



DATA SHEET

WS/WE100L-F2231

W100
Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WS/WE100L-F2231

ORDERING INFORMATION

Type	part no.
WS/WE100L-F2231	6030716

Further device versions and accessories at www.sick.com/W100



DETAILED TECHNICAL DATA

FEATURES

Functional 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 ... 35 m
Sensing range	0 m ... 30 m
Type of light	Visible red light
Light source	Laser ¹⁾
Light spot size (distance)	Ø 30 mm (30 m)
Wave length	650 nm
Laser class	1 ²⁾
Adjustment	Potentiometer, 270°
Special applications	Detecting small objects, Detection of objects moving at high speeds

¹⁾ Average service life: 50,000 h at T_u = +25 °C.

²⁾ Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

MECHANICS/ELECTRONICS

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	$\pm 10\%$ ²⁾
Power consumption, sender	$\leq 15\text{ mA}$ ³⁾
Power consumption, receiver	$\leq 20\text{ mA}$ ³⁾
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	$U_V - 1,8\text{ V} / \text{ca. } 0\text{ V}$
Output current I_{max}	$\leq 100\text{ mA}$
Response time	$< 0,25\text{ ms}$ ⁴⁾
Switching frequency	$2,000\text{ Hz}$ ⁵⁾
Connection type	Male connector M8, 4-pin
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
Weight	10 g
Housing material	Plastic, ABS/PC
Optics material	Plastic, PMMA
Enclosure rating	IP65
Items supplied	2 Stainless steel mounting brackets (1.4301/304) BEF-W100-A
Ambient operating temperature	$-10\text{ }^{\circ}\text{C} \dots +50\text{ }^{\circ}\text{C}$
Ambient temperature, storage	$-40\text{ }^{\circ}\text{C} \dots +70\text{ }^{\circ}\text{C}$

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_{S} connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

⁸⁾ D = outputs overcurrent and short-circuit protected.

SAFETY-RELATED PARAMETERS

MTTF _D	994 years
DC _{avg}	0 %

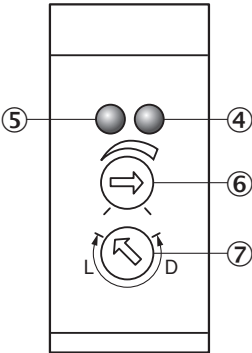
CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cRUus certificate	✓

Laser safety (IEC 60825-1) certificate

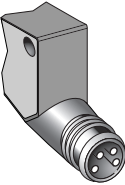
✓

ADJUSTMENTS WS/WE100L

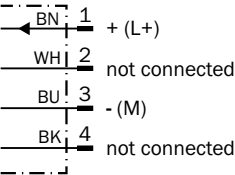


- ④ Orange LED indicator : switching output active
- ⑤ LED indicator green: power on
- ⑥ sensitivity control 270°
- ⑦ Light/ dark rotary switch: L = light switching, D = dark switching

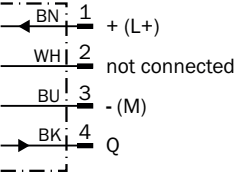
CONNECTION TYPE



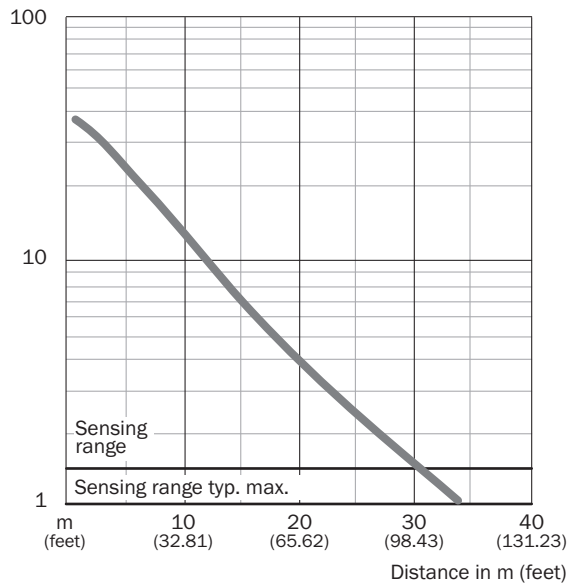
CONNECTION DIAGRAM CD-071



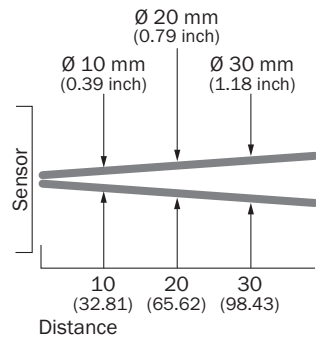
CONNECTION DIAGRAM CD-067



CHARACTERISTIC CURVE WS/WE100L

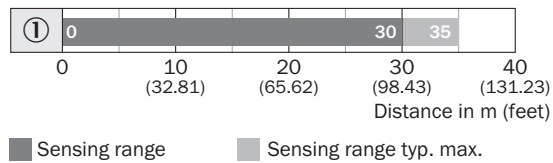


LIGHT SPOT SIZE WS/WE100L

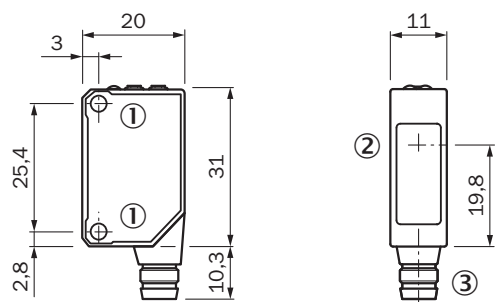


All dimensions in m (feet)

SENSING RANGE DIAGRAM WS/WE100L



DIMENSIONAL DRAWING WS/WE100L



Dimensions in mm (inch)

- ① Threaded mounting hole M3
- ② Center of optical axis
- ③ Connection

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6030716



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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