



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

WL4S-3F2130



**Model Name** > [WL4S-3F2130](#)  
**Part No.** > [1042065](#)



*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 <sup>1)</sup>
Sensing range:	0 m ... 2.5 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Light spot size (distance):	Ø 45 mm (1.5 m)

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

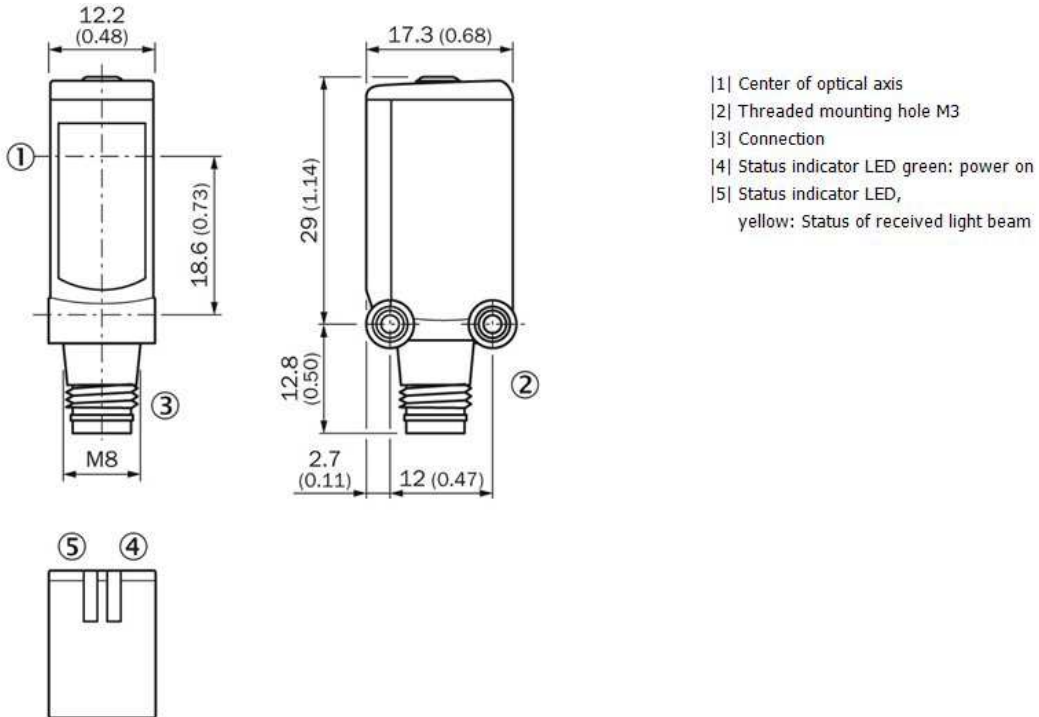
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:::	< 5 Vpp <sup>2) 3)</sup>
Power consumption:	≤ 20 mA <sup>4)</sup>
Output type:	PNP

Switching mode:	Dark switching
Output current I <sub>max</sub> ..:	≤ 100 mA
Response time:	< 0.5 ms <sup>5)</sup>
Switching frequency:	1,000 Hz <sup>6)</sup>
Connection type:	Connector M8, 3-pin
Circuit protection:::	A, C, D <sup>7) 8) 9)</sup>
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<sub>S</sub> tolerances 4) Without load 5) Signal transit time with resistive load 6) With light/dark ratio 1:1 7) A = V<sub>S</sub>  
connections reverse-polarity protected 8) C = interference suppression 9) D = outputs overcurrent and short-circuit protected

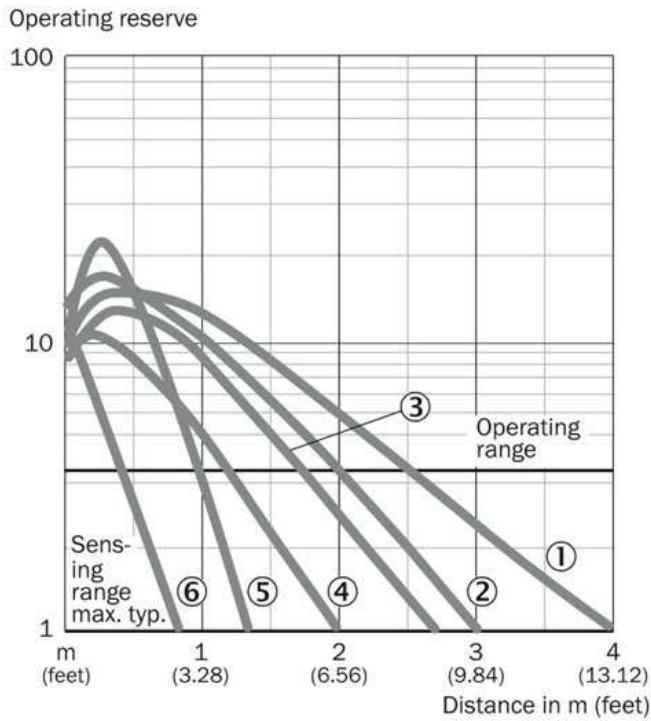
### Dimensional drawing



Connection diagram

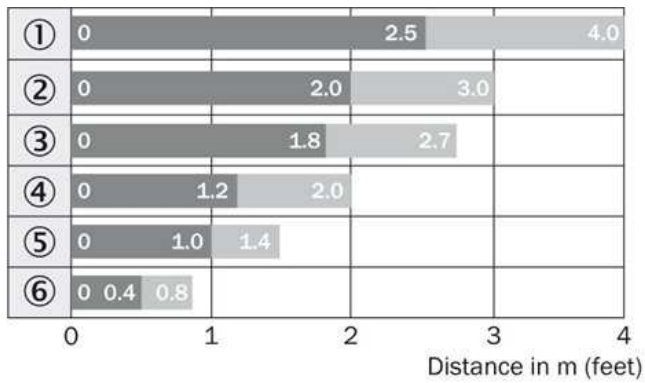


Characteristic curve



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

## Sensing range diagram



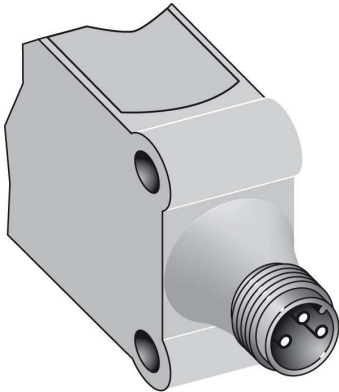
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■ Sensing range      ■ Sensing range typ. max.

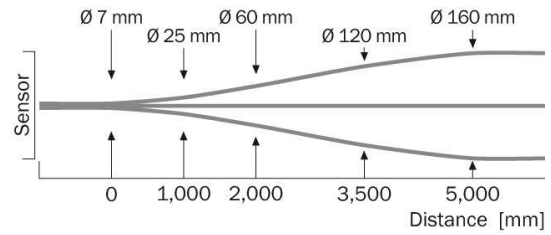
## Reflector-type

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

## Connection type



## Light spot size



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