



Photoelectric sensors W8, Photoelectric retro-reflective sensor, autocollimation

WL8-N2231



Model Name > [WL8-N2231](#)
Part No. > [6033181](#)



Illustration may differ

At a glance

- Autocollimation
- Standard miniature housing with M3 threaded mounting holes
- Switching frequency up to 2 kHz
- Light/dark switching selectable via rotary switch
- Adjustable sensing range
- Polarizing filter used
- All necessary accessories (BEF-W100-A and P250) are included with delivery

Your benefits

- Reliable object detection even at the shortest distances (no blind spot) or through narrow gaps
- Highly visible light spot makes alignment quick and easy
- Autocollimation combined with 2 kHz switching frequency ensures reliable detection of small objects, even at fast detection speeds
- M3 threaded holes provide quick installation
- Polarization filters prevent false readings on glossy objects
- All necessary accessories (bracket and reflector) are included with delivery, reducing installation and procurement costs



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D):	11 mm x 31 mm x 20 mm
Housing design (light emission):	Rectangular, Slim
Sensing range max.:	0 m ... 4 m ¹⁾
Sensing range:	0 ... 3 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Wave length:	650 nm
Alarm output:	-
Focus adjustable:	-
Adjustment:	Potentiometer, 270°
Light spot size (distance):	Ø 30 mm (1 m)

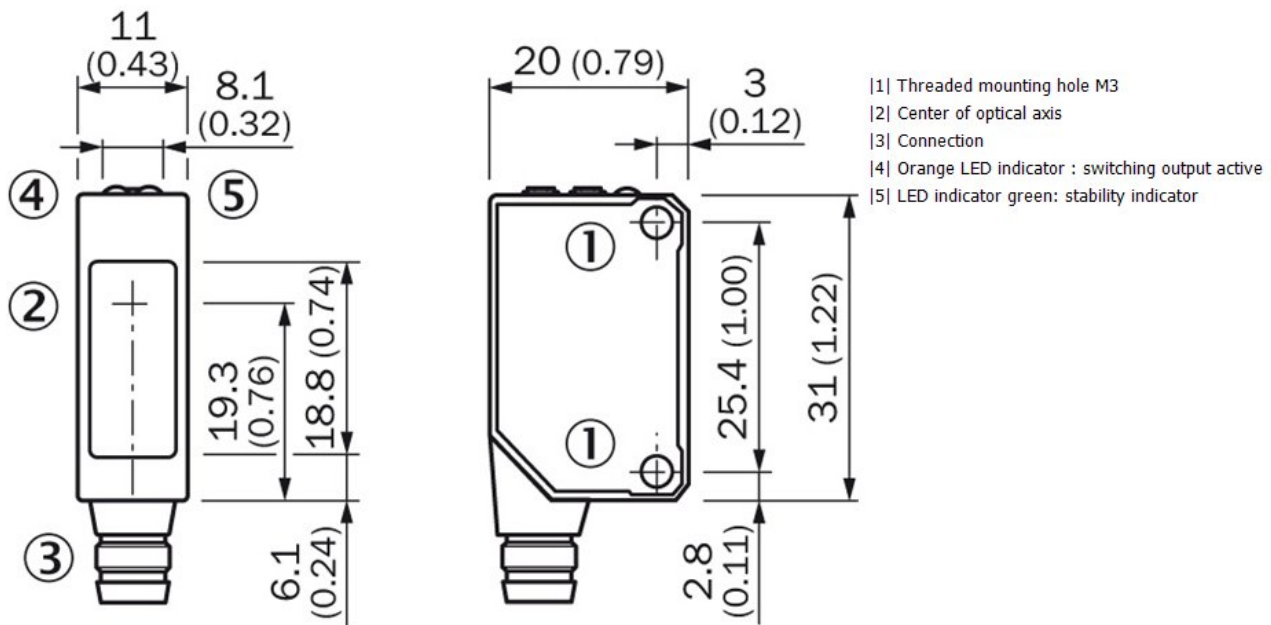
1) 2) PL80A 3) Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

