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DATA SHEET

WTB4S-3P2205VS01

W4
Photoelectric sensors

SICK Sensor Intelligence

Illustration may differ

PHOTOELECTRIC SENSORS

WTB4S-3P2205VS01

ORDERING INFORMATION

Type	part no.
WTB4S-3P2205VS01	1046214

Further device versions and accessories at www.sick.com/W4

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Sensing range max.	4 mm ... 280 mm [1]
Sensing range	10 mm ... 150 mm [1]
Emitted beam	
Light source	PinPoint LED [2]
Type of light	Visible red light
Light spot size (distance)	Ø 2.5 mm (100 mm)
Key LED figures	
Wave length	650 nm
Adjustment	Cable [3]
Special features	Light spot diameter of 2.5 mm in 150 mm distance Reduced sensing range of 280 mm No adjustment possibility External teach
Special applications	Hygienic and washdown zones
Housing design	Washdown

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

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

[3] External teach-in: pulse > 2 s with voltage Uv with PNP and M with NPN.

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
Switching mode	Light switching
Output current $I_{max.}$	≤ 100 mA
Response time	< 0.5 ms [4]
Switching frequency	1,000 Hz [5]
Circuit protection	A [6] B [7] C [8]

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

[2] May not fall below or exceed 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.

MECHANICS

Housing	Rectangular
Design detail	Slim
Dimensions (W x H x D)	15.25 mm x 44.5 mm x 22.2 mm
Connection	Male connector M8, 4-pin [1]
Material	
Housing	Metal, Stainless steel V4A (1.4404, 316L)
Front screen	Plastic, PMMA
Weight	45 g

[1] Max. tightening torque: 0.6 Nm.

AMBIENT DATA

Enclosure rating	IP66 IP67 IP68 IP69K [1]
Ambient operating temperature	–30 °C ... +70 °C [2] –30 °C ... +60 °C
Ambient temperature, storage	–30 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

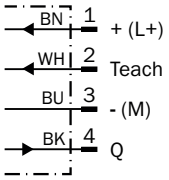
[1] Only in case of correctly mounted IP69K connecting cable.

[2] At UV ≤ 24 V and IA < 30 mA.

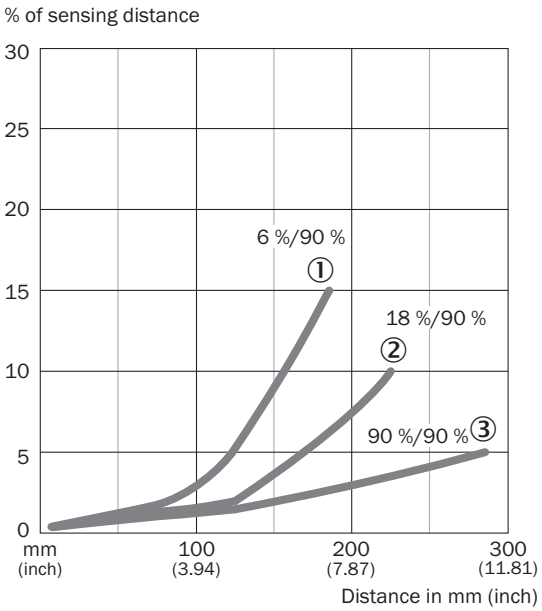
CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

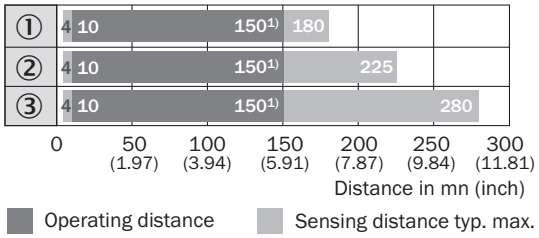
CONNECTION DIAGRAM CD-092



CHARACTERISTIC CURVE WTB4S-3, SENSING RANGE 280 MM



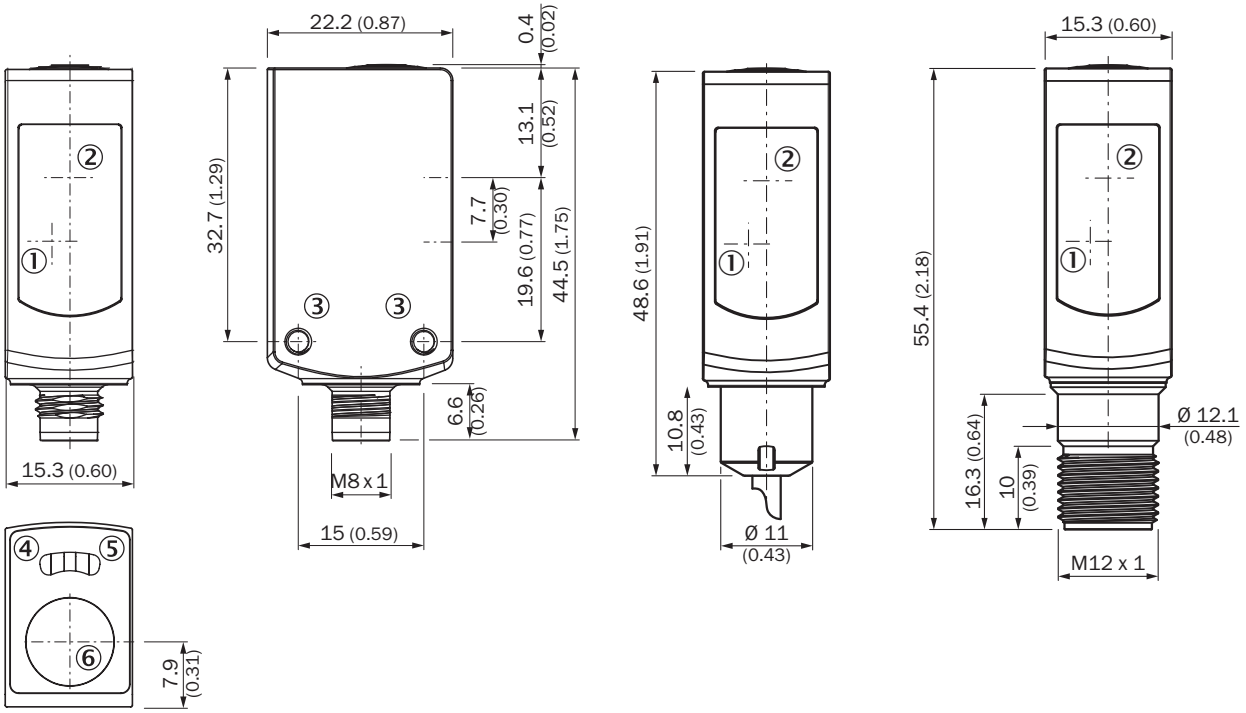
SENSING RANGE DIAGRAM WTB4S-3, SENSING RANGE 280 MM



① Sensing distance on black, 6 % remission
② Sensing distance on grey, 18 % remission
③ Sensing distance on whitw, 90 % remission

¹⁾ Due to the focus of the light spot at 100 mm (3.94 inch)

DIMENSIONAL DRAWING WTB4S-3V, WTF4S-3V, SINGLE TEACH-IN BUTTON



Dimensions in mm (inch)
① Center of optical axis, receiver
② Center of optical axis, sender
③ Threaded mounting hole M3
④ LED indicator yellow: Status of received light beam
⑤ LED indicator green: Supply voltage active
⑥ Teach-in button

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/1046214

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SICK AT A GLANCE

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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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