



Photoelectric sensors  
W8, Photoelectric retro-reflective sensor,  
autocollimation

WL8-N1131



**Model Name** > [WL8-N1131](#)  
**Part No.** > [6033176](#)



*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 <sup>1)</sup>
Sensing range:	0 ... 3 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	650 nm
Alarm output:	-
Focus adjustable:	-
Adjustment:	Potentiometer, 270°
Light spot size (distance):	Ø 30 mm (1 m)

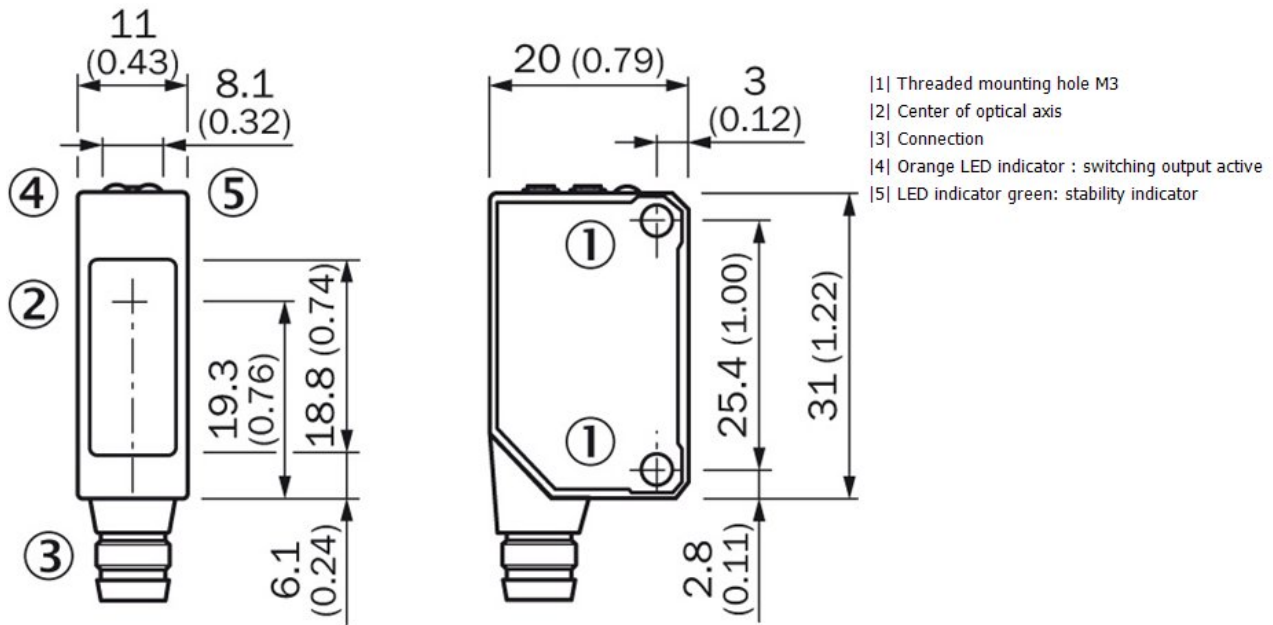
<sup>1) 2)</sup> PL80A <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

