



Photoelectric sensors
W100, Photoelectric retro-reflective sensor,
Standard optics

WL100-P4239S09

Model Name > [WL100-P4239S09](#)
Part No. > [6030159](#)



At a glance

- Standard miniature housing with M3 threaded mounting holes
- Optics with standard red LED or bright light LED
- Polarizing filter
- Light/dark switching and sensitivity adjustment via rotary switch possible
- All necessary accessories (BEF-W100-A and P250) are included with delivery (depending on type)

Your benefits

- Highly visible light spot simplifies alignment
- Less contamination due to high optical operating reserve
- Polarization filter allows reliable detection of objects with shiny surfaces and prevents false switching
- M3 threaded mounting holes provide easy installation
- Variants available for reliably detecting clear materials, min. attenuation 20 %
- All necessary accessories (bracket and reflector) are included with delivery, reducing installation and procurement costs (depending on type)



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	11 mm x 31 mm x 20 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0.01 m ... 6 m ¹⁾
Sensing range:	0.01 m ... 5 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Wave length:	680 nm
Angle of dispersion:	Ca. 4 °
Focus adjustable:	-
Light spot size (distance):	Ø 250 mm (3.5 m)

^{1) 2)} PL80A ³⁾ Average service life of 100,000 h at T_A = +25 °C

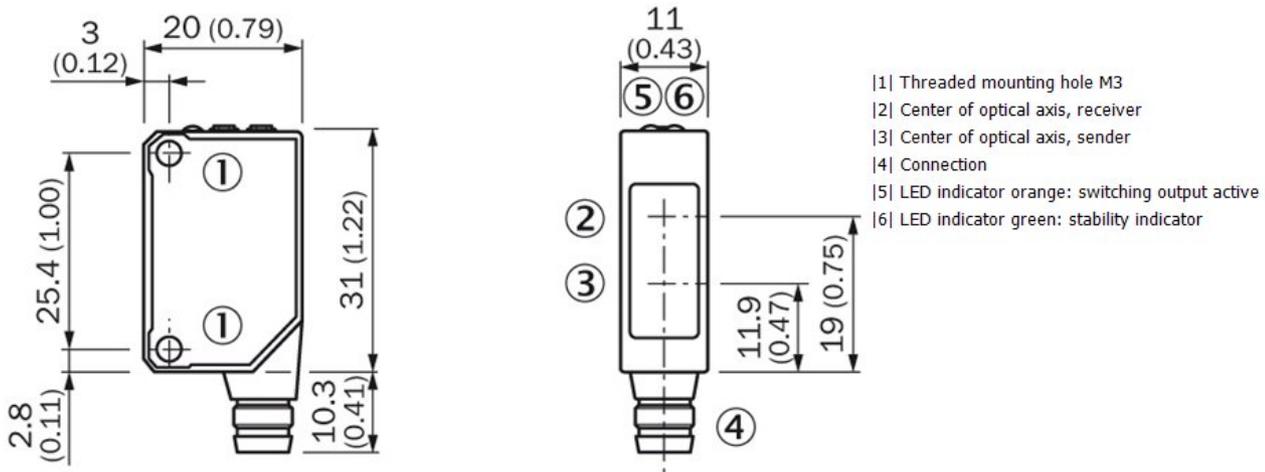
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 10 % ²⁾
Power consumption:	≤ 30 mA ³⁾

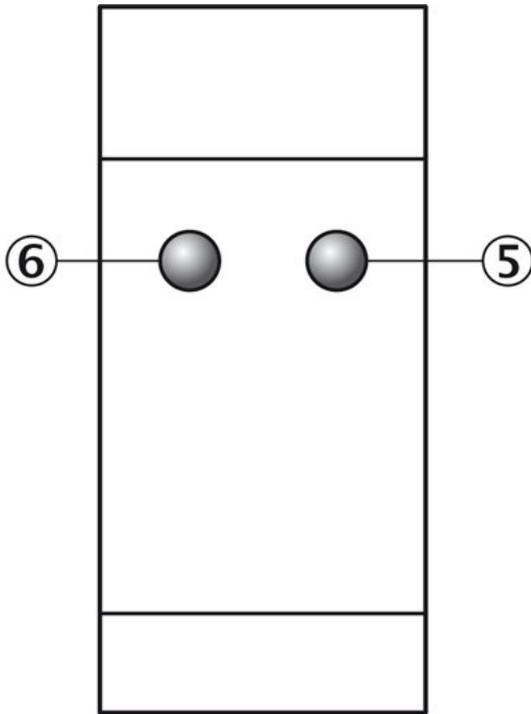
Output type:	PNP, open collector
Switching mode:	Dark-switching
Signal voltage PNP HIGH/LOW:	UV - 1,8 V/ca. 0 V
Output current I _{max} ..:	≤ 100 mA
Response time:	≤ 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, D ^{6) 7) 8)}
Weight:	9 g
Polarisation filter:	✓
Special device:	-
Housing material:	ABS/PC, Plastic
Optics material:	PMMA
Enclosure rating:	IP 65
Ambient operating temperature:	-25 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 70 °C

1) Limit values, operation in short-circuit protected network max. 8 A²⁾ May not exceed or fall short of V_S tolerances³⁾ Without load⁴⁾ Signal transit time with resistive load⁵⁾ With light/dark ratio 1:1⁶⁾ A = V_S connections reverse-polarity protected⁷⁾ B = inputs and output reverse-polarity protected⁸⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing

