



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

WL18-3N730



Model Name > [WL18-3N730](#)
Part No. > [1026030](#)



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, 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

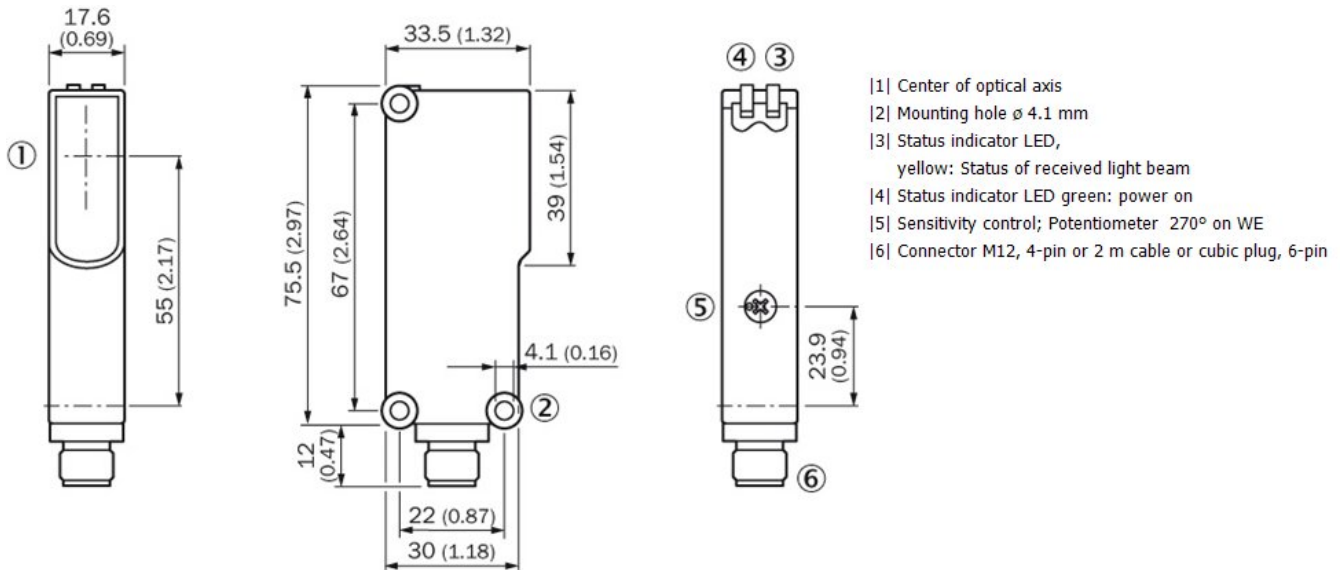
Mechanics/electronics

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

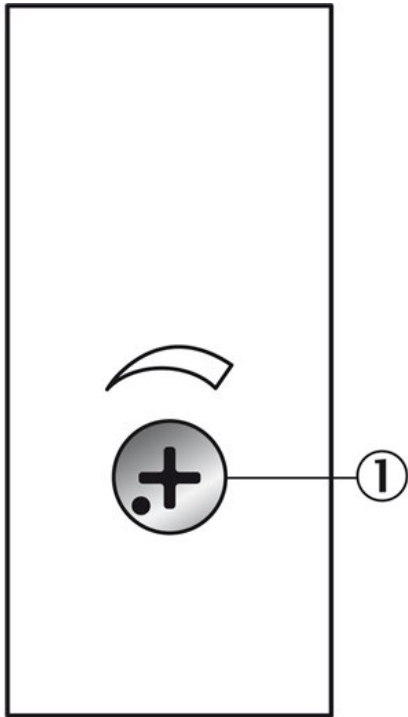
Switching mode:	Light/dark-switching
Output current I _{max} ·:	100 mA
Response time:	< 500 μs ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Cable, 5-wire, 2 m ⁶⁾
Cable material:	PVC
Circuit protection:::	A, C, D ⁷⁾ ⁸⁾ ⁹⁾
Weight:	170 g
Polarisation filter:	✓
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Test input sender off:	TE to VS
Test input:	✓
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⁾ Do not bend below 0 °C ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ C = interference suppression ⁹⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing

