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DATA SHEET

**WTB27-3P1211**

W27  
Photoelectric sensors

**SICK** Sensor Intelligence

## PHOTOELECTRIC SENSORS

## WTB27-3P1211

## ORDERING INFORMATION

Type	part no.
WTB27-3P1211	1028065

Further device versions and accessories at [www.sick.com/W27](http://www.sick.com/W27)



Illustration may differ

## 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 <sup>1)</sup>
Sensing range	100 mm ... 1,600 mm
Type of light	Infrared light
Light source	LED <sup>2)</sup>
Light spot size (distance)	Ø 25 mm (800 mm)
Wave length	880 nm
Adjustment	Potentiometer

<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

Supply voltage $U_B$	10 V DC ... 30 V DC <sup>1)</sup>
Ripple	$< 5 V_{pp}$ <sup>2)</sup>
Current consumption	40 mA <sup>3)</sup>
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Approx. $V_S - 2.5 V / 0 V$
Output current $I_{max}$	$\leq 100 mA$
Response time	$\leq 1.5 ms$ <sup>4)</sup>
Switching frequency	350 Hz <sup>5)</sup>
Connection type	Cable, 4-wire, 5 m <sup>6)</sup>
Cable material	Plastic, PVC
Circuit protection	A <sup>7)</sup> B <sup>8)</sup> C <sup>9)</sup>
Protection class	II <sup>10)</sup>
Weight	300 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67 IP69K
Ambient operating temperature	$-40\text{ }^\circ\text{C} \dots +60\text{ }^\circ\text{C}$
Ambient temperature, storage	$-40\text{ }^\circ\text{C} \dots +75\text{ }^\circ\text{C}$
UL File No.	NRKH.E181493 & NRKH7.E181493

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

<sup>2)</sup> May not fall below or exceed  $U_B$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> Do not bend below 0 °C.

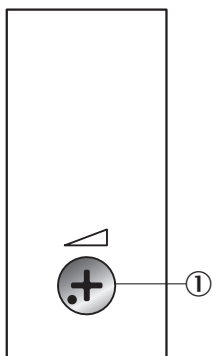
<sup>7)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>8)</sup> B = inputs and output reverse-polarity protected.

<sup>9)</sup> C = interference suppression.

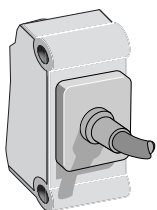
<sup>10)</sup> Reference voltage: 50 V DC.

**ADJUSTMENTS POTENTIOMETER**

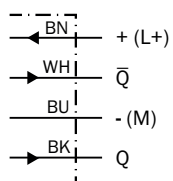


① Potentiometer

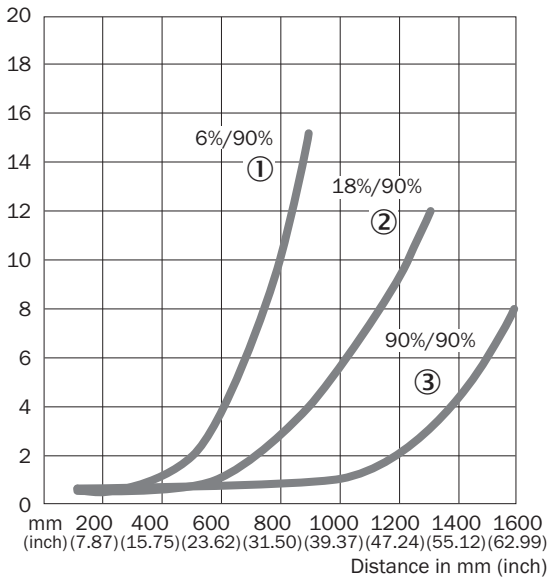
**CONNECTION TYPE**



**CONNECTION DIAGRAM CD-094**

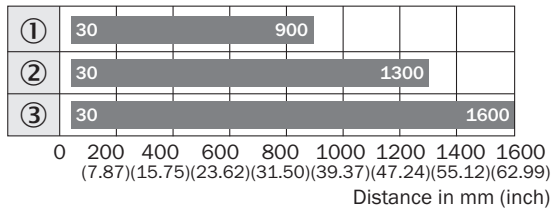


**CHARACTERISTIC CURVE WTB27-3, INFRARED**



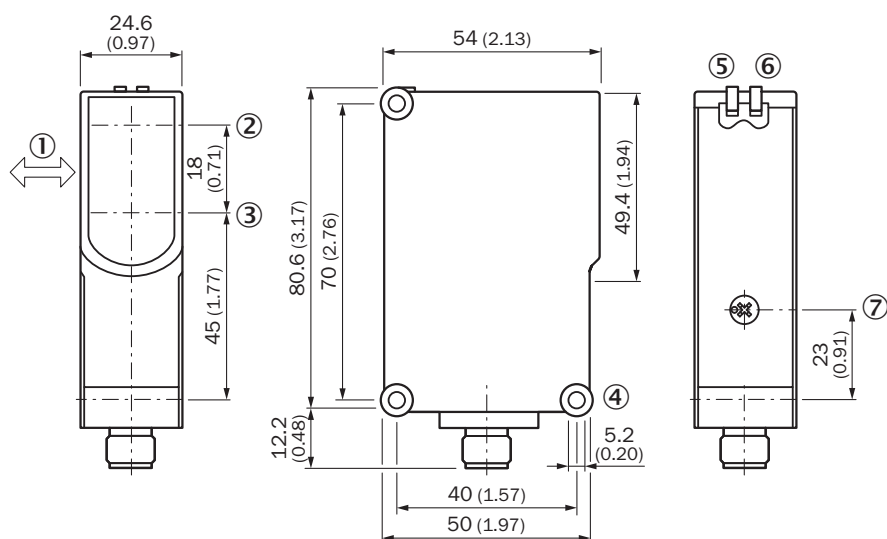
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

**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**



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

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/1028065](http://www.sick.com/1028065)



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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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