



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

WL100-N1239



Model Name > [WL100-N1239](#)
Part No. > [6026062](#)



Illustration may differ

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)

Product will be phased out and can be ordered until 31.12.2015.



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

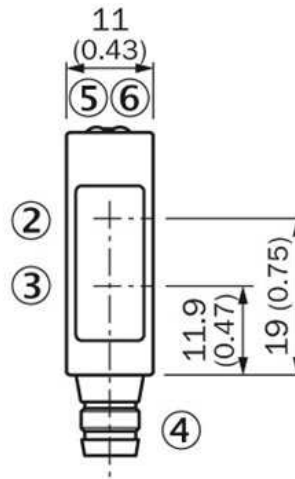
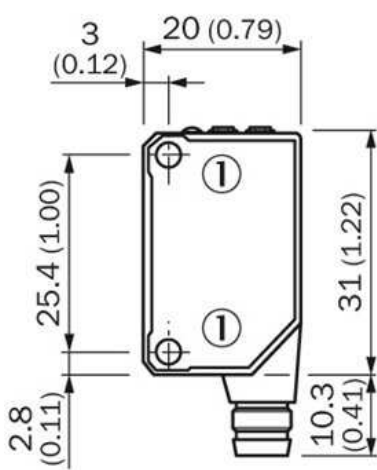
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	± 10 % ²⁾

Power consumption:	≤ 30 mA ³⁾
Output type:	NPN, open collector
Switching mode:	Dark switching
Output current I _{max.} :	100
Response time:	≤ 0.5 ms ⁴⁾
Switching frequency:	1,000 ⁵⁾
Electrical connection:	Cable, 3-wire, 2 m ⁶⁾
Cable material:	PVC
Conductor cross-section:	0.18 mm ²
Circuit protection:::	A, B, D ^{7) 8) 9)}
Weight:	53 g
Polarisation filter:	✓
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 65
Items supplied:	Stainless steel mounting bracket (1.4301/304) BEF-W100-A, Reflector P250
Ambient temperature operation:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
Signal voltage NPN HIGH/LOW:	Approx. V _S / < 1.8 V
Housing material:	ABS/PC, Plastic

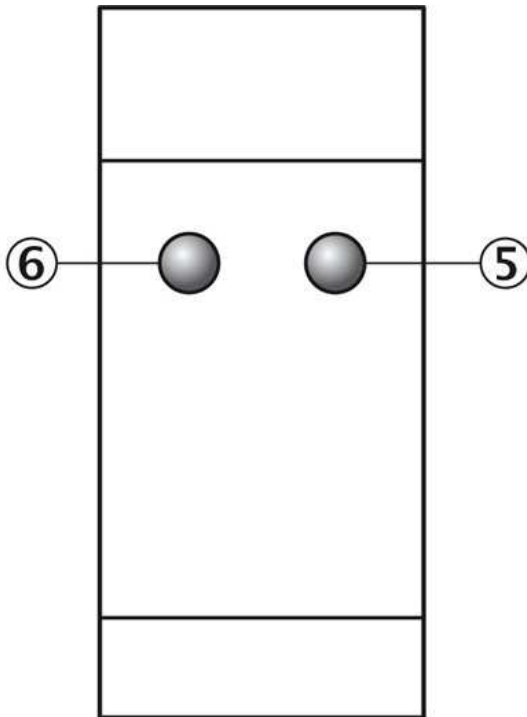
¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ Do not bend below 0 °C ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = inputs and output reverse-polarity protected ⁹⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing



- |1| Threaded mounting hole M3
- |2| Center of optical axis, receiver
- |3| Center of optical axis, sender
- |4| Connection
- |5| LED indicator orange: switching output active
- |6| LED indicator green: stability indicator

Adjustments possible

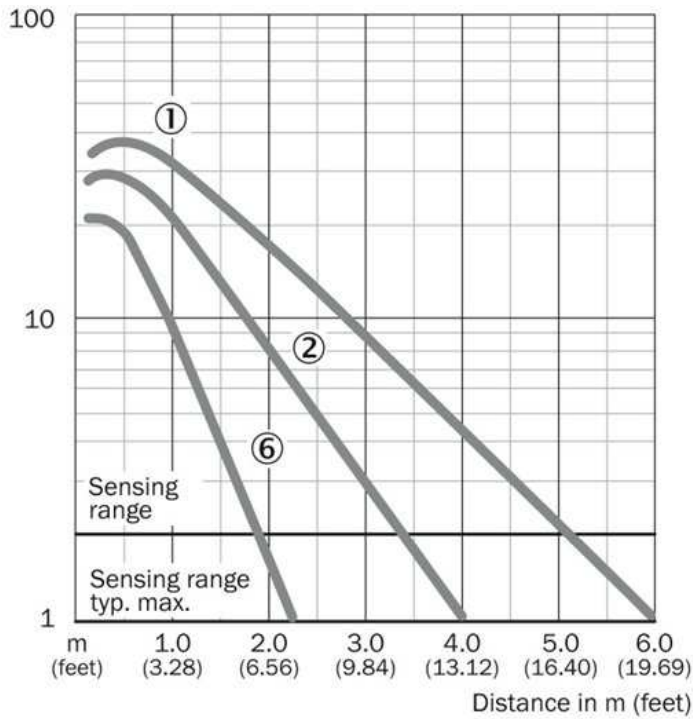


- |5| Orange LED indicator : switching output active
- |6| LED indicator green: stability indicator

Connection diagram

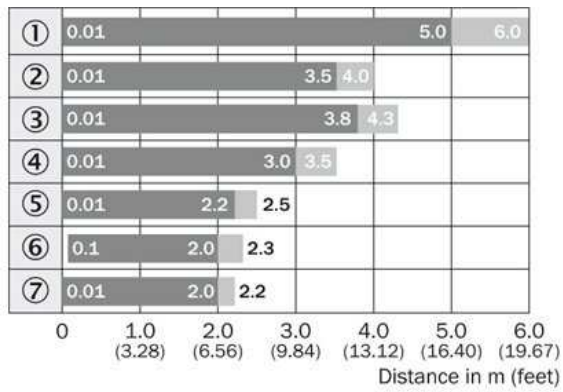


Characteristic curve



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

Sensing range diagram



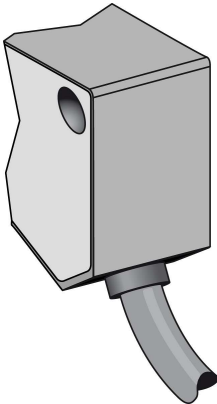
■ Sensing range ■ Sensing range typ. max.

- |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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