



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

WL18-3N480



Model Name > [WL18-3N480](#)
Part No. > [1040135](#)



Illustration may differ

At a glance

- Sender LED with visible red light
- Autocollimation optics without 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
- Reliable object detection without blind zones due to autocollimation optics
- 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, Slim
Sensing range max.:	0 m ... 7 m ¹⁾
Sensing range:	0 m ... 5 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
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 ³⁾ Average service life of 100,000 h at T_A = +25 °C

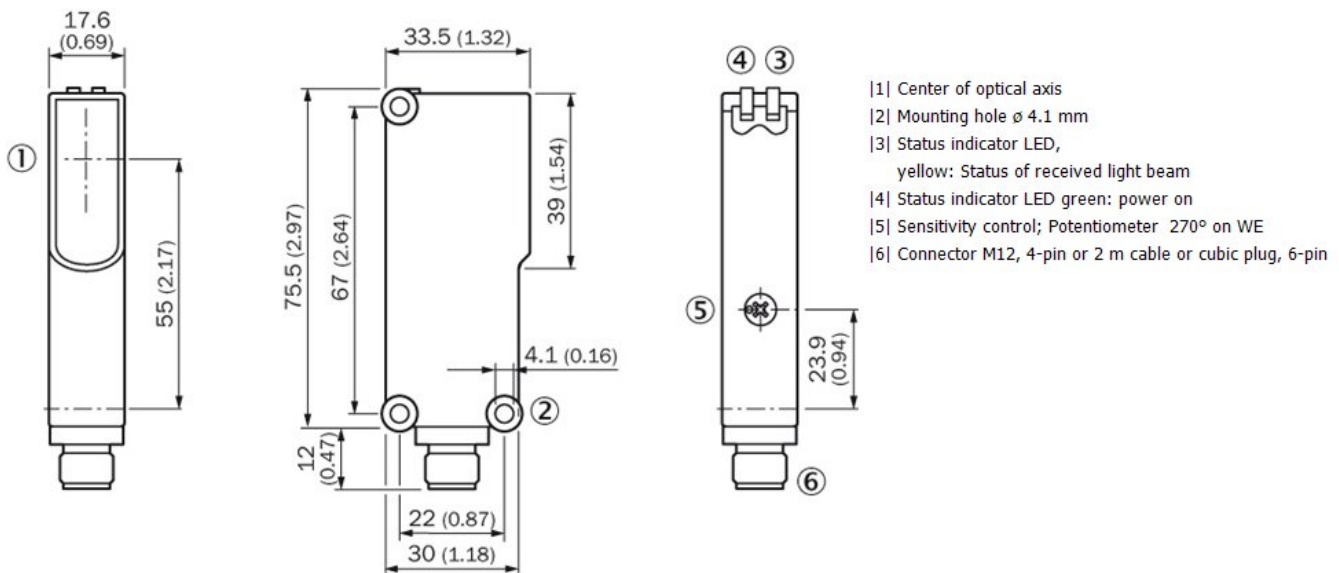
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption:	40 mA ³⁾
Output type:	NPN
Output function:	Complementary

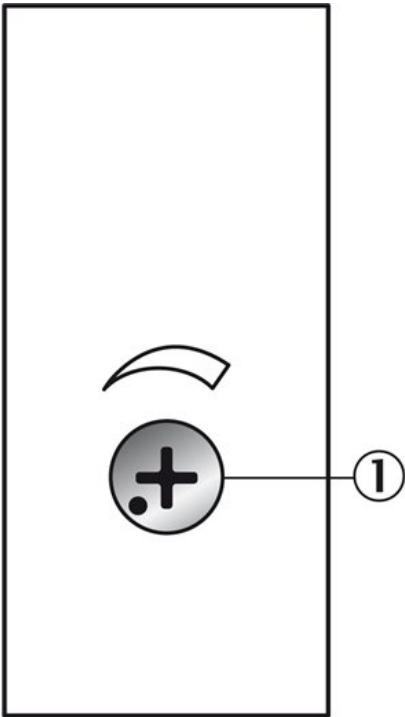
Switching mode:	Light/dark-switching
Output current I _{max} ::	100 mA
Response time:	< 500 µs ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D ⁶⁾ ⁷⁾ ⁸⁾
Weight:	40 g
Polarisation filter:	-
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure 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_S tolerances ³⁾ Without load ⁴⁾ Signal transit time with resistive load
⁵⁾ With light/dark ratio 1:1 ⁶⁾ A = V_S connections reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing

