



Photoelectric sensors W100, Through-beam photoelectric sensor

WS/WE100-N1432



Model Name > [WS/WE100-N1432](#)
Part No. > [6026027](#)



Illustration may differ

At a glance

- Standard miniature housing with M3 threaded mounting holes
- Optics with standard red LED or bright light LED
- Connector and cable versions
- Light/dark switching and sensitivity adjustment via rotary switch possible
- Various versions are available, including through-beam, retro-reflective, energetic and background suppression
- Wide variety of accessories available

Your benefits

- Highly visible light spot simplifies alignment
- Reliable detection of glossy objects at a close range with WL100 bright light models
- Less contamination due to high optical operating reserve
- M3 threaded mounting holes provide quick and easy installation

Product will be phased out and can be ordered until 31.12.2015.



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 ... 15 m
Sensing range:	0 m ... 12 m
Type of light:	Visible red light
Light source:	LED ¹⁾
Wave length:	680 nm
Angle of dispersion:	Ca. 7.2 °
Focus adjustable:	-
Adjustment:	Potentiometer, 270 °
Light spot size (distance):	Ø 1,500 mm (12 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⁾
Residual ripple:	± 10 % ²⁾
Power consumption, sender:	≤ 15 mA ³⁾

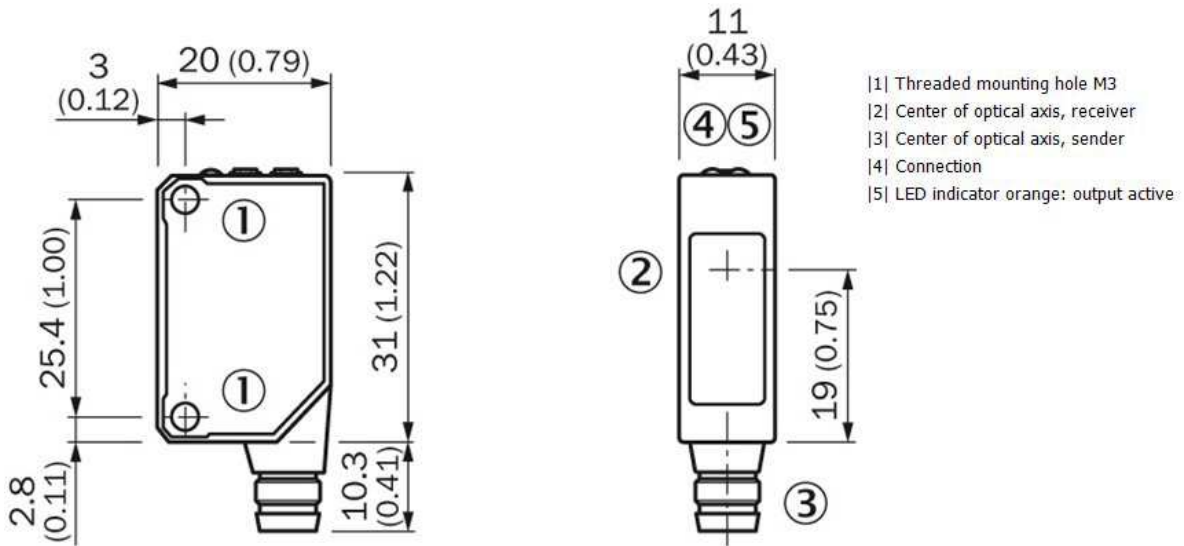
Power consumption, receiver:	$\leq 20 \text{ mA}$ ⁴⁾
Output type:	NPN, open collector
Switching mode:	Light/dark switching
Switching mode selector:	Manually selectable
Output current I _{max.} :	$\leq 100 \text{ mA}$
Response time:	$\leq 0.5 \text{ ms}$ ⁵⁾
Switching frequency:	1,000 Hz ⁶⁾
Angle of reception:	Ca. 15 °
Electrical connection:	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:	-
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 65
Ambient temperature operation:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
Signal voltage NPN HIGH/LOW:	Approx. V _S / $< 1.8 \text{ V}$
Housing material:	ABS/PC/POM, Plastic