**Mechanics/electronics**

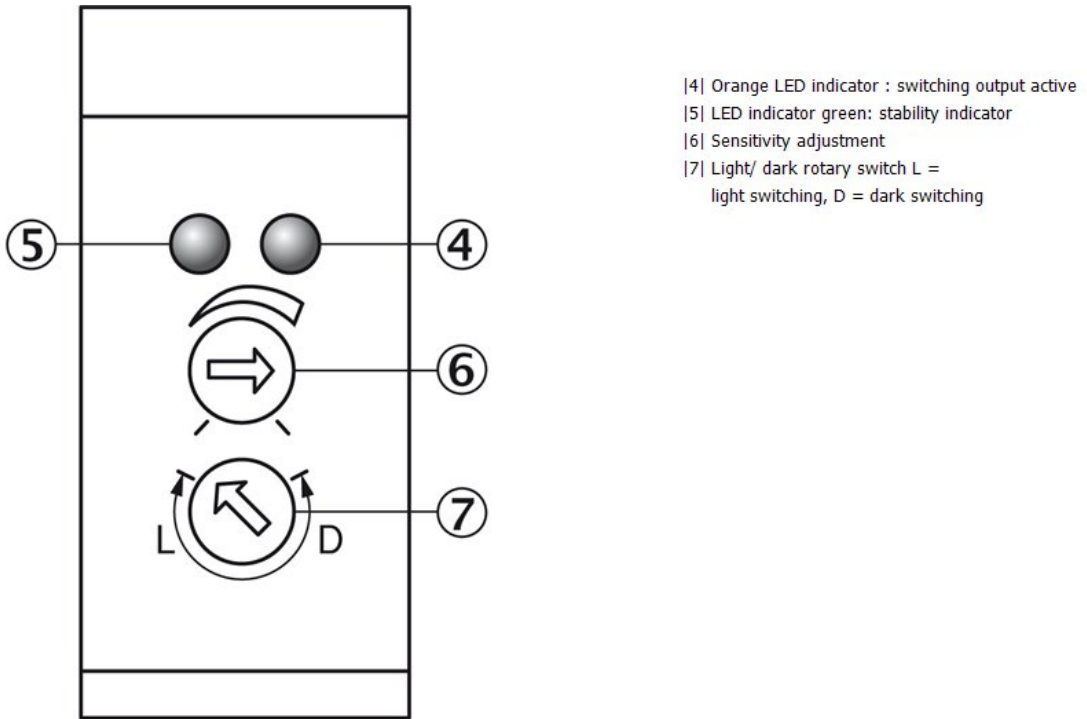
Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	± 10 % <sup>2)</sup>
Power consumption:	≤ 30 mA <sup>3)</sup>
Output type:	NPN
Switching mode:	Light/dark-switching
Output characteristic:	Open collector
Switching mode selector:	Manually selectable
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Output current $I_{max.}$ :	100
Response time:	≤ 25 ms <sup>4)</sup>
Switching frequency:	2,000 <sup>5)</sup>
Connection type:	Cable, 3-wire, 2 m <sup>6)</sup>
Cable material:	PVC
Circuit protection:::	A, B, D <sup>7) 8) 9)</sup>
Weight:	50 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

<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> Without load <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> Do not bend below 0 °C <sup>7)</sup> A =  $V_S$  connections reverse-polarity protected <sup>8)</sup> B = inputs and output reverse-polarity protected <sup>9)</sup> D = outputs overcurrent and short-circuit protected

