



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

WL100-N3420



Model Name > **WL100-N3420**
Part No. > **6027659**



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, Slim
Sensing range max.:	0.01 m ... 3 m ¹⁾
Sensing range:	0.01 m ... 2.6 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Wave length:	680 nm
Light spot diameter (distance):	Ø 200 mm (2 m)
Sensitivity adjustment:	Potentiometer, 270°
Angle of dispersion:	Ca. 4 °
Focus adjustable:	-

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

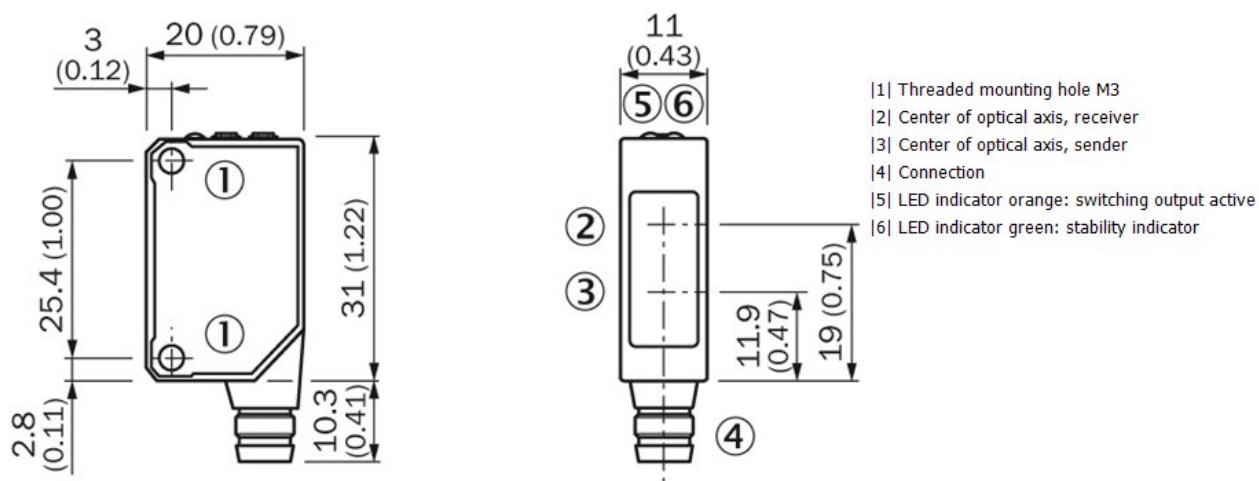
Mechanics/electronics

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

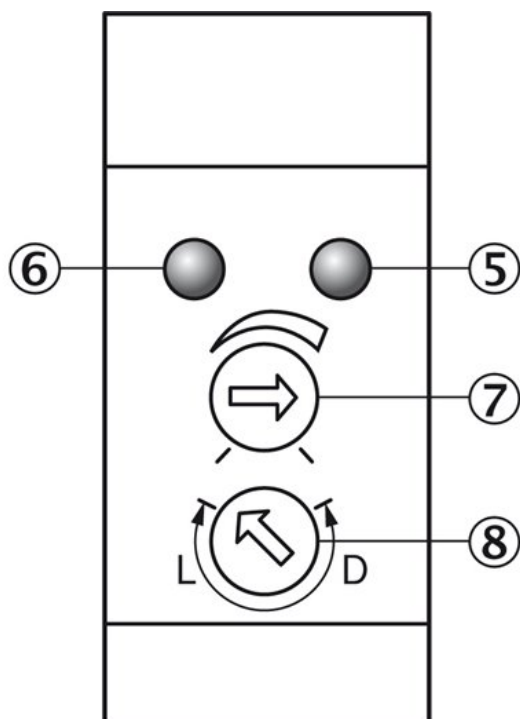
Power consumption:	$\leq 30 \text{ mA}$ ³⁾
Output type:	NPN, Light/dark-switching, manually selectable, open collector
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Output current I_{max} :	$\leq 100 \text{ mA}$
Response time:	$\leq 0.5 \text{ ms}$ ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Attenuation along light beam:	$> 20 \%$
Connection type:	Connector M8, 3-pin
Circuit protection:::	A, B, D ⁶⁾ ⁷⁾ ⁸⁾
Weight:	9 g
Polarisation filter:	✓
Housing material:	ABS/PC/POM
Optics material:	PMMA
Enclosure rating:	IP 65
Special feature:	For transparent objects
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

