



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

WL100-P1409P07



Model Name > [WL100-P1409P07](#)
Part No. > [1058101](#)



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)



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.:	0.1 m ... 7.5 m ¹⁾
Sensing range:	0.1 m ... 6 m ²⁾
Type of light:	Visible red light
Light source:	BrightLight LED ³⁾
Wave length:	645 nm
Angle of dispersion:	Ca. 2 °
Focus adjustable:	-
Adjustment:	Potentiometer, 270°
Light spot size (distance):	Ø 150 mm (4 m)

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

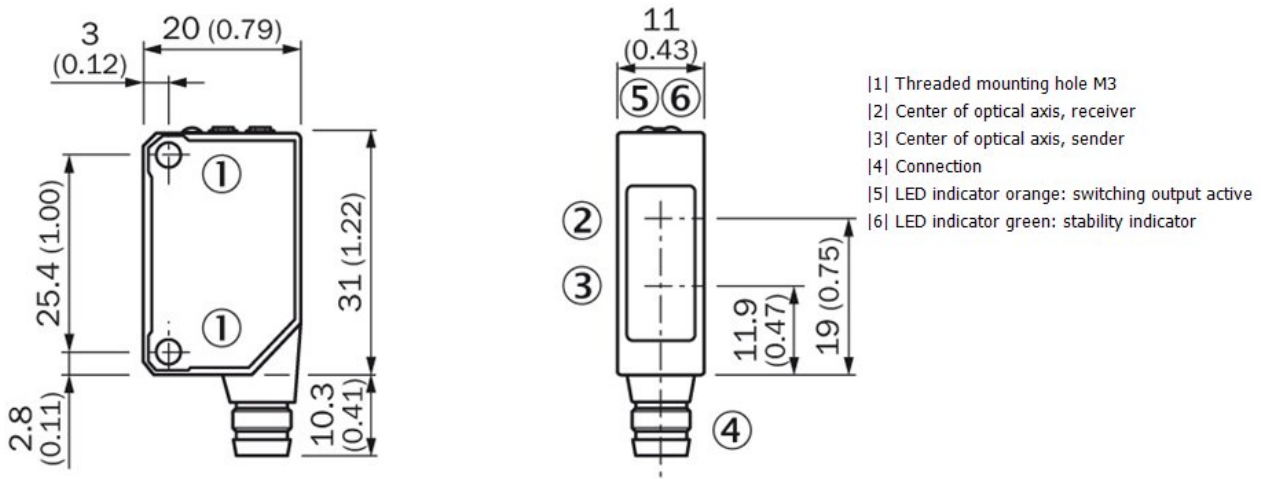
Mechanics/electronics

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

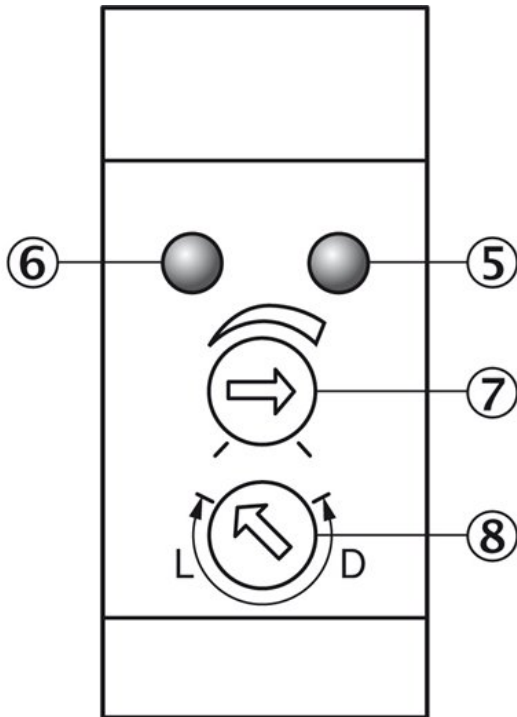
Power consumption:	$\leq 30 \text{ mA}$ ³⁾
Output type:	PNP, open collector
Switching mode:	Light/dark-switching
Switching mode selector:	Manually selectable
Signal voltage PNP HIGH/LOW:	UV - 1,8 V/ca. 0 V
Output current I _{max.} :	$\leq 100 \text{ mA}$
Response time:	$\leq 0.5 \text{ ms}$ ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Cable with connector M12, 4-pin, 300 mm ⁶⁾
Cable material:	PVC
Circuit protection:::	A, B, D ^{7) 8) 9)}
Weight:	53 g
Polarisation filter:	✓
Special device:	-
Housing material:	ABS/PC/POM, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Stainless steel mounting bracket (1.4301/304) BEF-W100-A, Reflector PL20A
Ambient operating temperature:	-25 °C ... 55 °C
Ambient storage temperature:	-40 °C ... 70 °C

