



Photoelectric sensors
W14-2, Photoelectric retro-reflective sensor,
Standard optics

WL14-2P431



Model Name > [WL14-2P431](#)
Part No. > [1050271](#)



Illustration may differ

At a glance

- PinPoint LED with small, bright and precise light spot
- Teach-in
- Polarizing filter
- High immunity to ambient light
- Rugged plastic housing

Your benefits

- Very large sensing ranges due to high-energy PinPoint LED
- Quick and easy installation due to highly visible PinPoint red LED
- Comfortable and fast sensitivity control via teach-in
- Reliable object detection, even on shiny objects due to a polarizing filter
- Crosstalk and ambient light immunity reduces false readings and downtime
- High availability in the field



Features

| | |
|----------------------------------|--|
| Sensor/detection principle: | Photoelectric retro-reflective sensor, Standard optics |
| Dimensions (W x H x D): | 17.6 mm x 75.5 mm x 33.5 mm |
| Housing design (light emission): | Rectangular |
| Sensing range max.: | 0.15 m ... 17 m ¹⁾ |
| Sensing range: | 0.15 m ... 12 m ²⁾ |
| Type of light: | Visible red light |
| Light source: | PinPoint LED ³⁾ |
| Wave length: | 637 nm |
| Teach-in: | Single teach-in button |
| Angle of dispersion: | Ca. 0.9 ° |
| Adjustment: | Teach-in |
| Light spot size (distance): | Ø 30 mm (2 m) |

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

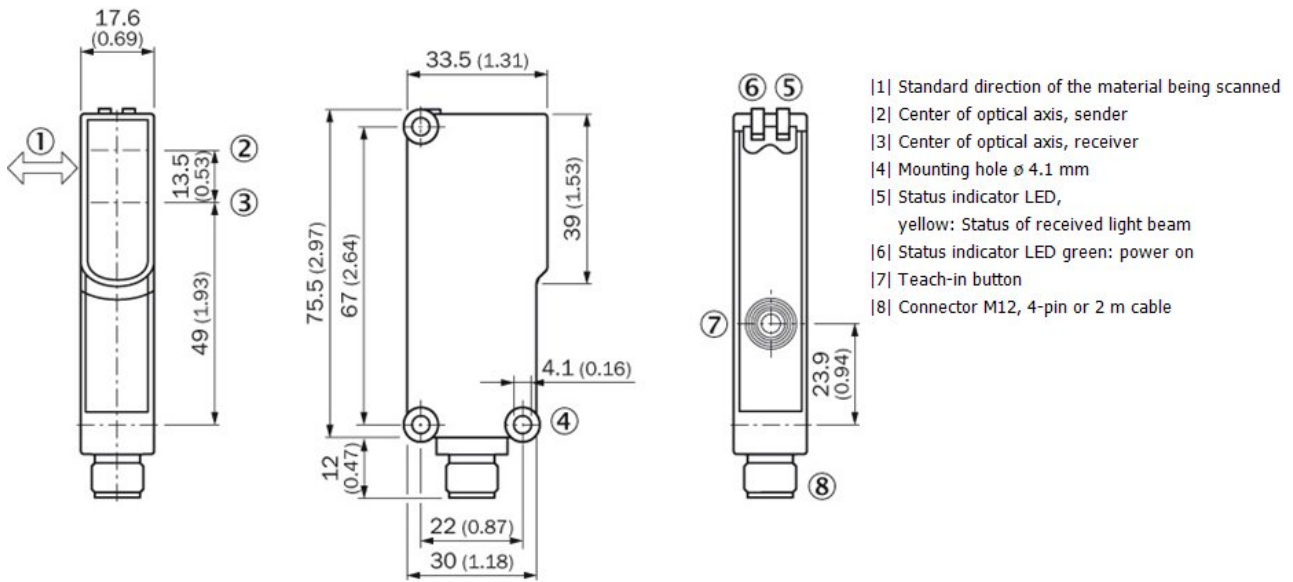
Mechanics/electronics

| | |
|--------------------|-----------------------------------|
| Supply voltage: | 10 V DC ... 30 V DC ¹⁾ |
| Power consumption: | ≤ 35 mA ²⁾ |
| Output type: | PNP |
| Output function: | Complementary |
| Switching mode: | Light/dark-switching |

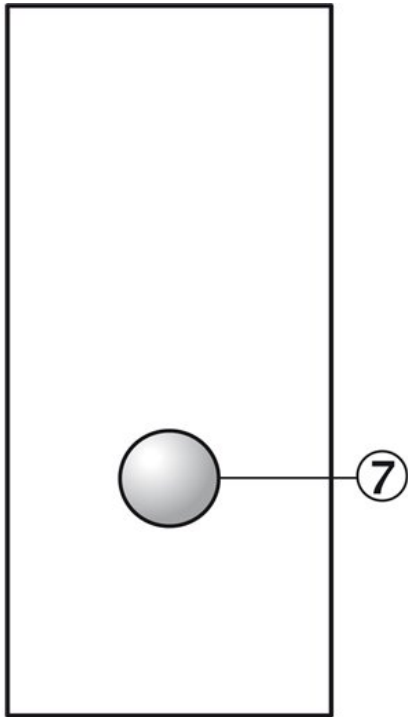
| | |
|-------------------------------------|------------------------------|
| Output current I _{max} ..: | ≤ 100 mA |
| Response time: | ≤ 2.5 ms ³⁾ |
| Switching frequency: | 200 Hz ⁴⁾ |
| Connection type: | Connector M12, 4-pin |
| Circuit protection::: | A, C, D ^{5) 6) 7)} |
| Weight: | 40 g |
| Polarisation filter: | ✓ |
| Housing material: | ABS, Plastic |
| Optics material: | PMMA |
| Enclosure rating: | IP 67 |
| Ambient operating temperature: | -25 °C ... 60 °C |
| Ambient storage temperature: | -40 °C ... 70 °C |
| UL File No.: | NRKH.E181493 & NRKH7.E181493 |

