



Photoelectric sensors W8, Photoelectric retro-reflective sensor, autocollimation

WL8-P2231S05



Model Name > [WL8-P2231S05](#)
Part No. > [6048890](#)



Illustration may differ

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
Sensing range max.:	0 m ... 4 m ¹⁾
Sensing range:	0 m ... 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

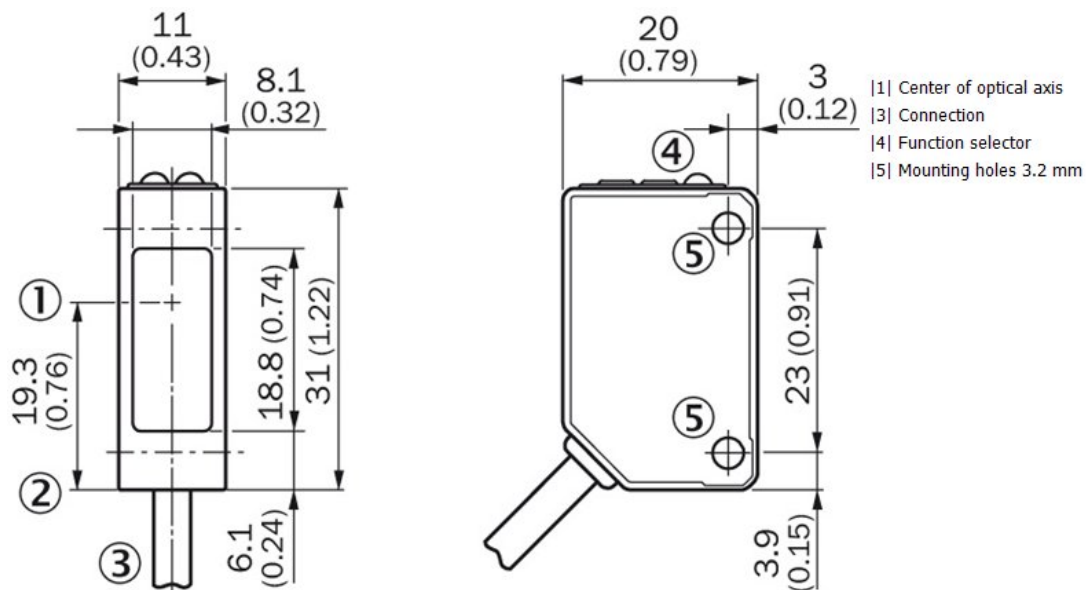
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 10 % ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	PNP, open collector
Switching mode:	Light/dark-switching
Switching mode selector:	Manually selectable
Signal voltage PNP HIGH/LOW:	Approx. VS - 1.8 V / 0 V
Output current I _{max} :	≤ 100 mA ⁴⁾
Response time:	≤ 25 ms ⁴⁾

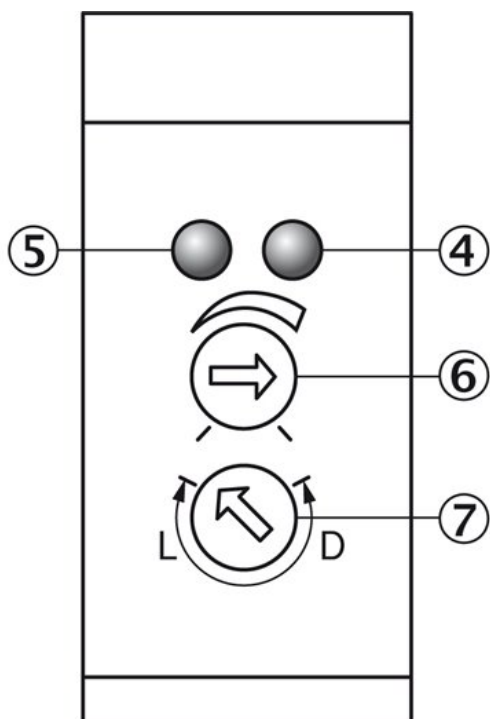
Switching frequency:	2,000 Hz ⁵⁾
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, D ⁶⁾ ⁷⁾ ⁸⁾
Weight:	10 g
Polarisation filter:	✓
Front screen heating:	-
AS-Interface-Chip:	-
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Reflector P250 and oblong washer for mounting
Special features:	Mounting hole Ø 3.2mm without thread, distance between mounting holes 23mm
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

