



Photoelectric sensors
GR18S, Photoelectric proximity sensor, energetic

GRTE18S-P1312



Model Name > [GRTE18S-P1312](#)
Part No. > [1058203](#)



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:	Photoelectric proximity sensor, energetic
Housing design (light emission):	Cylindrical, straight
Optical axis:	axial
Sensing range max.:	3 mm ... 115 mm ¹⁾
Sensing range:	5 mm ... 100 mm ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Wave length:	650 nm
Adjustment:	Potentiometer, 270 °
Light spot size (distance):	Ø 8 mm (100 mm)

^{1) 2)} Object with 90 % reflectance (referred to standard white, DIN 5033) ³⁾ Average service life of 100,000 h at T_A = +25 °C

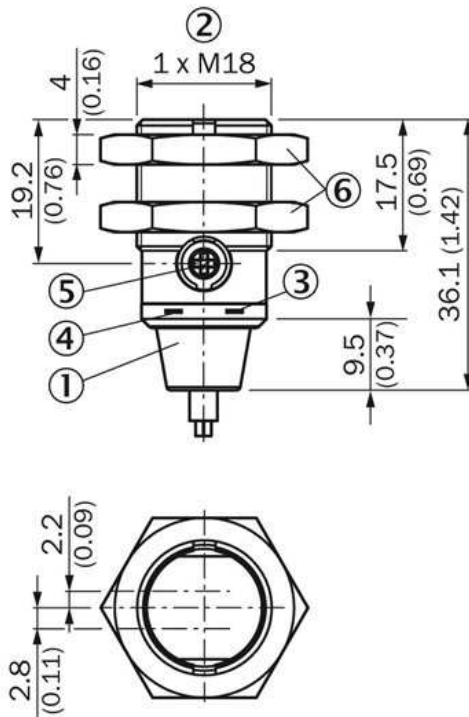
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 5 Vpp ²⁾
Power consumption:	≤ 30 mA
Output type:	PNP

Switching mode:	Light switching
Output current I _{max.} :	100 mA ³⁾
Response time:	< 1,000 μs ⁴⁾
Switching frequency:	500 Hz ⁵⁾
Connection type:	Cable, 3-wire, 2 m ⁶⁾
Cable material:	PVC
Circuit protection:::	A, B, D ^{7) 8) 9)}
Protection class:	III
Enclosure rating:	IP 67
Items supplied:	Fastening nuts (2 x)
Ambient operating temperature:	-25 °C ... +55 °C ¹⁰⁾
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	NRKH.E348498 & NRKH7.E348498
Signal voltage PNP HIGH/LOW:	VS - (≤ 3 V)/approx. 0 V
Housing material:	Metal

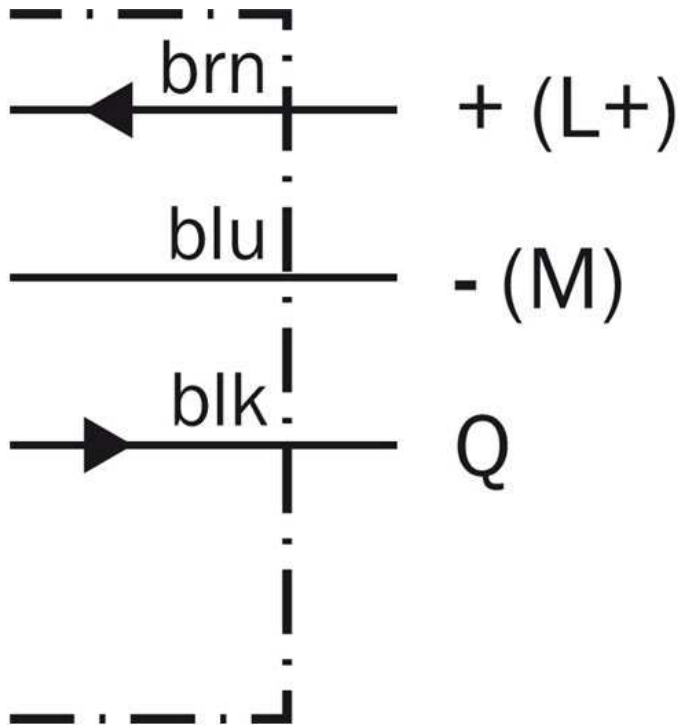
1) Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ At V_S > 24 V or ambient temperature > 49 °C, I_A max = 50 mA ⁴⁾ Signal transit time with resistive load ^{5) 6)} Do not bend below 0 °C ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = inputs and output reverse-polarity protected ⁹⁾ D = outputs overcurrent and short-circuit protected ¹⁰⁾ At U_V ≤ 24V and I_A

