



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

WL100-P4409S41



Model Name > [WL100-P4409S41](#)
Part No. > [6042523](#)



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:	Infrared light
Light source:	LED ³⁾
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

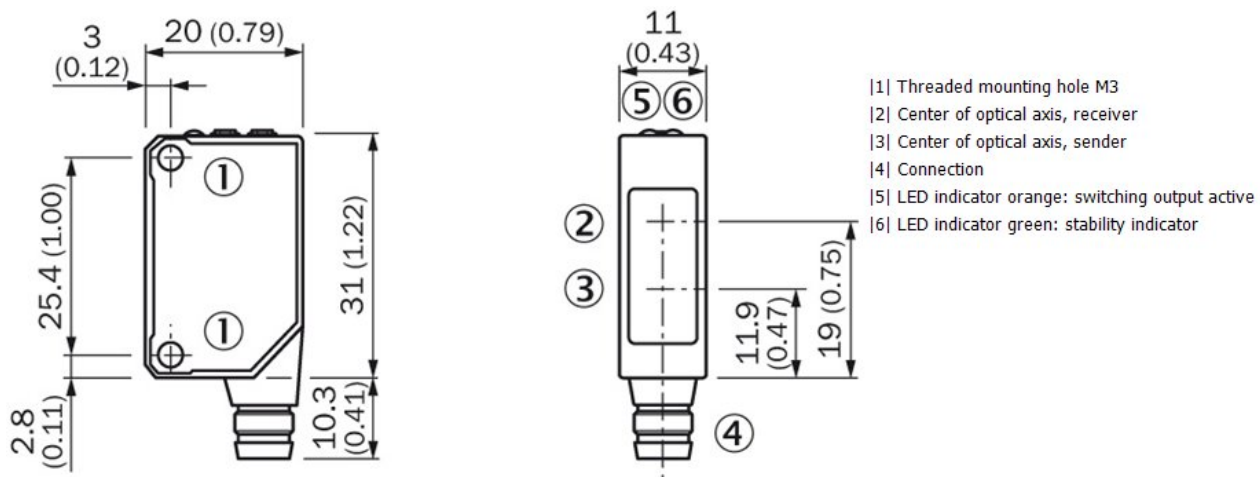
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 10 % ²⁾
Power consumption:	≤ 30 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} :	≤ 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/POM, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Mounting bracket BEF-W100-A, Reflector P250
Special features:	With infrared sender LED
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) $A = V_S$ connections reverse-polarity protected 7) B = inputs and output reverse-polarity protected 8) D = outputs overcurrent and short-circuit protected

