



WTF27-3K2401S02

W27

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	part no.
WTF27-3K2401S02	1077601

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

### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric proximity sensor
<b>Functional principle detail</b>	Foreground 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>	450 mm ... 650 mm <sup>1)</sup>
<b>Sensing range</b>	450 mm ... 650 mm
<b>Type of light</b>	Visible red light
<b>Light source</b>	PinPoint LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 12 mm (800 mm)
<b>Wave length</b>	660 nm
<b>Adjustment</b>	Potentiometer
<b>Special features</b>	Adjustable: 450...650 mm

<sup>1)</sup> Object with 90% remission (based on 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 U<sub>B</sub></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Switching output</b>	PNP
<b>Output function</b>	Complementary
<b>Switching mode</b>	Light/dark switching

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall below or exceed U<sub>V</sub> tolerances.

<sup>3)</sup> Signal transit time with resistive load in switching mode. Different values possible in COM2 mode.

<sup>4)</sup> With light/dark ratio 1:1 in switching mode. Different values possible in IO-Link mode.

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

<sup>6)</sup> B = inputs and output reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> Reference voltage: 50 V DC.

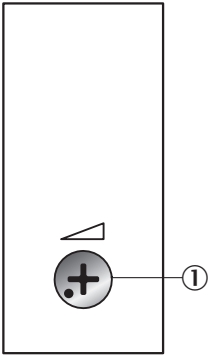
<b>Signal voltage PNP HIGH/LOW</b>	Approx. $V_S - 2.5 \text{ V} / 0 \text{ V}$
<b>Output current <math>I_{\text{max}}</math></b>	$\leq 100 \text{ mA}$
<b>Response time</b>	$\leq 1.5 \text{ ms}^{3)}$
<b>Switching frequency</b>	$350 \text{ Hz}^{4)}$
<b>Connection type</b>	Male connector M12, 4-pin
<b>Circuit protection</b>	A <sup>5)</sup> B <sup>6)</sup> C <sup>7)</sup>
<b>Protection class</b>	II <sup>8)</sup>
<b>Weight</b>	100 g
<b>Special device</b>	✓
<b>Housing material</b>	Plastic, ABS
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP69K
<b>Ambient operating temperature</b>	$-40 \text{ °C} \dots +60 \text{ °C}$
<b>Ambient temperature, storage</b>	$-40 \text{ °C} \dots +75 \text{ °C}$
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

- 1) Limit values when operated in short-circuit protected network: max. 8 A.
- 2) May not fall below or exceed  $U_V$  tolerances.
- 3) Signal transit time with resistive load in switching mode. Different values possible in COM2 mode.
- 4) With light/dark ratio 1:1 in switching mode. Different values possible in IO-Link mode.
- 5) A =  $V_S$  connections reverse-polarity protected.
- 6) B = inputs and output reverse-polarity protected.
- 7) C = interference suppression.
- 8) Reference voltage: 50 V DC.

## Classifications

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

### Adjustments Potentiometer

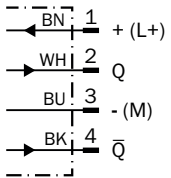


① Potentiometer

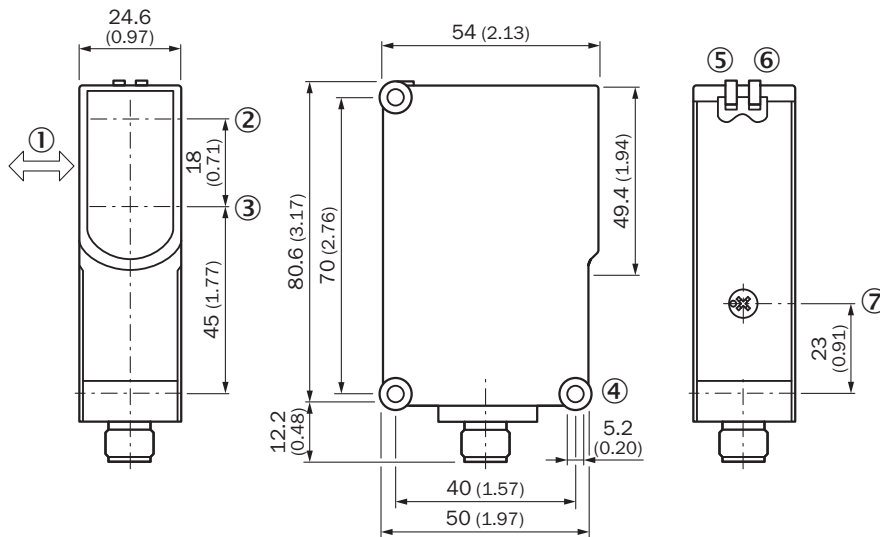
### Connection type



### Connection diagram Cd-101



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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting bracket with hinged arm</li> <li>• <b>Material:</b> Steel</li> <li>• <b>Details:</b> Steel, zinc coated</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> <li>• <b>Suitable for:</b> W23-2, W27-3, Reflex Array</li> </ul>	BEF-WN-W27	2009122
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Plate N11N for universal clamp bracket</li> <li>• <b>Material:</b> Stainless steel</li> <li>• <b>Details:</b> Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li>• <b>Items supplied:</b> Universal clamp (5322627), mounting hardware</li> <li>• <b>Usable for:</b> DeltaPac, Glare, WTD20E</li> </ul>	BEF-KHS-N11N	2071081

	Brief description	Type	part no.
device protection and care			
	<ul style="list-style-type: none"> <li><b>Description:</b> Protective housing for W26, W27-3 and mounting rods with diameter 12 mm ... 20 mm</li> <li><b>Material:</b> Steel, zinc diecast</li> <li><b>Items supplied:</b> Universal clamp BEF-KHS-KH1 (2022726), mounting hardware</li> <li><b>Suitable for:</b> W27-3, W26, RAY26</li> </ul>	BEF-SG-W27	2039601
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Application:</b> Uncontaminated zones, Zones with chemicals</li> </ul>	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> <li><b>Description:</b> Unshielded</li> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> ≤ 0.75 mm<sup>2</sup></li> </ul>	STE-1204-G	6009932
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A14-050UB3XLEAX	2095608

## 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:

Contacts and other locations –[www.sick.com](http://www.sick.com)