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

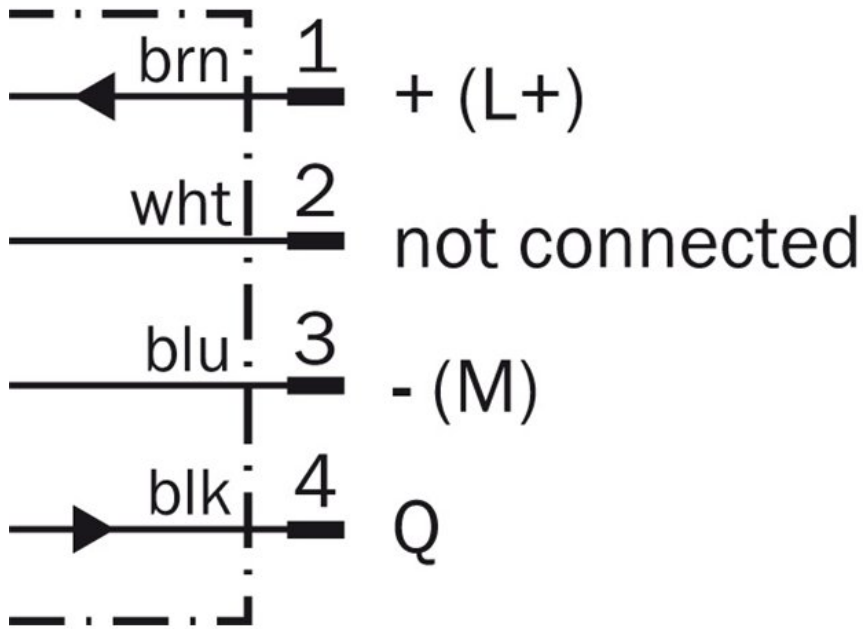


Adjustments possible

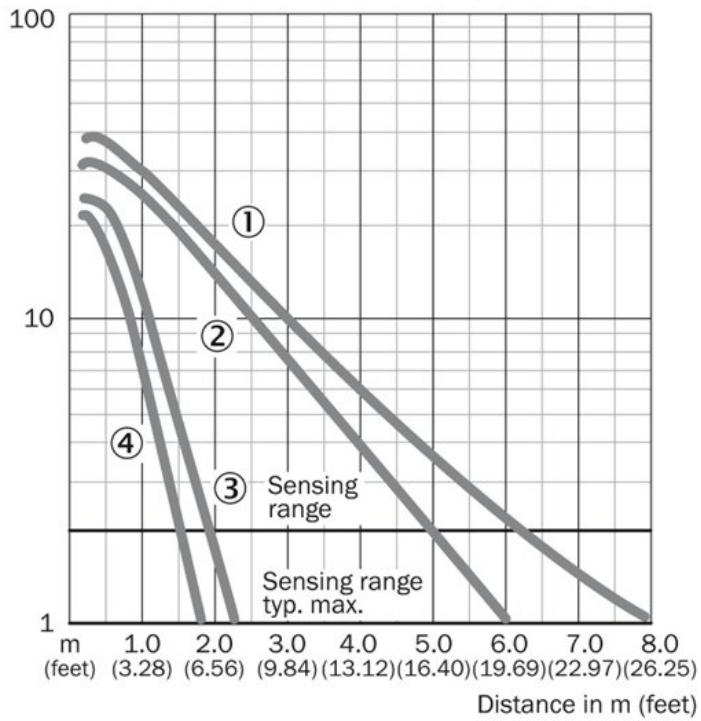


- |5| LED indicator orange: switching output active
- |6| LED indicator green- power on
- |7| Sensing range adjustment: potentiometer, 270°
- |8| Light/ dark rotary switch L = light switching, D = dark switching

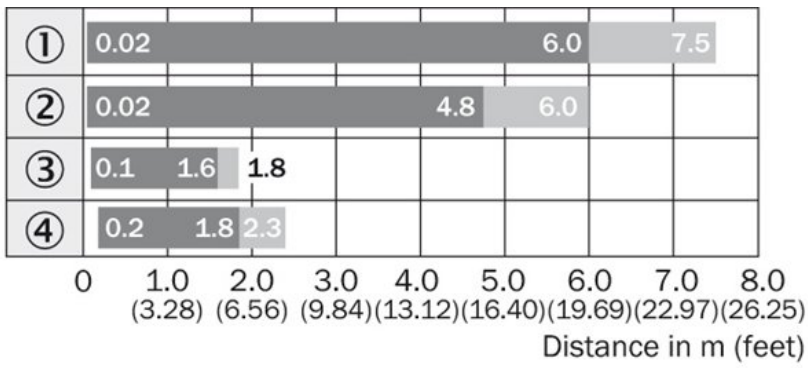
Connection diagram



Characteristic curve



Sensing range diagram



■ Sensing range ■ Sensing range typ. max.

Reflector type

- ① PL80A
- ② P250
- ③ P45
- ④ Reflective tape
Diamond Grade

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