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DATA SHEET

WTB27-3S1511

W27
Photoelectric sensors

SICK Sensor Intelligence

PHOTOELECTRIC SENSORS

WTB27-3S1511

ORDERING INFORMATION

Type	part no.
WTB27-3S1511	1027762

Further device versions and accessories at www.sick.com/W27



Illustration may differ



DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	24.6 mm x 80.6 mm x 54 mm
Housing design (light emission)	Rectangular
Sensing range max.	30 mm ... 1,600 mm ¹⁾
Sensing range	100 mm ... 1,600 mm
Type of light	Infrared light
Light source	LED ²⁾
Light spot size (distance)	Ø 25 mm (800 mm)
Wave length	880 nm
Adjustment	Potentiometer

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

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

MECHANICS/ELECTRONICS

Supply voltage U_B	20 V AC/DC ... 250 V AC/DC ¹⁾
Power consumption	≤ 2.5 VA
Switching output	Relay, electrically isolated ²⁾
Output function	Change-over contacts
Switching mode	Light switching
Switching current (switching voltage)	4 A @ 250 V AC, 4 A @ 24 V DC, 0.125 A @ 250 V DC UL: 4 A @ 250 V AC, general use / 4 A @ 250 V AC, resistive (NO) / 3 A @ 250 V AC, resistive (NC) / 4 A @ 24 V DC, NO, general use / 3 A @ 24 V DC, NC, general use / R300 / B300 (NO contacts only) / 0 °C ... +60 °C
Response time	≤ 10 ms
Switching frequency	10 Hz ³⁾
Connection type	Cable, 5-wire, 2 m ⁴⁾
Cable material	Plastic, PVC
Conductor cross section	0.25 mm ²
Circuit protection	A ⁵⁾ C ⁶⁾
Protection class	II ⁷⁾
Weight	200 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67
Usage category	AC-15, DC-13 According to EN 60947-1
Ambient operating temperature	-40 °C ... +60 °C ⁸⁾
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

¹⁾ Limit values.

²⁾ Provide suitable spark suppression for inductive or capacitive loads.

³⁾ With light/dark ratio 1:1.

⁴⁾ Do not bend below 0 °C.

⁵⁾ A = V_B connections reverse-polarity protected.

⁶⁾ C = interference suppression.

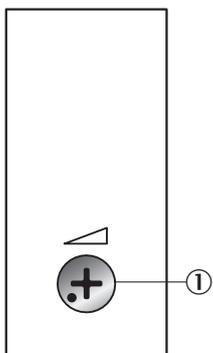
⁷⁾ Reference voltage: 250 V AC, overvoltage category 2.

⁸⁾ UL: 0 °C ... +60 °C.

CERTIFICATES

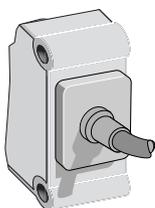
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
CCC certificate	✓
ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

ADJUSTMENTS POTENTIOMETER

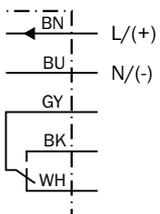


① Potentiometer

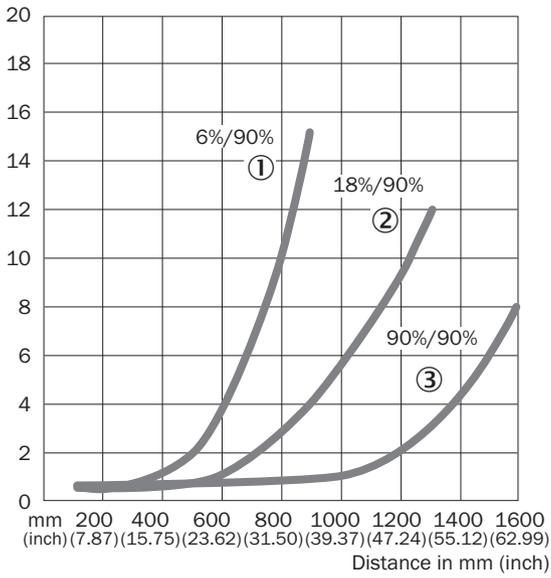
CONNECTION TYPE



CONNECTION DIAGRAM CD-161

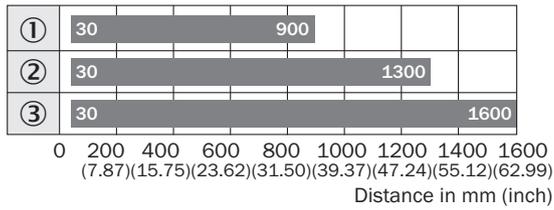


CHARACTERISTIC CURVE WTB27-3, INFRARED



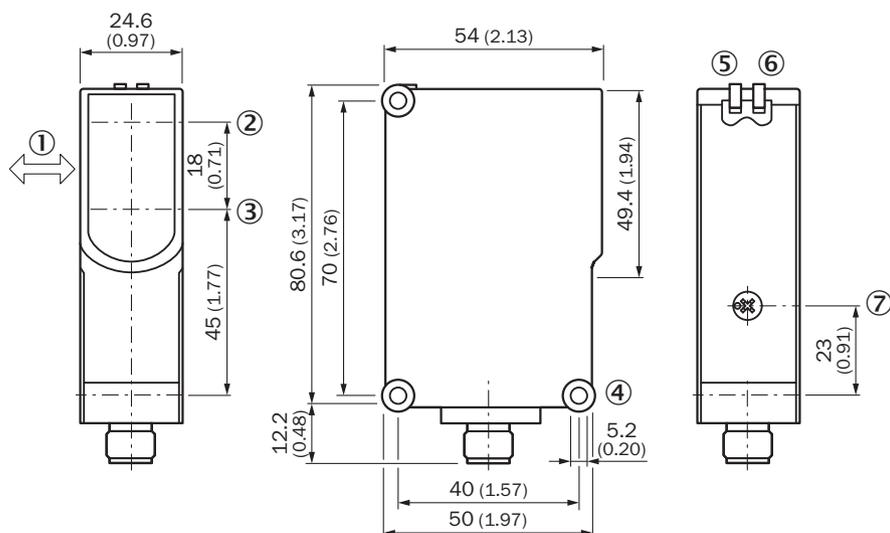
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

SENSING RANGE DIAGRAM WTB27-3, INFRARED



- 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 WTB27-3, POTENTIOMETER



Dimensions in mm (inch)

- ① Standard direction of the material being detected
- ② Optical axis, sender
- ③ Optical axis, receiver
- ④ Mounting hole \varnothing 5.2 mm
- ⑤ LED indicator green: Supply voltage active
- ⑥ LED indicator yellow: Status of received light beam
- ⑦ Sensing range adjustment: potentiometer

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/1027762



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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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