



Photoelectric sensors  
W8, Photoelectric proximity sensor, Background  
suppression

WTB8-P2111



**Type** > [WTB8-P2111](#)  
**Part No.** > [6033213](#)



Illustration may differ

**At a glance**

- Background suppression
- Standard miniature housing with M3 threaded mounting holes
- Light/dark switching selectable via rotary switch

**Your benefits**

- Reliable detection of objects regardless of color or surface qualities
- Background suppression provides a high level of precision and repeatability
- Highly visible light spot simplifies alignment
- M3 mounting holes ensure quick installation



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	11 mm x 31 mm x 20 mm
Housing design (light emission):	Rectangular
Sensing range max.:	5 mm ... 100 mm <sup>1)</sup>
Sensing range:	20 mm ... 100 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Alarm output:	-
Focus adjustable:	-
Adjustment:	Potentiometer, 4 turns
Light spot size (distance):	Ø 6 mm (100 mm)

<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033) <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

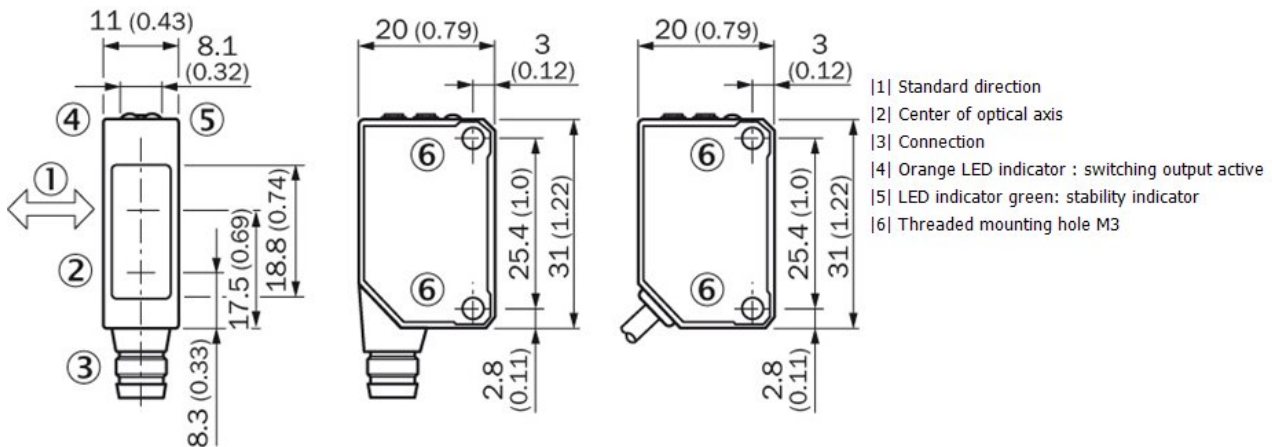
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	± 10 % <sup>2)</sup>
Power consumption:	≤ 30 mA <sup>3)</sup>
Output type:	PNP, open collector
Switching mode:	Light/dark switching
Switching mode selector:	Manually selectable
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, 3-pin

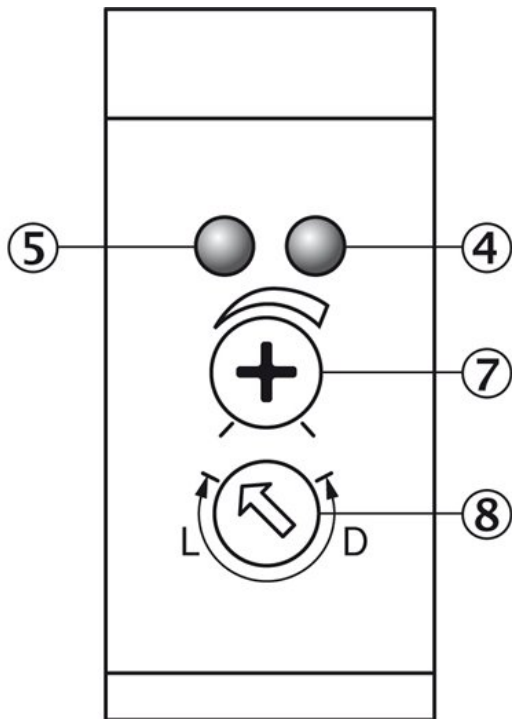
Circuit protection:::	A, B, D <sup>6) 7) 8)</sup>
Weight:	10 g
Polarisation filter:	-
Front screen heating:	-
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Stainless steel mounting bracket (1.4301/304) BEF-W100-A
Ambient temperature operation:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
Signal voltage PNP HIGH/LOW:	Approx. VS - 1.8 V/0 V

