



Photoelectric sensors  
W100, Photoelectric retro-reflective sensor,  
Standard optics

WL100-N3429



**Model Name** > [WL100-N3429](#)  
**Part No.** > [6027663](#)



*Illustration may differ*

#### At a glance

- Standard miniature housing with M3 threaded mounting holes
- Optics with standard red LED or bright light LED
- Polarizing filter
- Light/dark switching and sensitivity adjustment via rotary switch possible
- All necessary accessories (BEF-W100-A and P250) are included with delivery (depending on type)

#### Your benefits

- Highly visible light spot simplifies alignment
- Less contamination due to high optical operating reserve
- Polarization filter allows reliable detection of objects with shiny surfaces and prevents false switching
- M3 threaded mounting holes provide easy installation
- Variants available for reliably detecting clear materials, min. attenuation 20 %
- All necessary accessories (bracket and reflector) are included with delivery, reducing installation and procurement costs (depending on type)



#### Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	11 mm x 31 mm x 20 mm
Housing design (light emission):	Rectangular, Slim
Sensing range max.:	0.01 m ... 3 m <sup>1)</sup>
Sensing range:	0.01 m ... 2.6 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	680 nm
Light spot diameter (distance):	Ø 200 mm (2 m)
Sensitivity adjustment:	Potentiometer, 270°
Angle of dispersion:	Ca. 4 °
Focus adjustable:	-

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

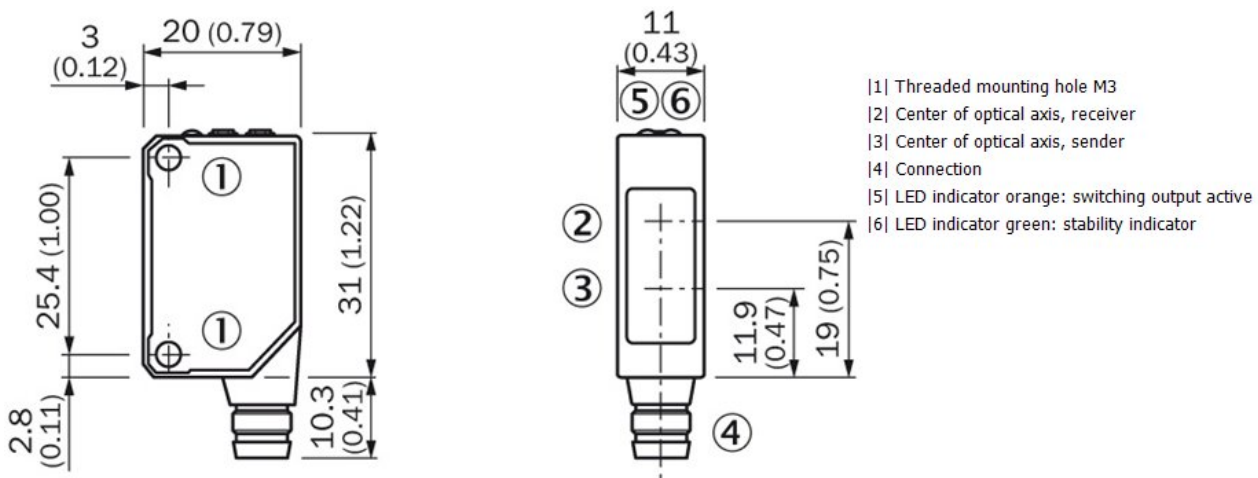
#### Mechanics/electronics

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

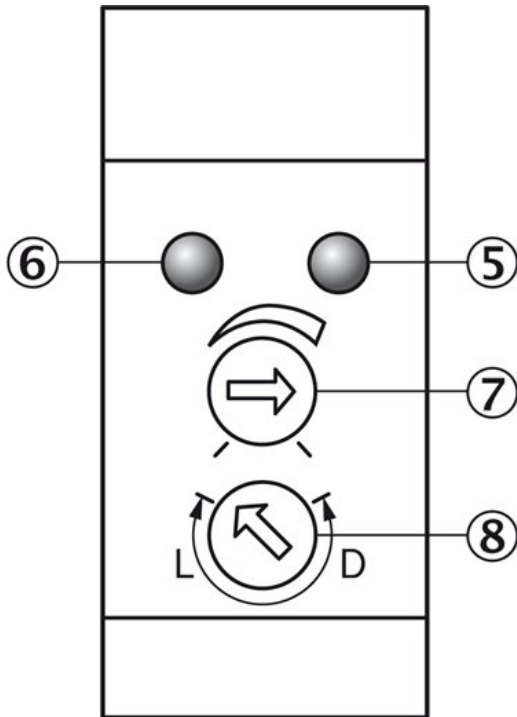
Power consumption:	$\leq 30 \text{ mA}$ <sup>3)</sup>
Output type:	NPN, Light/dark-switching, manually selectable, open collector
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Output current I <sub>max</sub> :	100
Response time:	$\leq 0.5 \text{ ms}$ <sup>4)</sup>
Switching frequency:	1,000 <sup>5)</sup>
Attenuation along light beam:	$> 20 \%$
Connection type:	Connector M8, 3-pin
Circuit protection:::	A, B, D <sup>6) 7) 8)</sup>
Weight:	9 g
Polarisation filter:	✓
Housing material:	ABS/PC/POM
Optics material:	PMMA
Enclosure rating:	IP 65
Items supplied:	Stainless steel mounting bracket (1.4301/304) BEF-W100-A, Reflector P250
Special feature:	For transparent objects
Ambient operating temperature:	-25 °C ... 55 °C
Ambient storage temperature:	-40 °C ... 70 °C