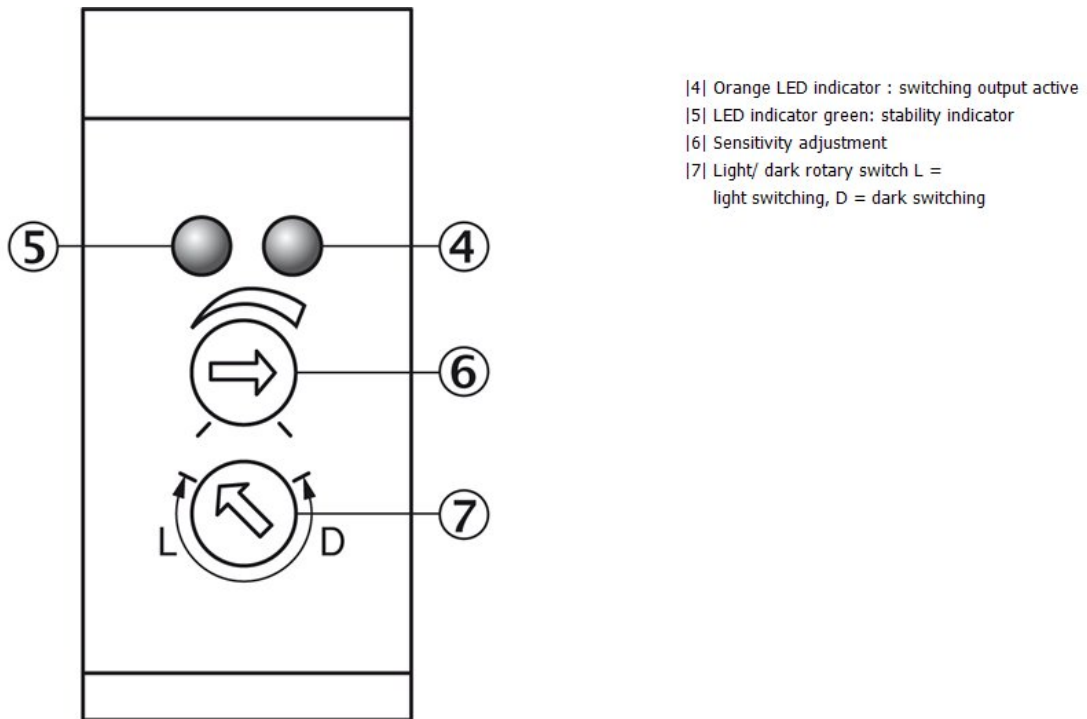
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	$\pm 10 \%$ ²⁾
Power consumption:	$\leq 30 \text{ mA}$ ³⁾
Output type:	NPN
Switching mode:	Light/dark-switching
Output characteristic:	Open collector
Switching mode selector:	Manually selectable
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Output current I_{max} :	100
Response time:	$\leq 25 \text{ ms}$ ⁴⁾
Switching frequency:	2,000 ⁵⁾
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, D ⁶⁾ ⁷⁾ ⁸⁾
Weight:	10 g
Polarisation filter:	✓
Front screen heating:	-
AS-Interface-Chip:	-
Housing material:	ABS, 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 °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

