



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

WL4S-3E1130S05



Model Name > **WL4S-3E1130S05**
Part No. > **1052970**



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 ... 4 m ¹⁾
Sensing range:	0 m ... 2.5 m ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Special features:	Health output
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

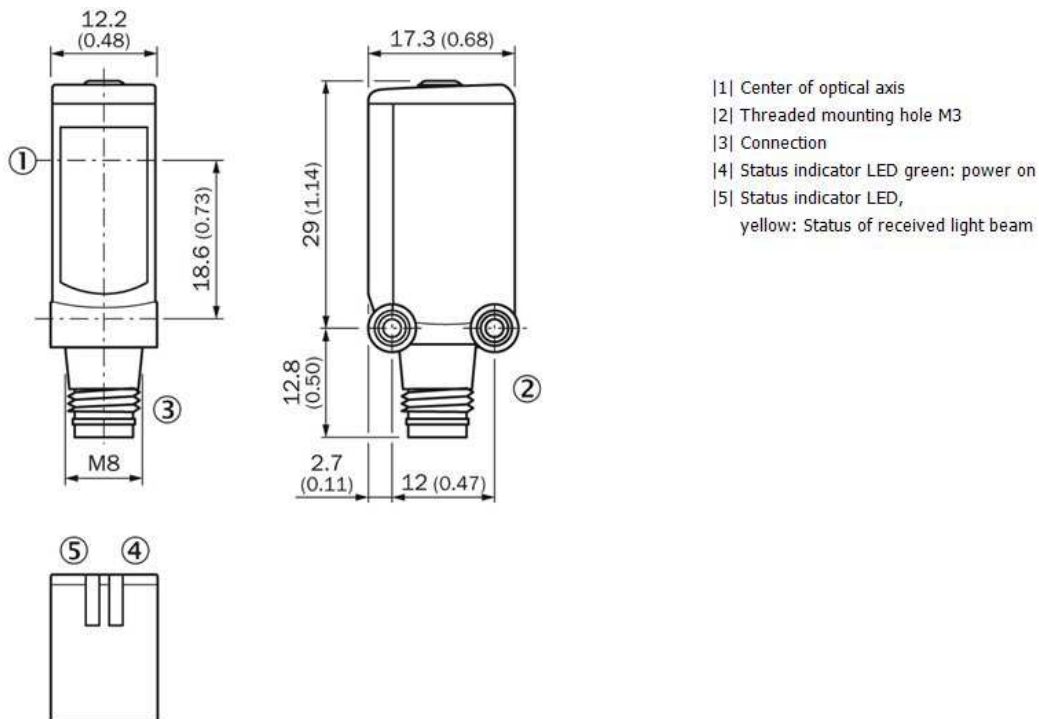
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:::	< 5 Vpp ^{2) 3)}
Power consumption:	≤ 20 mA ⁴⁾

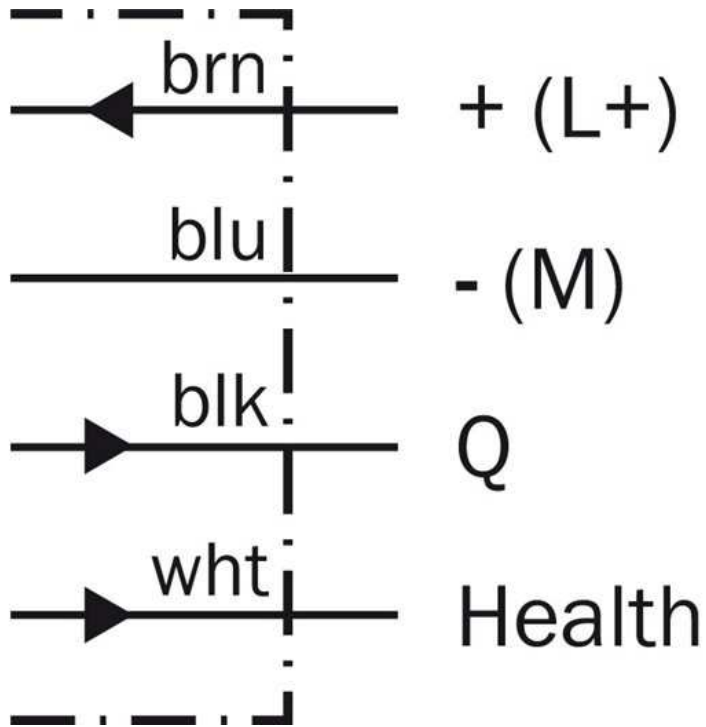
Output type:	NPN
Switching mode:	Dark switching
Output current I _{max} :	≤ 100 mA
Response time:	< 0.5 ms ⁵⁾
Switching frequency:	1,000 Hz ⁶⁾
Connection type:	Cable, 4-wire, 2 m ⁷⁾
Cable material:	PVC
Conductor cross-section:	0.14 mm ²
Cable diameter:	Ø 3.4 mm
Circuit protection:::	A, C, D ^{8) 9) 10)}
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) 3) May not exceed or fall short of V_S tolerances 4) Without load 5) Signal transit time with resistive load 6) With light/dark ratio 1:1 7) Do not bend below 0 °C 8) A = V connections reverse-polarity protected 9) C = interference suppression 10) D = outputs overcurrent and short-circuit protected

