



Photoelectric sensors  
W8G, Photoelectric retro-reflective sensor,  
autocollimation

WL8G-P1131S02



**Model Name** > **WL8G-P1131S02**  
**Part No.** > **1051347**



*Illustration may differ*

**At a glance**

- Autocollimation
- Standard miniature housing with M3 threaded mounting holes
- Light/dark switching selectable via rotary switch
- Adjustable sensing range
- All necessary accessories (BEF-W100-A and P250) are included with delivery

**Your benefits**

- Reliable object detection of transparent objects even at the shortest distances (no blind spot) or through narrow gaps
- Highly visible light spot makes alignment quick and easy
- Reliable detection of all materials, including small and/or transparent objects, min. attenuation 15 %
- All necessary accessories (bracket and reflector) are included with delivery, reducing installation and procurement costs
- M3 mounting hole provides quick installation



**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
Sensing range max.:	0 m ... 3 m <sup>1)</sup>
Sensing range:	0 m ... 1.7 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	650 nm
Alarm output:	-
Focus adjustable:	-
Special features:	Cable with connector M8, 3-pin
Adjustment:	Potentiometer, 270 °
Light spot size (distance):	Ø 70 mm (2 m)

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

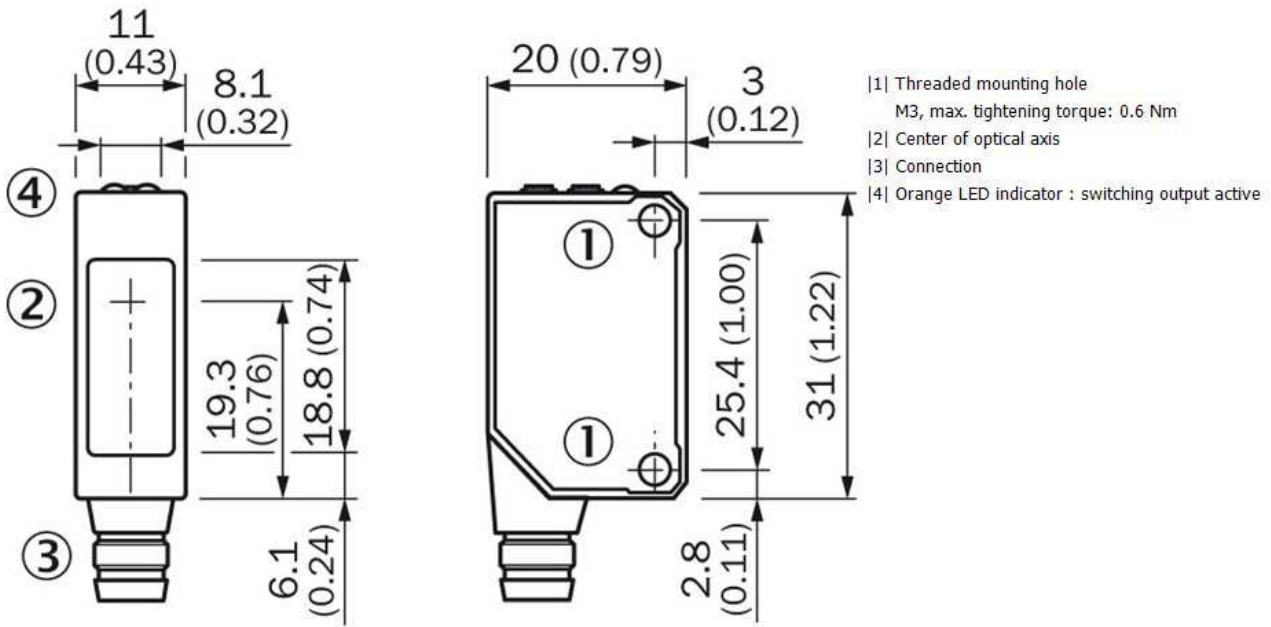
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	± 10 % <sup>2)</sup>