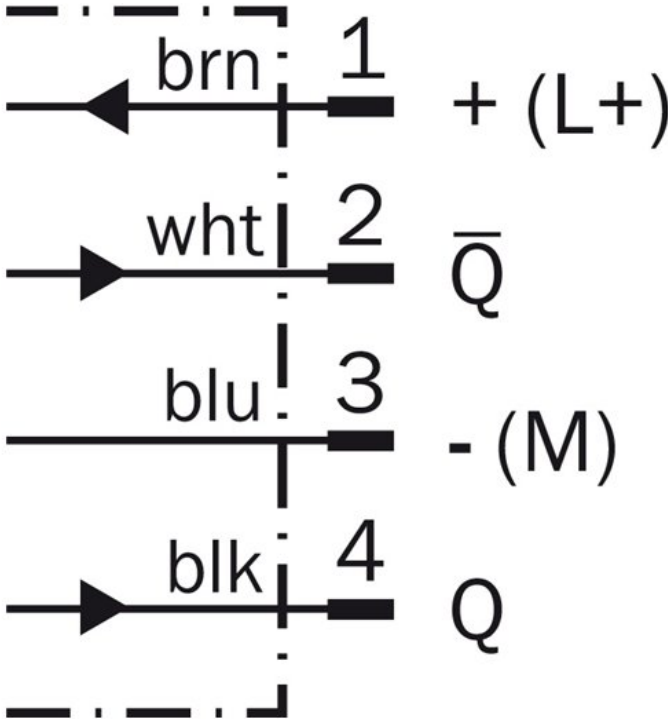


Adjustments possible

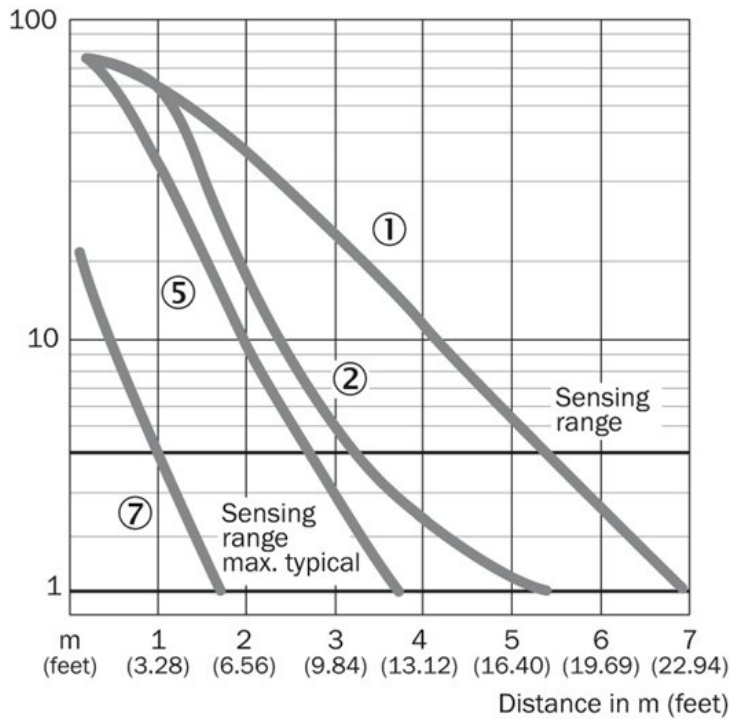


[1] Sensing range adjustment: potentiometer, 4-turn

Connection diagram

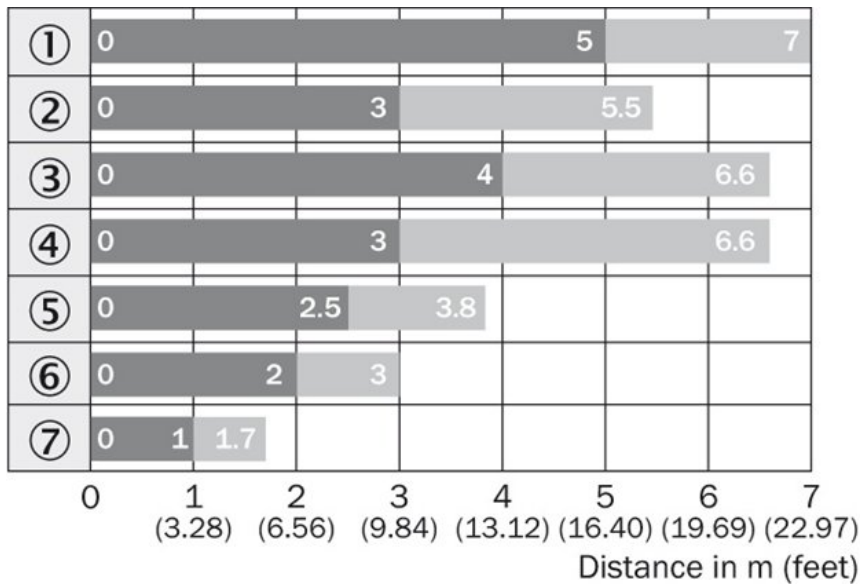


Characteristic curve



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

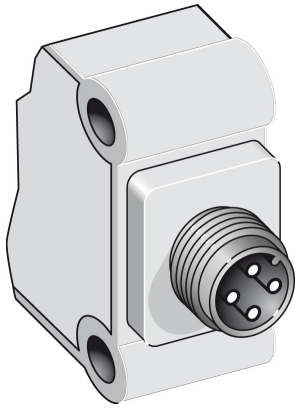
Sensing range diagram



- [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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