



Photoelectric sensors
W100 Laser, Through-beam photoelectric sensor

WS/WE100L-E2231



Model Name > [WS/WE100L-E2231](#)
Part No. > [6030719](#)



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

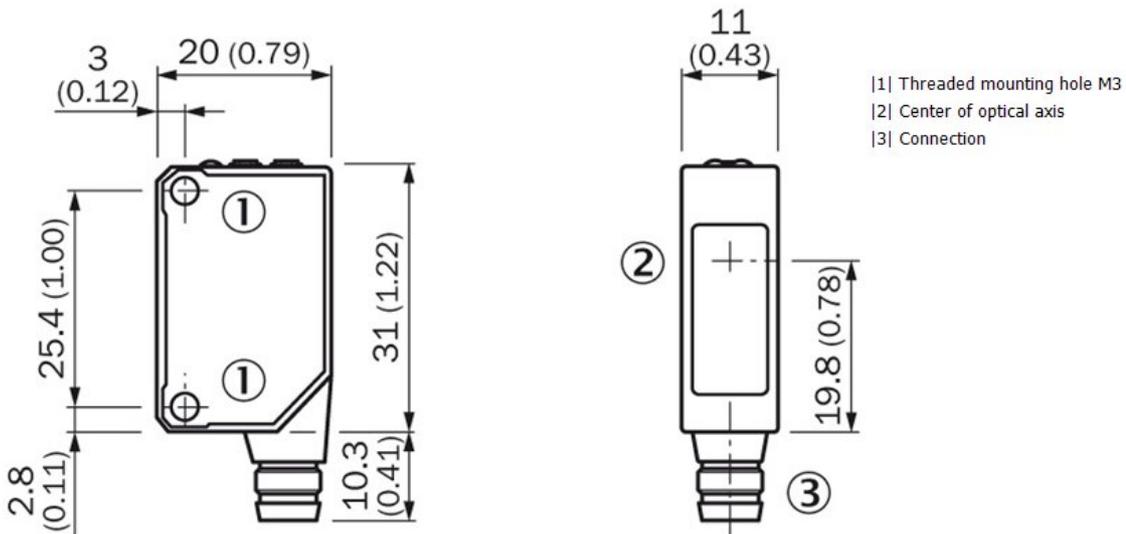
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 10 % ²⁾
Power consumption, sender:	≤ 15 mA ³⁾
Power consumption, receiver:	≤ 20 mA ⁴⁾
Output type:	NPN
Switching mode:	Light/dark-switching
Output characteristic:	Open collector
Switching mode selector:	Manually selectable
Signal voltage NPN HIGH/LOW:	Approx. VS / < 1.8 V

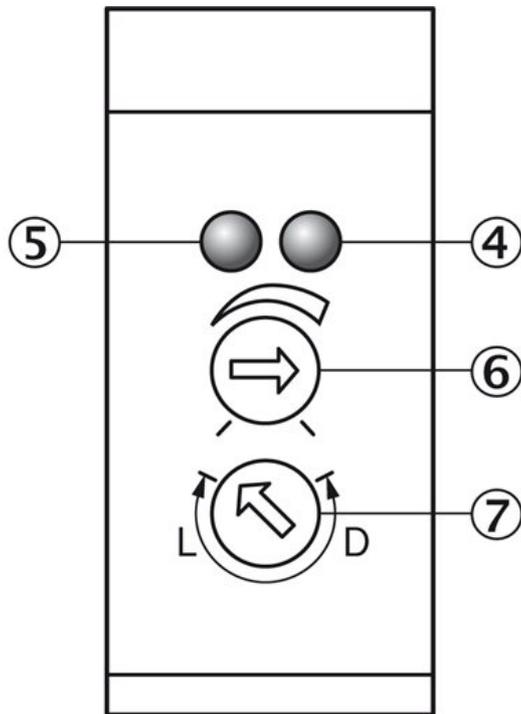
Output current I _{max} ..:	100
Response time:	< 0.25 ms ⁵⁾
Switching frequency:	2,000 ⁶⁾
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, D ^{7) 8) 9)}
Weight:	10 g
Polarisation filter:	-
Housing material:	ABS/PC, Plastic
Optics material:	PMMA
Enclosure rating:	IP 65
Items supplied:	2 Stainless steel mounting brackets (1.4301/304) BEF-W100-A
Ambient operating temperature:	-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

