

ONLINE DATA SHEET
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Photoelectric sensors
W100 Laser, Through-beam photoelectric sensor

WS/WE100L-F2231



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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 [1)]
Laser class:	1
Wave length:	650 nm
Focus adjustable:	-
Light spot size (distance):	Ø 30 mm (30 m)

[1)] Average service life 50,000 h at T_A = +25 °C

Mechanics/electronics

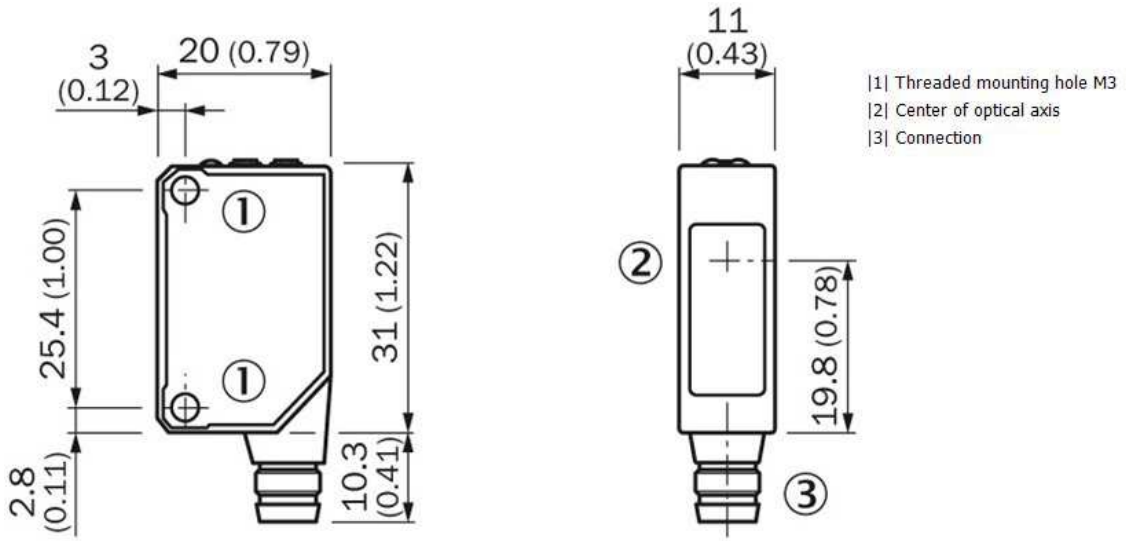
Supply voltage:	10 V DC ... 30 V DC [1)]
Residual ripple:	± 10 % [2)]
Power consumption, sender:	≤ 15 mA [3)]
Power consumption, receiver:	≤ 20 mA [4)]
Output type:	PNP
Switching mode:	Light/dark switching
Output characteristic:	Open collector
Switching mode selector:	Manually selectable
Signal voltage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

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Output current Imax.:	100
Response time:	< 0.25 ms [5]
Switching frequency:	2,000 [6]
Electrical connection:	Connector M8, 4-pin
Circuit protection:::	A, B, D [7] [8] [9]
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

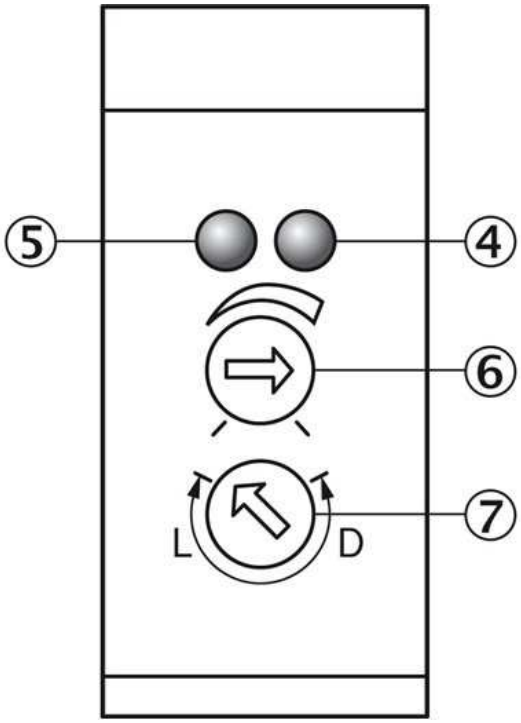
[1] Limit values, operation in short-circuit protected network max. 8 A [2] May not exceed or fall short of V_S tolerances [3] [4] Without load [5] Signal transit time with resistive load [6] With light/dark ratio 1:1 [7] A = V_S connections reverse-polarity protected [8] B = inputs and output reverse-polarity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

