



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

WL100-N4409



Model Name > [WL100-N4409](#)
Part No. > [6036509](#)



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

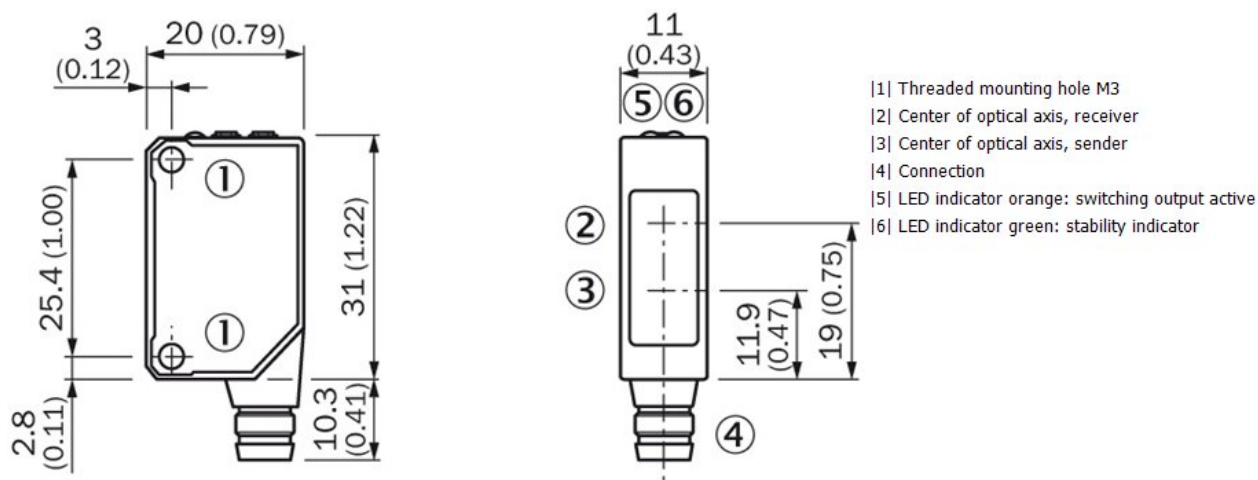
Mechanics/electronics

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

Power consumption:	$\leq 30 \text{ mA}$ ³⁾
Output type:	NPN, open collector
Switching mode:	Light/dark-switching
Switching mode selector:	Manually selectable
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Output current I_{max} :	$\leq 100 \text{ mA}$ ⁴⁾
Response time:	$\leq 0.5 \text{ ms}$ ⁴⁾
Switching frequency:	$1,000 \text{ Hz}$ ⁵⁾
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, D ⁶⁾ ⁷⁾ ⁸⁾
Weight:	9 g
Polarisation filter:	✓
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 P250
Ambient operating temperature:	$-25 \text{ }^{\circ}\text{C} \dots 55 \text{ }^{\circ}\text{C}$
Ambient storage temperature:	$-40 \text{ }^{\circ}\text{C} \dots 70 \text{ }^{\circ}\text{C}$