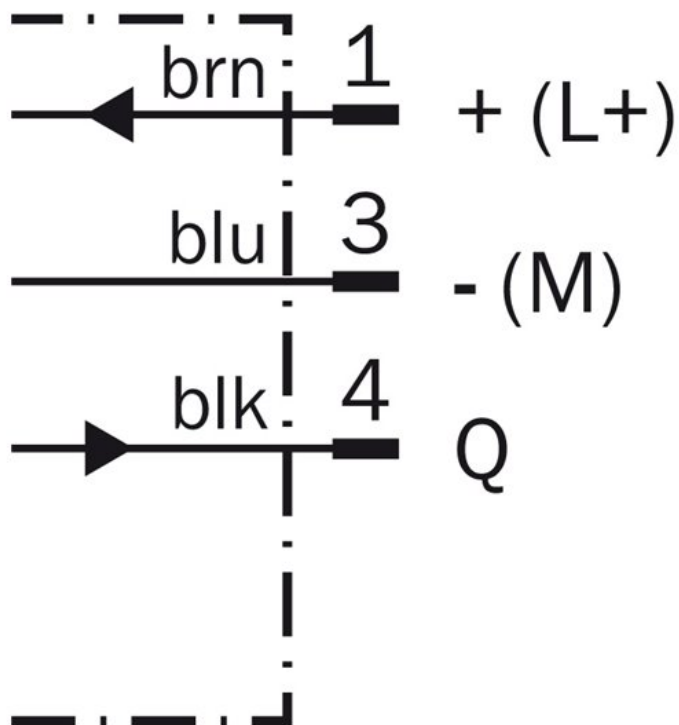


Adjustments possible

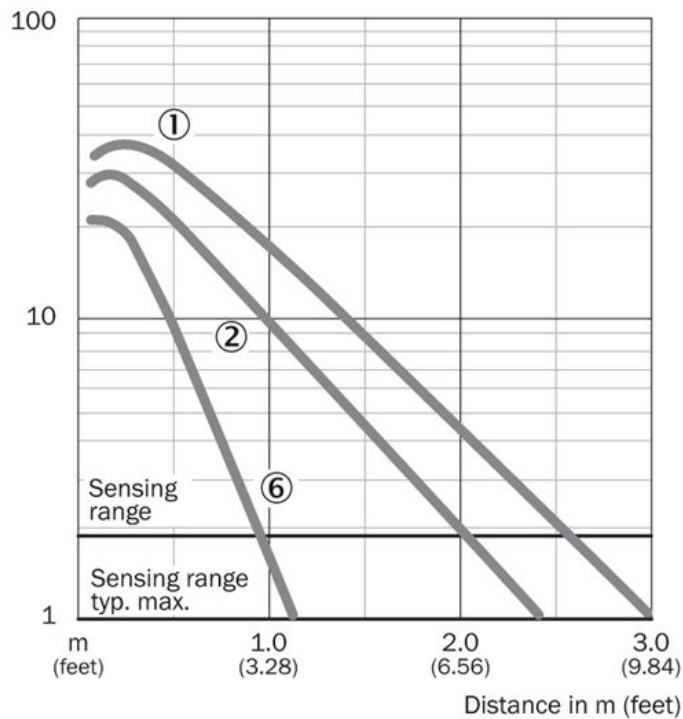


- |5| LED indicator orange: switching output active
- |6| LED indicator green- power on
- |7| Sensing range adjustment: potentiometer, 270°
- |8| Light/ dark rotary switch L =
light switching, D = dark switching

Connection diagram

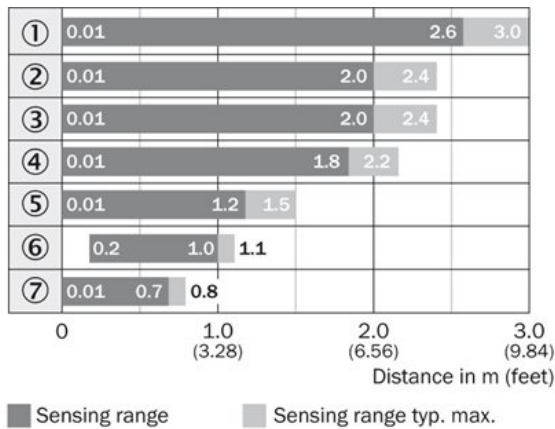


Characteristic curve



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

Sensing range diagram

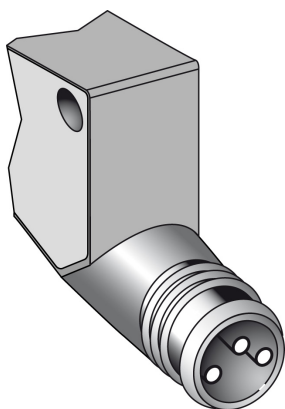


- |1| PL80A
- |2| P250
- |3| PL50A, PL40A
- |4| PL30A, PL31A
- |5| PL20A
- |6| Reflective tape Diamond Grade
- |7| P45

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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