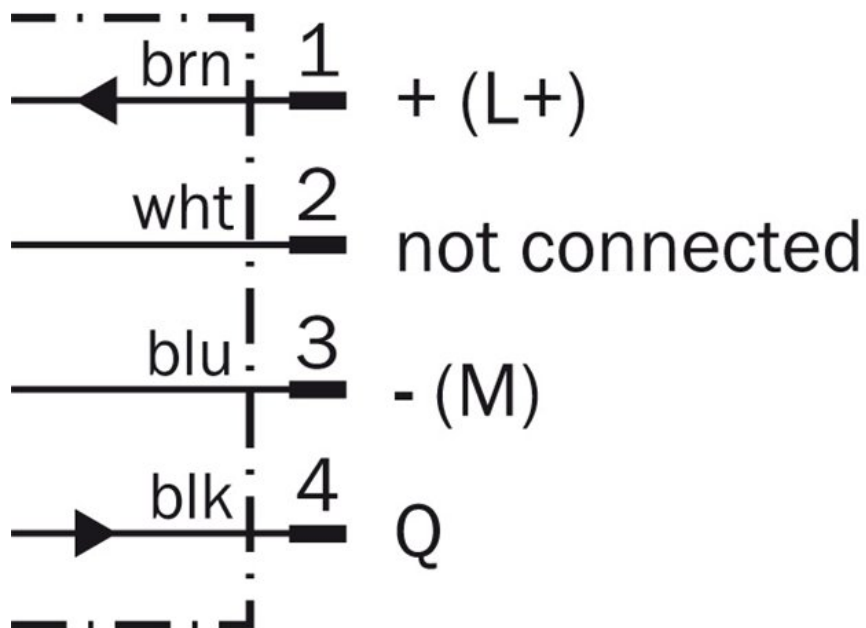


Adjustments possible

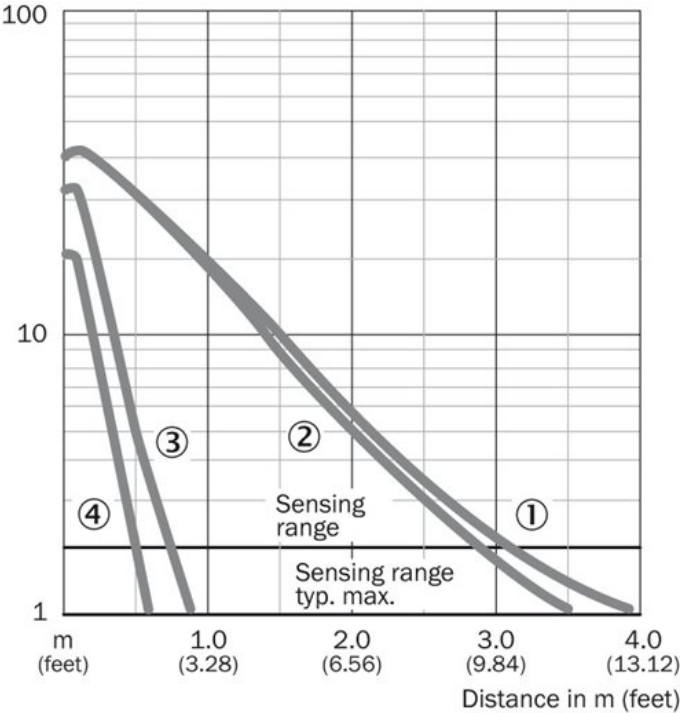


- [4] Orange LED indicator : switching output active
- [5] LED indicator green: stability indicator
- [6] Sensitivity adjustment
- [7] Light/ dark rotary switch L =
light switching, D = dark switching

Connection diagram

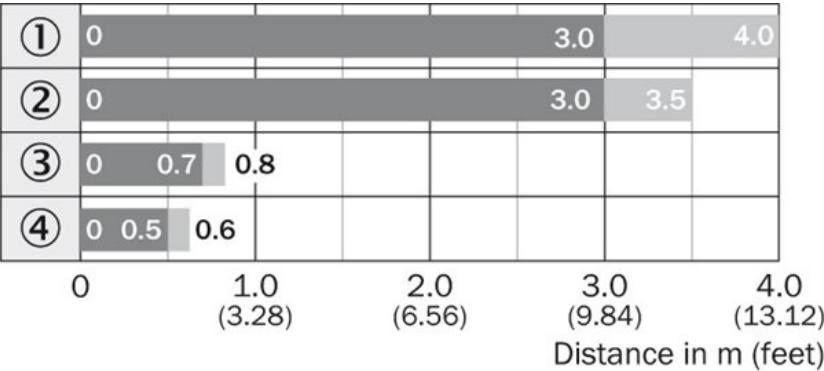


Characteristic curve



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

Sensing range diagram



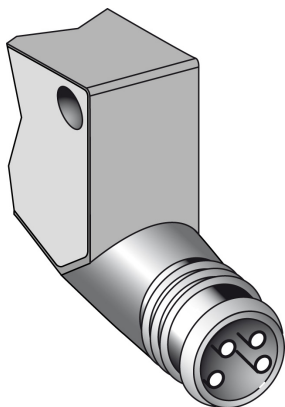
- |1| PL80A
- |2| P250
- |3| P45
- |4| Reflective tape Diamond Grade

■ Sensing range ■ Sensing range typ. max.

Reflector type

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

Connection type



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