Data sheet

WTB27-3R2611

W27

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
WTB27-3R2611	1027763

Other models and accessories ➜ 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]
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.
[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.

Certificates

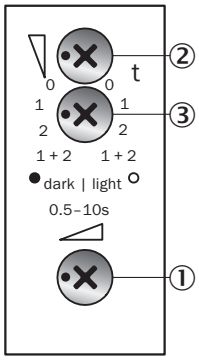
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
CCC certificate	✓

ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

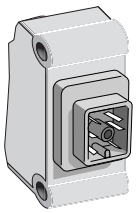
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments Potentiometer, time functions, light-/dark-switch

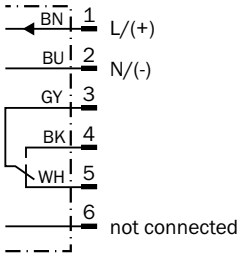


① Potentiometer
② Time control
③ time delay selector switch

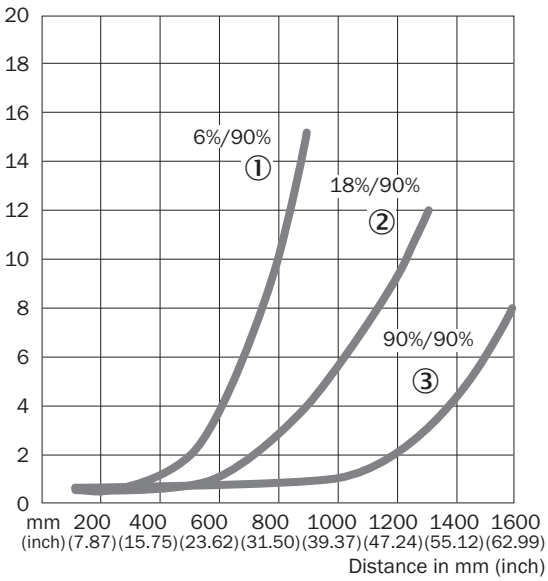
Connection type



Connection diagram Cd-181

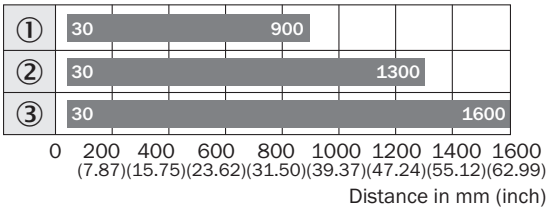


Characteristic curve WTB27-3, infrared



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

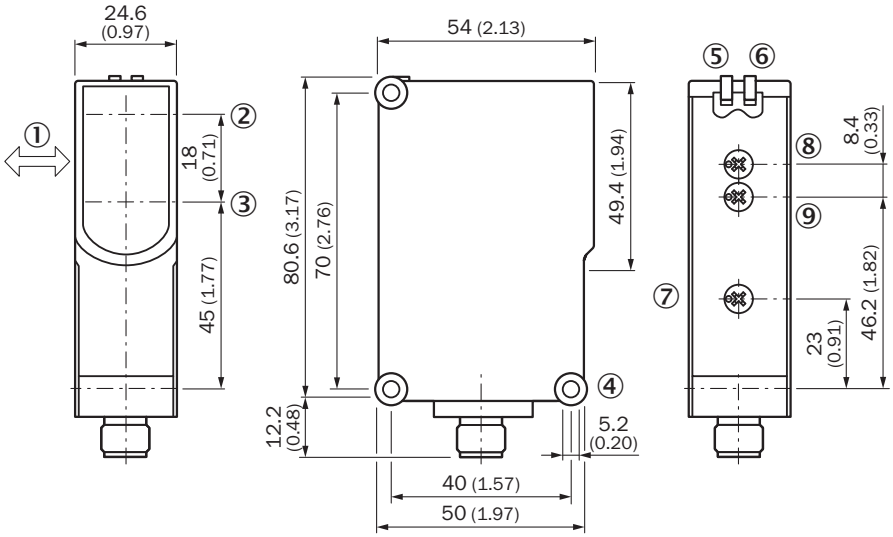
Sensing range diagram WTB27-3, infrared



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

Recommended accessories

Other models and accessories ➜ www.sick.com/W27

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Female connector, 6-pin, angled, AC/UC-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, PVC • **Description:** Sensor/actuator cable, unshielded	DOL-1406-W02M	6030221
Mounting systems			
	• **Description:** Mounting bracket with hinged arm • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Mounting hardware included • **Suitable for:** W23-2, W27-3, Reflex Array	BEF-WN-W27	2009122
device protection and care			
	• **Description:** Protective housing for W26, W27-3 and mounting rods with diameter 12 mm ... 20 mm • **Material:** Steel, zinc diecast • **Items supplied:** Universal clamp BEF-KHS-KH1 (2022726), mounting hardware • **Suitable for:** W27-3, W26, RAY26	BEF-SG-W27	2039601

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

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