Dimensional drawing



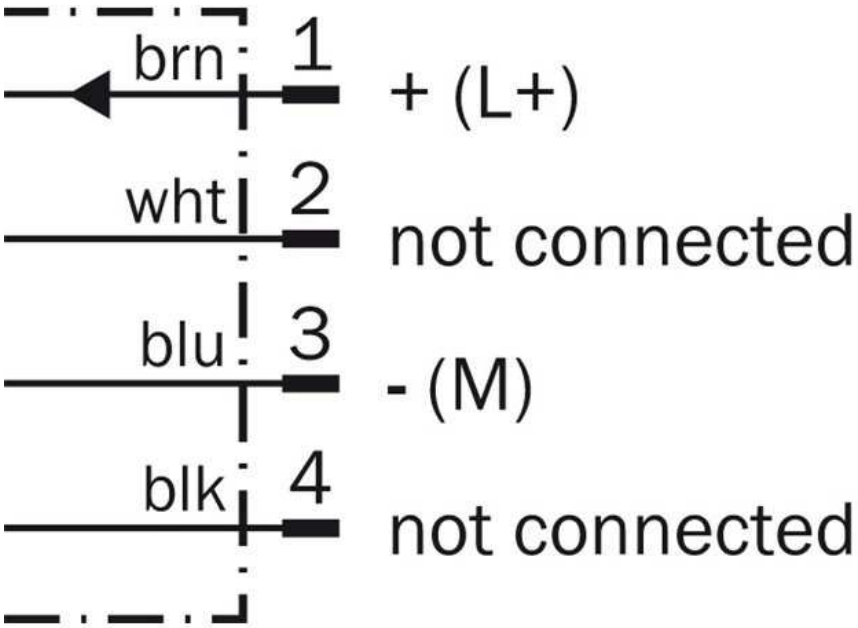
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Adjustments possible



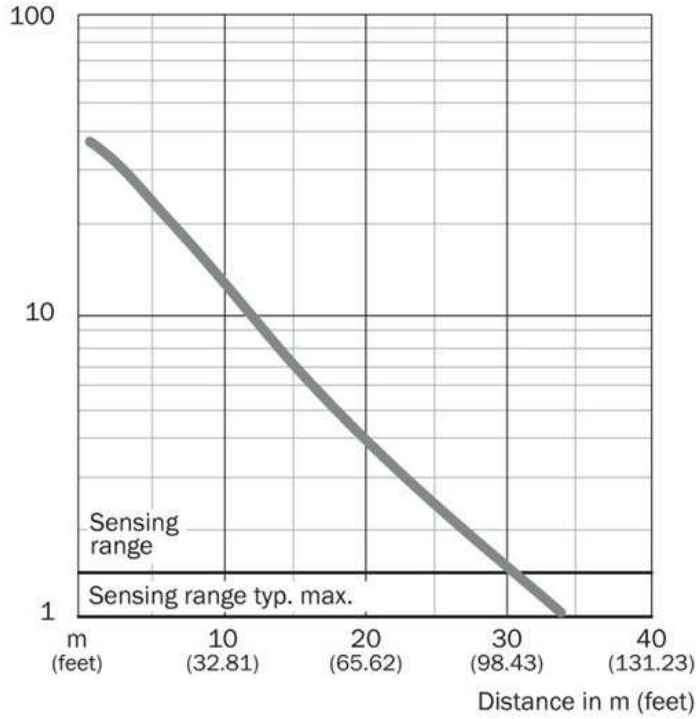
|4| Orange LED indicator : switching output active
|5| LED signal strength indicator green:power on
|6| Sensitivity adjustment 270°
|7| Light/ dark rotary switch L =
light switching, D = dark switching

Connection diagram

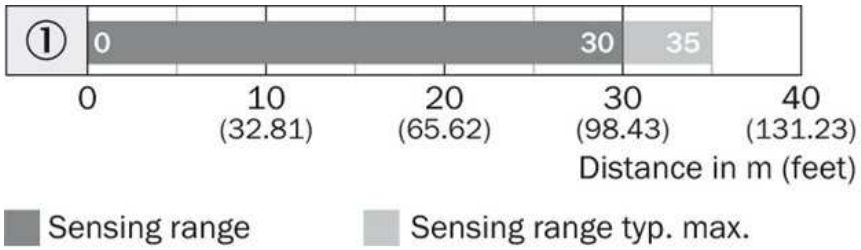


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Characteristic curve

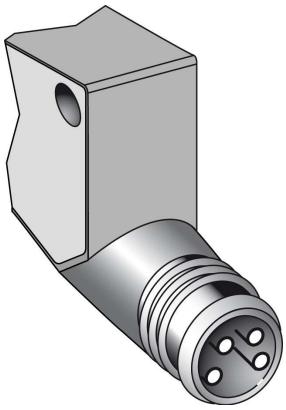


Sensing range diagram

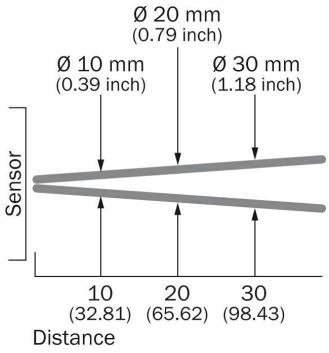


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Connection type



Light spot size



All dimensions in m (feet)

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