



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

WL100-P3239



**Model Name** > [WL100-P3239](#)  
**Part No.** > [6026071](#)



*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 <sup>1)</sup>
Sensing range:	0.01 m ... 5 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	680 nm
Angle of dispersion:	Ca. 4 °
Focus adjustable:	-
Light spot size (distance):	Ø 250 mm (3.5 m)

<sup>1) 2)</sup> PL80A <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

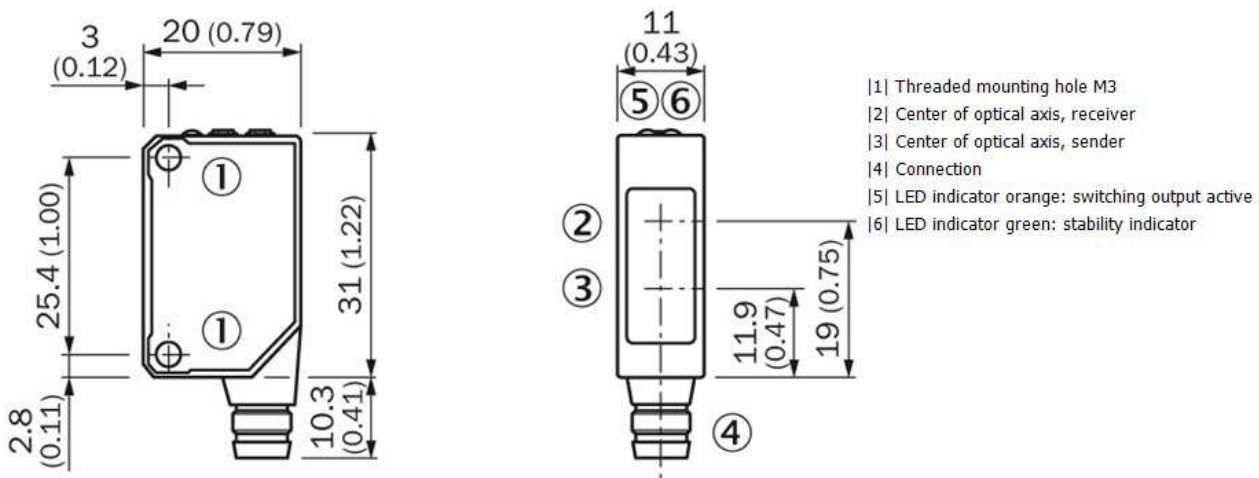
#### Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Residual ripple:	± 10 % <sup>2)</sup>

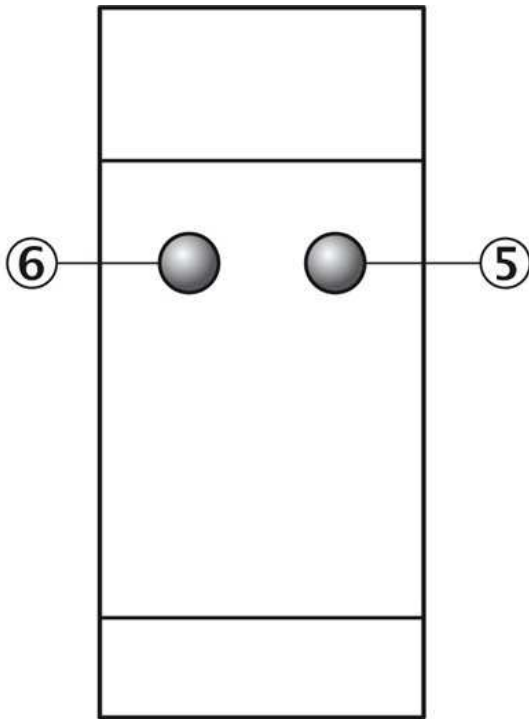
Power consumption:	≤ 30 mA <sup>3)</sup>
Output type:	PNP, open collector
Switching mode:	Dark switching
Output current I <sub>max.</sub> :	100
Response time:	≤ 0.5 ms <sup>4)</sup>
Switching frequency:	1,000 <sup>5)</sup>
Electrical connection:	Connector M8, 3-pin
Circuit protection:::	A, B, D <sup>6) 7) 8)</sup>
Weight:	9 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 PNP HIGH/LOW:	UV - 1,8 V/ca. 0 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<sub>S</sub> tolerances    3) Without load    4) Signal transit time with resistive load  
5) With light/dark ratio 1:1    6) A = V<sub>S</sub> connections reverse-polarity protected    7) B = inputs and output reverse-polarity protected    8) D = outputs overcurrent and short-circuit protected

