



Photoelectric sensors  
W8G, Photoelectric retro-reflective sensor,  
autocollimation

WL8G-P2231S01



**Model Name** > [WL8G-P2231S01](#)  
**Part No.** > [6036082](#)



*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

**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:	-
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

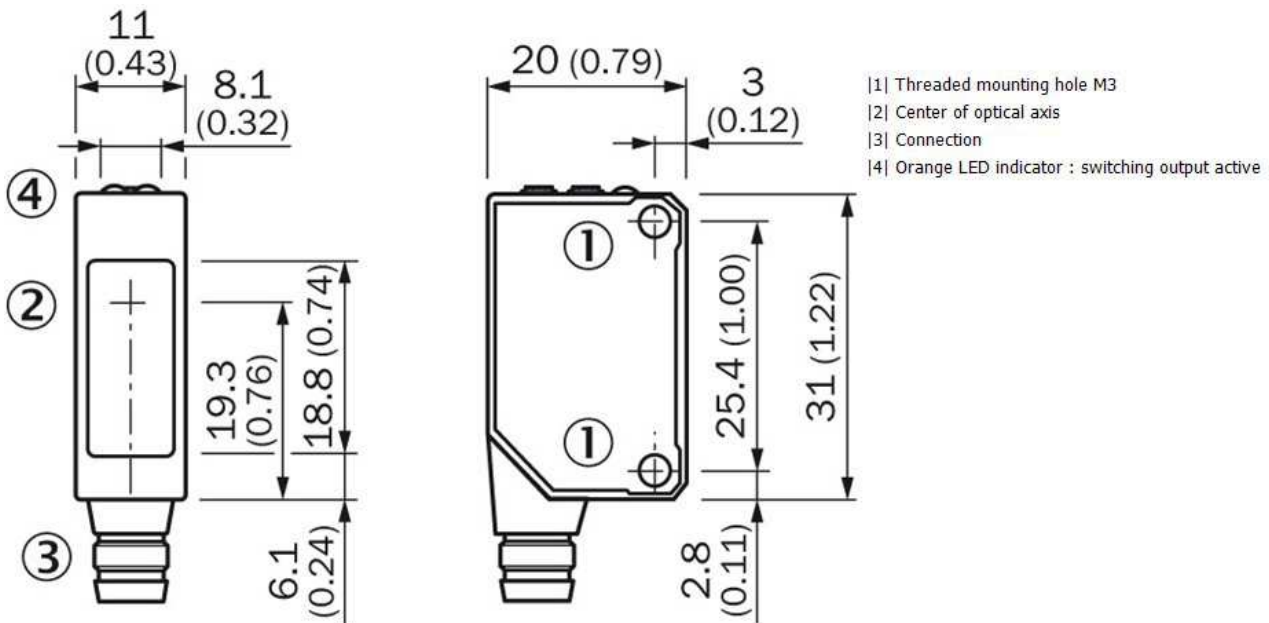
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Residual ripple:	± 10 %
Power consumption:	≤ 30 mA <sup>2)</sup>
Output type:	PNP, open collector
Switching mode:	Light/dark switching
Switching mode selector:	Manually selectable

