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DATA SHEET

WTB27-3R2611

W27
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WTB27-3R2611

ORDERING INFORMATION

Type	part no.
WTB27-3R2611	1027763

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

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]

[1] Limit values.

[2] Provide suitable arc suppression for inductive or capacitive loads. Relay contacts are separated from the supply voltage by a basic isolation of 3 mm. Depending on the application, additional isolation might have to be applied in the user's circuit.

[3] With light/dark ratio 1:1.

[4] A = V_S connections reverse-polarity protected.

[5] C = interference suppression.

[6] Reference voltage: 250 V AC, overvoltage category 2.

[7] UL: 0 °C ... +60 °C.

Power consumption	≤ 2.5 VA
Switching output	Relay, electrically isolated [2]
Output function	Change-over contacts
Switching mode	Light/dark switching
Switching mode selector	Selectable via time delay selector switch
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]
Time functions	Switch-on delay Off delay Switch on delay and time delay off
Delay time	Adjustable via time delay selector switch, 0.5 s ... 10 s
Connection type	Male connector Q6, 6-pin, AC/UC-coded
Circuit protection	A [4] C [5]
Protection class	II [6]
Weight	120 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP65
Usage category	AC-15, DC-13 According to EN 60947-1
Ambient operating temperature	–40 °C ... +60 °C [7]
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

[1] Limit values.

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[3] With light/dark ratio 1:1.

[4] A = V_S connections reverse-polarity protected.

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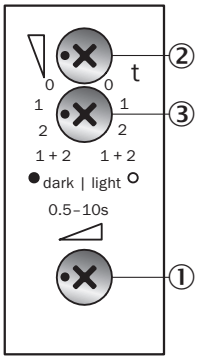
[6] Reference voltage: 250 V AC, overvoltage category 2.

[7] UL: 0 °C ... +60 °C.

CERTIFICATES

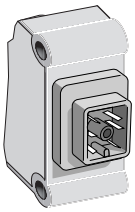
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
CCC certificate	✓
ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

ADJUSTMENTS POTENTIOMETER, TIME FUNCTIONS, LIGHT-/DARK-SWITCH

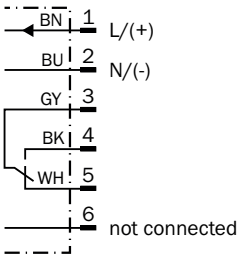


① Potentiometer
② Time control
③ time delay selector switch

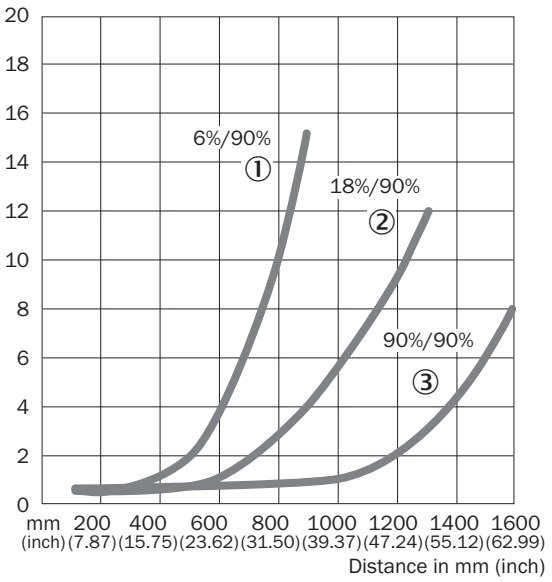
CONNECTION TYPE



CONNECTION DIAGRAM CD-181

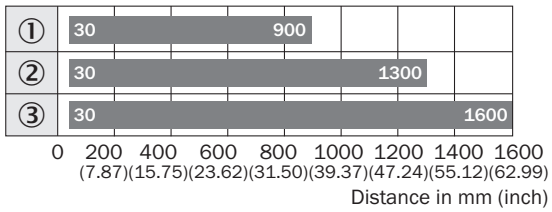


CHARACTERISTIC CURVE WTB27-3, INFRARED



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

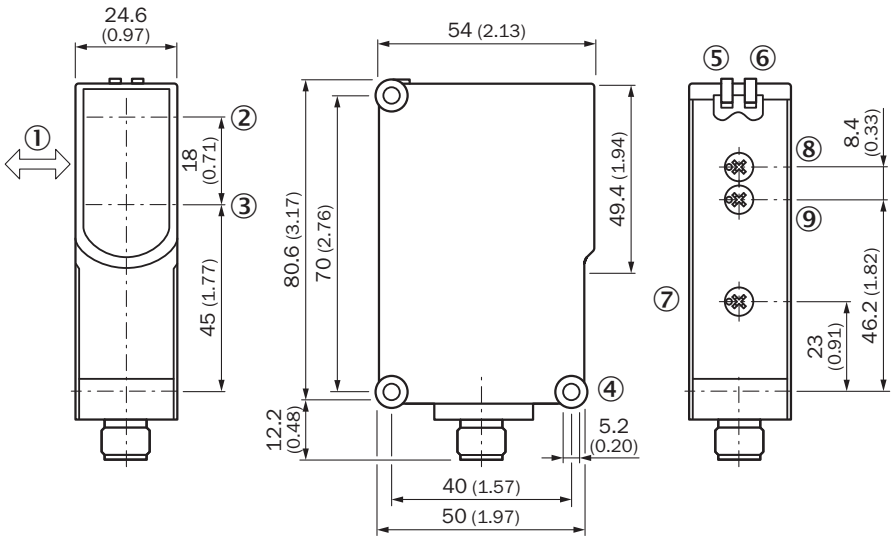
SENSING RANGE DIAGRAM WTB27-3, INFRARED



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, TIME FUNCTIONS



Dimensions in mm (inch)
① Standard direction of the material being detected
② Optical axis, sender
③ Optical axis, receiver
④ Mounting hole ø 5.2 mm
⑤ LED indicator green: Supply voltage active
⑥ LED indicator yellow: Status of received light beam
⑦ Sensing range adjustment: potentiometer
⑧ Time control
⑨ time delay selector switch

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/1027763

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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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