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

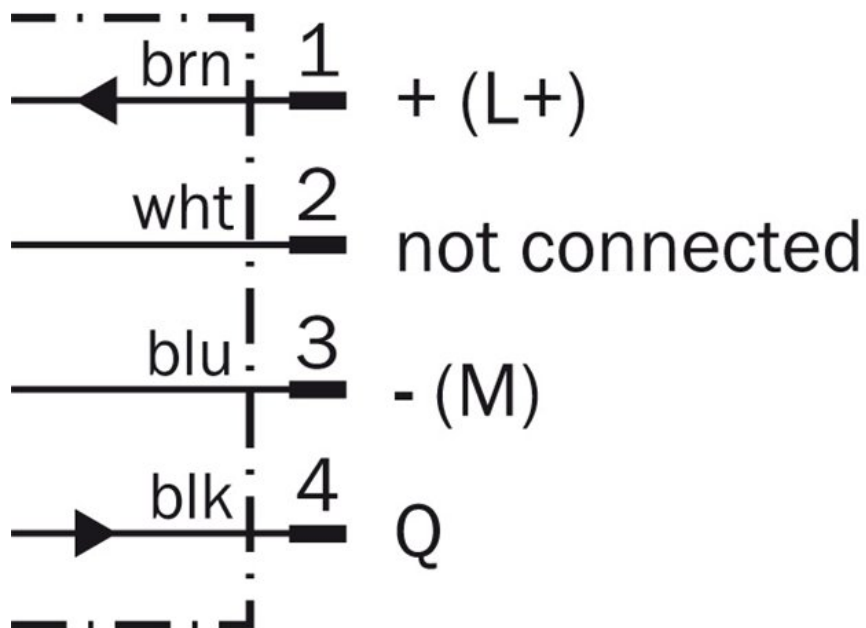


Adjustments possible

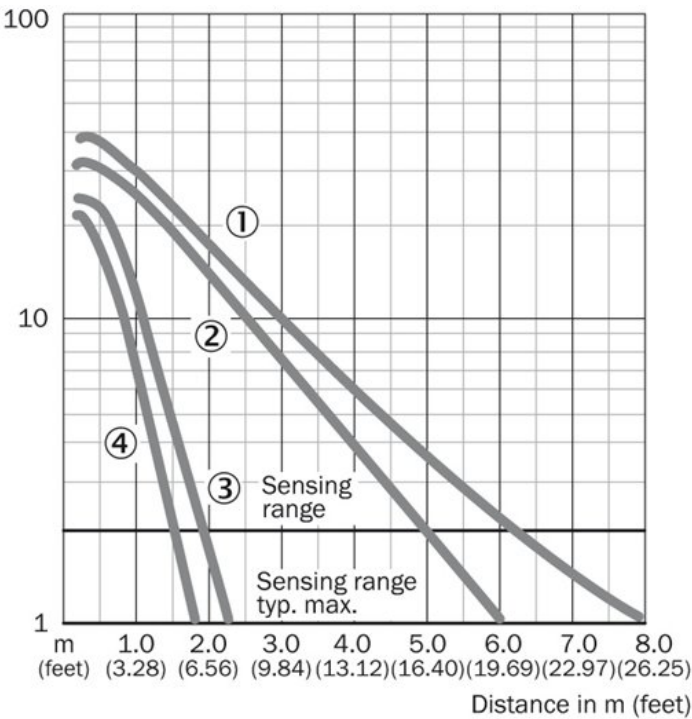


- [5] LED indicator orange: switching output active
- [6] LED indicator green- power on
- [7] Sensing range adjustment: potentiometer, 270°
- [8] Light/ dark rotary switch L =
light switching, D = dark switching

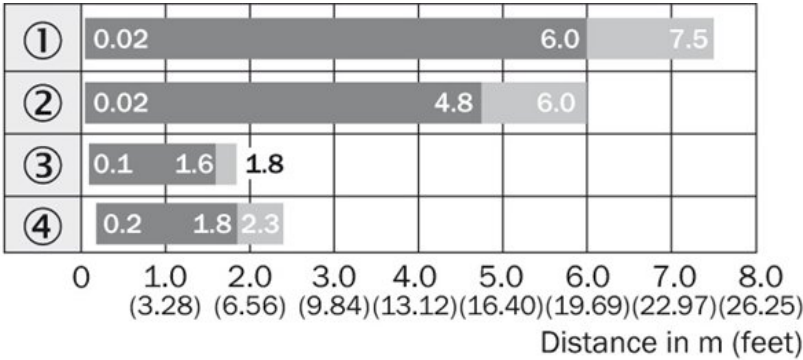
Connection diagram



Characteristic curve



Sensing range diagram

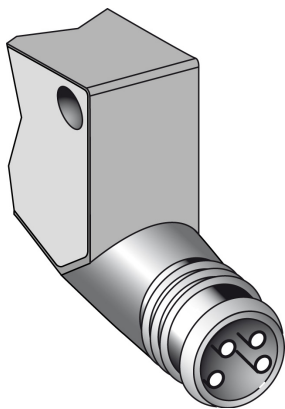


■ Sensing range ■ Sensing range typ. max.

Reflector type

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

Connection type



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