



Photoelectric sensors  
W18-3, Photoelectric retro-reflective sensor,  
autocollimation

WL18-3P430



**Model Name** > [WL18-3P430](#)  
**Part No.** > [1025911](#)



*Illustration may differ*

**At a glance**

- Sender LED with visible red light
- Autocollimation optics with polarizing filter
- Sensitivity control via potentiometer
- Immune to ambient light
- Optional test input for system diagnostics
- Rugged plastic housing

**Your benefits**

- Fast installation due to highly visible red light saves time
- Reliable detection of shiny objects without a blind zone due to autocollimation optics and a polarizing filter
- Quick and easy sensing range adjustment due to 270° potentiometer
- Crosstalk and ambient light immunity reduce false readings and downtime
- Reliable availability in the field



**Features**

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
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 m ... 7 m <sup>1)</sup>
Sensing range:	0 m ... 5 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	645 nm
Angle of dispersion:	1.8 °
Adjustment:	Potentiometer, 1-turn
Light spot size (distance):	Ø 40 mm (2 m)
Continuous threshold adaption:	-

1) 2) PL80A <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

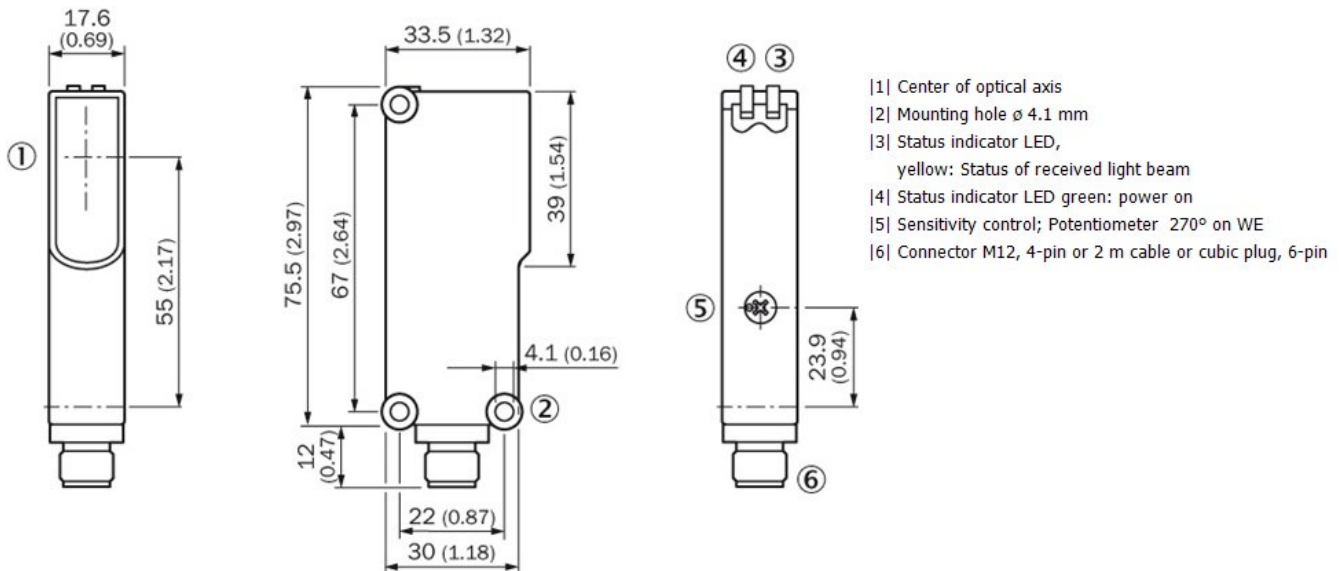
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	< 5 Vpp <sup>2)</sup>
Power consumption:	40 mA <sup>3)</sup>
Output type:	PNP

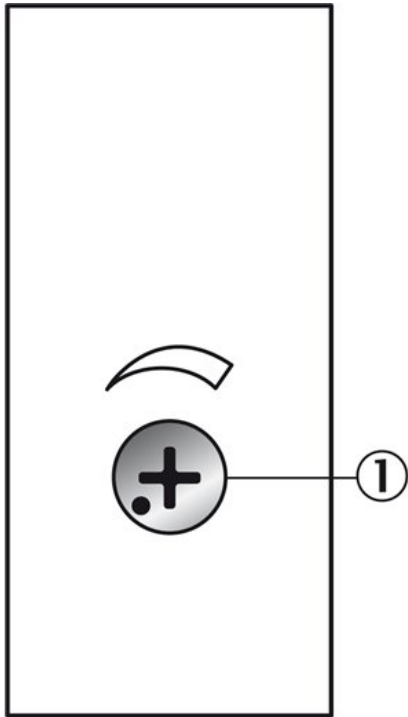
Output function:	Complementary
Switching mode:	Light/dark-switching
Output current I <sub>max</sub> :	100 mA
Response time:	< 500 μs <sup>4)</sup>
Switching frequency:	1,000 Hz <sup>5)</sup>
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D <sup>6) 7) 8)</sup>
Weight:	40 g
Polarisation filter:	✓
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

1) Limit values, operation in short-circuit protected network max. 8 A    2) May not exceed or fall short of V<sub>S</sub> tolerances    3) Without load    4) Signal transit time with resistive load  
<sup>5)</sup> With light/dark ratio 1:1    <sup>6)</sup> A = V<sub>S</sub> connections reverse-polarity protected    <sup>7)</sup> C = interference suppression    <sup>8)</sup> D = outputs overcurrent and short-circuit protected

