



Photoelectric sensors
W100, Through-beam photoelectric sensor

WS/WE100-N1402



Model Name > [WS/WE100-N1402](#)
Part No. > [6037862](#)



Illustration may differ

At a glance

- Standard miniature housing with M3 threaded mounting holes
- Optics with standard red LED or bright light LED
- Special slotted masks and polarizing filter tip adapters available as accessories
- Light/dark switching and sensitivity adjustment via rotary switch possible

Your benefits

- Highly visible light spot simplifies alignment
- Less contamination due to high optical operating reserve
- M3 threaded mounting holes provide easy installation
- Special accessory allows optimizing the optical performance depending on the application



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
Sensing range max.:	0 m ... 30 m
Sensing range:	0 m ... 20 m
Type of light:	Visible red light
Light source:	BrightLight LED ¹⁾
Wave length:	645 nm
Angle of dispersion:	Ca. 2 °
Focus adjustable:	-
Adjustment:	Potentiometer, 270°
Light spot size (distance):	Ø 800 mm (20 m)

¹⁾ Average service life of 100,000 h at T_A = +25 °C

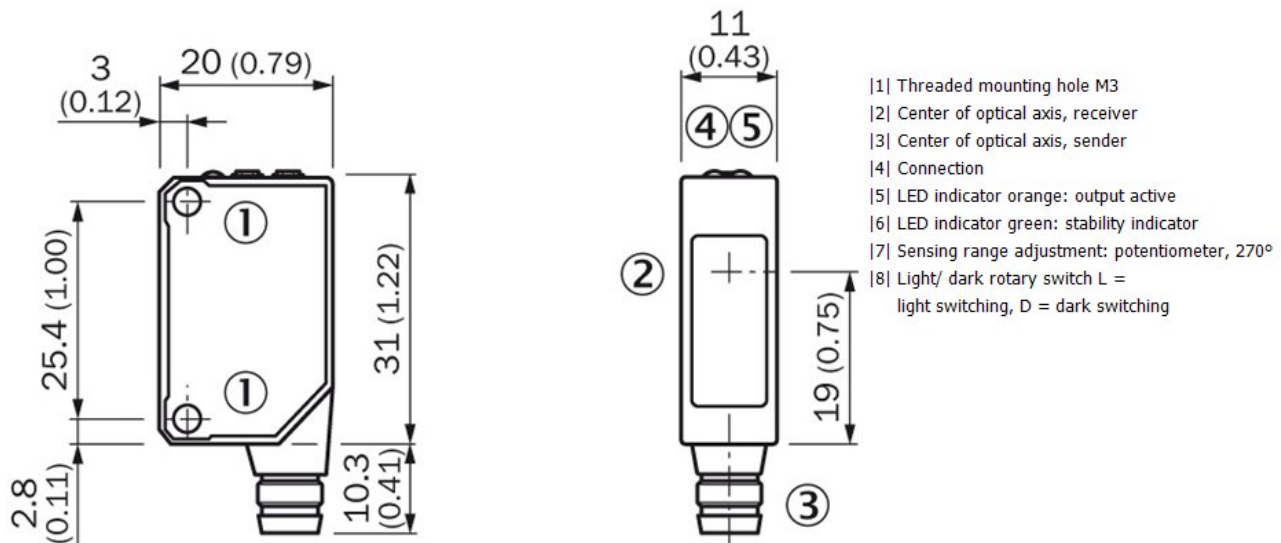
Mechanics/electronics

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, open collector
Switching mode:	Light/dark-switching
Switching mode selector:	Manually selectable

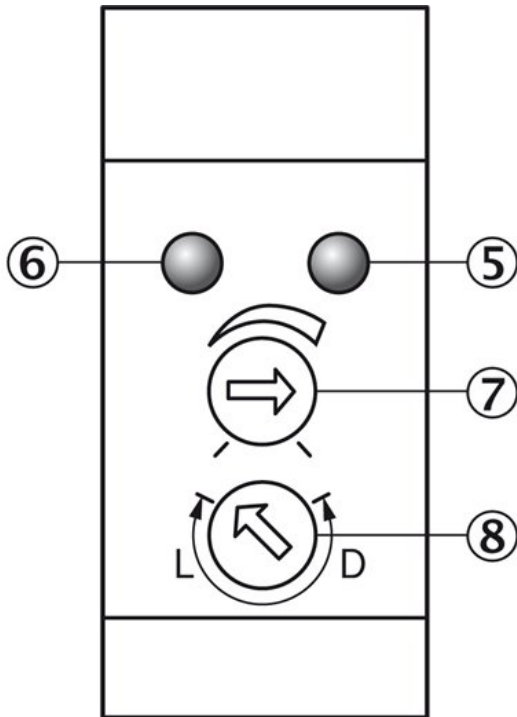
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Output current I_{max} :	$\leq 100 \text{ mA}$
Response time:	$\leq 0.5 \text{ ms}$ ⁵⁾
Switching frequency:	$1,000 \text{ Hz}$ ⁶⁾
Angle of reception:	Ca. 15°
Connection type:	Cable, 3-wire, 2 m ⁷⁾
Cable material:	PVC
Conductor cross-section:	0.18 mm^2
Circuit protection:::	A, B, D ^{8) 9) 10)}
Weight:	106 g
Polarisation filter:	-
Housing material:	ABS/PC/POM, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	$-25^\circ \text{C} \dots 55^\circ \text{C}$
Ambient storage temperature:	$-40^\circ \text{C} \dots 70^\circ \text{C}$