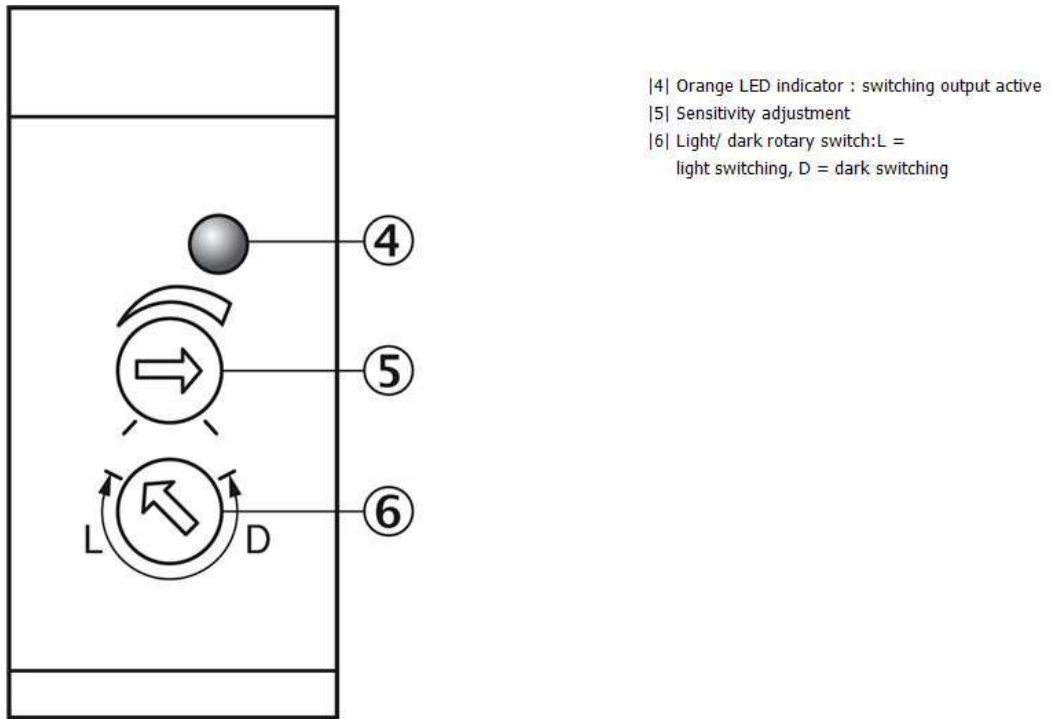
Power consumption:	$\leq 30 \text{ mA}$ <sup>3)</sup>
Output type:	PNP, open collector
Switching mode:	Light/dark switching
Switching mode selector:	Manually selectable
Output current I <sub>max</sub> :	$\leq 100 \text{ mA}$
Response time:	$\leq 0.5 \text{ ms}$ <sup>4)</sup>
Switching frequency:	1,000 Hz <sup>5)</sup>
Attenuation along light beam:	$\leq 20 \%$
Connection type:	Cable with connector M8, 3-pin, 600 mm <sup>6)</sup>
Circuit protection:::	A, B, D <sup>7) 8) 9)</sup>
Weight:	50 g
Polarisation filter:	✓
Front screen heating:	-
Special device:	✓
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Stainless steel mounting bracket (1.4305, 303) BEF-W170, Reflector P250F
Special feature:	Detection of transparent objects
Ambient operating temperature:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
Signal voltage PNP HIGH/LOW:	Approx. VS - 1.8 V / 0 V
Housing material:	ABS, Plastic

