



Photoelectric sensors  
W2S-2, Photoelectric retro-reflective sensor,  
autocollimation

WL2S-2P3230



**Type** > [WL2S-2P3230](#)  
**Part No.** > [1063572](#)



*Illustration may differ*

**At a glance**

- Sensing ranges of up to 1.2 m
- Reliable use on reflective tape with a high operating reserve
- No blind spots even at short distances thanks to autocollimation
- Reliable, universal object detection thanks to polarization filter
- Immune to optical interference

**Your benefits**

- Space-saving integration and extremely small reflectors in rails, joints and gaps
- Increased productivity due to highly repeatable switching points
- PinPoint 2.0 technology for a bright, small, and precise light spot, enabling quick and easy sensor alignment
- Simple and cost-effective machine design since the sensor can see through small drill holes and reflective tape can be used
- High reliability and long-term use in machines thanks to a rugged housing and a 45° cable outlet



**Features**

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D):	7.7 mm x 21.8 mm x 13.5 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 1.2 m <sup>1)</sup>
Sensing range:	0 m ... 0.55 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Wave length:	640 nm
Light spot size (distance):	X Ø 12 mm (250 mm)

<sup>1) 2)</sup> P250F <sup>3)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C

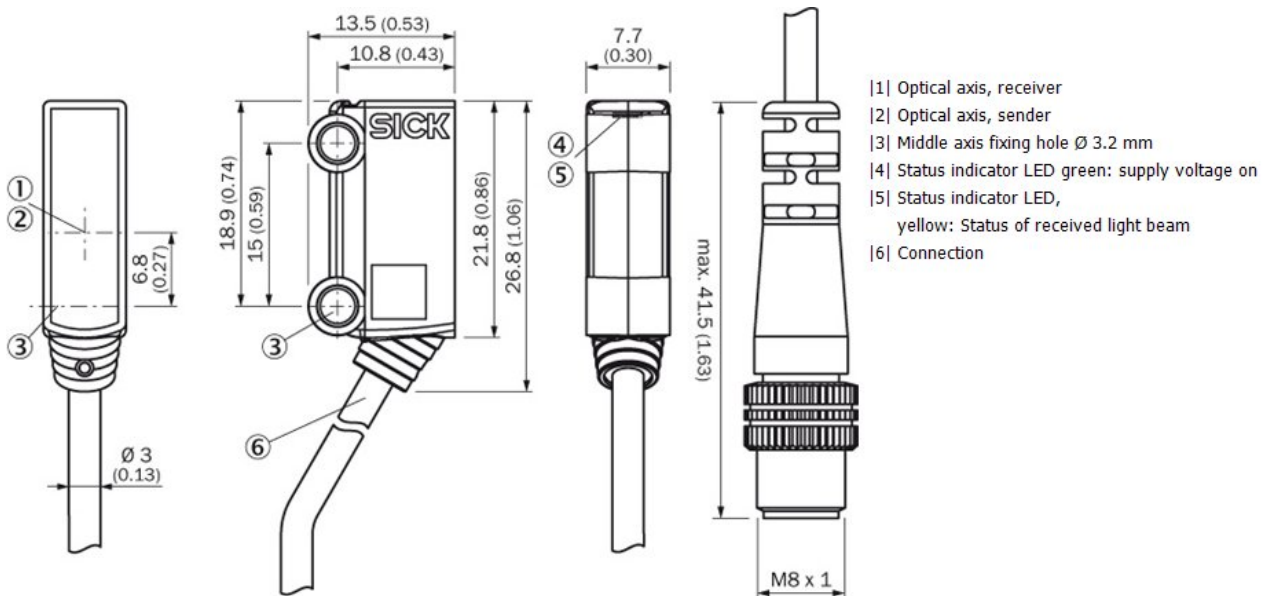
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	≤ 5 V <sub>pp</sub> <sup>2)</sup>
Current consumption:	≤ 20 mA <sup>3)</sup>
Output type:	PNP
Switching mode:	Light/dark switching
Output current I <sub>max</sub> ..:	< 50 mA