### Dimensional drawing

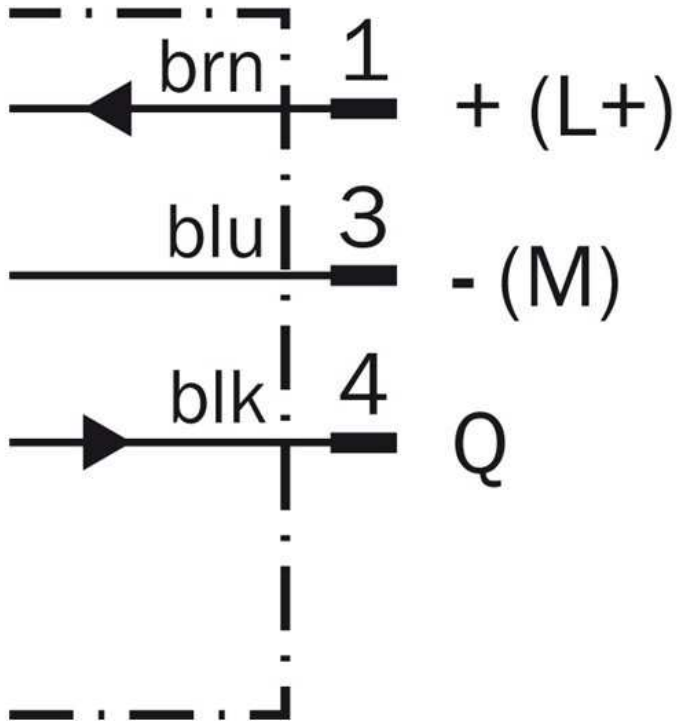


Adjustments possible

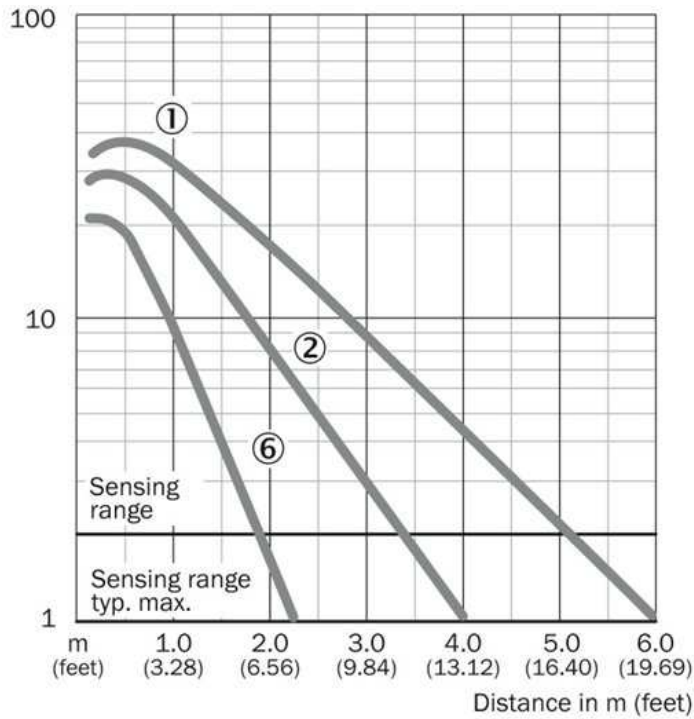


|5| Orange LED indicator : switching output active  
|6| LED indicator green: stability indicator

Connection diagram

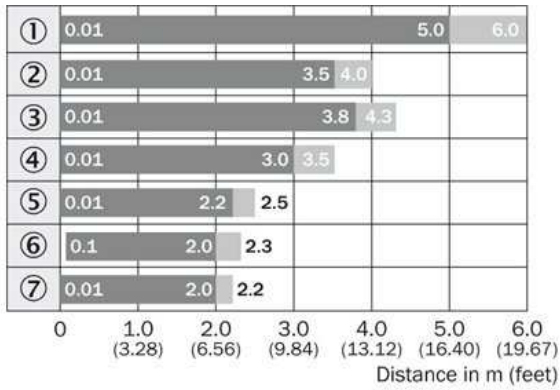


## Characteristic curve



- |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

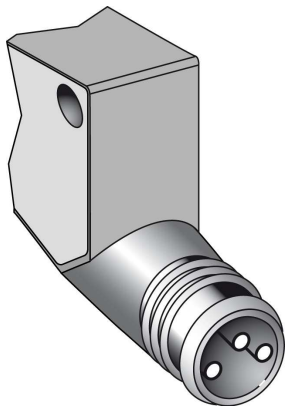
■ Sensing range      ■ Sensing range typ. max.

### 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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