



## Photoelectric sensors W100-2, Photoelectric retro-reflective sensor

WL100-2N4439



**Type** > [WL100-2N4439](#)  
**Part No.** > [6052359](#)



*Illustration may differ*

**At a glance**

- Standard miniature housing with integrated M3 threaded mounting holes
- Bright emitted light spot and clearly visible indicator LEDs
- Light/dark switching and sensitivity adjustment possible
- Long sensing ranges of up to 7.2 m on PL80A reflector

**Your benefits**

- Long sensing ranges of up to 7.2 m thanks to a high functional reserve
- Straightforward alignment thanks to bright light spot and clearly visible indicator LEDs
- Compatibility with a number of common mounting systems due to standard housing with 1-inch hole spacing and integrated M3 threaded mounting hole
- Highly reliable and durable despite optical interference and mechanical loads



**Features**

Sensor/detection principle:	Photoelectric retro-reflective sensor
Dimensions (W x H x D):	11 mm x 31 mm x 20 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0.01 m ... 7.2 m <sup>1)</sup>
Sensing range:	0.01 m ... 5.5 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	632 nm
Adjustment:	Potentiometer
Light spot size (distance):	Ø 280 mm (4 m)

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

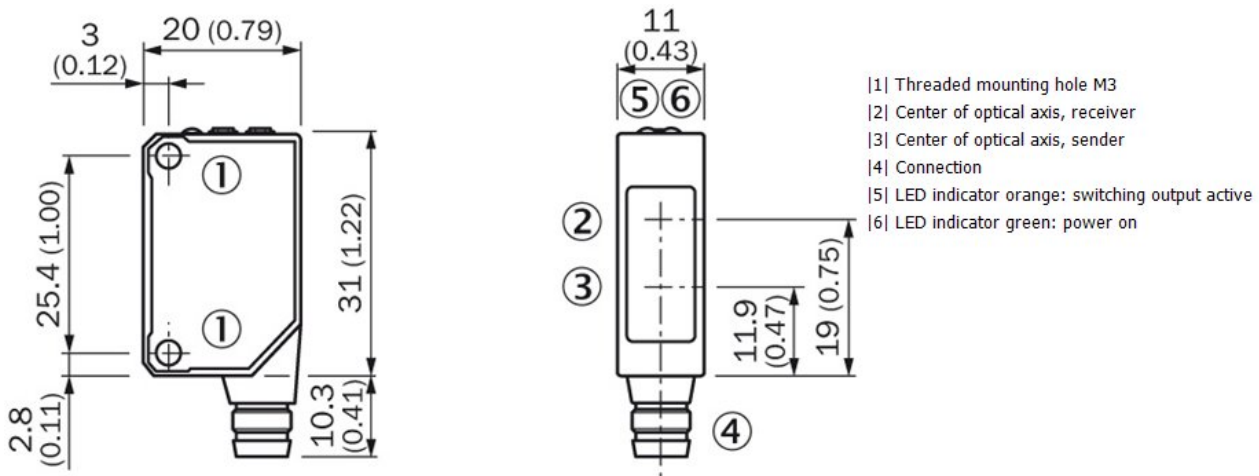
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	± 10 % <sup>2)</sup>
Current consumption:	≤ 30 mA <sup>3)</sup>
Output type:	NPN
Switching mode:	Light/dark switching
Switching mode selector:	Selectable via light/dark rotary switch
Output current I <sub>max.</sub> :	100 mA
Response time:	≤ 0.5 ms <sup>4)</sup>

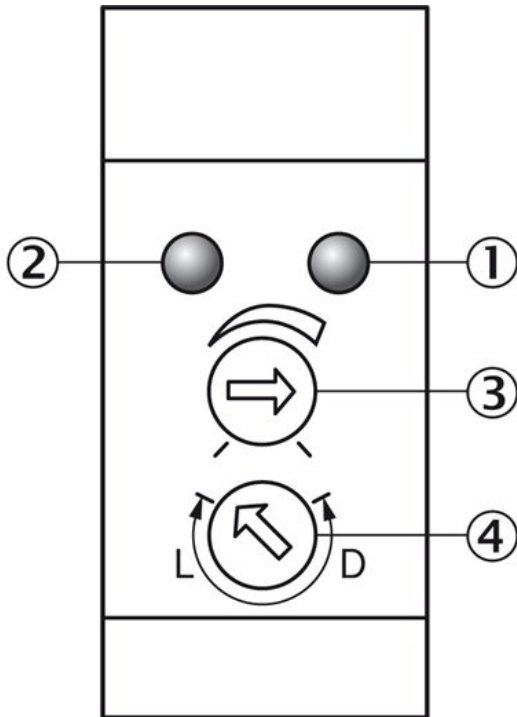
Switching frequency:	1,000 Hz <sup>5)</sup>
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, D <sup>6) 7) 8)</sup>
Protection class:	III
Polarisation filter:	✓
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Mounting bracket BEF-W100-A, Reflector P250
Ambient operating temperature:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 V$
Housing material:	ABS/PC/POM, Plastic

1) Limit values 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 = output reverse-polarity protected 8) D = outputs overcurrent and short-circuit protected