<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

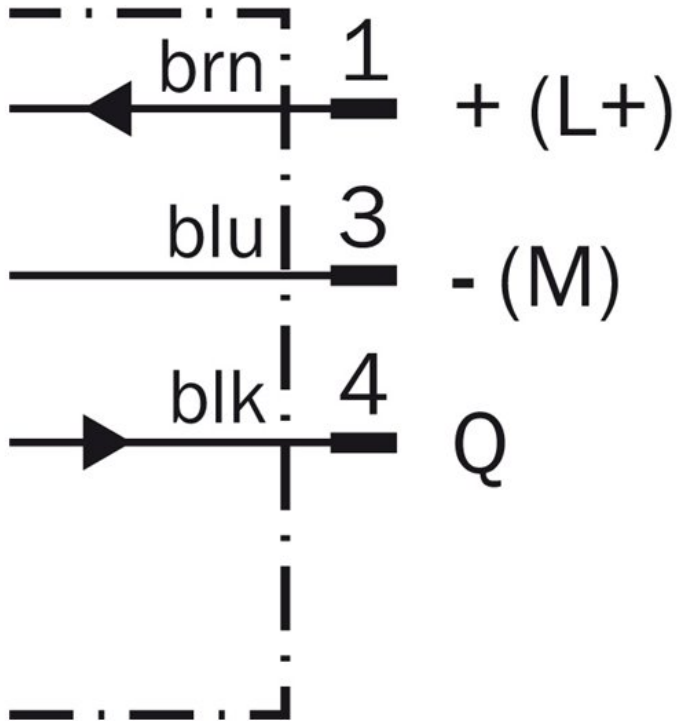


## Adjustments possible

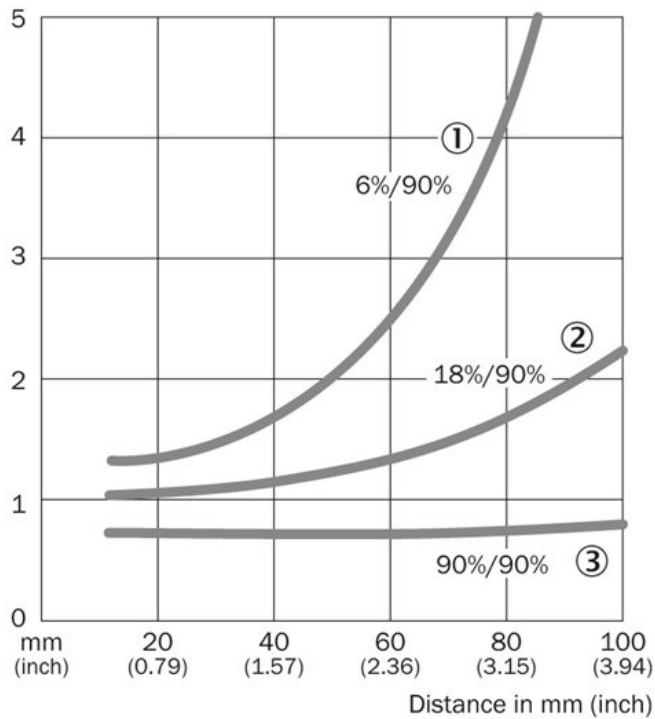


- |4| Orange LED indicator : switching output active
- |5| LED indicator green: stability indicator
- |7| Sensing range adjustment
- |8| Light/ dark rotary switch:L =  
light switching, D = dark switching

## Connection diagram

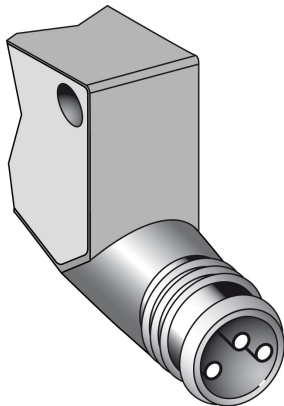


## Characteristic curve

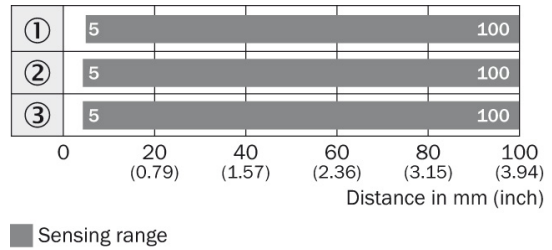


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

## Connection type



## Sensing range diagram



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