<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> A =  $V_S$  connections reverse-polarity protected   
<sup>7)</sup> B = inputs and output reverse-polarity protected   
<sup>8)</sup> D = outputs overcurrent and short-circuit protected

### Dimensional drawing

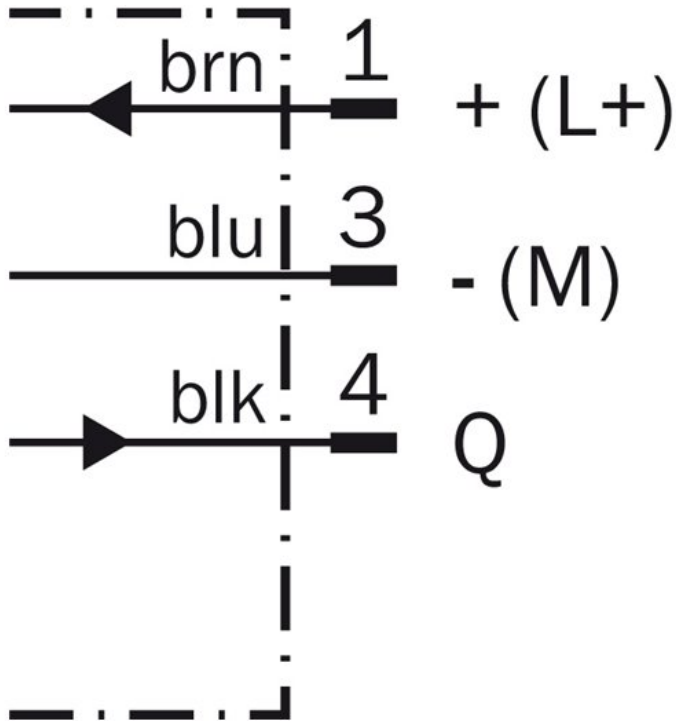


Adjustments possible

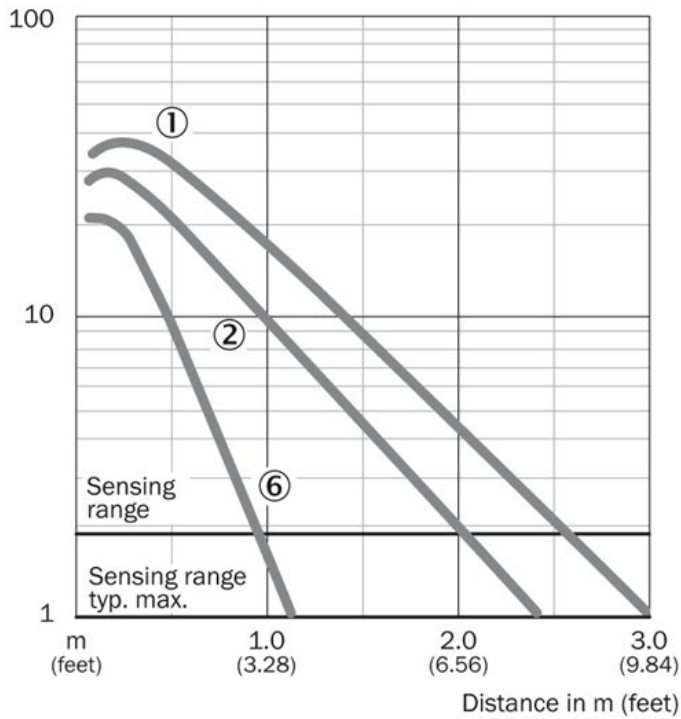


- |5| LED indicator orange: switching output active
- |6| LED indicator green- power on
- |7| Sensing range adjustment: potentiometer, 270°
- |8| Light/ dark rotary switch L = light switching, D = dark switching

Connection diagram

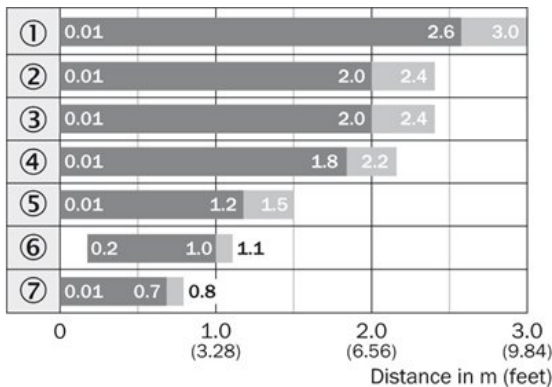


## Characteristic curve



- |1| PL80A
- |2| P250
- |6| Reflective tape Diamond Grade

## Sensing range diagram



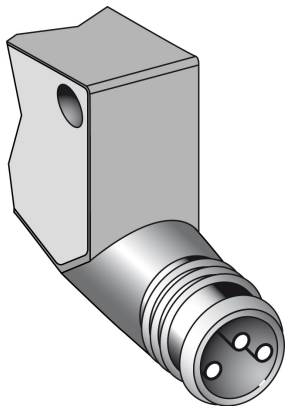
- |1| PL80A
- |2| P250
- |3| PL50A, PL40A
- |4| PL30A, PL31A
- |5| PL20A
- |6| Reflective tape Diamond Grade
- |7| P45

### Reflector type

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

Connection type

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