



Photoelectric sensors  
W100 Laser, Through-beam photoelectric sensor

WS/WE100L-F2231



**Model Name** > [WS/WE100L-F2231](#)  
**Part No.** > [6030716](#)



*Illustration may differ*

**At a glance**

- Standard miniature housing with M3 threaded mounting holes
- Laser emitter LED, class 1
- Switching frequency of 2000 Hz
- Light/dark switching via rotary switch

**Your benefits**

- Laser light spot combined with 2 kHz switching frequency ensures reliable detection of small objects, even at fast detection speeds
- Less contamination due to high optical operating reserve
- M3 threaded mounting holes provide easy installation



**Features**

Sensor/detection principle:	Through-beam photoelectric sensor
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 ... 35 m
Sensing range:	0 m ... 30 m
Type of light:	Visible red light
Light source:	Laser <sup>1)</sup>
Laser class:	1
Wave length:	650 nm
Focus adjustable:	-
Light spot size (distance):	Ø 30 mm (30 m)

<sup>1)</sup> Average service life 50,000 h at T<sub>A</sub> = +25 °C

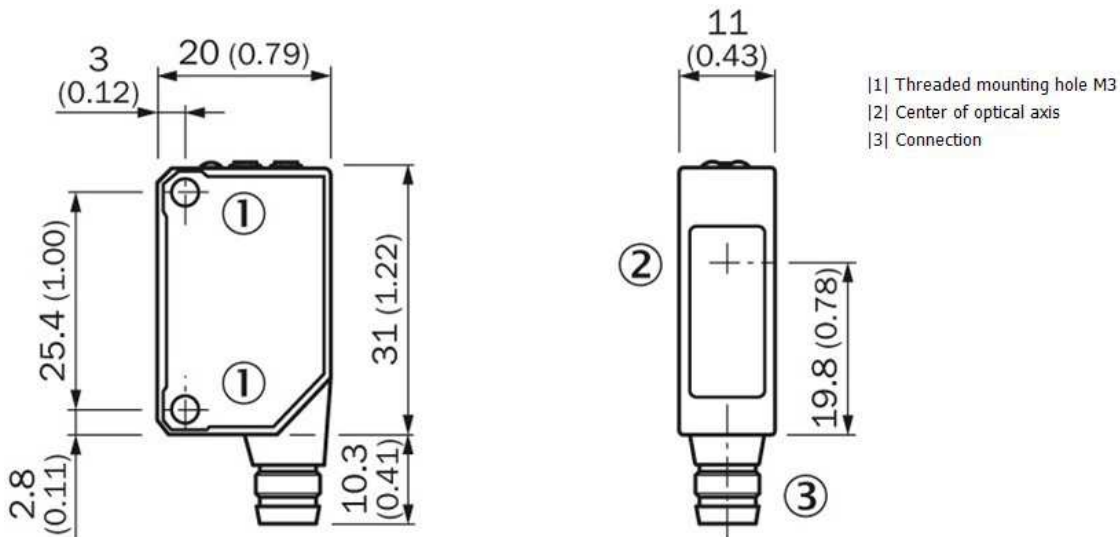
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Residual ripple:	± 10 % <sup>2)</sup>
Power consumption, sender:	≤ 15 mA <sup>3)</sup>
Power consumption, receiver:	≤ 20 mA <sup>4)</sup>
Output type:	PNP
Switching mode:	Light/dark switching
Output characteristic:	Open collector
Switching mode selector:	Manually selectable
Signal voltage PNP HIGH/LOW:	UV - 1,8 V/ca. 0 V

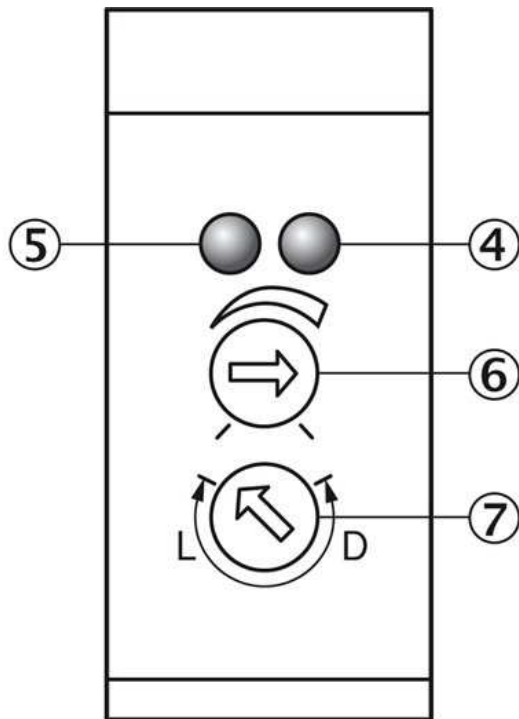
Output current I <sub>max</sub> ..:	100
Response time:	< 0.25 ms <sup>5)</sup>
Switching frequency:	2,000 <sup>6)</sup>
Electrical connection:	Connector M8, 4-pin
Circuit protection:::	A, B, D <sup>7) 8) 9)</sup>
Weight:	10 g
Housing material:	ABS/PC, Plastic
Optics material:	PMMA
Enclosure rating:	IP 65
Items supplied:	2 Stainless steel mounting brackets (1.4301/304) BEF-W100-A
Ambient temperature operation:	-10 °C ... 50 °C
Ambient storage temperature:	-40 °C ... 70 °C
UL File-No.:	CDRH-conform