Dimensional drawing

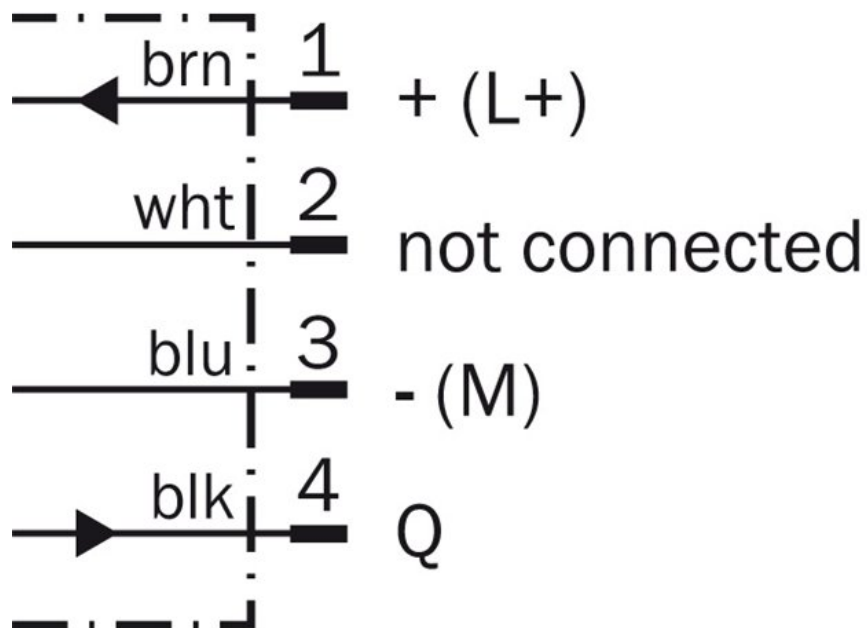


Adjustments possible

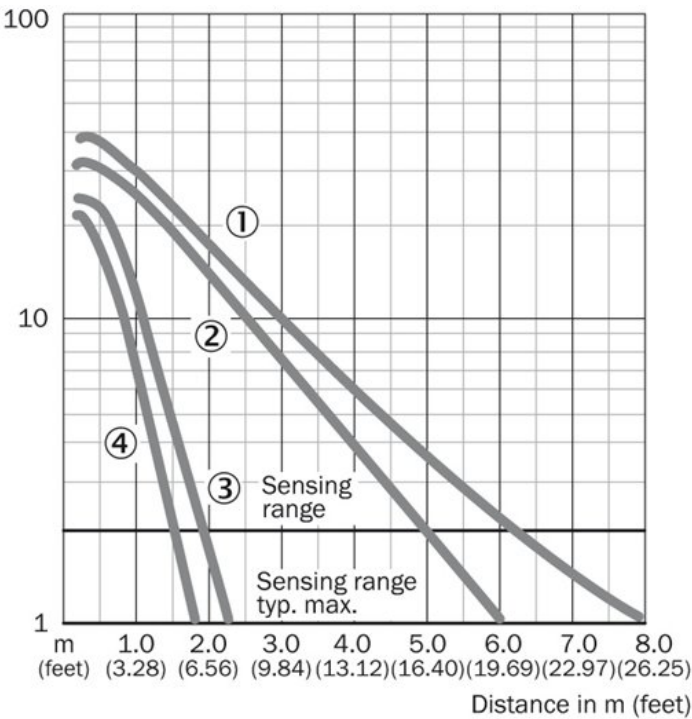


- [5] LED indicator orange: switching output active
- [6] LED indicator green- power on
- [7] Sensing range adjustment: potentiometer, 270°
- [8] Light/ dark rotary switch L =
light switching, D = dark switching

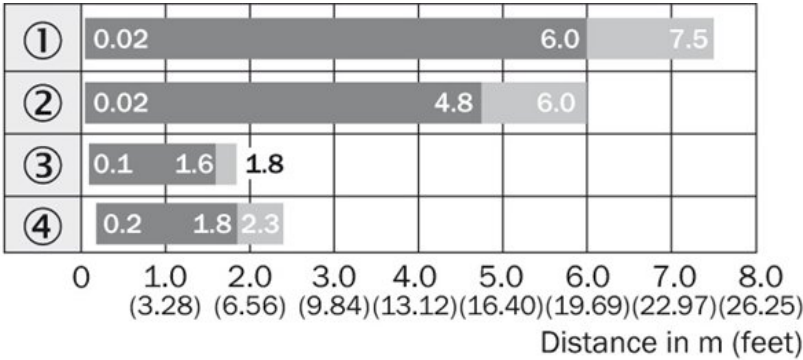
Connection diagram



Characteristic curve



Sensing range diagram

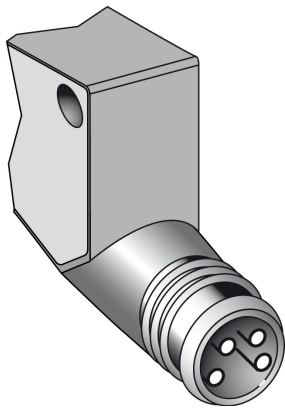


■ Sensing range ■ Sensing range typ. max.

Reflector type

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

Connection type



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