



WTB27-3P3711
W27-3

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WTB27-3P3711	1027758

Other models and accessories → www.sick.com/W27-3

Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor, 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 % reflectance (referred to standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	≤ 5 V _{pp} ²⁾
Power consumption	40 mA ³⁾

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

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

⁸⁾ C = interference suppression.

⁹⁾ Reference voltage: 50 V DC.

Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Approx. $V_S - 2.5 \text{ V} / 0 \text{ V}$
Output current $I_{\max.}$	$\leq 100 \text{ mA}$
Response time	$\leq 1.5 \text{ ms}^{4)}$
Switching frequency	$350 \text{ Hz}^{5)}$
Connection type	Cable with connector Q7, 7-pin, DC-coding, 150 mm
Cable material	PVC
Circuit protection	A ⁶⁾ B ⁷⁾ C ⁸⁾
Protection class	II ⁹⁾
Weight	120 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67
Ambient operating temperature	$-40 \text{ °C} \dots +60 \text{ °C}$
Ambient storage temperature	$-40 \text{ °C} \dots +75 \text{ °C}$
UL File No.	NRKH.E181493 & NRKH7.E181493

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

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

⁸⁾ C = interference suppression.

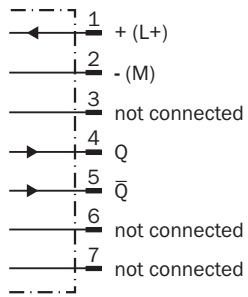
⁹⁾ Reference voltage: 50 V DC.

Classifications

ECI@ss 5.0	27270904
ECI@ss 5.1.4	27270904
ECI@ss 6.0	27270904
ECI@ss 6.2	27270904
ECI@ss 7.0	27270904
ECI@ss 8.0	27270904
ECI@ss 8.1	27270904
ECI@ss 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
UNSPSC 16.0901	39121528

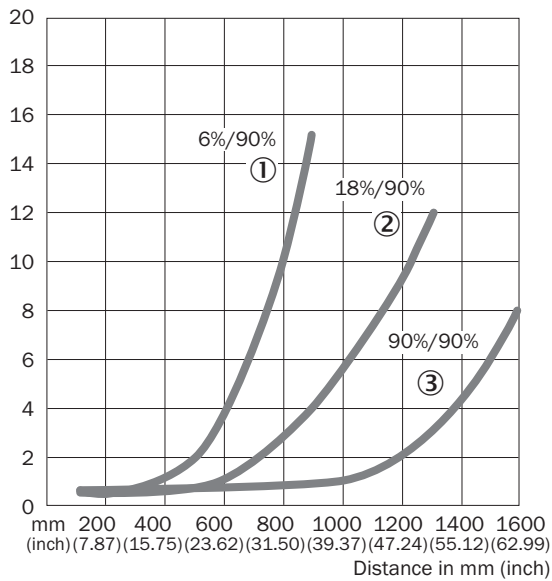
Connection diagram

Cd-191



Characteristic curve

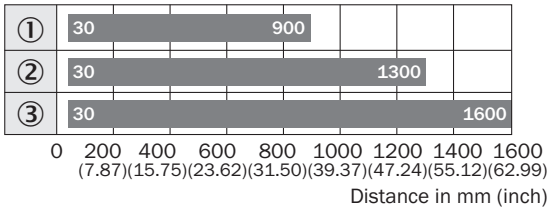
WTB27-3, infrared



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

Sensing range diagram

WTB27-3, infrared



- Sensing range
- ①

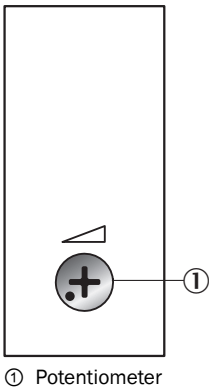
Sensing range on black, 6% remission
- ②

Sensing range on gray, 18 % remission
- ③

Sensing range on white, 90% remission

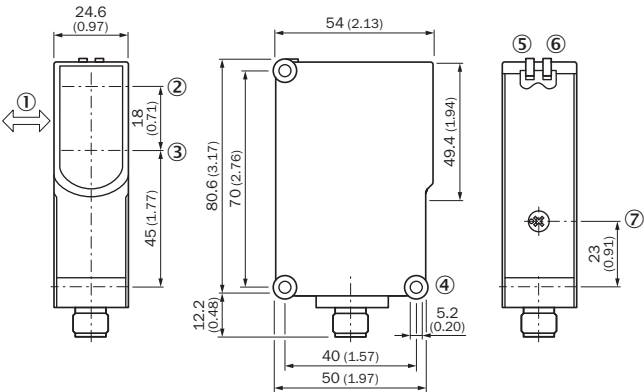
Adjustments possible

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket with hinged arm, steel, zinc coated, mounting hardware included	BEF-WN-W27	2009122

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