Dimensional drawing

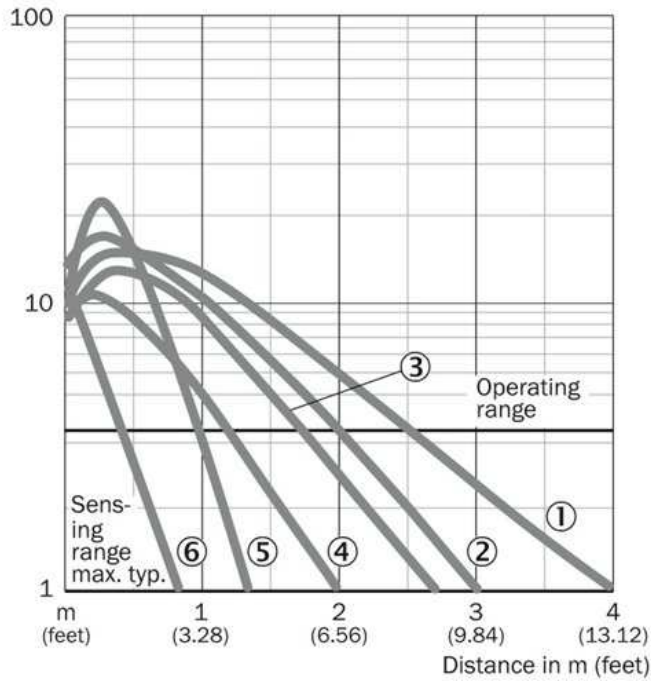


Connection diagram



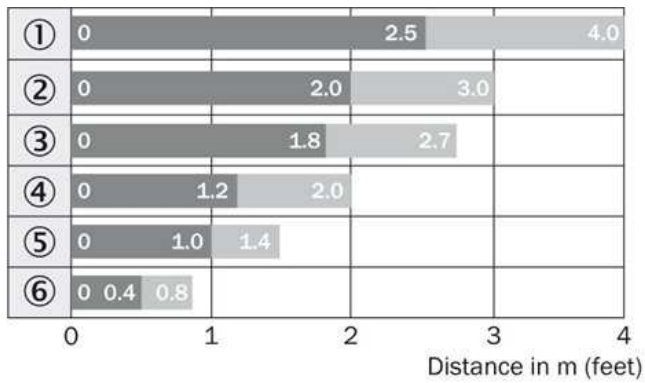
Characteristic curve

Operating reserve



- |1| PL80A
- |2| P250F
- |3| PL40A
- |4| PL20F
- |5| PL10F
- |6| REF-IRF-56

Sensing range diagram



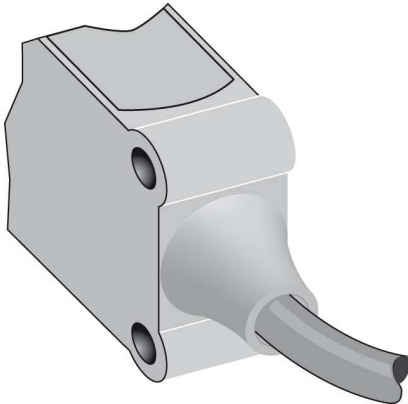
- |1| PL80A
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- |5| PL10F
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■ Sensing range ■ Sensing range typ. max.

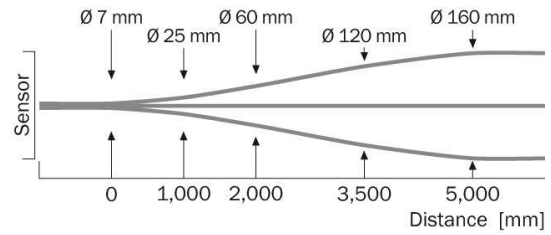
Reflector-type

- ① PL80A
- ② PL250F
- ③ PL40A
- ④ PL20F
- ⑤ PL10F
- ⑥ REF-IRF-56

Connection type



Light spot size



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