



Photoelectric sensors  
W2 Slim, Photoelectric retro-reflective sensor,  
Standard optics

WL2S-P111



**Model Name** > [WL2S-P111](#)  
**Part No.** > [1023869](#)



*Illustration may differ*

**At a glance**

- Small, sharply defined light spot of Ø 10 mm at 100 mm distance
- Maximum sensing range of 800 mm on the small PL20A reflector
- Fast response time of 0.6 ms

**Your benefits**

- PinPoint LED provides a sharply defined, highly visible light spot for quick and easy alignment
- Compact design saves space while providing long sensing ranges
- High immunity to crosstalk with another device enables the installation of several sensors in a single area
- Ball-and-socket bracket for quick and easy alignment



**Features**

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	7.6 mm x 25.1 mm x 12.5 mm
Housing design (light emission):	Rectangular, Slim
Sensing range max.:	0.04 m ... 0.8 m <sup>1)</sup>
Sensing range:	0.04 m ... 0.8 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Wave length:	660 nm
Focus adjustable:	✓
Light spot size (distance):	Ø 10 mm (100 mm)

<sup>1) 2)</sup> PL20A <sup>3)</sup> Average service life 75,000 h at T<sub>A</sub> = +25 °C

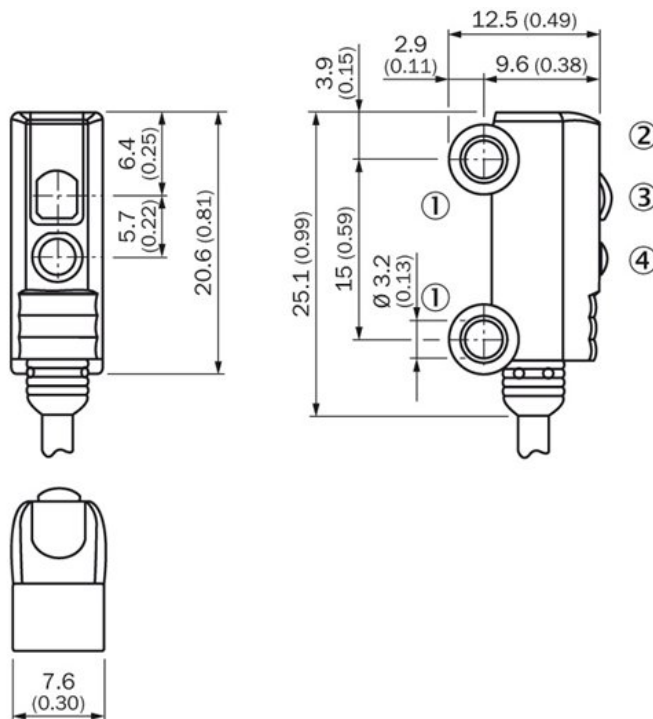
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	≤ 5 Vpp <sup>2)</sup>
Switching output:	PNP
Switching output:	Light switching
Output current I <sub>max</sub> :	≤ 50 mA
Response time:	< 0.6 ms <sup>3)</sup>
Switching frequency:	800 Hz <sup>4)</sup>
Connection type:	Cable, 3-wire, 2 m <sup>5)</sup>

Cable material:	PVC
Cable diameter:	Ø 2.4 mm
Circuit protection:::	A, C, D <sup>6) 7) 8)</sup>
Weight:	18 g
Polarisation filter:	✓
Reverse polarity protection:	✓
Short-circuit protection:	✓
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67 IP 69K
Ambient temperature operation:	-20 °C ... 50 °C
Ambient storage temperature:	-40 °C ... 75 °C

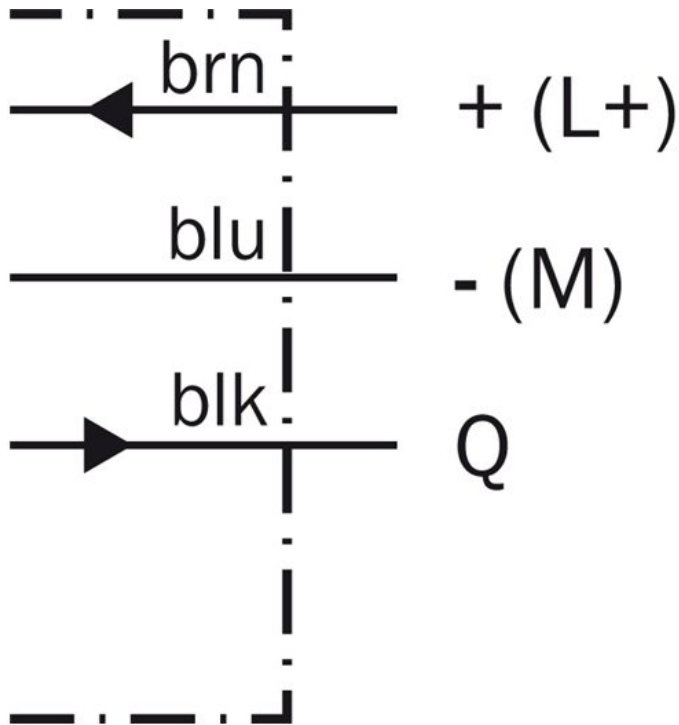
1) Limit values 2) May not exceed or fall short of  $V_S$  tolerances 3) Signal transit time with resistive load 4) With light/dark ratio 1:1 5) Do not bend below 0 °C 6) A = V connections reverse-polarity protected 7) C = interference suppression 8) D = outputs overcurrent and short-circuit protected

