



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

WL2S-F411



Model Name > [WL2S-F411](#)
Part No. > [1023644](#)



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 ¹⁾
Sensing range:	0.04 m ... 0.8 m ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Wave length:	660 nm
Focus adjustable:	✓
Light spot size (distance):	Ø 10 mm (100 mm)

^{1) 2)} PL20A ³⁾ Average service life 75,000 h at T_A = +25 °C

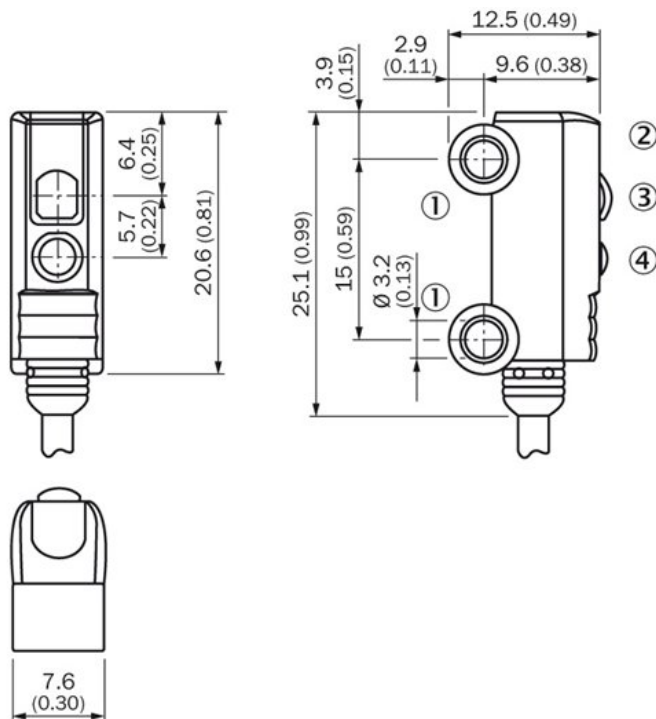
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 Vpp ²⁾
Output type:	PNP
Switching mode:	Dark-switching
Output current I _{max} :	≤ 50 mA
Response time:	< 0.6 ms ³⁾
Switching frequency:	800 Hz ⁴⁾
Connection type:	Cable with connector M8, 4-pin, 200 mm ⁵⁾

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

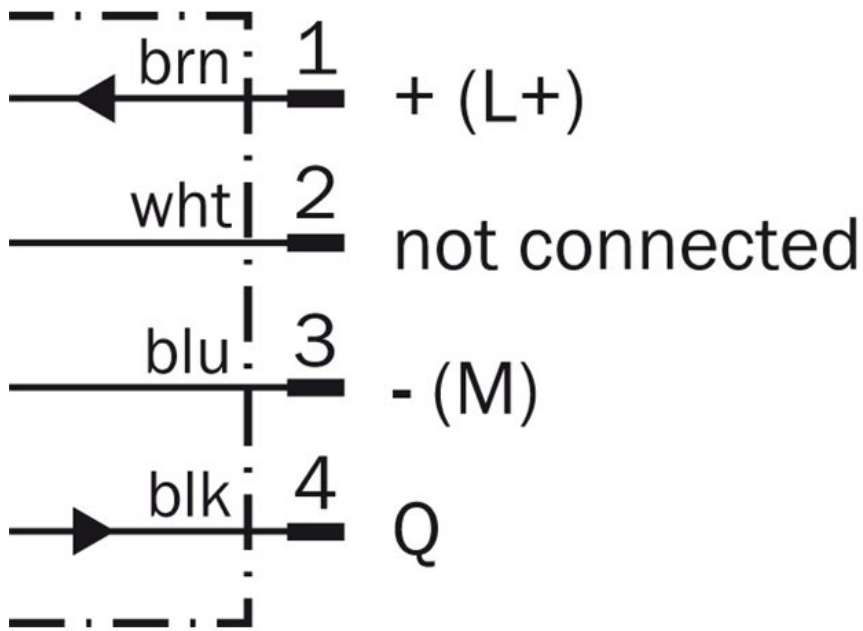
¹⁾ Limit values ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Signal transit time with resistive load ⁴⁾ With light/dark ratio 1:1 ⁵⁾ Do not bend below 0 °C ⁶⁾ A = V
⁷⁾ C = interference suppression ⁸⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing

