Product data sheet

WTB27X-3P3411

W27

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WTB27X-3P3411	1089183

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)	31.4 mm x 112.3 mm x 70.4 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
Special applications	Explosive areas

[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	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]

[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] Do not bend below 0 °C.
[7] A = V_S connections reverse-polarity protected.
[8] B = inputs and output reverse-polarity protected.
[9] C = interference suppression.
[10] Reference voltage: 50 V DC.

Current consumption	40 mA [3]
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 $I_{max.}$	≤ 100 mA
Response time	≤ 1.5 ms [4]
Switching frequency	350 Hz [5]
Connection type	Cable with M12 male connector, 4-pin, 270 mm [6]
Cable material	Plastic, PVC
Circuit protection	A [7] B [8] C [9]
Protection class	II [10]
Weight	750 g
Housing material	Plastic, Stainless steel V2A (1.4301), plastic
Optics material	Plastic, PMMA
Enclosure rating	IP67
ATEX marking	EX II 3G EX nA op is IIB T4 Gc X EX II 3D EX tc IIIB T135 °C Dc X
Ex area category	3D, 3G
Ambient operating temperature	–20 °C ... +50 °C
Ambient temperature, storage	–40 °C ... +75 °C

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[5] With light/dark ratio 1:1.
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Safety-related parameters

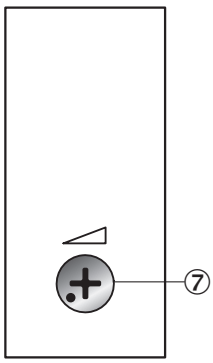
$MTTF_D$	754 years
DC_{avg}	0 %

Classifications

ECLASS 5.0	27270903
ECLASS 5.1.4	27270903
ECLASS 6.0	27270903
ECLASS 6.2	27270903
ECLASS 7.0	27270903
ECLASS 8.0	27270903

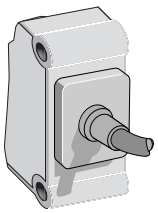
ECLASS 8.1	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments



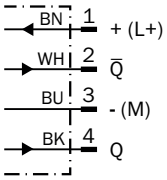
⑦ Sensing range adjustment: potentiometer

Connection type



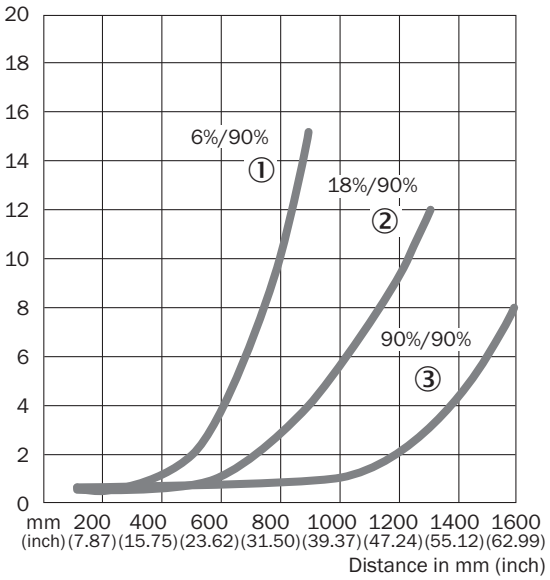
Connection diagram

Cd-083



Characteristic curve

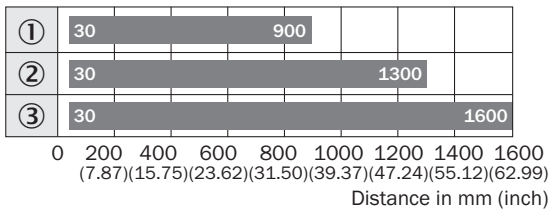
WTB27-3 EX



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 EX

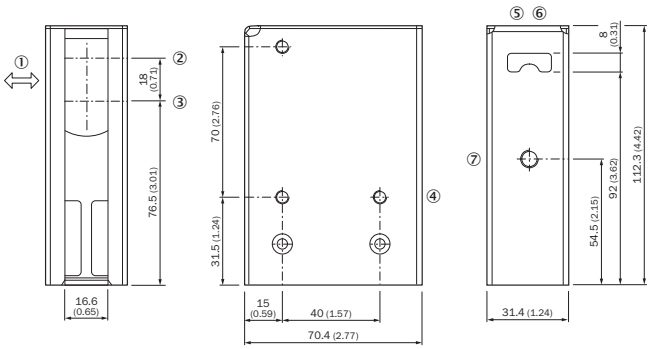


Sensing range

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 (Dimensions in mm (inch))

WTB27-3 EX



① Standard direction
② Optical axis, sender
③ Optical axis, receiver
④ Mounting hole, Ø 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.
Others			
	• **Connection type head A:** Male connector, M12, 4-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	STE-1204-G	6009932

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.”

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