<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

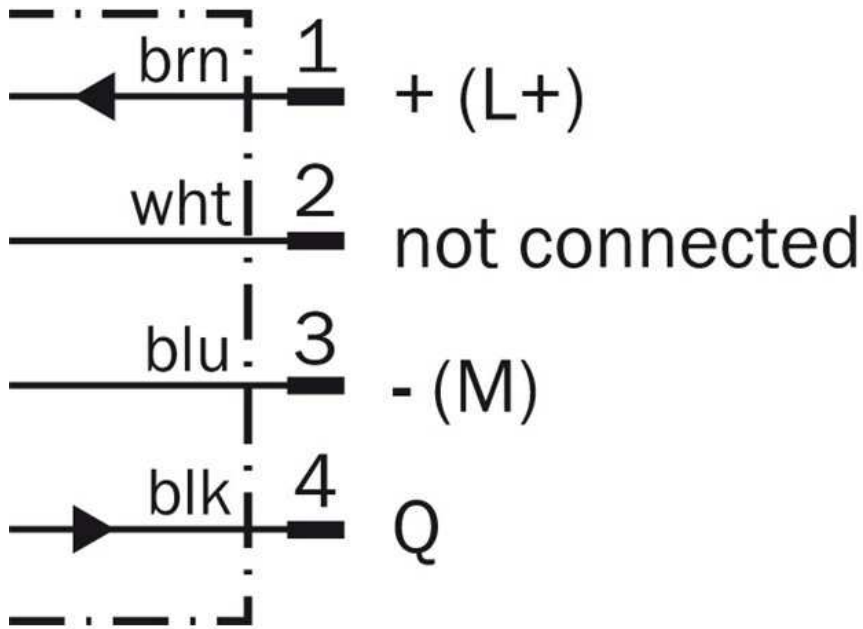
**Dimensional drawing**



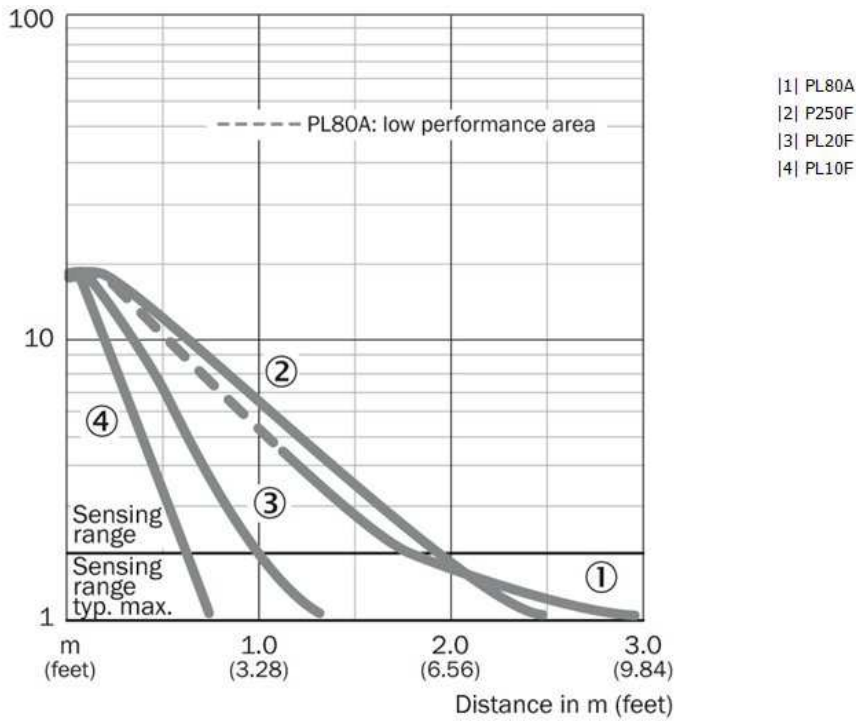
**Adjustments possible**



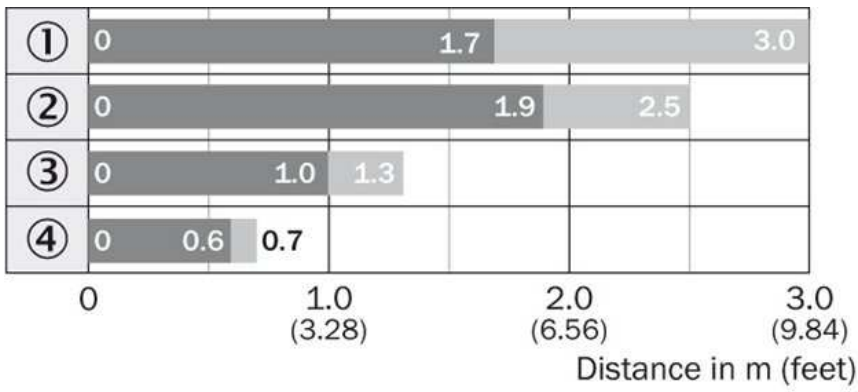
### Connection diagram



### Characteristic curve



**Sensing range diagram**



- |1| PL80A
- |2| P250F
- |3| PL20F
- |4| PL10F

■ Sensing range      ■ Sensing range typ. max.

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