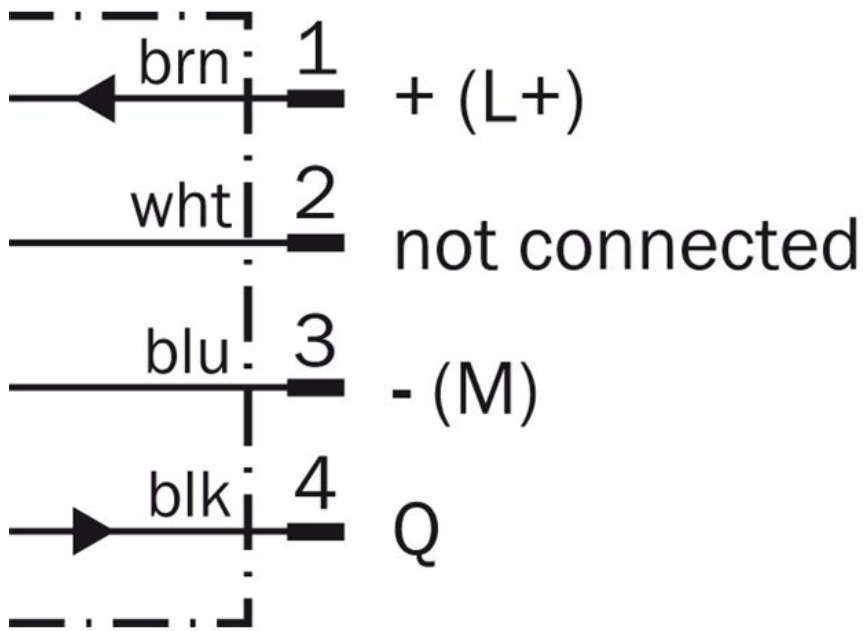
Dimensional drawing



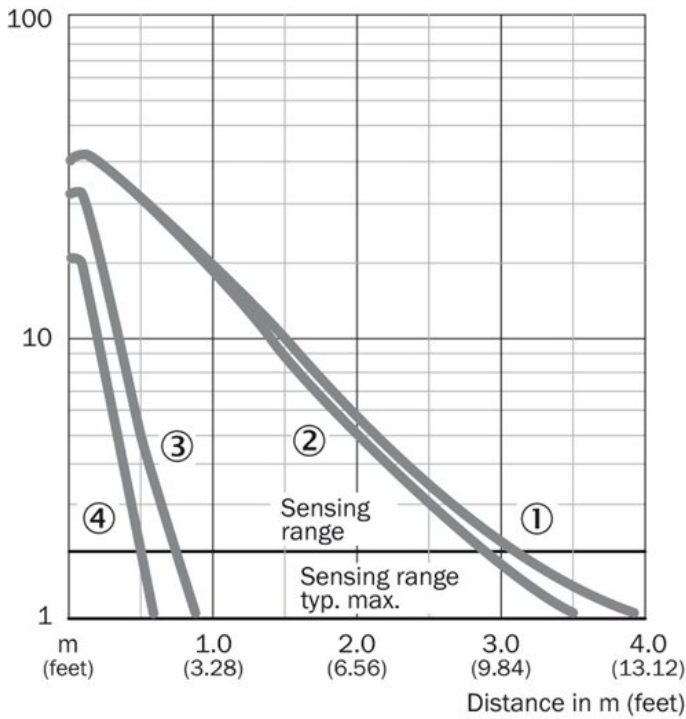
Adjustments possible



Connection diagram

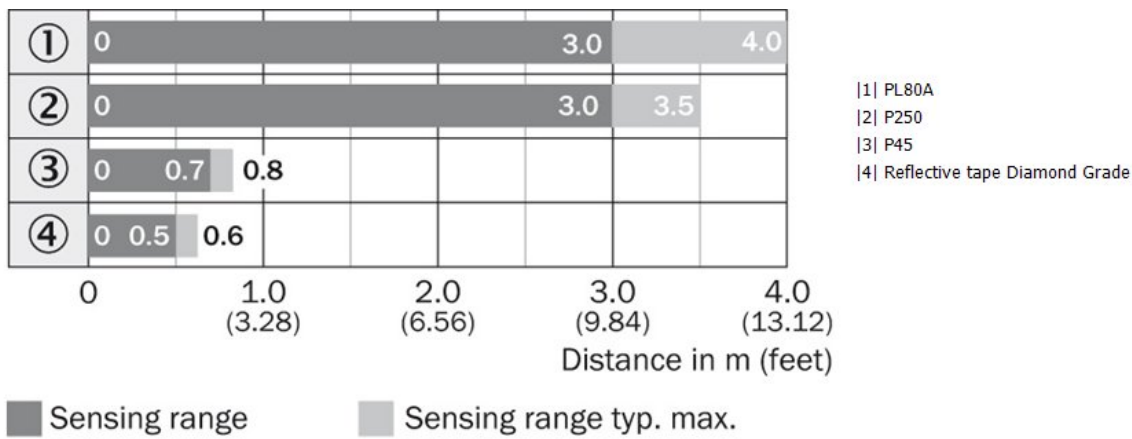


Characteristic curve



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

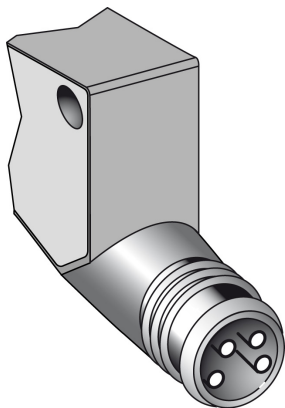
Sensing range diagram



Reflector type

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

Connection type



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