### Dimensional drawing

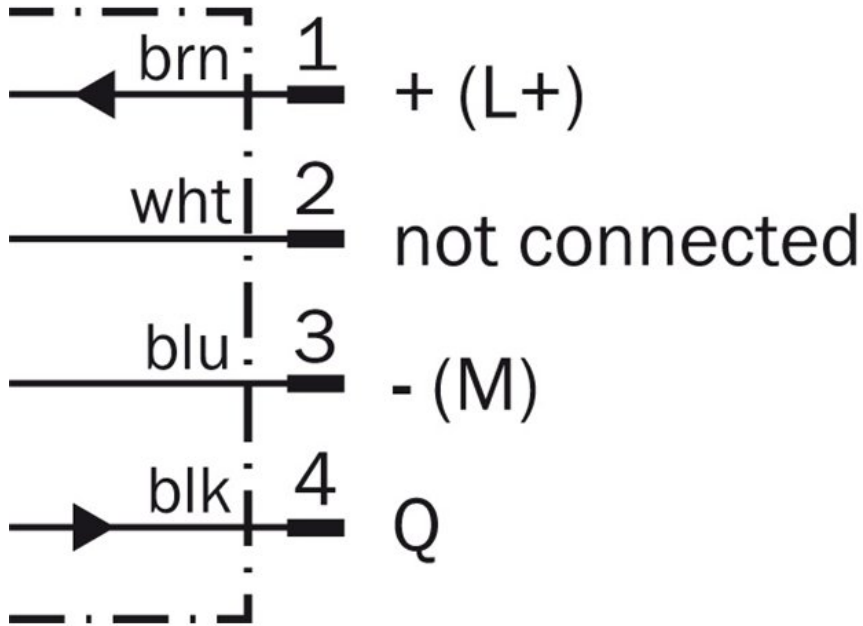


## Adjustments possible

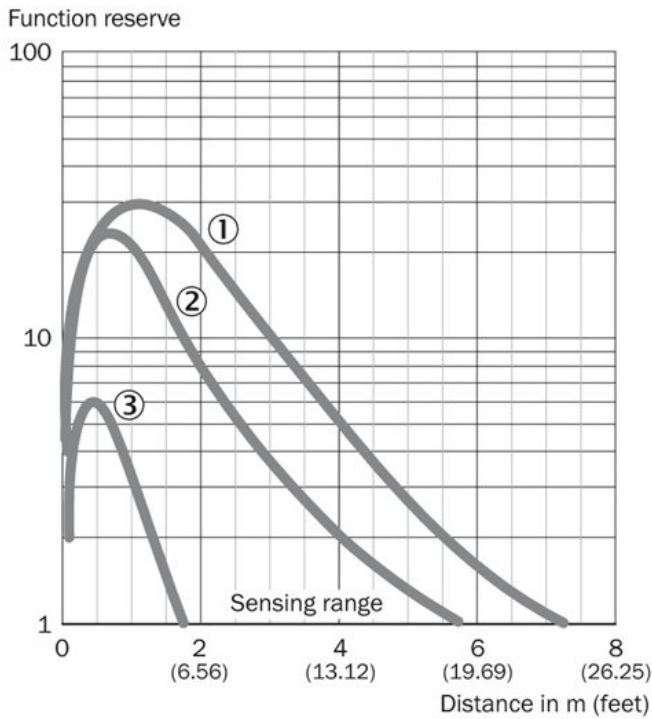


- |1| LED indicator orange: switching output active
- |2| LED indicator green: power on
- |3| Sensing range adjustment: potentiometer
- |4| Light/ dark rotary switch: L = light switching, D = dark switching

## Connection diagram

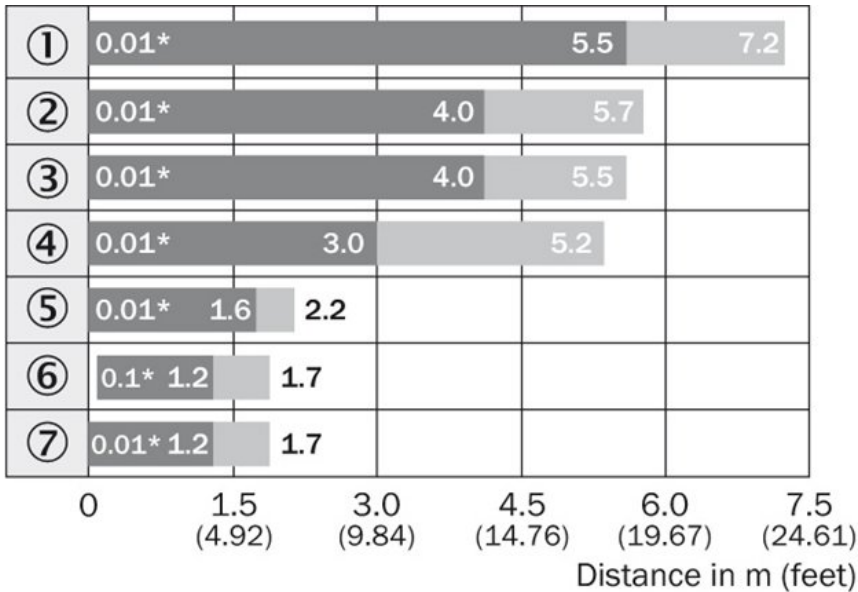


## Characteristic curve



- [1] PL80A
- [2] P250
- [3] Reflective tape Diamond Grade  
(100 mm x 100 mm/3.94 inch x 3.94 inch)

## Sensing range diagram

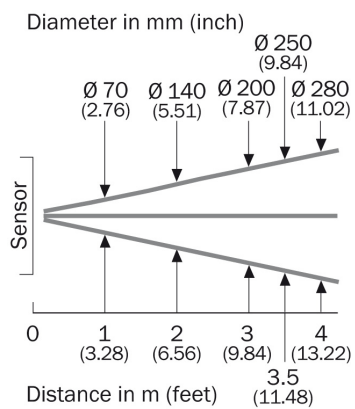


- [1] PL80A
- [2] P250
- [3] PL50A, PL40A
- [4] PL30A, PL31A
- [5] PL20A
- [6] Reflective tape Diamond Grade
- [7] P45

■ Sensing range      ■ Sensing range max.

\*Close-up range at maximum sensitivity

## Light spot size



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