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

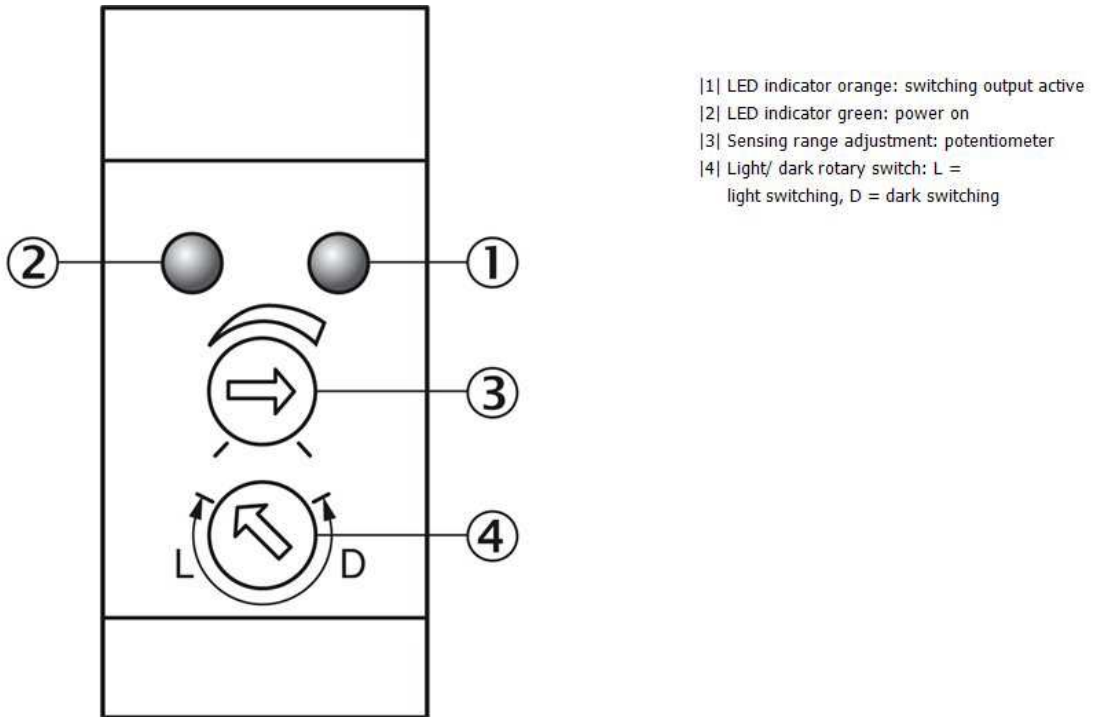
²⁾ May not exceed or fall short of V_S tolerances ^{3) 4)} Without load ⁵⁾ Signal transit time with

⁸⁾ A = V_S connections reverse-polarity protected ⁹⁾ B = inputs and output reverse-polarity