1) Limit values, operation in short-circuit protected network max. 8 A<sup>2)</sup> May not exceed or fall short of V<sub>S</sub> tolerances<sup>3) 4)</sup> Without load<sup>5)</sup> Signal transit time with resistive load<sup>6)</sup> With light/dark ratio 1:1<sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected<sup>8)</sup> B = inputs and output reverse-polarity protected<sup>9)</sup> D = outputs overcurrent and short-circuit protected

## Dimensional drawing

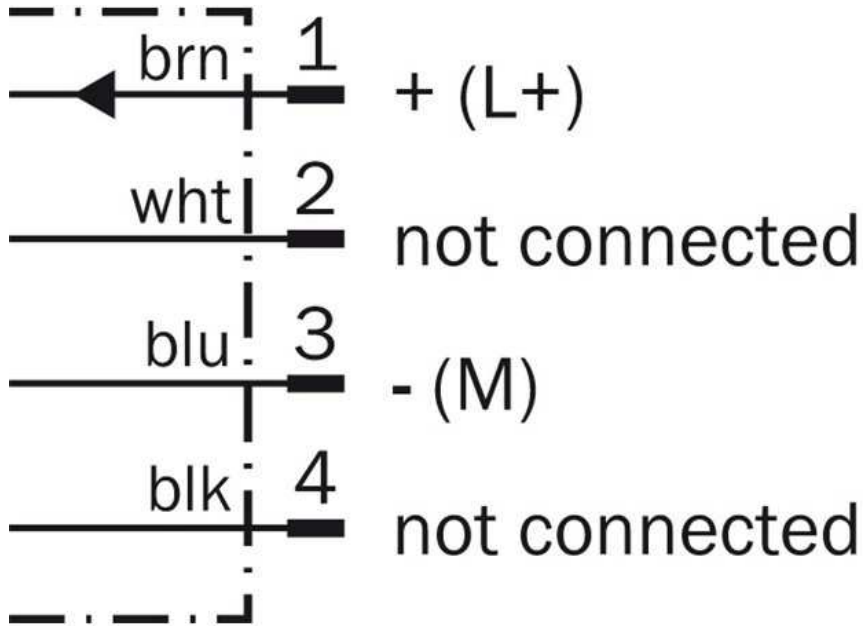


## Adjustments possible

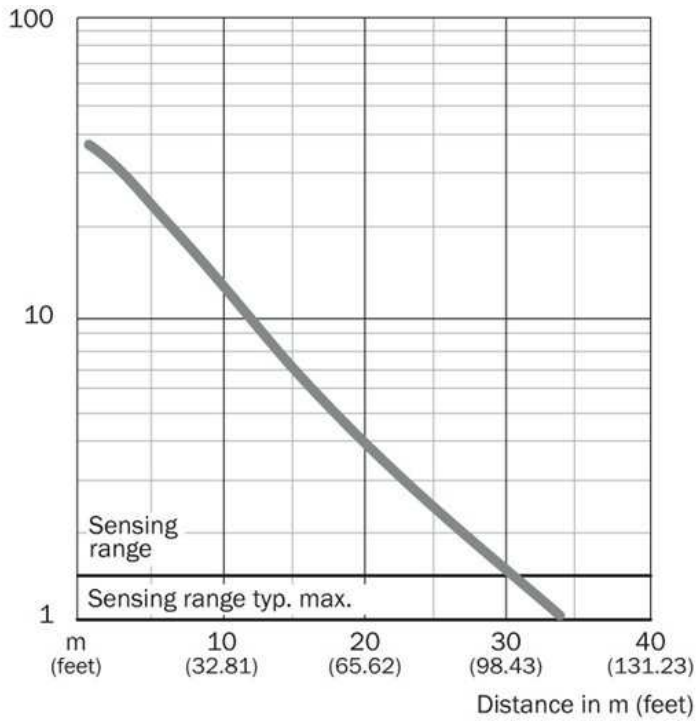


- |4| Orange LED indicator : switching output active
- |5| LED signal strength indicator green;power on
- |6| Sensitivity adjustment 270°
- |7| Light/ dark rotary switch L =  
light switching, D = dark switching

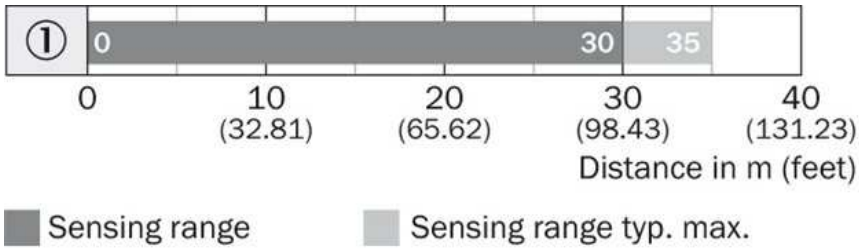
## Connection diagram



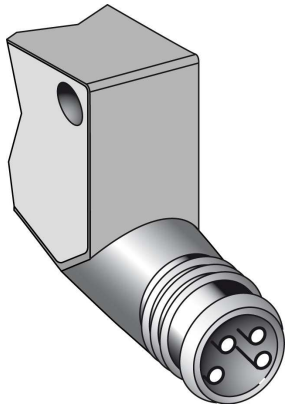
### Characteristic curve



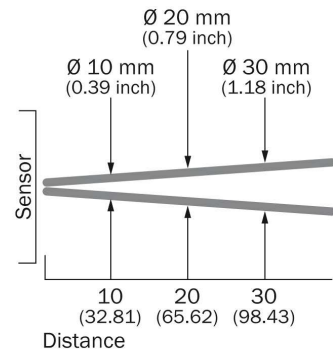
### Sensing range diagram



### Connection type



### Light spot size



All dimensions in m (feet)

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