Dimensional drawing



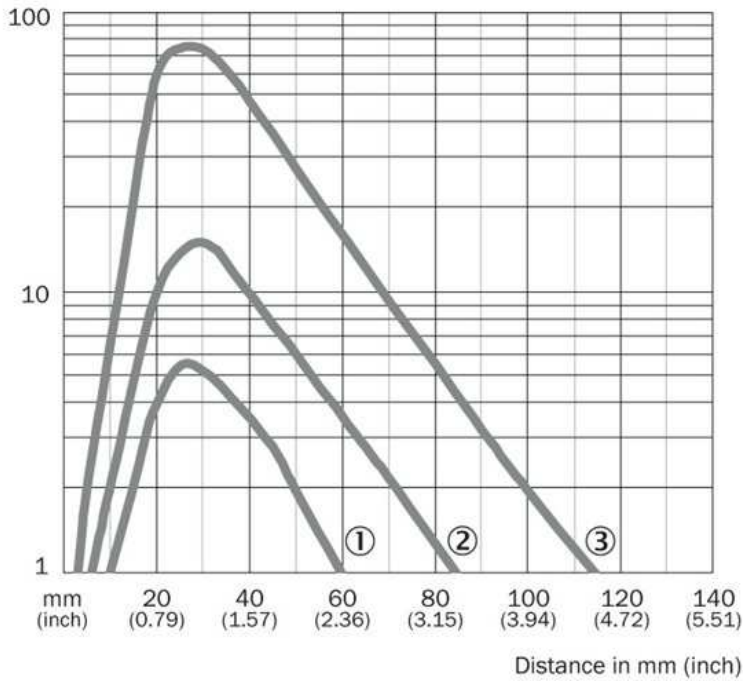
- |1| Connection cable 2 m
- |2| Threaded mounting hole M18 x 1
- |3| LED indicator yellow
- |4| LED indicator green
- |5| Sensitivity control; Potentiometer 270°
- |6| fastening nuts (2 x); 24 mm hex, metal

Connection diagram



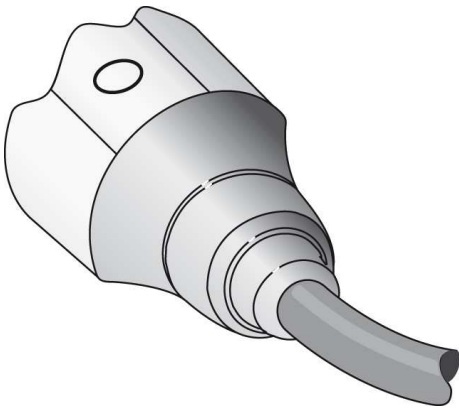
Characteristic curve

Operating reserve

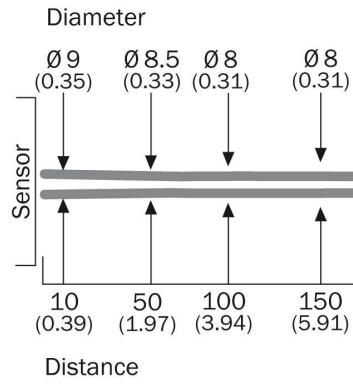


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 20 % remission
- |3| Sensing range on white, 90 % remission

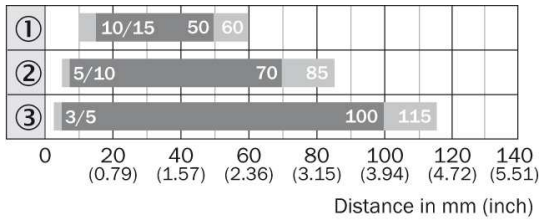
Connection type



Light spot size



Sensing range diagram



■ Sensing range ■ Sensing range max.

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