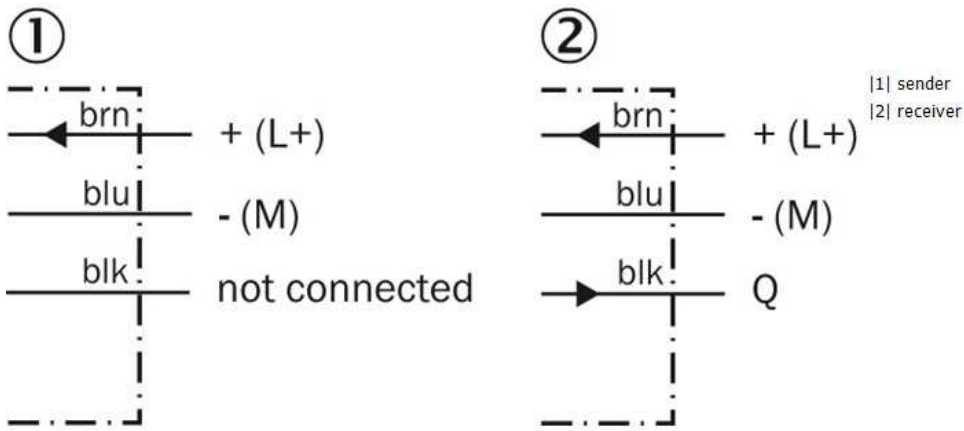
Dimensional drawing



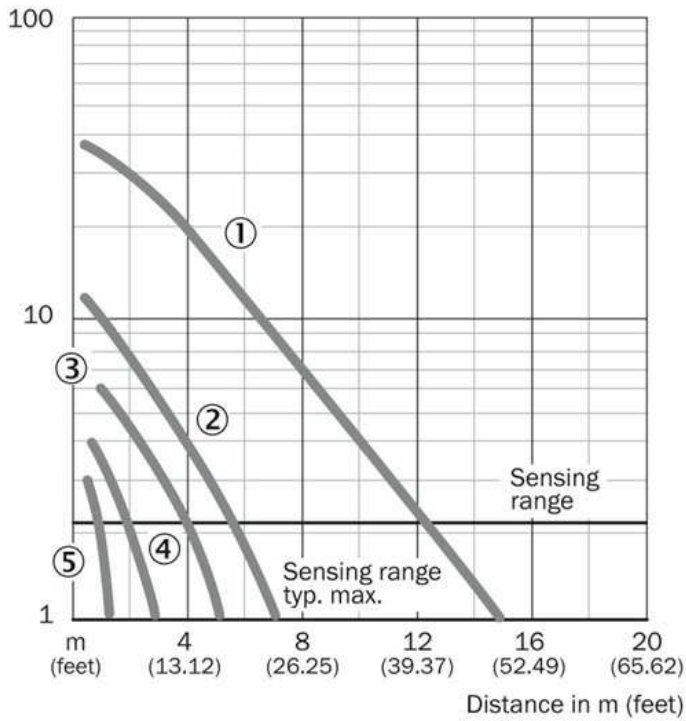
Adjustments possible



Connection diagram

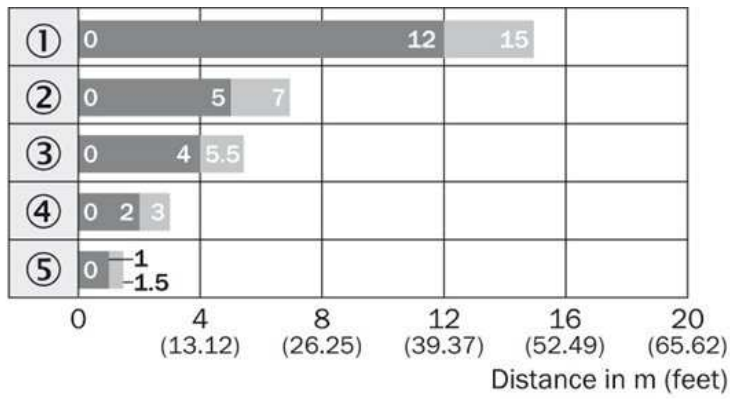


Characteristic curve



- |1| Without masks
- |2| With polarization filter tip adapter
- |3| With slotted mask, width 2.0 mm
- |4| With slotted mask, width 1.0 mm
- |5| With slotted mask, width 0.5 mm

Sensing range diagram



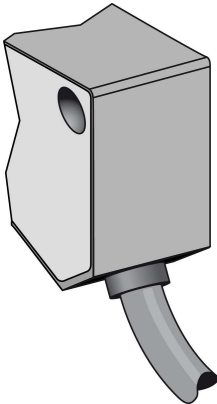
- |1| Without masks
- |2| With polarization filter tip adapter
- |3| With slotted mask, width 2.0 mm
- |4| With slotted mask, width 1.0 mm
- |5| With slotted mask, width 0.5 mm

Sensing range
 Sensing range typ. max.

Sensing range reduction when slotted masks are used

- ① Without masks/polarization filter
- ② With polarization filter tip adapter
- ③ With slotted mask, width 2.0 mm
- ④ With slotted mask, width 1.0 mm
- ⑤ With slotted mask, width 0.5 mm

Connection type



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