WTB27-3P2461

W27-3

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

WTB27-3P2461 | W27-3

COMPACT PHOTOELECTRIC SENSORS

Illustration may differ

Ordering information

Type	Part no.
WTB27-3P2461	1044163

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

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 ... 2,000 mm [1]
Sensing range	100 mm ... 2,000 mm
Type of light	Visible red light
Light source	PinPoint LED [2]
Light spot size (distance)	Ø 12 mm (800 mm)
Wave length	660 nm
Adjustment	Potentiometer

[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	10 V DC … 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	35 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	Male connector M12, 4-pin
Circuit protection	A [6] B [7] C [8]
Protection class	II [9]
Weight	100 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP69K
Ambient operating temperature	–40 °C … +60 °C
Ambient temperature, storage	–40 °C … +75 °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.

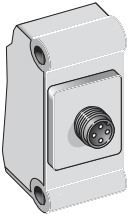[9] Reference voltage: 50 V DC.

Safety-related parameters

$MTTF_D$	760 years
DC_{avg}	0 %

Classifications

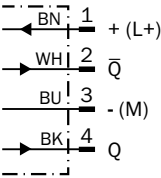|	
eCl@ss 5.0	27270904
eCl@ss 5.1.4	27270904
eCl@ss 6.0	27270904
eCl@ss 6.2	27270904
eCl@ss 7.0	27270904
eCl@ss 8.0	27270904

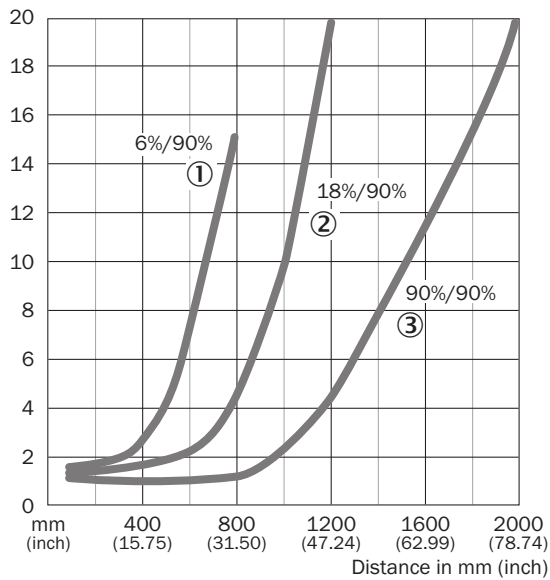|	
eCl@ss 8.1	27270904
eCl@ss 9.0	27270904
eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Connection type

Connection diagram

Cd-083

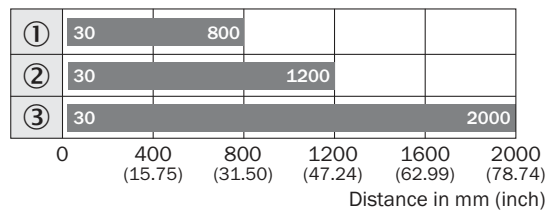|		
BN	1	+ (L+)
WH	2	$\overline{Q}$
BU	3	- (M)
BK	4	Q

Characteristic curve

WTB27-3, PinPoint LED

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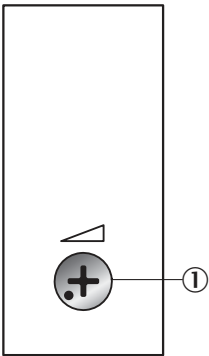
Sensing range diagram

WTB27-3, PinPoint LED

▓ Sensing range

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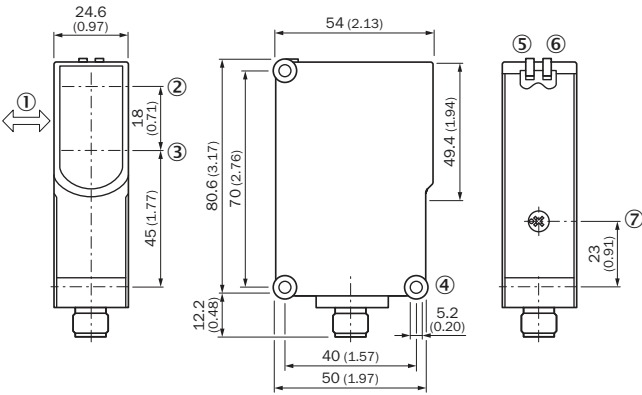③ Sensing range on white, 90% remission

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 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/W27-3

	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

Brief description	Type	Part no.
Plug connectors and cables		
Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
Head A: male connector, M12, 4-pin, straight Cable: unshielded	STE-1204-G	6009932

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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."

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