



DATA SHEET

WTF12C-3P2433

W12
Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WTF12C-3P2433

ORDERING INFORMATION

Type	part no.
WTF12C-3P2433	1042001

Further device versions and accessories at www.sick.com/W12

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Foreground suppression
Sensing range max.	30 mm ... 175 mm ¹⁾
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Emitted beam	
Light source	LED ²⁾
Type of light	Visible red light
Light spot size (distance)	Ø 2 mm (60 mm)
Key LED figures	
Wave length	660 nm
Adjustment	IO-Link, Single 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_u = +25 °C.

COMMUNICATION INTERFACE

IO-Link	✓ , IO-Link V1.1
Data transmission rate	COM2 (38,4 kBaud)
VendorID	26
Compatible master port type	A
SIO mode support	Yes

ELECTRONICS

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	30 mA ³⁾
Protection class	III
Digital output	Type PNP ⁴⁾ Switching mode Light/dark switching Signal voltage PNP HIGH/LOW > U_v - 2,5 V / ca. 0 V Output current I_{max} ≤ 100 mA Response time ≤ 330 μs ⁵⁾ Switching frequency 1,500 Hz ⁶⁾
Output function	Complementary
Circuit protection	A ⁷⁾ C ⁸⁾ D ⁹⁾

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

²⁾ May not fall below or exceed U_v tolerances.

³⁾ Without load.

⁴⁾ Pin 4: This switching output must not be connected to another output.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

⁷⁾ A = V_s connections reverse-polarity protected.

⁸⁾ C = interference suppression.

⁹⁾ D = outputs overcurrent and short-circuit protected.

MECHANICS

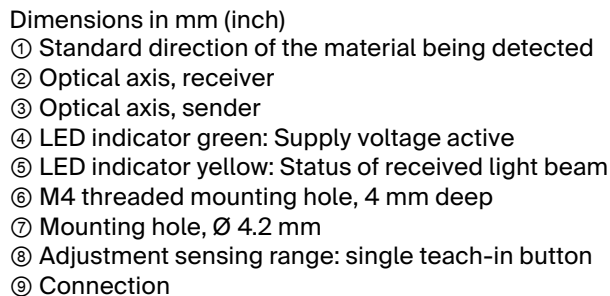
Housing	Rectangular
Dimensions (W x H x D)	15.6 mm x 48.5 mm x 42 mm
Connection	Male connector M12, 4-pin
Material	Housing Metal Front screen Plastic, PMMA
Weight	120 g

AMBIENT DATA

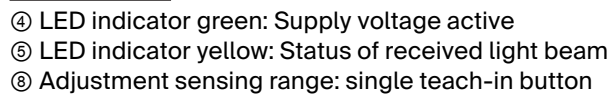
Enclosure rating	IP66 IP67
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

DIAGNOSIS

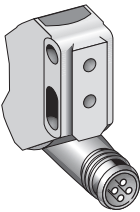
Device status	Yes
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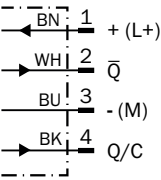
ADJUSTMENTS



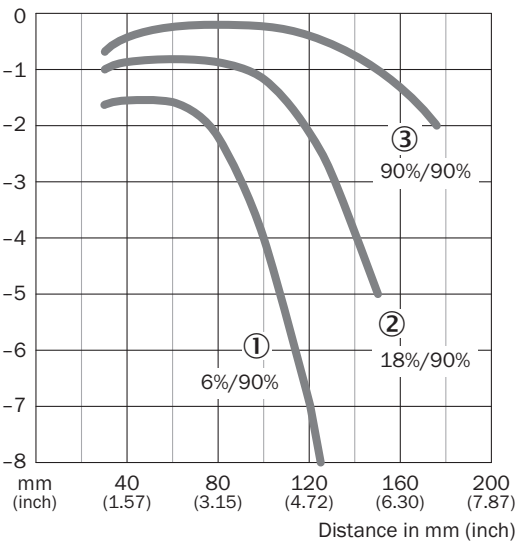
CONNECTION TYPE



CONNECTION DIAGRAM CD-098

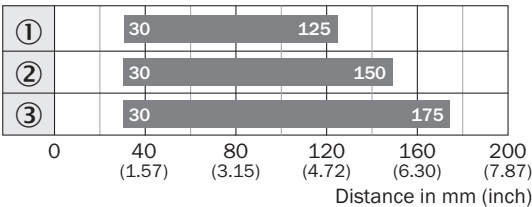


CHARACTERISTIC CURVE WTF12-3, 175 MM



- 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



■ 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

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/1042001



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SICK AT A GLANCE

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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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