



Photoelectric sensors
W4S-3, Photoelectric retro-reflective sensor,
autocollimation

WL4S-3F2132



Model Name > [WL4S-3F2132](#)
Part No. > [1042074](#)



Illustration may differ

At a glance

- Single-lens autocollimation optics
- All models with PinPoint LED technology provides a small intense, light spot
- Maximum sensing range of 5 m
- Long sensing ranges on small reflectors
- Quality monitoring thanks to IO-Link
- Key lock function, remote teach
- Diagnostics messages (contamination and short-circuit)

Your benefits

- Quick and easy alignment due to the PinPoint LED's small, well-defined, intense light spot
- Single-lens autocollimation optics sees through small gaps and bore holes, enabling efficient machine integration
- Long sensing ranges are obtained on small reflectors due to the small, intense light spot
- Quick and easy threshold adjustment (depending on type)
- Simple monitoring of detection quality
- Key lock function and parameter download prevent incorrect settings



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D):	12.2 mm x 41.8 mm x 17.3 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 5 m ¹⁾
Sensing range:	0 m ... 3 m ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Wave length:	650 nm
Teach-in:	Single teach-in button
Adjustment:	Teach-in
Light spot size (distance):	Ø 45 mm (1.5 m)

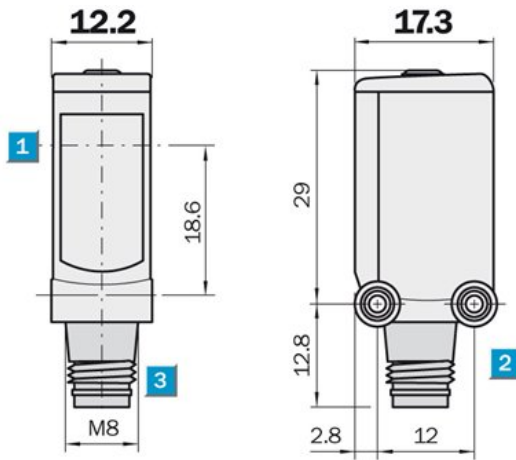
^{1) 2)} PL80A ³⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption:	≤ 20 mA ³⁾
Output type:	PNP
Switching mode:	Dark-switching
Output current I _{max.} :	≤ 100 mA
Response time:	< 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Connector M8, 3-pin
Circuit protection:::	A, C, D ^{6) 7) 8)}
Protection class:	III
Weight:	30 g
Polarisation filter:	✓
Special device:	-
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67 IP 66
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

¹⁾ Limit values 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

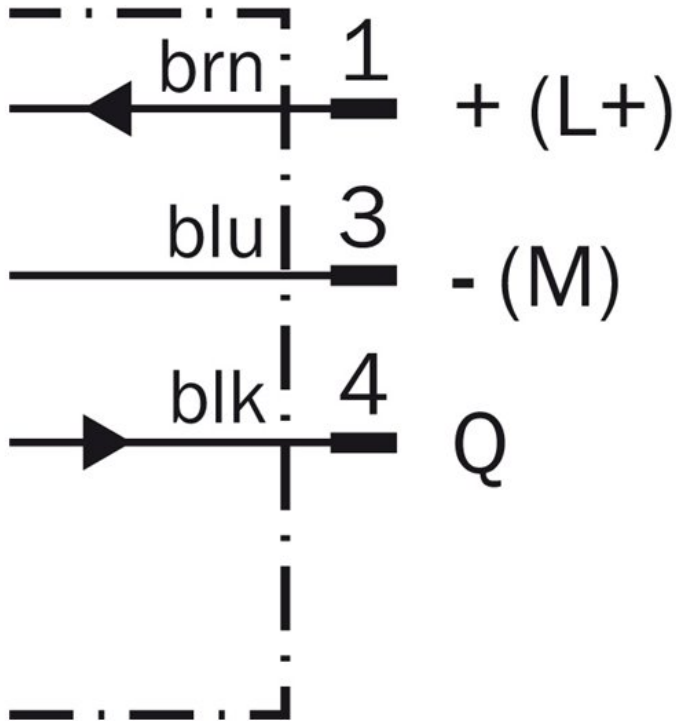
Dimensional drawing



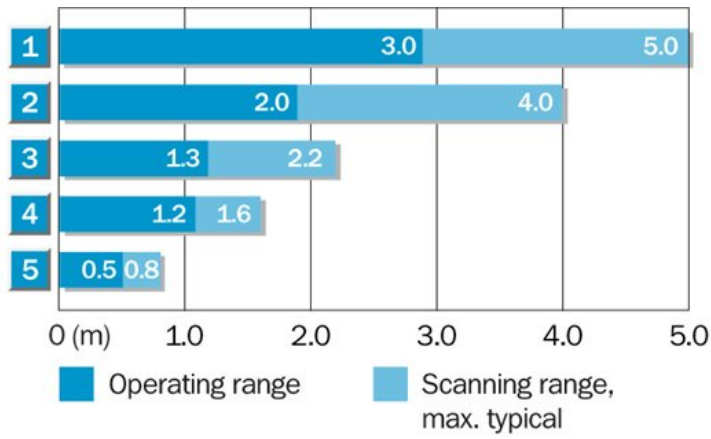
- |1| Center of optical axis
- |2| Threaded mounting hole M3
- |3| Connection
- |4| Status indicator LED green: power on
- |5| LED indicator orange: status of received light beam
- |6| Teach-in button



Connection diagram



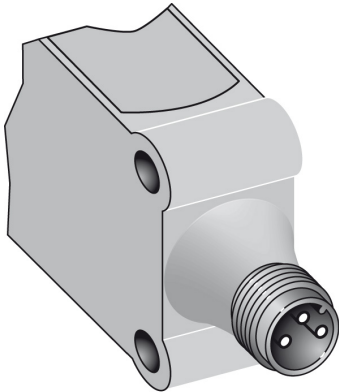
Sensing range diagram



- |1| PL80A
- |2| PL40A
- |3| PL20A
- |4| PL10F
- |5| REF-IRF-56

Reflector type	Operating range
1 PL80A	0 ... 3.0 m
2 PL40A	0 ... 2.0 m
3 PL20A	0 ... 1.3 m
4 PL10F	0 ... 1.2 m
5 REF-IRF-56	0 ... 0.5 m

Connection type



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