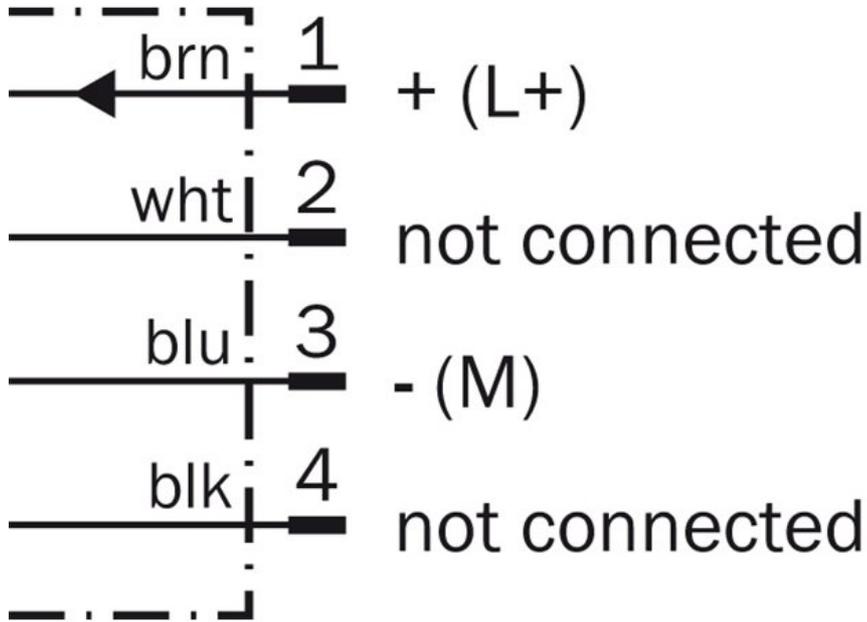


Adjustments possible

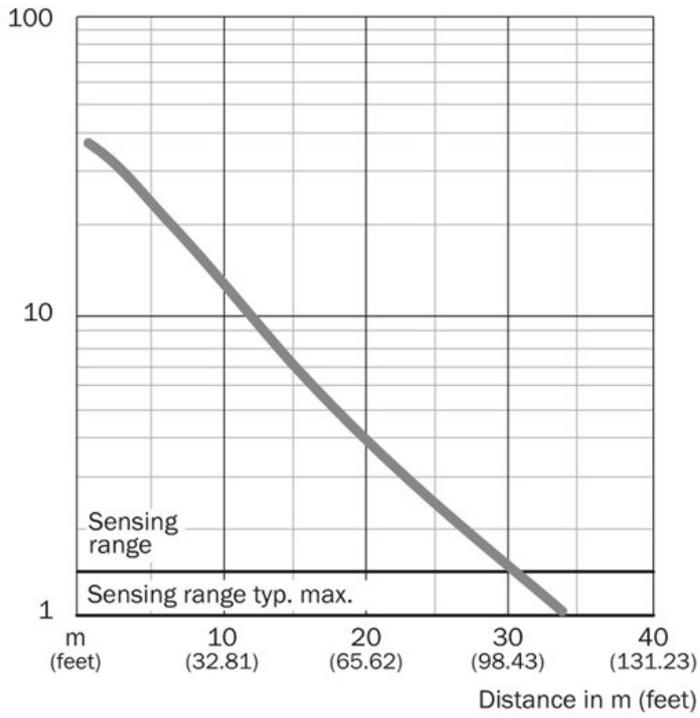


- |4| Orange LED indicator : switching output active
- |5| LED signal strength indicator green:power on
- |6| Sensitivity adjustment 270°
- |7| Light/ dark rotary switch L =
light switching, D = dark switching

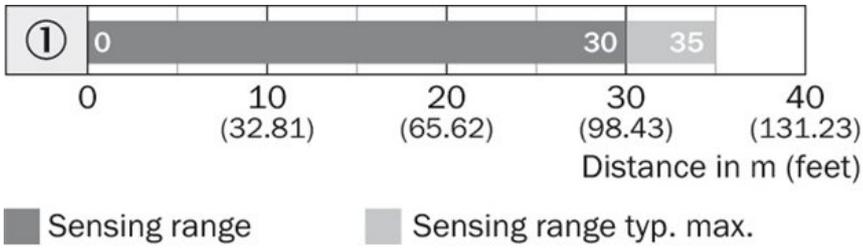
Connection diagram



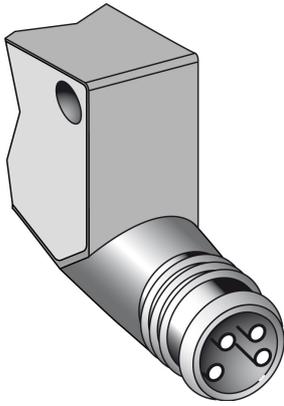
Characteristic curve



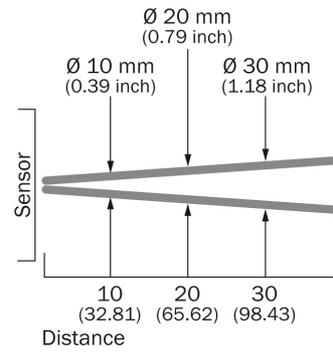
Sensing range diagram



Connection type



Light spot size



All dimensions in m (feet)

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