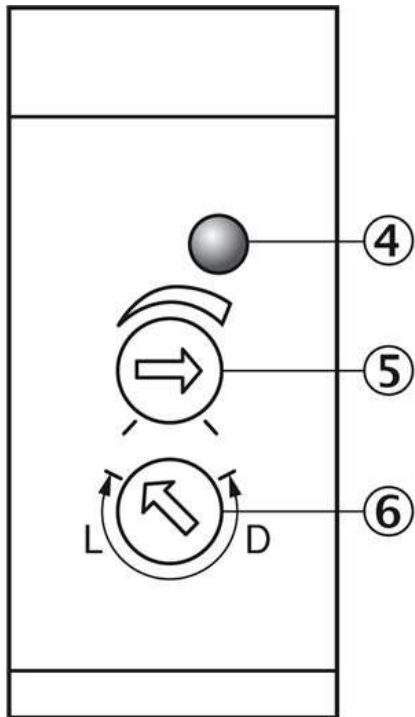
Signal voltage PNP HIGH/LOW:	Approx. $V_S - 1.8 V / 0 V$
Output current $I_{max}$ :	$\leq 100 \text{ mA}$
Response time:	$\leq 0.5 \text{ ms}$ <sup>3)</sup>
Switching frequency:	$1,000 \text{ Hz}$ <sup>4)</sup>
Attenuation along light beam:	$\leq 20 \%$
Electrical connection:	Connector M8, 4-pin
Circuit protection:::	A, B, D <sup>5) 6) 7)</sup>
Weight:	10 g
Polarisation filter:	✓
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Special feature:	For transparent objects
Ambient temperature operation:	$-25 \text{ }^\circ\text{C} \dots 55 \text{ }^\circ\text{C}$
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) Without load 3) Signal transit time with resistive load 4) With light/dark ratio 1:1 5)  $A = V_S$   
connections reverse-polarity protected 6) B = inputs and output reverse-polarity protected 7) D = outputs overcurrent and short-circuit protected

### Dimensional drawing

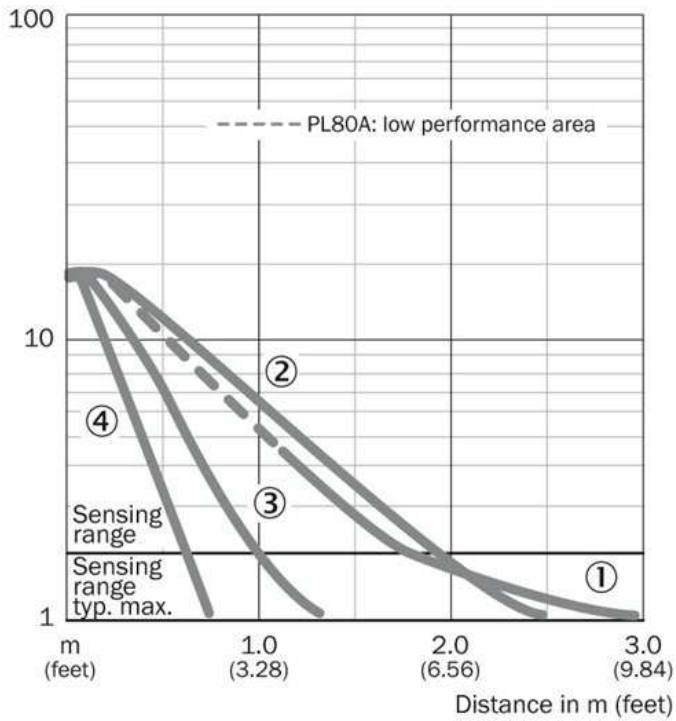


**Adjustments possible**



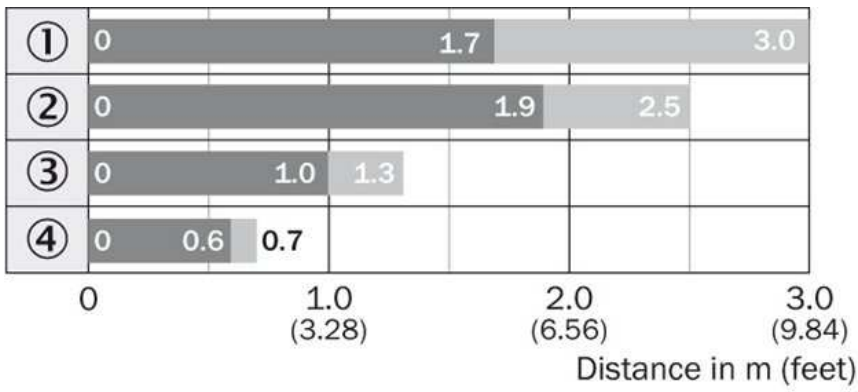
- |4| Orange LED indicator : switching output active
- |5| Sensitivity adjustment
- |6| Light/ dark rotary switch L = light switching, D = dark switching

**Characteristic curve**



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

**Sensing range diagram**



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

■ Sensing range      ■ Sensing range typ. max.

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