



Photoelectric sensors
GR18, Photoelectric proximity sensor, energetic

GRTE18-P2442



Model Name > GRTE18-P2442
Part No. > 1066549



Illustration may differ

At a glance

- Economical M18 cylindrical sensor with standard housing design
- Three different versions provide sensing ranges from 100 mm to 1000 mm (energetic)
- 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:	Photoelectric proximity sensor, energetic
Housing design (light emission):	Cylindrical, straight
Optical axis:	axial
Sensing range max.:	5 mm ... 550 mm ¹⁾
Sensing range:	10 mm ... 400 mm ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Wave length:	650 nm
Light spot size (distance):	Ø 9 mm (400 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

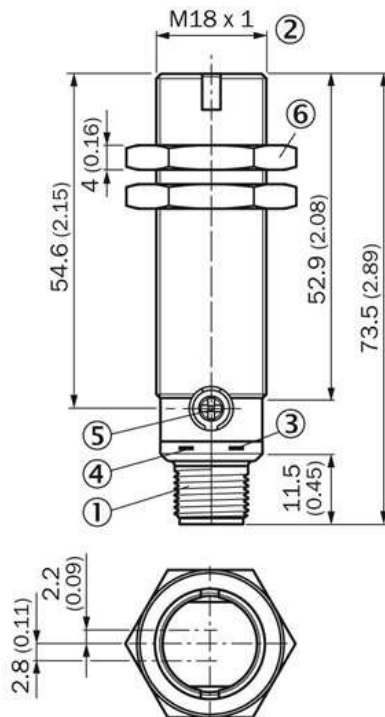
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 5 Vpp ²⁾
Power consumption:	≤ 30 mA
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching

Output current I _{max} ..:	100 mA ³⁾
Response time:	< 1,000 μs ⁴⁾
Switching frequency:	500 Hz ⁵⁾
Electrical connection:	Connector M12, 4-pin
Circuit protection:::	A, B, D ⁶⁾ ⁷⁾ ⁸⁾
Protection class:	III
Special device:	-
Enclosure rating:	IP 67
Items supplied:	Fastening nuts (2 x)
EMC:	EN 60947-5-2
Ambient operating temperature:	-25 °C ... +55 °C ⁹⁾
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	E348498
Signal voltage NPN HIGH/LOW:	Approx. V _S /≤ 3 V
Housing material:	Metal

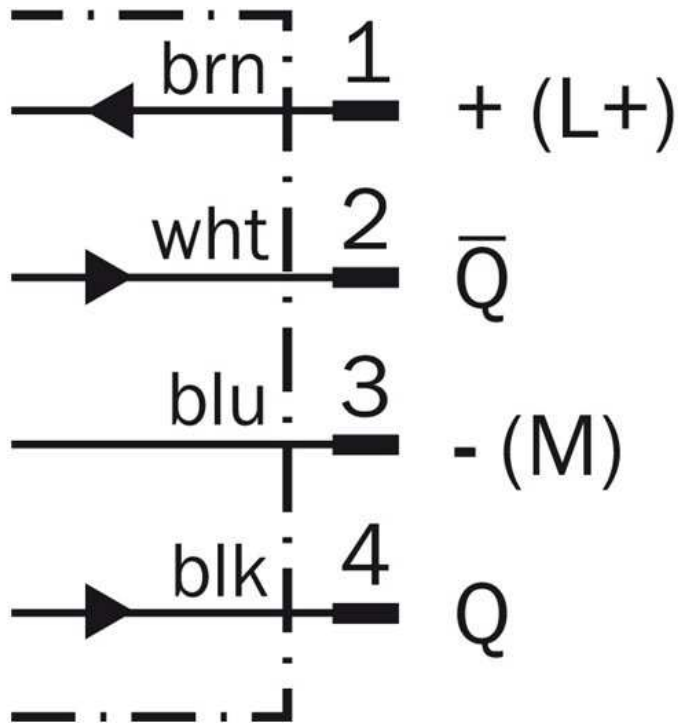
1) Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ At V_S > 24 V or ambient temperature > 49 °C, I_A max = 50 mA ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ A = V_S connections reverse-polarity protected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

