



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

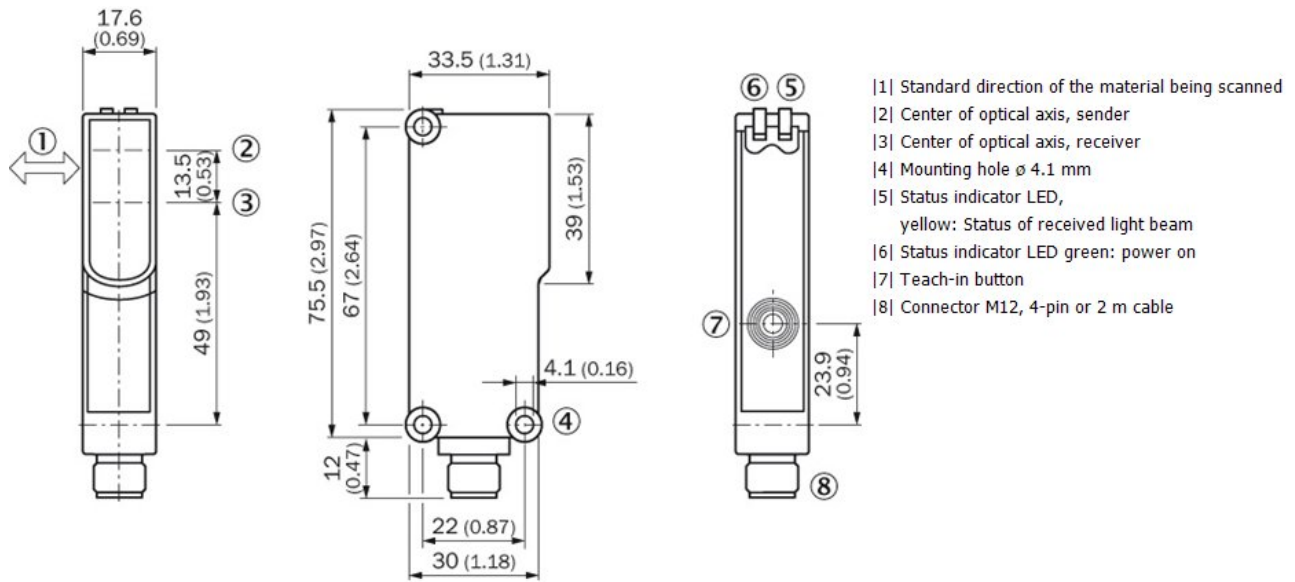
Mechanics/electronics

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

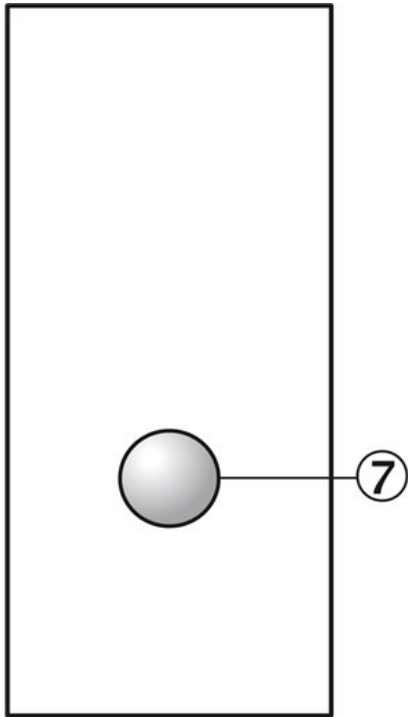
Output current I _{max} ..:	≤ 100 mA
Response time:	≤ 2.5 ms ³⁾
Switching frequency:	200 Hz ⁴⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D ^{5) 6) 7)}
Weight:	40 g
Polarisation filter:	✓
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating 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 protected 6) C = interference suppression 7) D = outputs overcurrent and short-circuit protected

