



**WTB27-3S3741**  
W27-3

**COMPACT PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WTB27-3S3741	1027751

Other models and accessories → [www.sick.com/W27-3](http://www.sick.com/W27-3)

### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Photoelectric proximity sensor, Background suppression
<b>Dimensions (W x H x D)</b>	24.6 mm x 80.6 mm x 54 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	30 mm ... 1,100 mm <sup>1)</sup>
<b>Sensing range</b>	100 mm ... 1,100 mm
<b>Type of light</b>	Visible red light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 15 mm (500 mm)
<b>Wave length</b>	660 nm
<b>Adjustment</b>	Potentiometer

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

#### Mechanics/electronics

<b>Supply voltage</b>	20 V AC/DC ... 250 V AC/DC <sup>1)</sup>
<b>Current consumption</b>	35 mA <sup>2)</sup>
<b>Power consumption</b>	≤ 2.5 VA
<b>Switching output</b>	Relay, electrically isolated <sup>3)</sup>

<sup>1)</sup> Limit values.

<sup>2)</sup> Without load.

<sup>3)</sup> Provide suitable spark suppression for inductive or capacitive loads.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>6)</sup> C = interference suppression.

<sup>7)</sup> Reference voltage: 250 V AC, overvoltage category 2.

<sup>8)</sup> UL: 0 °C ... +60 °C.

<b>Output function</b>	Change-over contacts
<b>Switching mode</b>	Light switching
<b>Switching current (switching voltage)</b>	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
<b>Response time</b>	≤ 10 ms
<b>Switching frequency</b>	10 Hz <sup>4)</sup>
<b>Connection type</b>	Cable with connector Q7, 7-pin, AC/UC-coding, 150 mm
<b>Cable material</b>	PVC
<b>Circuit protection</b>	A <sup>5)</sup> C <sup>6)</sup>
<b>Protection class</b>	II <sup>7)</sup>
<b>Weight</b>	140 g
<b>Housing material</b>	Plastic, ABS
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP66 IP67
<b>Usage category</b>	AC-15, DC-13, according to EN 60947-1
<b>Ambient operating temperature</b>	-40 °C ... +60 °C <sup>8)</sup>
<b>Ambient storage temperature</b>	-40 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

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<sub>S</sub> connections reverse-polarity protected.

6) C = interference suppression.

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

8) UL: 0 °C ... +60 °C.

## Classifications

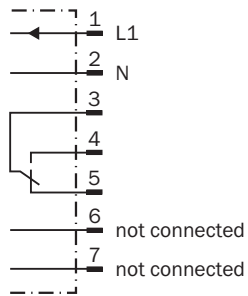
<b>ECl@ss 5.0</b>	27270904
<b>ECl@ss 5.1.4</b>	27270904
<b>ECl@ss 6.0</b>	27270904
<b>ECl@ss 6.2</b>	27270904
<b>ECl@ss 7.0</b>	27270904
<b>ECl@ss 8.0</b>	27270904
<b>ECl@ss 8.1</b>	27270904
<b>ECl@ss 9.0</b>	27270904
<b>ECl@ss 10.0</b>	27270904
<b>ECl@ss 11.0</b>	27270904
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>ETIM 7.0</b>	EC002719

UNSPSC 16.0901

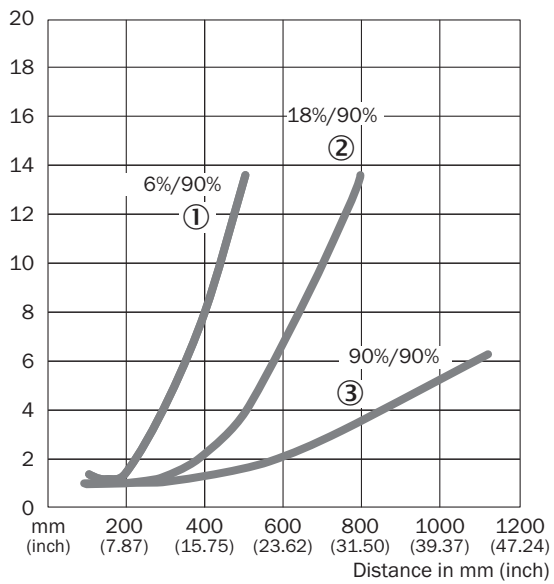
39121528

Connection diagram

Cd-193

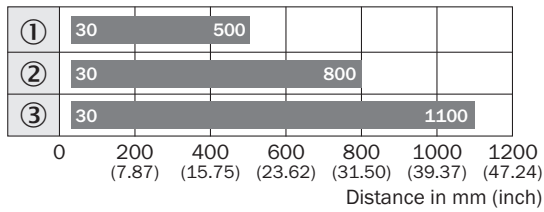


Characteristic curve



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

### Sensing range diagram

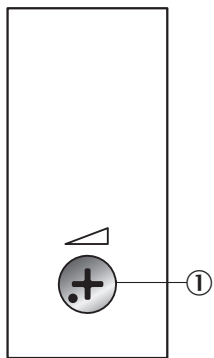


■ Sensing range

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### Adjustments

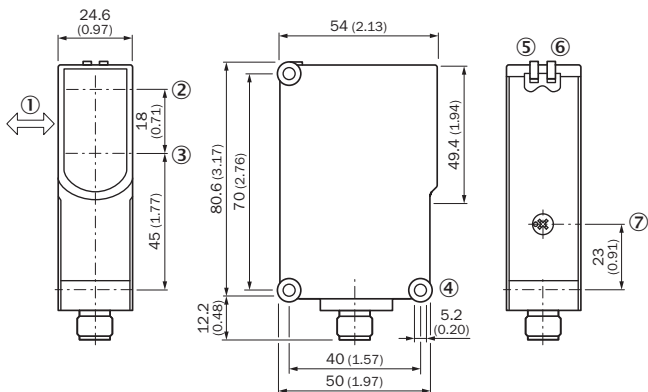
Potentiometer



① Potentiometer

### Dimensional drawing (Dimensions in mm (inch))



WTB27-3, potentiometer



- 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/W27-3](http://www.sick.com/W27-3)

	Brief description	Type	Part no.
Device protection (mechanical)			
	Protective housing for W26, W27-3 and mounting rods with diameter 12 mm ... 20 mm, Zinc plated steel (protective housing), Zinc die cast (clamping bracket), Universal clamp BEF-KHS-KH1 (2022726), mounting hardware	BEF-SG-W27	2039601
Plug connectors and cables			
	Head A: female connector, Q7, 7-pin, angled, AC-coded Cable: unshielded	DOS-2207-W	6006821

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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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