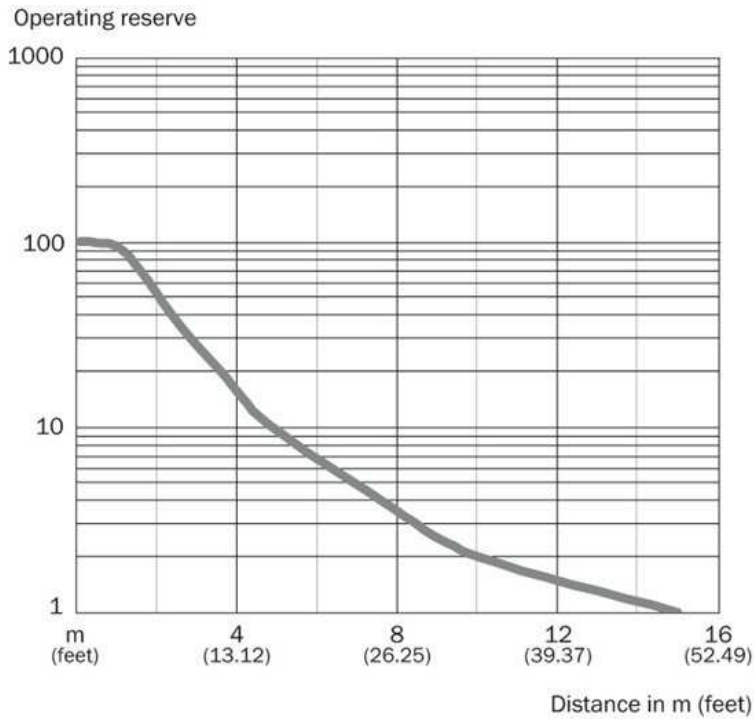


- |1| Connection cable 2 m
- |2| Threaded mounting hole M18 x 1
- |3| LED indicator yellow
- |4| LED indicator green
- |5| Sensitivity control; Potentiometer 270°
- |6| fastening nuts (2 x); 24 mm hex, metal

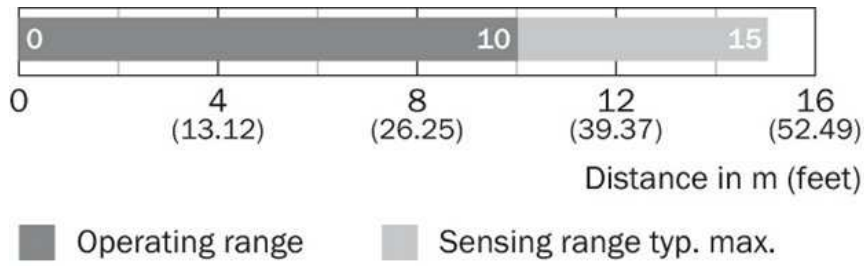
Connection diagram



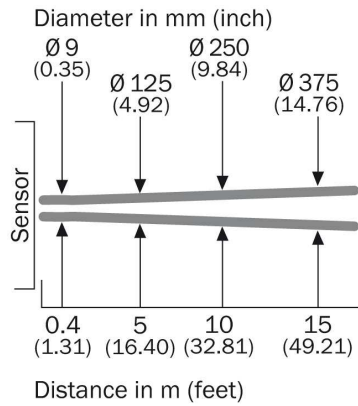
Characteristic curve



### Sensing range diagram



### Light spot size



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