



WTB12-3P3433

W12-3

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WTB12-3P3433	1112363

Included in delivery: BEF-KH-W12 (1)

Other models and accessories → www.sick.com/W12-3

Detailed technical data

Features

Device type	Photoelectric sensors
Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Sensing range max.	20 mm ... 350 mm ¹⁾
Sensing range	20 mm ... 350 mm
Emitted beam	Light source LED ²⁾
	Type of light Visible red light
	Light spot size (distance) Ø 6 mm (200 mm)
Key LED figures	Wave length 640 nm
Adjustment	Double teach-in button
Items supplied	2 x clamps BEF-KH-W12, incl. screws

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

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

Safety-related parameters

MTTF_D	815 years
DC_{avg}	0 %
T_M (mission time)	20 years

Electrical data

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	45 mA ³⁾
Protection class	III
Digital output	
Type	PNP
Signal voltage PNP HIGH/LOW	> U _v - 2,5 V / ca. 0 V
Output current I _{max.}	≤ 100 mA
Response time	≤ 330 μs ⁴⁾
Switching frequency	1,500 Hz ⁵⁾
Switching mode	Light/dark switching
Output function	Complementary
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾

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⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

Mechanical data

Housing	Rectangular
Dimensions (W x H x D)	15.6 mm x 48.5 mm x 42 mm
Connection	Cable with M12 male connector, 4-pin, 270 mm
Connection detail	
Length of cable (L)	270 mm
Material	
Housing	Metal
Front screen	Plastic, PMMA

Ambient data

Enclosure rating	IP66 IP67
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

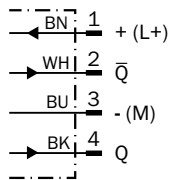
Classifications

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
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ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

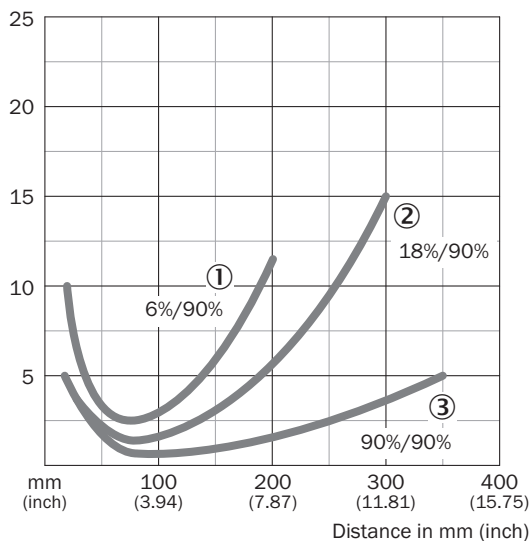
Connection diagram

Cd-083



Characteristic curve

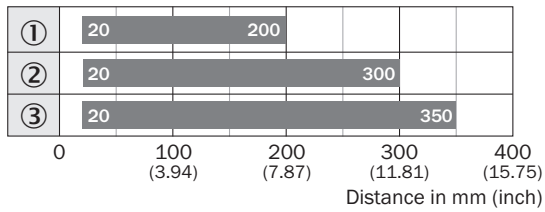
WTB12-3, red light, 350 nm



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

Sensing range diagram

WTB12-3, red light, 350 mm

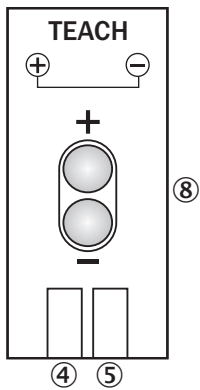


■ Sensing range

- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18% remission
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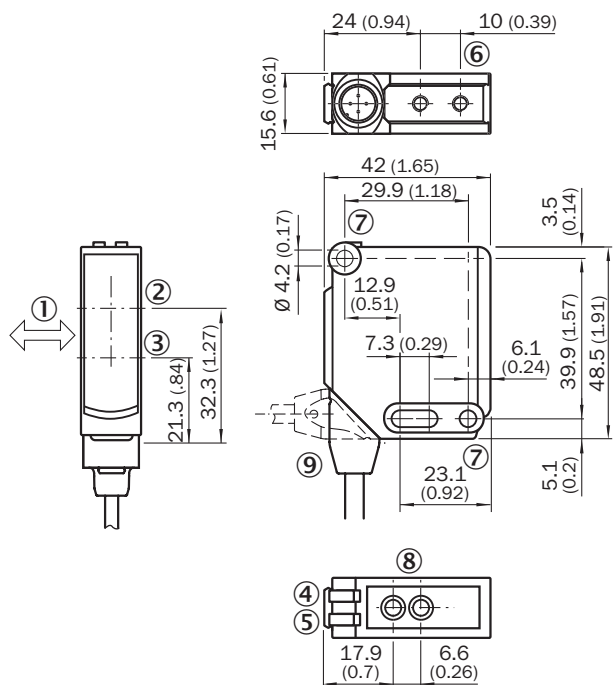
Adjustments

WTB12-3, WTF12-3, double teach-in button



- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑧ Sensing range adjustment: double teach-in button



Dimensional drawing (Dimensions in mm (inch))



- ① Standard direction of the material being detected
- ② Optical axis, receiver
- ③ Optical axis, sender
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ M4 threaded mounting hole, 4 mm deep
- ⑦ Mounting hole, \varnothing 4.2 mm
- ⑧ Sensing range adjustment: double teach-in button
- ⑨ Connection

Recommended accessories

Other models and accessories → www.sick.com/W12-3

	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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com