Dimensional drawing

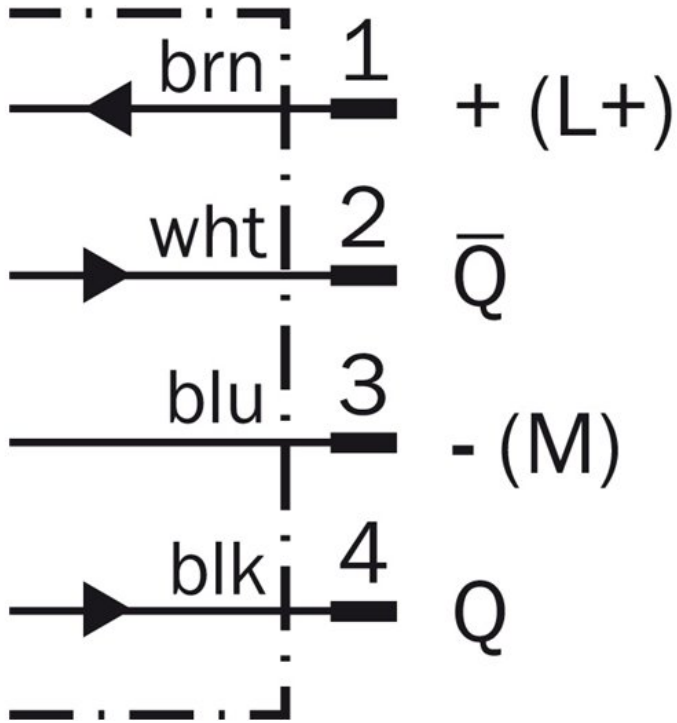


Adjustments possible

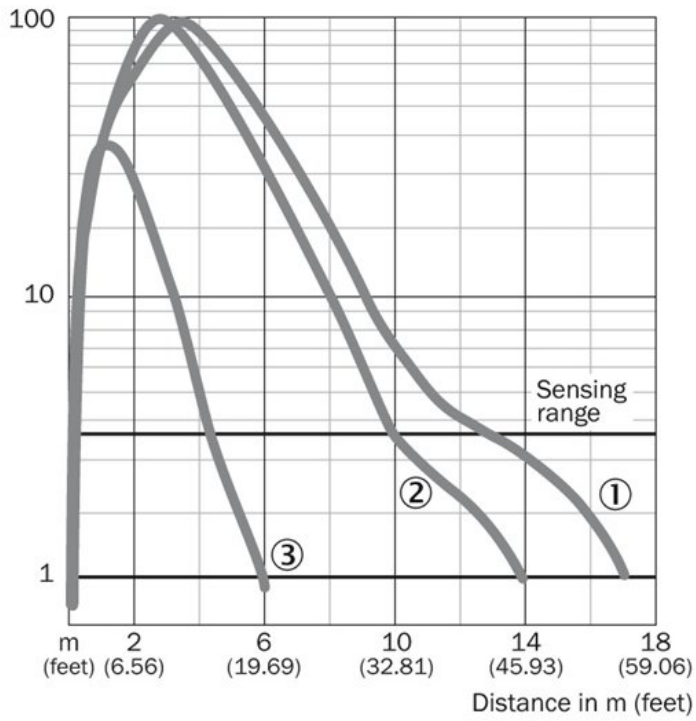


[1] Teach-in button

Connection diagram

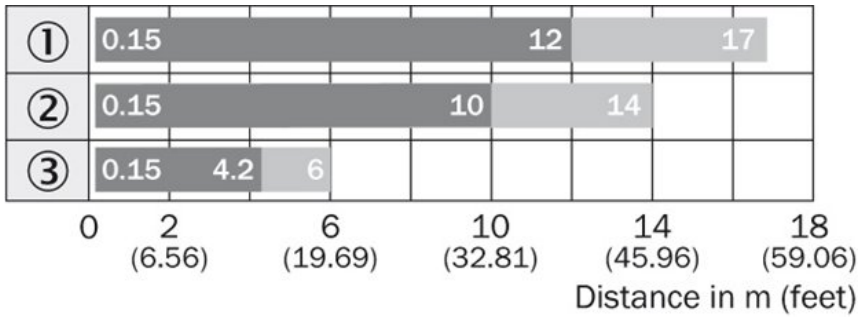


Characteristic curve



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

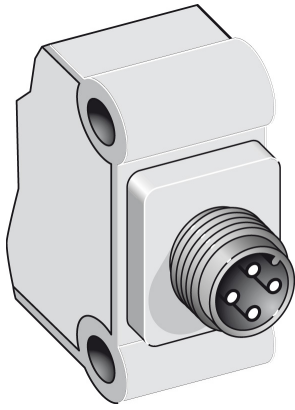
Sensing range diagram



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

■ Sensing range ■ Sensing range max.

Connection type



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