Dimensional drawing

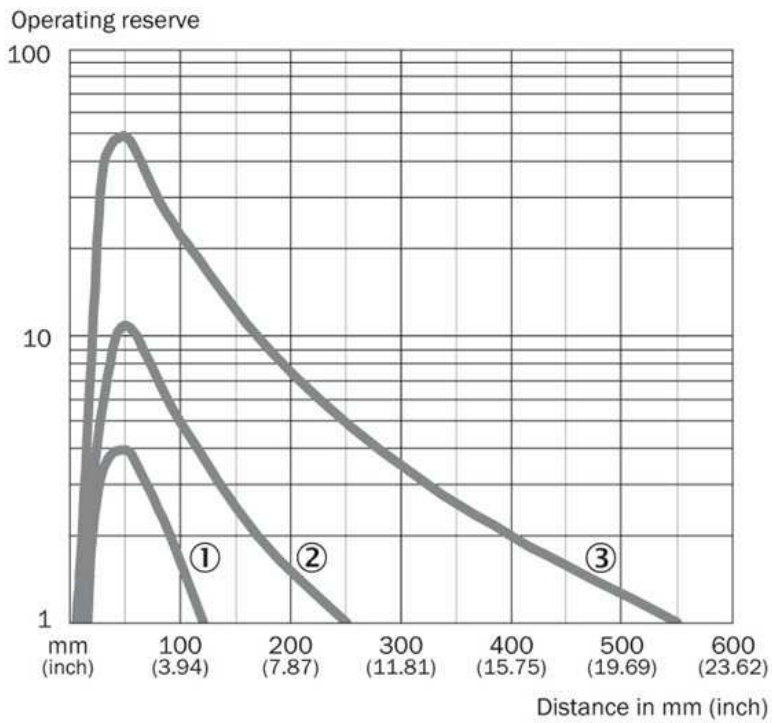


- |1| Connector M12, 4-pin
- |2| Threaded mounting hole M18 x 1
- |3| LED indicator yellow
- |4| LED indicator green
- |5| Sensitivity control; Potentiometer 270°
- |6| fastening nuts (2 x); 24 mm hex, metal

Connection diagram

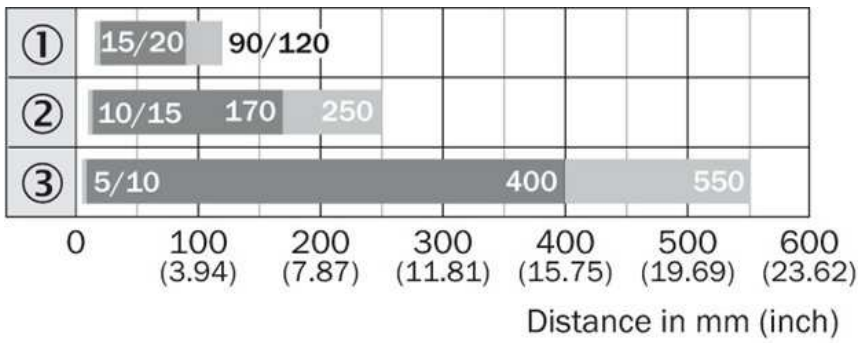


Characteristic curve



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

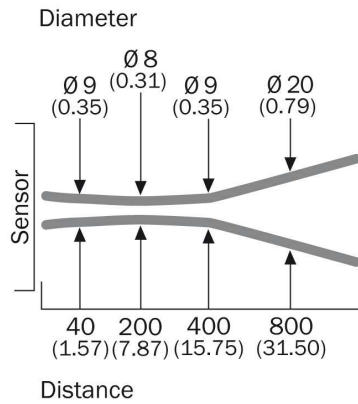
Sensing range diagram



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

■ Sensing range ■ Sensing range max.

Light spot size



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