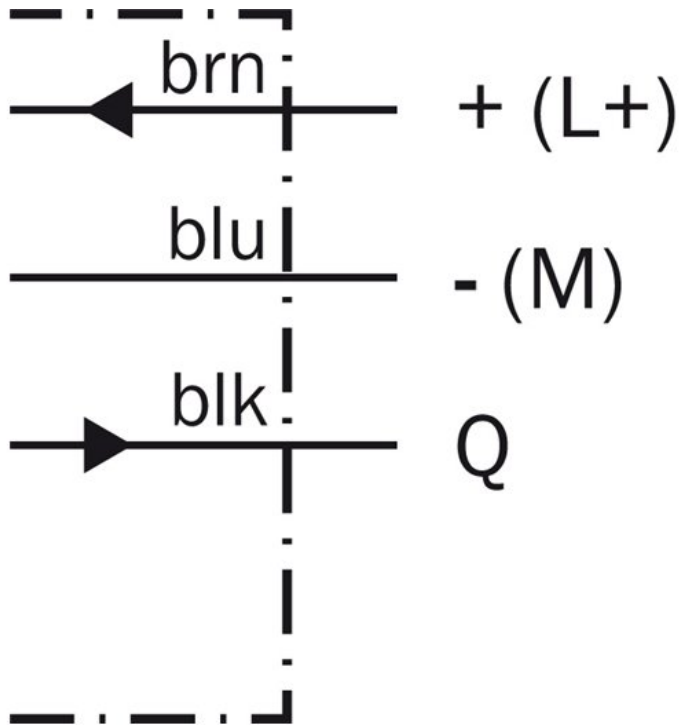
**Dimensional drawing**



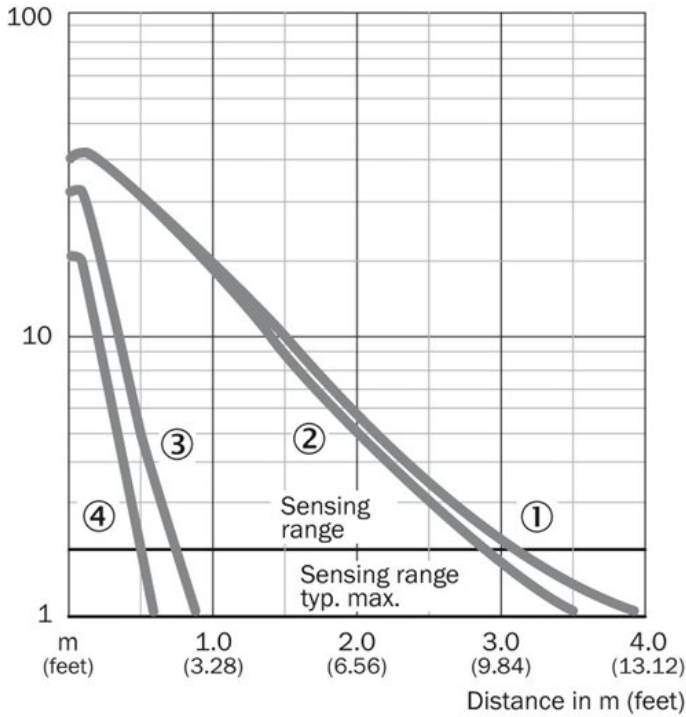
**Adjustments possible**



Connection diagram

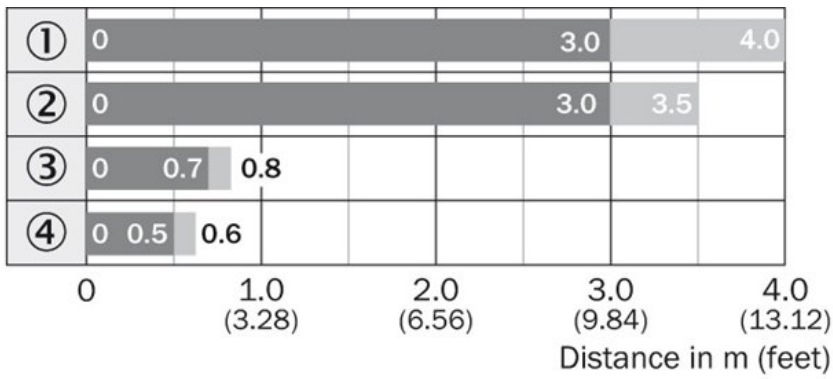


Characteristic curve



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

## Sensing range diagram



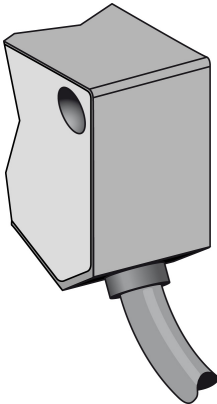
- |1| PL80A
- |2| P250
- |3| P45
- |4| Reflective tape Diamond Grade

■ Sensing range      ■ Sensing range typ. max.

## Reflector type

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

## Connection type



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