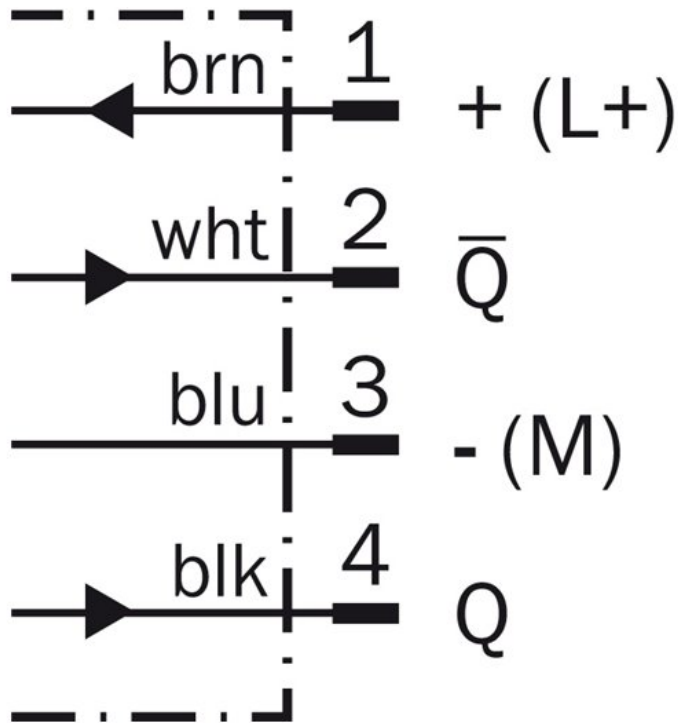
Response time:	< 0.5 ms <sup>4)</sup>
Switching frequency:	1,000 Hz <sup>5)</sup>
Connection type:	Cable with M8 male connector, 4-pin, 200 mm <sup>6)</sup>
Cable material:	PVC
Cable diameter:	Ø 3 mm
Circuit protection:::	A, B, D <sup>7) 8) 9)</sup>
Polarisation filter:	✓
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	-25 °C ... +50 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493
Housing material:	ABS/PC, Plastic

1) Limit values 2) May not exceed or fall below U<sub>v</sub> 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<sub>S</sub> connections reverse-polarity protected 8) B = output reverse-polarity protected 9) D = outputs overcurrent and short-circuit protected