1) Limit values, operation in short-circuit protected network max. 8 A 2) Without load 3) Signal transit time with resistive load 4) With light/dark ratio 1:1 5) A = V_S
connections reverse-polarity protected⁶⁾ C = interference suppression 7) D = outputs overcurrent and short-circuit protected

Dimensional drawing

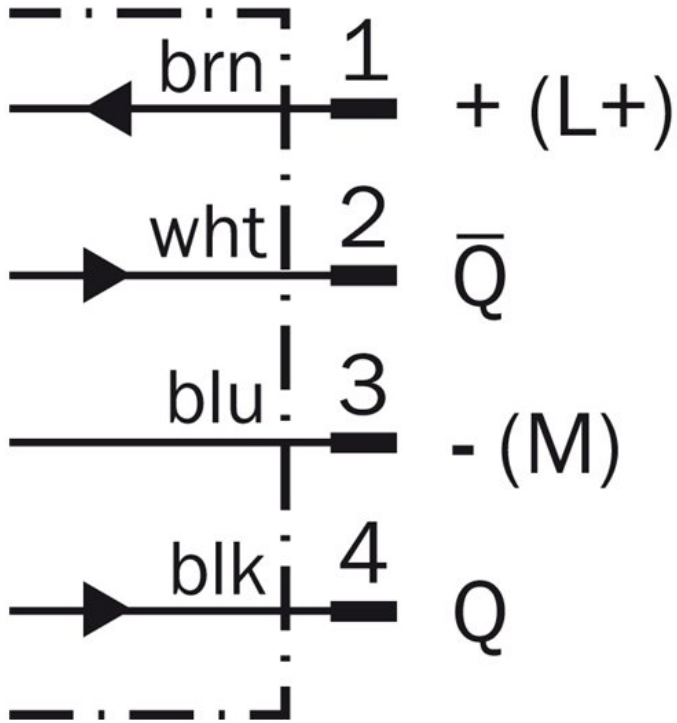


Adjustments possible

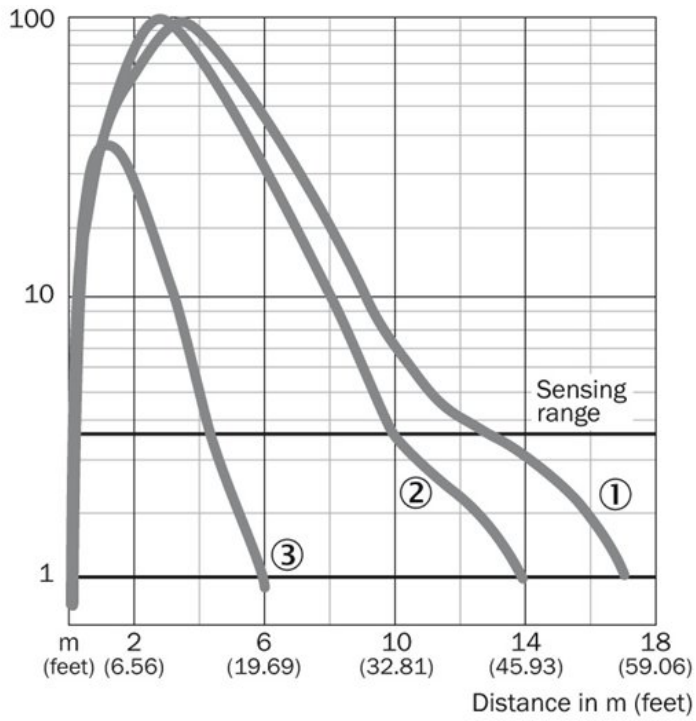


[1] Teach-in button

Connection diagram

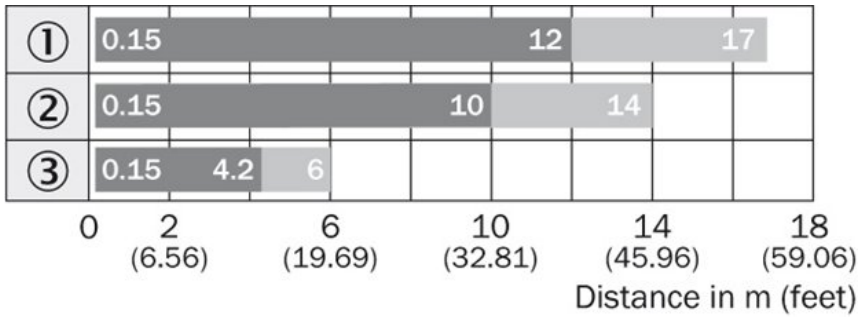


Characteristic curve



- |1| PL80A
- |2| PL40A
- |3| Reflective tape REF-IRF-56

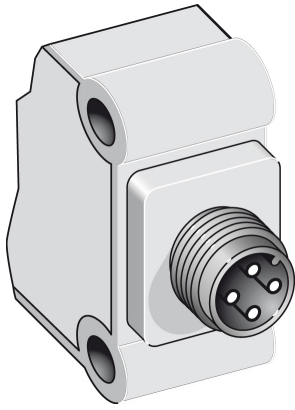
Sensing range diagram



- |1| PL80A
- |2| PL40A
- |3| Reflective tape REF-IRF-56

■ Sensing range ■ Sensing range max.

Connection type



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