



WTB27-3S3741

W27

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
WTB27-3S3741	1027751

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 ... 1,100 mm ¹⁾
Sensing range	100 mm ... 1,100 mm
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 15 mm (500 mm)
Wave length	660 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⁾
Current consumption	35 mA ²⁾
Power consumption	≤ 2.5 VA
Switching output	Relay, electrically isolated ³⁾
Output function	Change-over contacts
Switching mode	Light switching

¹⁾ Limit values.

²⁾ Without load.

³⁾ Provide suitable spark suppression for inductive or capacitive loads.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ C = interference suppression.

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

⁸⁾ UL: 0 °C ... +60 °C.

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 ⁴⁾
Connection type	Cable with Q7 male connector, 7-pin, AC/UC-coded, 150 mm
Cable material	Plastic, PVC
Circuit protection	A ⁵⁾ C ⁶⁾
Protection class	II ⁷⁾
Weight	140 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

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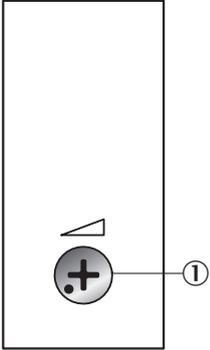
Classifications

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

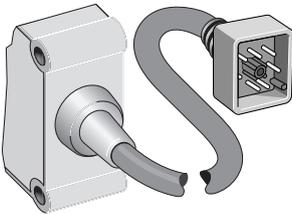
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Adjustments Potentiometer

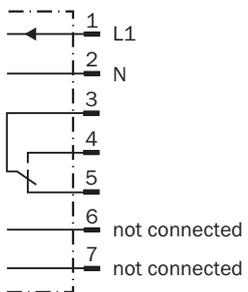


① Potentiometer

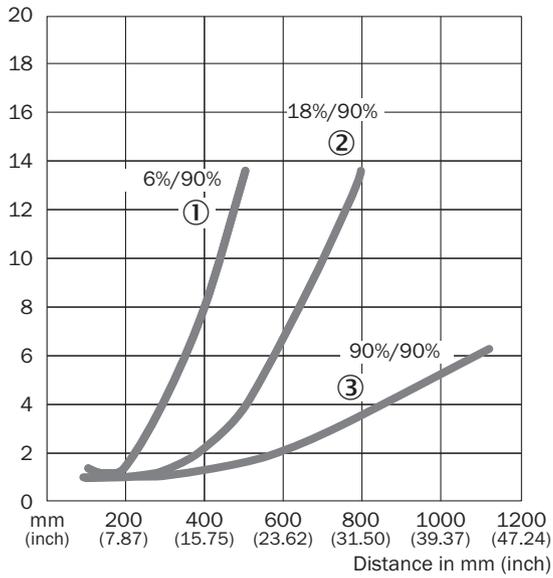
Connection type



Connection diagram Cd-193

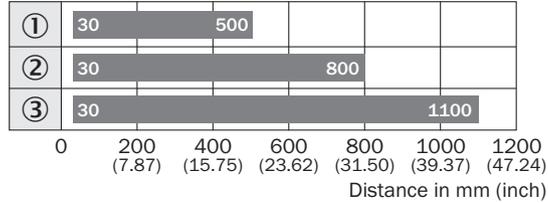


Characteristic curve



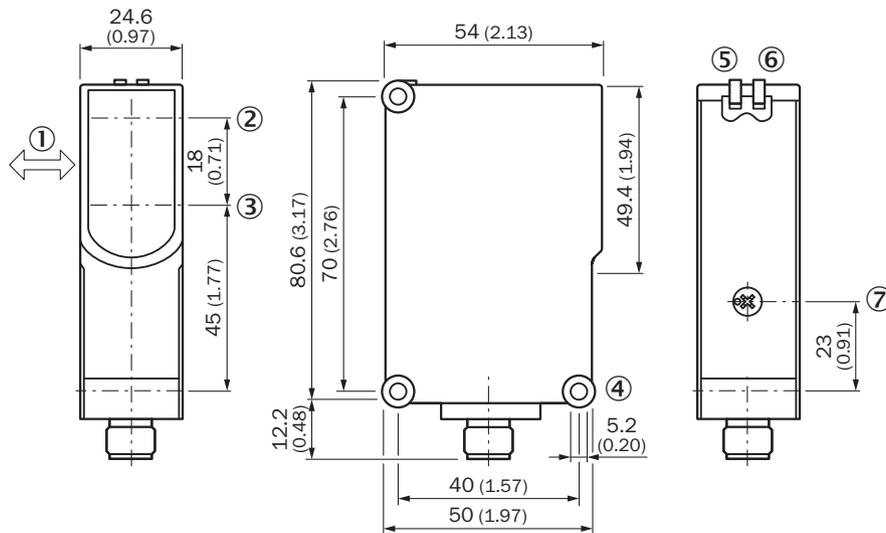
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

Sensing range diagram



- 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

Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • Description: Unshielded • Connection type head A: Female connector, Q7, 7-pin, angled, AC-coded • Connection systems: Screw-type terminals • Permitted cross-section: 0.25 mm² ... 1 mm² 	DOS-2207-W	6006821
Mounting systems			
	<ul style="list-style-type: none"> • 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

	Brief description	Type	part no.
device protection and care			
	<ul style="list-style-type: none"> • 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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