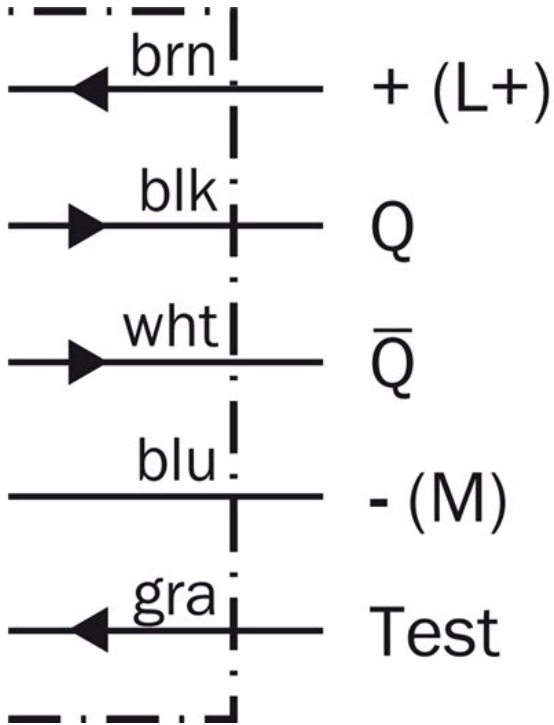


Adjustments possible

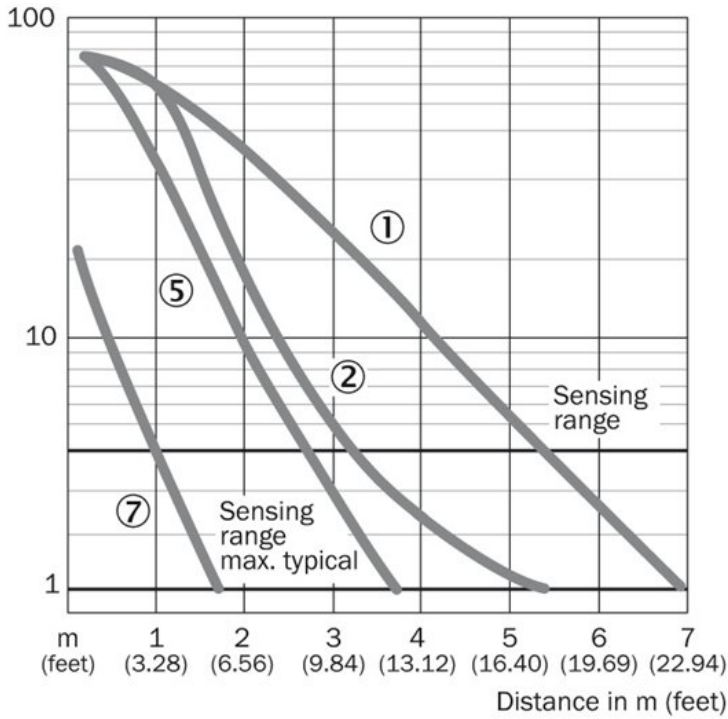


[1] Sensing range adjustment: potentiometer, 4-turn

Connection diagram

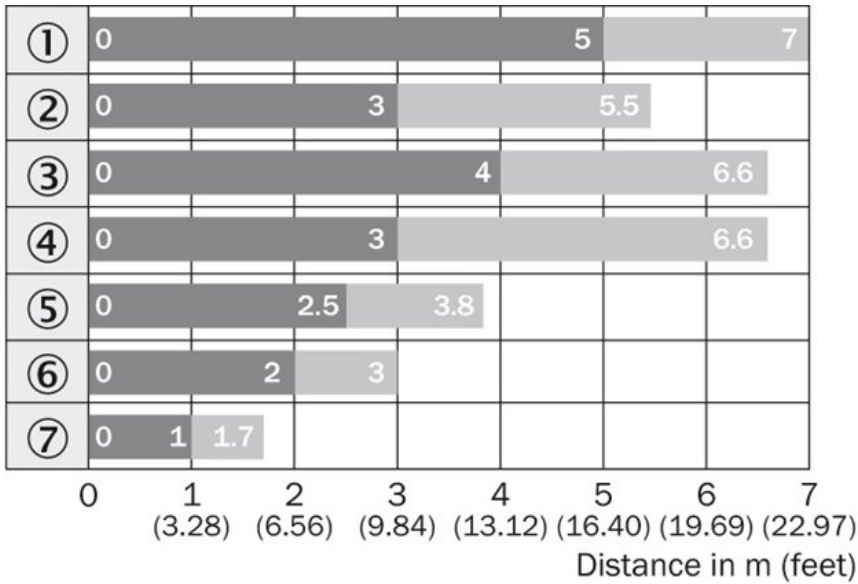


Characteristic curve



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

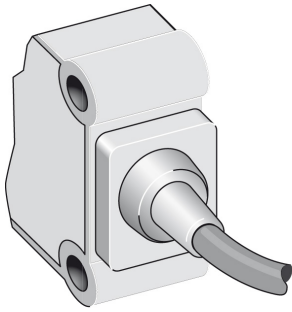
Sensing range diagram



- [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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