



Photoelectric sensors
W8G, Photoelectric retro-reflective sensor,
autocollimation

WL8G-N2231



Model Name > [WL8G-N2231](#)
Part No. > [6033187](#)



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, Slim
Sensing range max.:	0 m ... 3 m ¹⁾
Sensing range:	0 ... 1.7 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 70 mm (2 m)

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

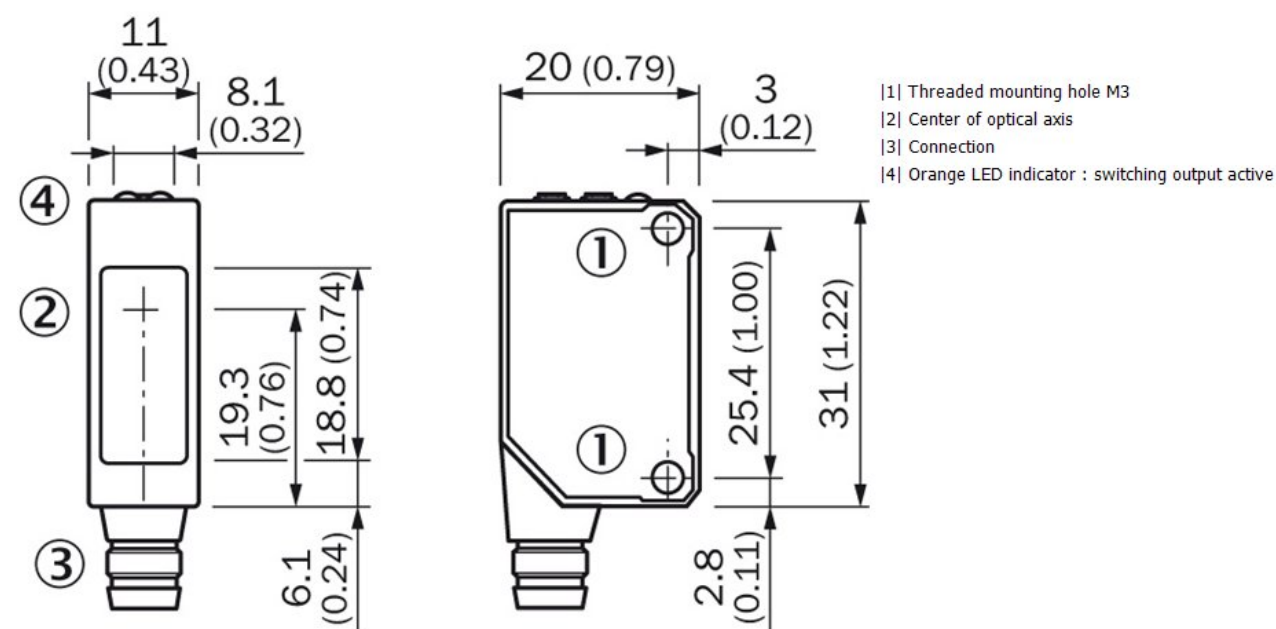
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 10 % ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	NPN
Switching mode:	Light/dark-switching

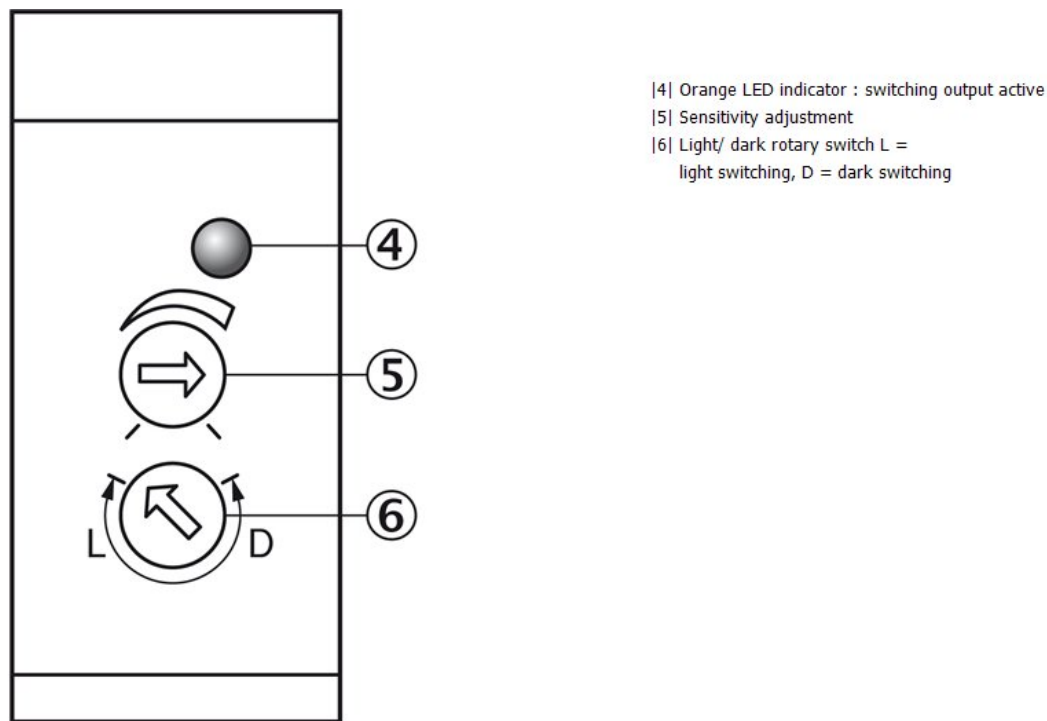
Output characteristic:	Open collector
Switching mode selector:	Manually selectable
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Output current I_{max} :	100
Response time:	$\leq 0.5 \text{ ms}$ ⁴⁾
Switching frequency:	1,000 ⁵⁾
Attenuation along light beam:	$\leq 20 \%$
Connection type:	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 P250F
Special feature:	For transparent objects
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

