



Photoelectric sensors
GR18S, Photoelectric retro-reflective sensor,
Standard optics

GRL18S-P235W



Model Name > [GRL18S-P235W](#)
Part No. > [1064162](#)



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 retro-reflective sensor, Standard optics |
| Housing design (light emission): | Cylindrical, angled, fully flush |
| Optical axis: | Fully flush, radial |
| Sensing range max.: | 0.03 m ... 7.2 m ¹⁾ |
| Sensing range: | 0.06 m ... 6 m ²⁾ |
| Type of light: | Visible red light |
| Light source: | PinPoint LED ³⁾ |
| Wave length: | 650 nm |
| Light spot size (distance): | Ø 175 mm (7 m) |

1) 2) PL80A 3) Average service life of 100,000 h at T_A = +25 °C

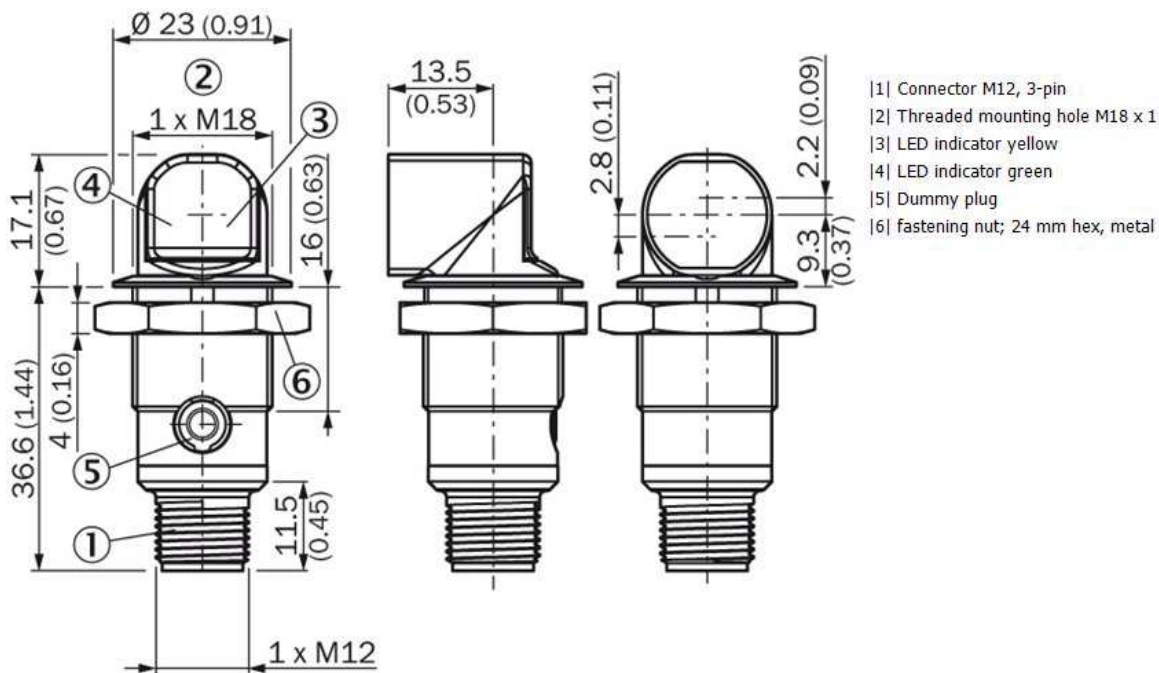
Mechanics/electronics

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

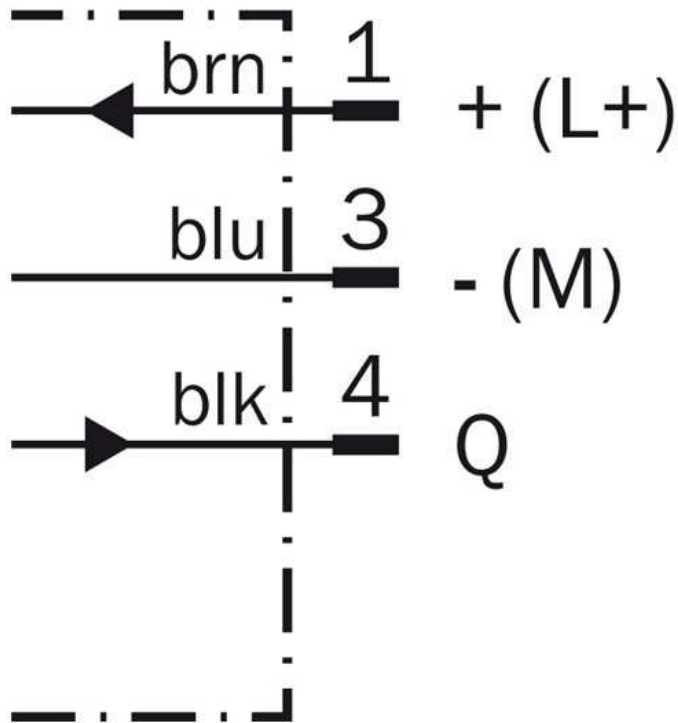
| | |
|-----------------------------------|--------------------------------------|
| Output current I _{max} : | 100 mA ³⁾ |
| Response time: | < 500 μs ⁴⁾ |
| Switching frequency: | ± 1,000 Hz |
| Connection type: | Connector M12, 3-pin |
| Circuit protection::: | A, B, D ^{5) 6) 7)} |
| Protection class: | III |
| Polarisation filter: | ✓ |
| Enclosure rating: | IP 67 |
| Items supplied: | Fastening nuts (2 x), Reflector P250 |
| Ambient temperature operation: | -25 °C ... +55 °C ⁸⁾ |
| 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⁾ A = V_S connections reverse-polarity protected ⁶⁾ B = inputs and output reverse-polarity protected ⁷⁾ D = outputs overcurrent and short-circuit protected ⁸⁾ At U_V ≤ 24V and I_A

