



DATA SHEET

WTB4-3N1161

W4
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WTB4-3N1161

ORDERING INFORMATION

Type	part no.
WTB4-3N1161	1028102

Further device versions and accessories at www.sick.com/W4



DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Sensing range max.	4 mm ... 150 mm ¹⁾
Sensing range	15 mm ... 150 mm ¹⁾
Emitted beam	
Light source	PinPoint LED ²⁾
Type of light	Visible red light
Light spot size (distance)	Ø 7 mm (50 mm)
Key LED figures	
Wave length	650 nm
Adjustment	Potentiometer, 5 turns
Special applications	Detecting small objects

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_u = +25 °C.

ELECTRONICS

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	20 mA ³⁾
Protection class	III
Digital output	Type NPN Switching mode Light/dark switching Output current I_{max} ≤ 100 mA Response time < 0.5 ms ⁴⁾ Switching frequency 1,000 Hz ⁵⁾
Output function	Complementary
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾

¹⁾ Limit values.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_B connections reverse-polarity protected.⁷⁾ C = interference suppression.⁸⁾ D = outputs overcurrent and short-circuit protected.**MECHANICS**

Housing	Rectangular
Design detail	Flat
Dimensions (W x H x D)	16 mm x 39.5 mm x 12 mm
Connection	Cable, 4-wire, 2 m ¹⁾
Connection detail	Conductor size 0.14 mm² Cable diameter Ø 3.4 mm Length of cable (L) 2 m ¹⁾
Material	Housing Plastic, ABS Front screen Plastic, PMMA Cable Plastic, PVC
Weight	30 g

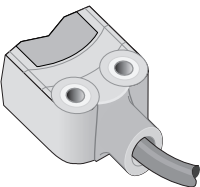
¹⁾ Do not bend below 0 °C.**AMBIENT DATA**

Enclosure rating	IP67 IP66
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

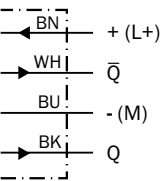
CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

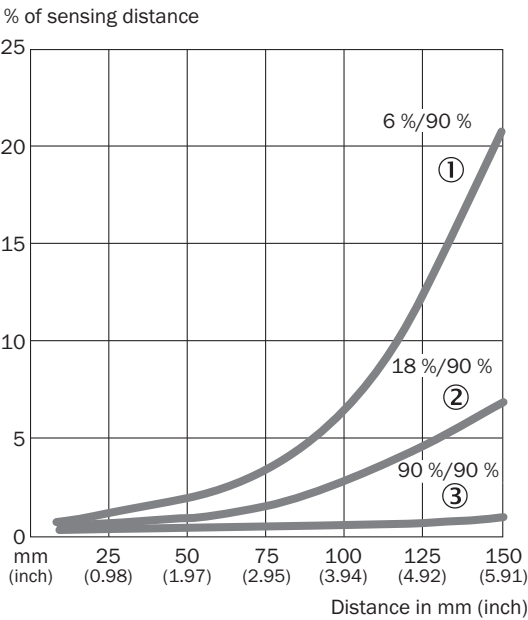
CONNECTION TYPE



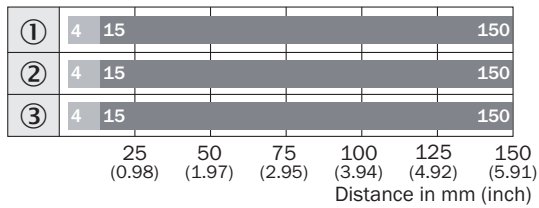
CONNECTION DIAGRAM CD-094



CHARACTERISTIC CURVE WTB4-3



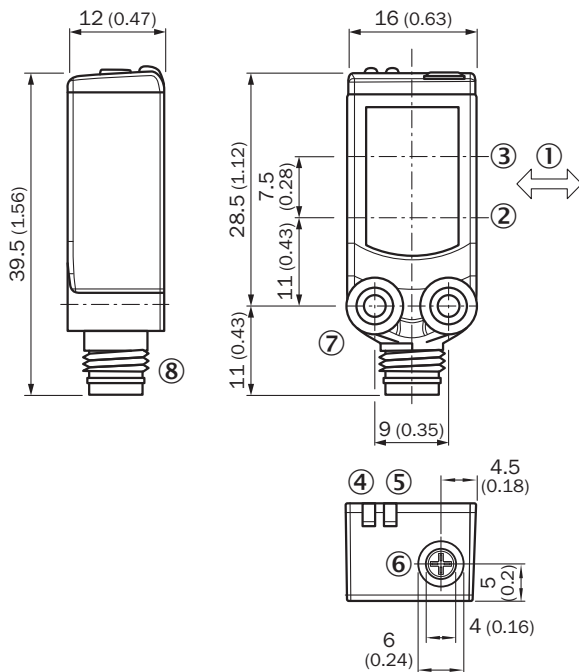
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

SENSING RANGE DIAGRAM WTB4-3

■ Sensing range max.

■ Sensing range

- ① Sensing range on black, 6% remission factor
 ② Sensing range on gray, 18% remission factor
 ③ Sensing range on white, 90% remission factor

DIMENSIONAL DRAWING WTX4-3, POTENTIOMETER

Dimensions in mm (inch)

- ① Standard direction of the material being detected
 ② Optical axis, sender
 ③ Optical axis, receiver
 ④ LED indicator yellow: Status of received light beam
 ⑤ LED indicator green: Supply voltage active
 ⑥ Potentiometer
 ⑦ Threaded mounting hole M3
 ⑧ 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/1028102



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SICK AT A GLANCE

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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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