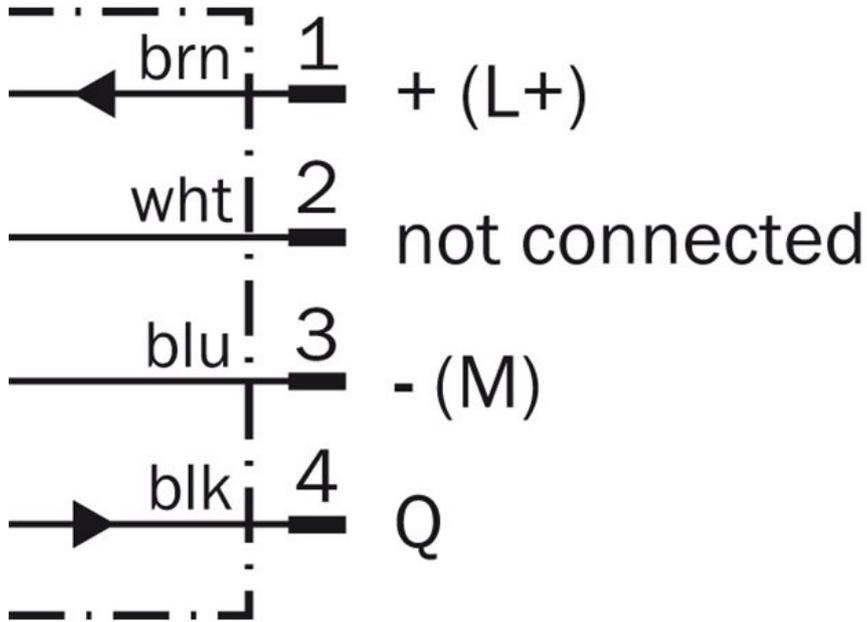


Adjustments possible

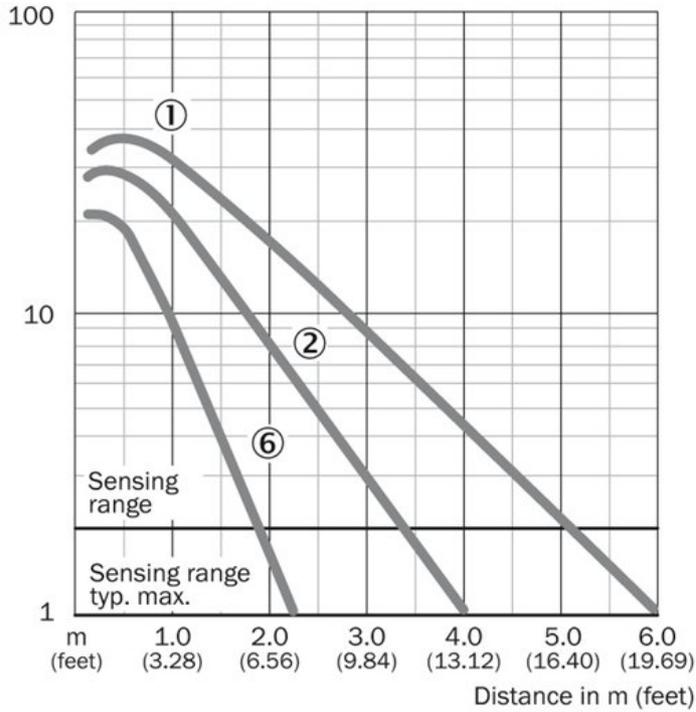


|5| Orange LED indicator : switching output active
|6| LED indicator green: stability indicator

Connection diagram

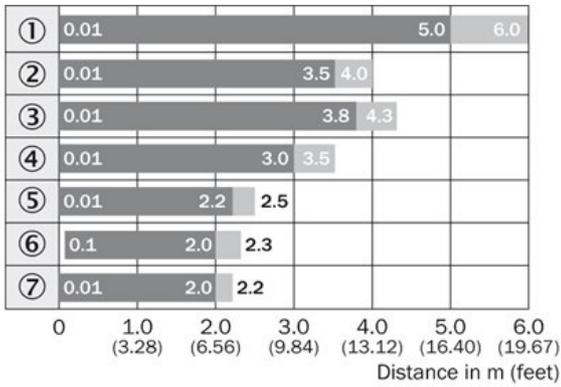


Characteristic curve



- |1| PL80A
- |2| P250
- |6| Reflective tape Diamond Grade

Sensing range diagram

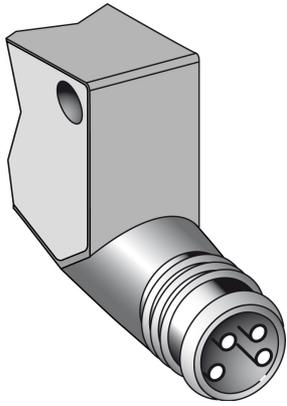


- |1| PL80A
- |2| P250
- |3| PL50A, PL40A
- |4| PL30A, PL31A
- |5| PL20A
- |6| Reflective tape Diamond Grade
- |7| P45

Reflector type

- ① PL80A
- ② P250
- ③ PL50A/PL40A
- ④ PL30A/PL31A
- ⑤ PL20A
- ⑥ Reflective tape Diamond Grade
- ⑦ P45

Connection type



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