### Dimensional drawing

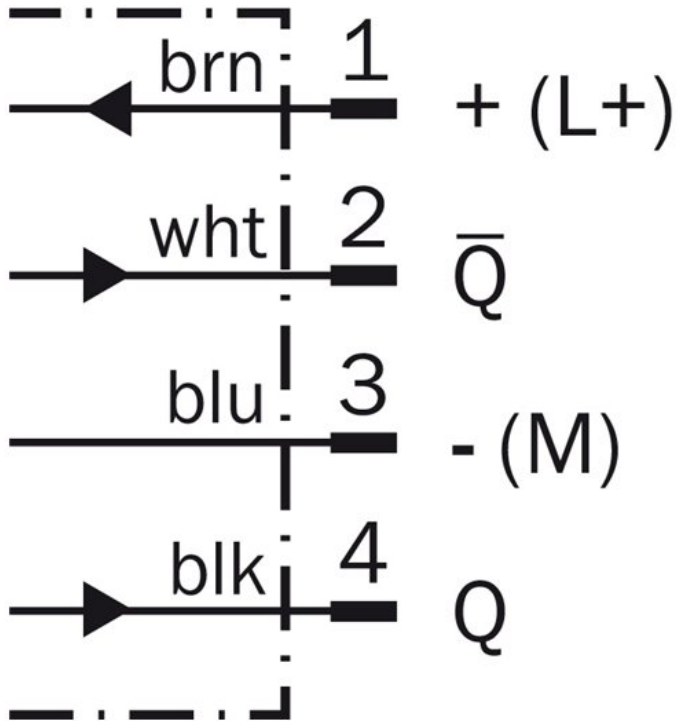


Adjustments possible

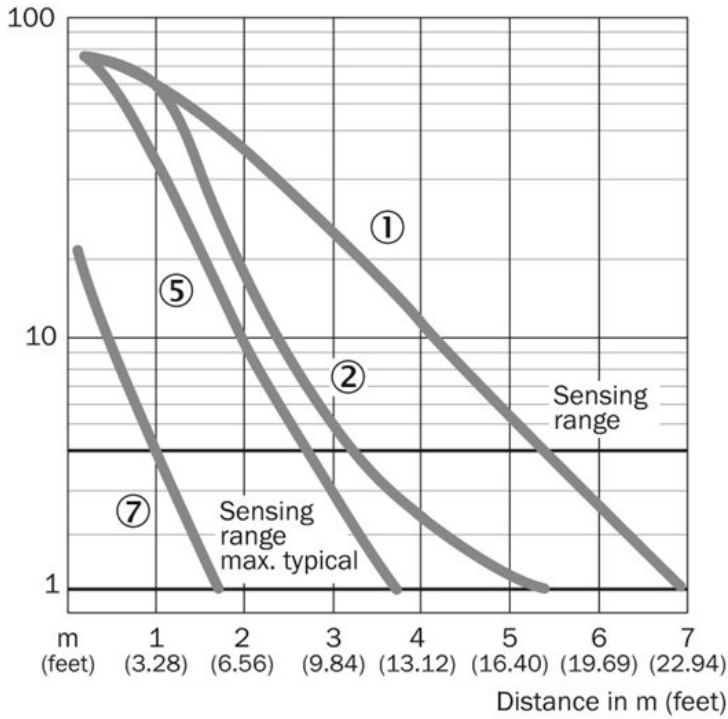


[1] Sensing range adjustment: potentiometer, 4-turn

Connection diagram

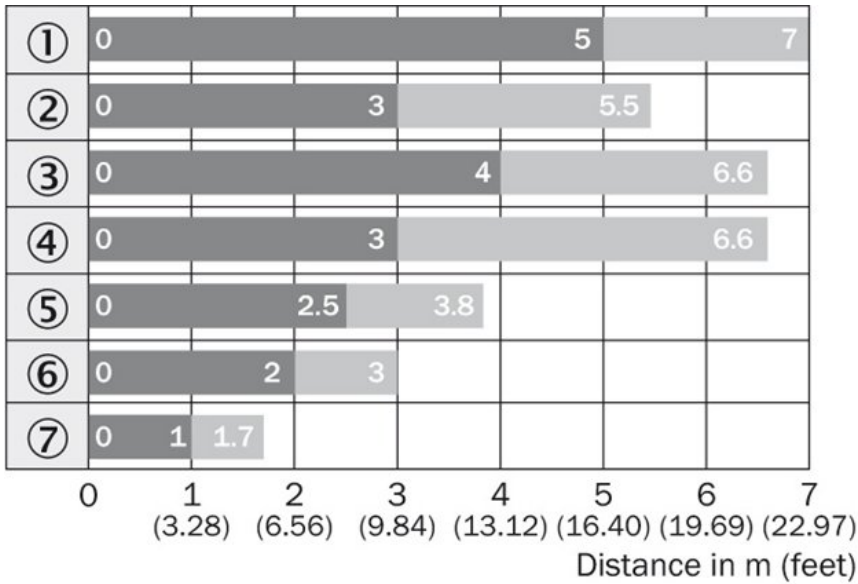


**Characteristic curve**



- |1| PL80A
- |2| C110A
- |5| PL30A
- |7| Reflective tape Diamond Grade

**Sensing range diagram**

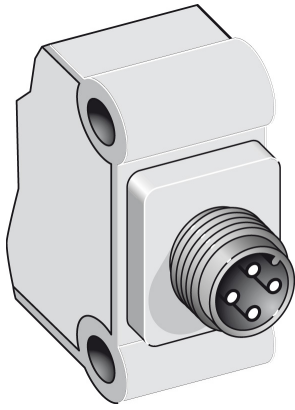


- |1| PL80A
- |2| C110A
- |3| PL50A
- |4| PL40A
- |5| PL30A
- |6| PL20A
- |7| Reflective tape Diamond Grade

■ Sensing range      ■ Sensing range max.

Connection type

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