Dimensional drawing

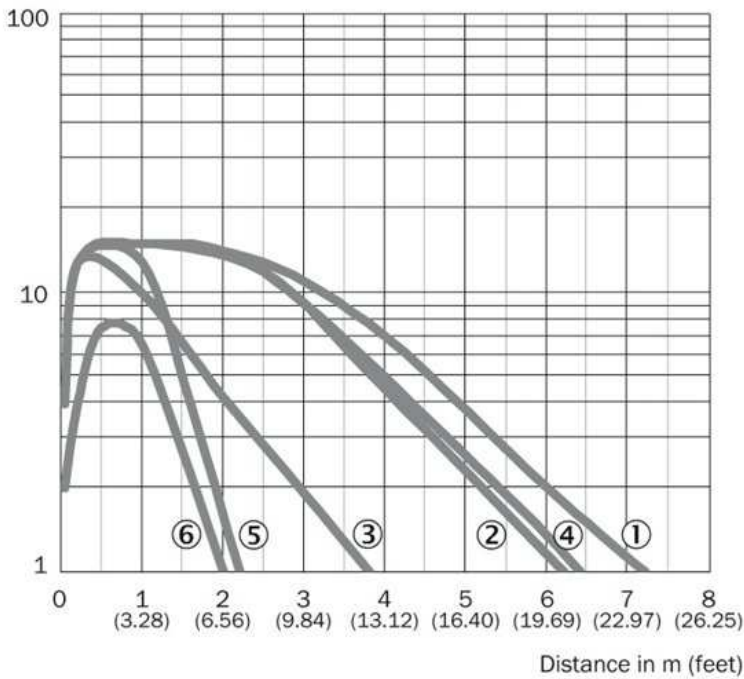


Connection diagram



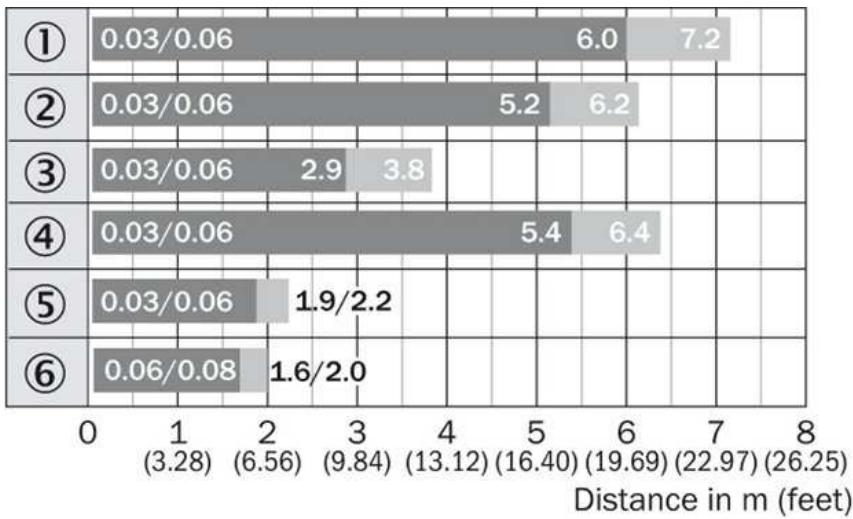
Characteristic curve

Operating reserve



- |1| Reflector type PL80A
- |2| Reflector type PL40A
- |3| Reflector type PL20A
- |4| Reflector type P205
- |5| Reflector type PL22-2
- |6| Reflective tape REF-Plus 3436

Sensing range diagram



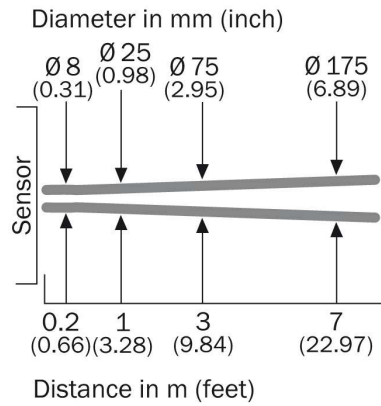
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- |3| Reflector type PL20A
- |4| Reflector type P205
- |5| Reflector type PL22-2
- |6| Reflective tape REF-Plus 3436

■ Sensing range ■ Sensing range max.

Connection type



Light spot size



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