### Dimensional drawing

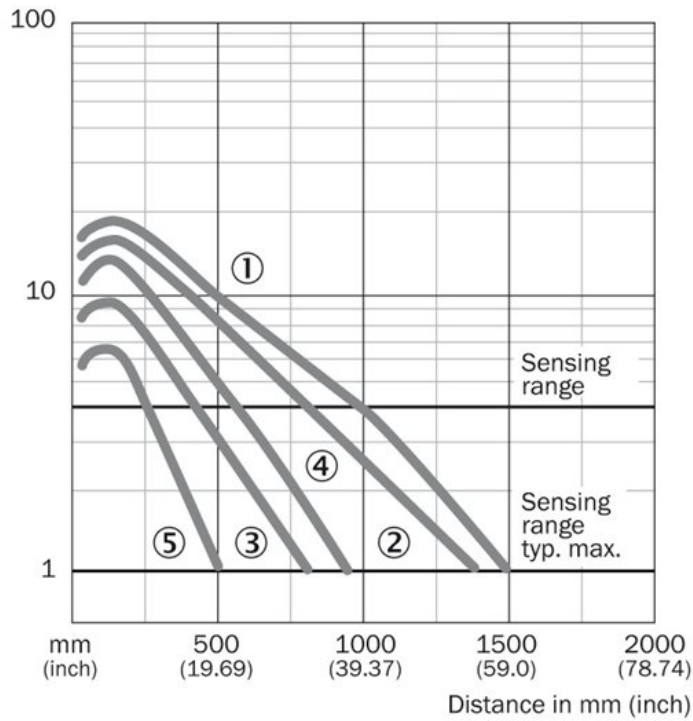


- |1| Mounting hole,  $\varnothing$  approx. 3.1 mm
- |2| LED signal strength indicator
- |3| Optical axis, receiver
- |4| Optical axis, sender

Connection diagram

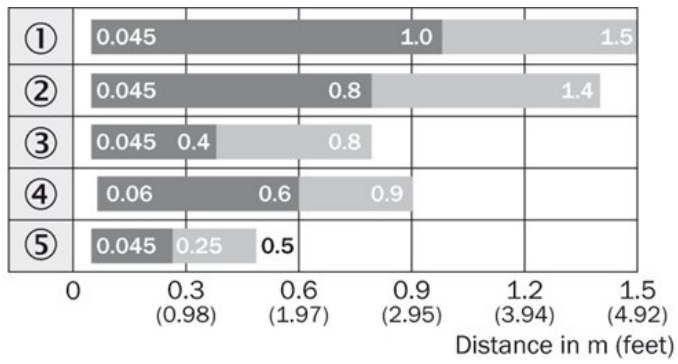


Characteristic curve



- |1| PL40A
- |2| PL30A
- |3| PL20A
- |4| PL22
- |5| PL10F

## Sensing range diagram



- |1| PL40A
- |2| PL30A
- |3| PL20F
- |4| PL22
- |5| PL10F

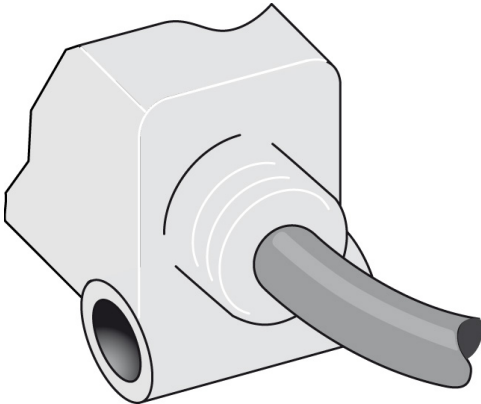
■ Sensing range      ■ Sensing range typ. max.

### Reflector type

- ① PL40A
- ② PL30A
- ③ PL20F
- ④ PL22
- ⑤ PL10F <sup>1)</sup>

<sup>1)</sup> With reflector arrangement along the sensor axis.

### Connection type



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