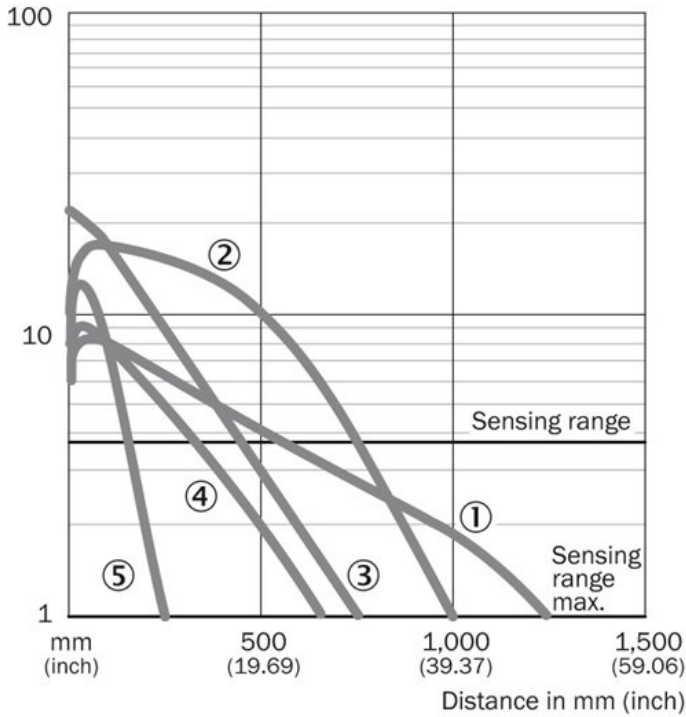
## Dimensional drawing



Connection diagram



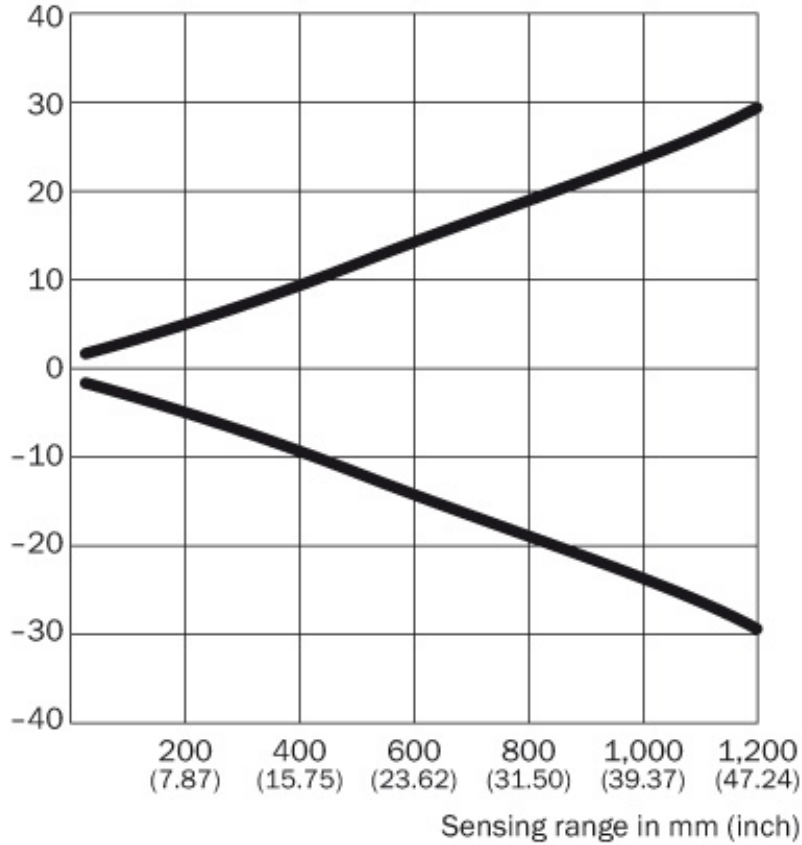
Characteristic curve



- |1| P250F
- |2| PL20F
- |3| REF-AC1000
- |4| PL10F
- |5| PL8FH

**Light spot size**

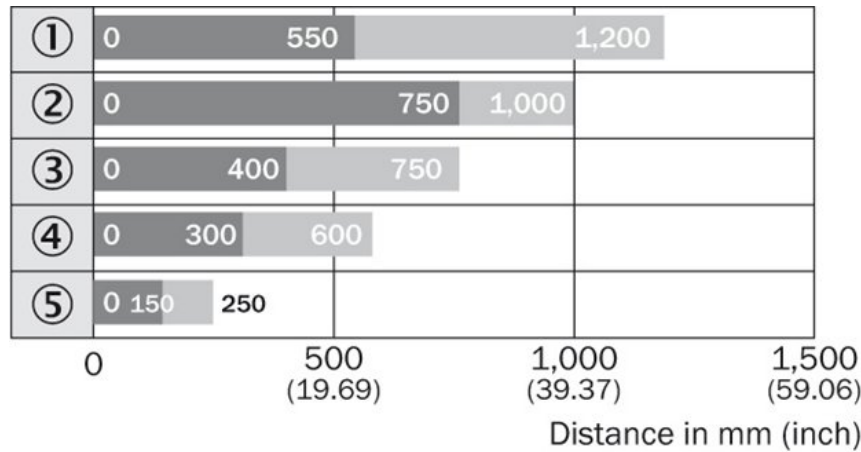
Spot diameter in mm (inch)



**Dimensions in mm (inch)**

Sensing range	Spot diameter
<b>20</b> (0.79)	3.4 (0.13)
<b>100</b> (3.94)	6.5 (0.26)
<b>250</b> (9.84)	12.0 (0.47)
<b>500</b> (19.69)	34.0 (1.34)
<b>1,000</b> (39.37)	48.0 (1.89)
<b>1,200</b> (47.24)	60.0 (2.36)

**Sensing range diagram**



- [1] P250F
- [2] PL20F
- [3] REF-AC1000
- [4] PL10F
- [5] PL8FH

■ Sensing range      ■ Sensing range max.

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