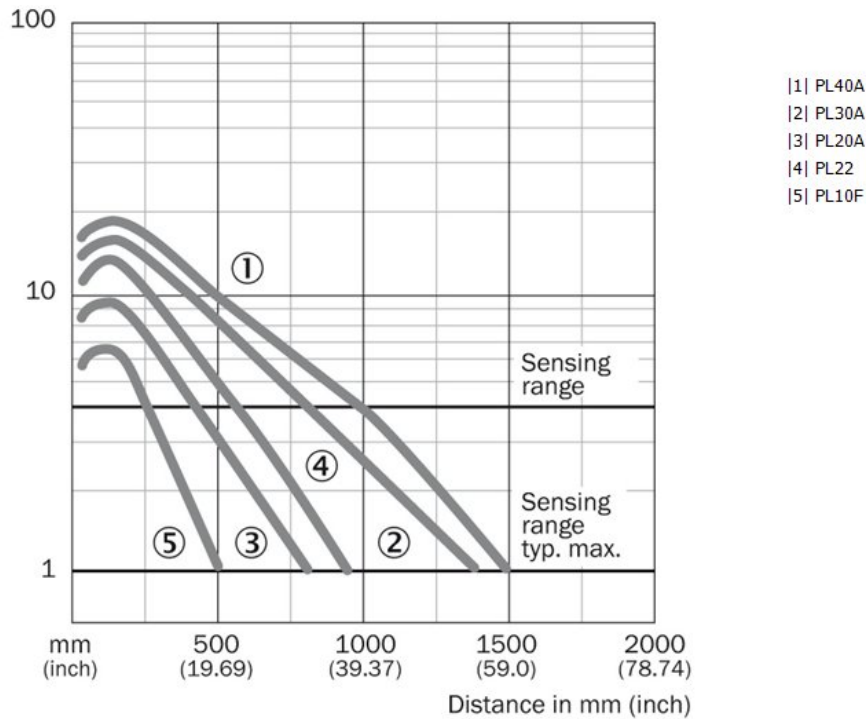


- [1] Mounting hole, Ø approx. 3.1 mm
- [2] LED signal strength indicator
- [3] Optical axis, receiver
- [4] Optical axis, sender

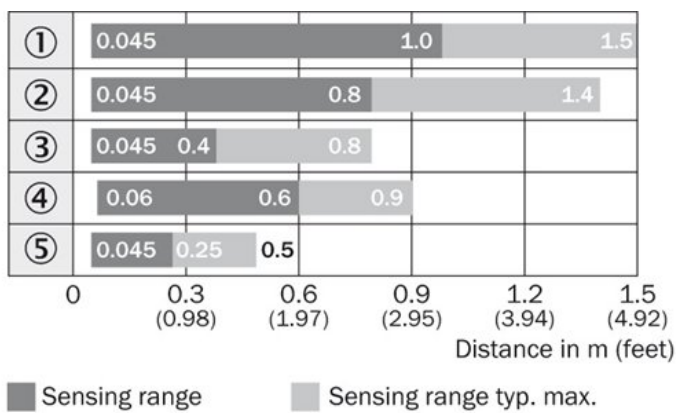
Connection diagram



Characteristic curve



Sensing range diagram



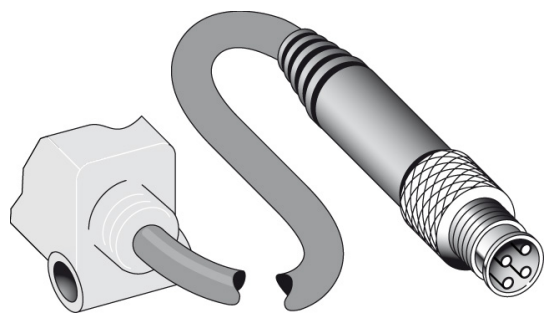
- |1| PL40A
- |2| PL30A
- |3| PL20F
- |4| PL22
- |5| PL10F

Reflector type

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

¹⁾ With reflector arrangement along the sensor axis.

Connection type



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