- 1) Limit values, operation in short-circuit protected network max. 8 A resistive load ⁶⁾ With light/dark ratio 1:1 ⁷⁾ Do not bend below 0°C protected ¹⁰⁾ D = outputs overcurrent and short-circuit protected
- 2) May not exceed or fall short of V_S tolerances ^{3) 4)} Without load ⁵⁾ Signal transit time with
- 8) A = V_S connections reverse-polarity protected ⁹⁾ B = inputs and output reverse-polarity

Dimensional drawing



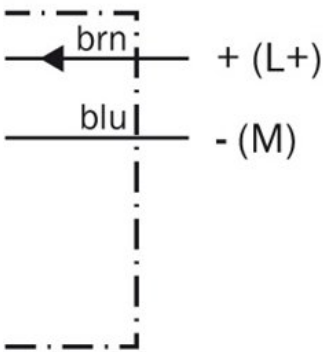
Adjustments possible



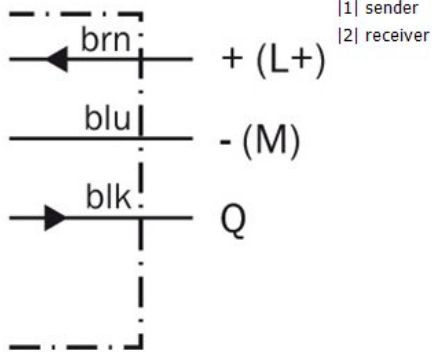
- [5] LED indicator orange: switching output active
- [6] LED indicator green- power on
- [7] Sensing range adjustment: potentiometer, 270°
- [8] Light/ dark rotary switch L = light switching, D = dark switching

Connection diagram

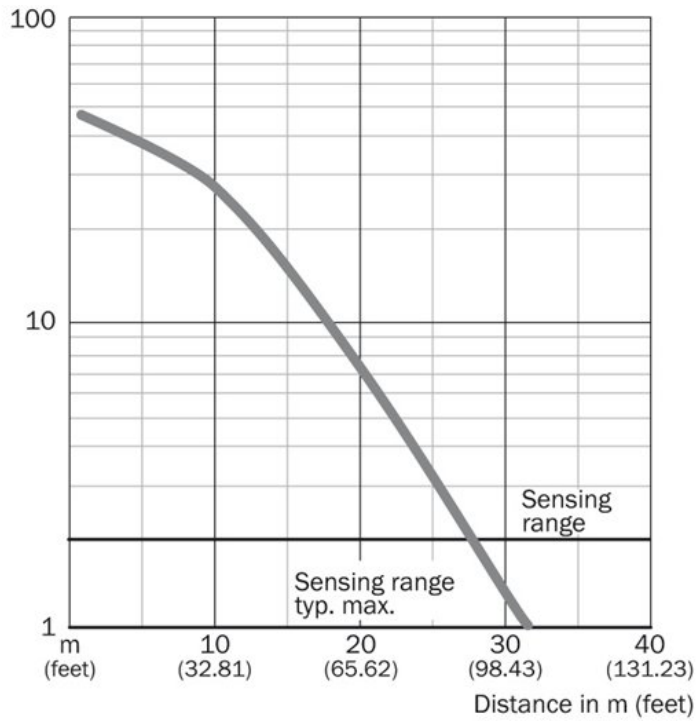
①



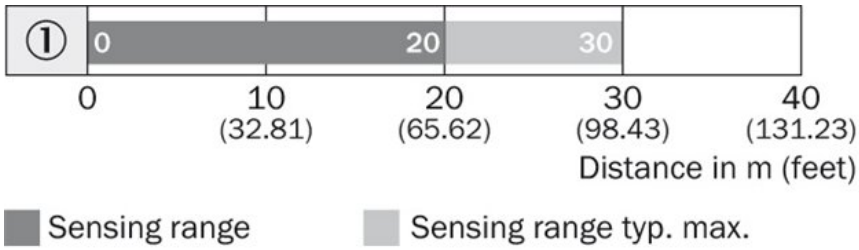
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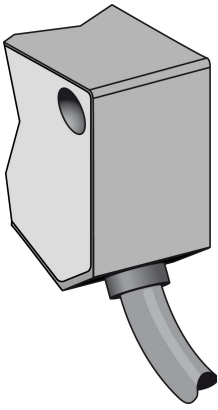
Characteristic curve



Sensing range diagram



Connection type



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