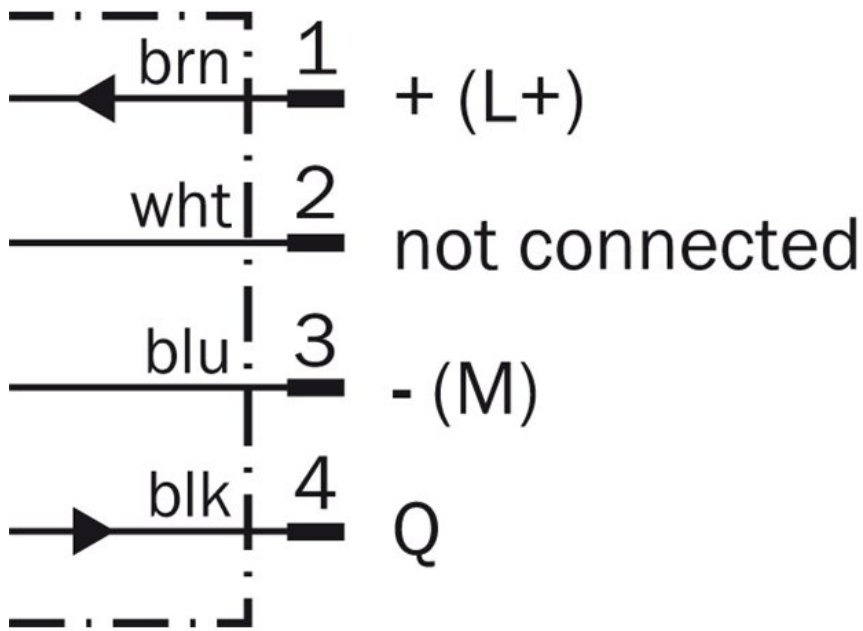
Dimensional drawing



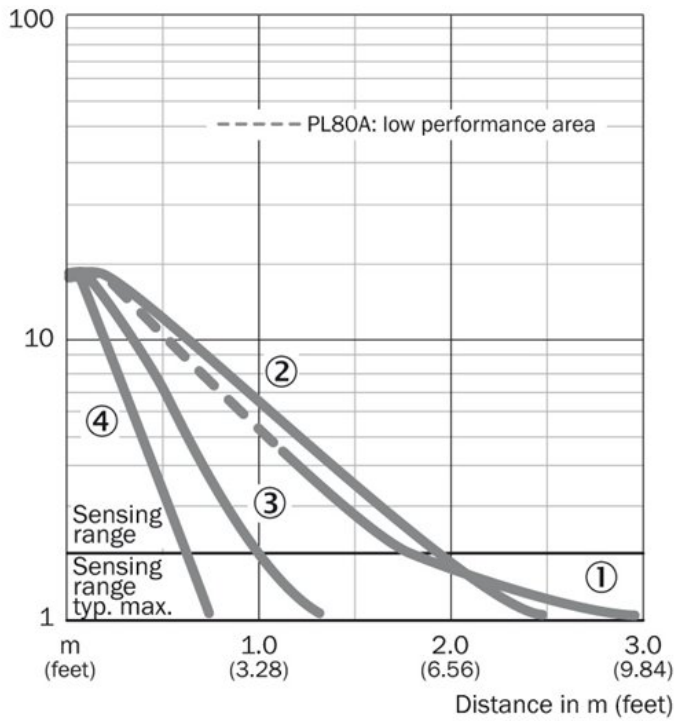
Adjustments possible



Connection diagram

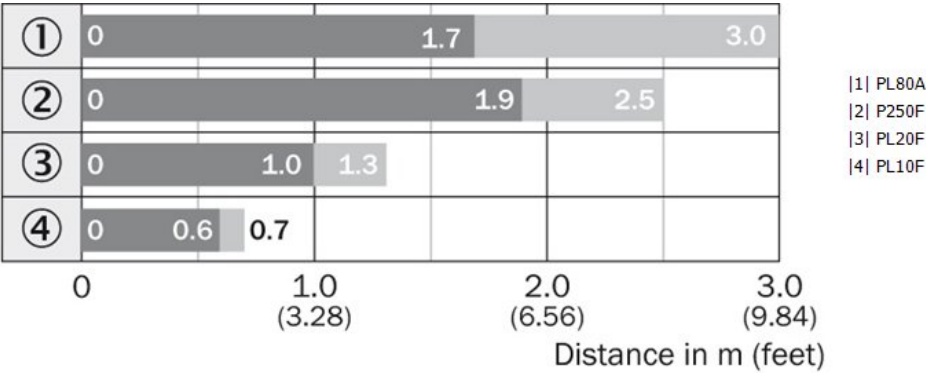


Characteristic curve



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

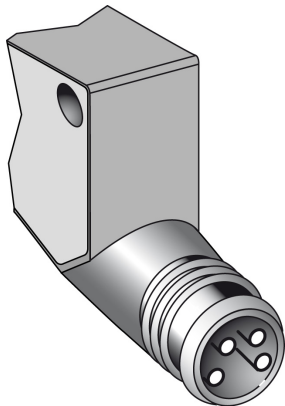
Sensing range diagram



Reflector type

- ① PL80A
- ② P250F
- ③ PL20A
- ④ PL10F

Connection type



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