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DATA SHEET

WTB8-P2211

W8
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WTB8-P2211

ORDERING INFORMATION

Type	part no.
WTB8-P2211	6033215

Further device versions and accessories at www.sick.com/W8

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max.	5 mm ... 100 mm [1]
Sensing range	20 mm ... 100 mm [1]
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 6 mm (100 mm)
Wave length	650 nm
Adjustment	Potentiometer, 4 turns

[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	± 10 % [2]
Current consumption	30 mA [3]
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	Approx. V_S – 1.8 V / 0 V
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 0.5 ms [4]
Switching frequency	1,000 Hz [5]
Connection type	Male connector M8, 4-pin
Circuit protection	A [6] B [7] D [8]
Weight	10 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	Stainless steel mounting bracket (1.4301/304) BEF-W100-A
Ambient operating temperature	–25 °C ... +55 °C
Ambient temperature, storage	–40 °C ... +70 °C

[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] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] A = V_S connections reverse-polarity protected.

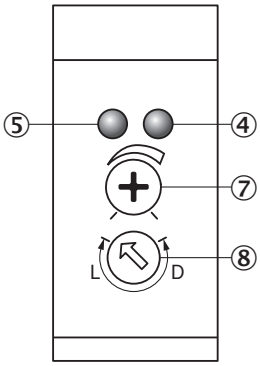
[7] B = inputs and output reverse-polarity protected.

[8] D = outputs overcurrent and short-circuit protected.

SAFETY-RELATED PARAMETERS

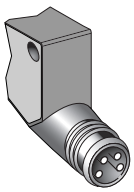
$MTTF_D$	1,568 years
DC_{avg}	0 %

ADJUSTMENTS WTB8

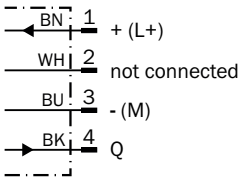


④ Orange LED indicator : switching output active
⑤ LED indicator green: stability indicator
⑦ Adjustment of sensing range
⑧ Light/ dark rotary switch: L = light switching, D = dark switching

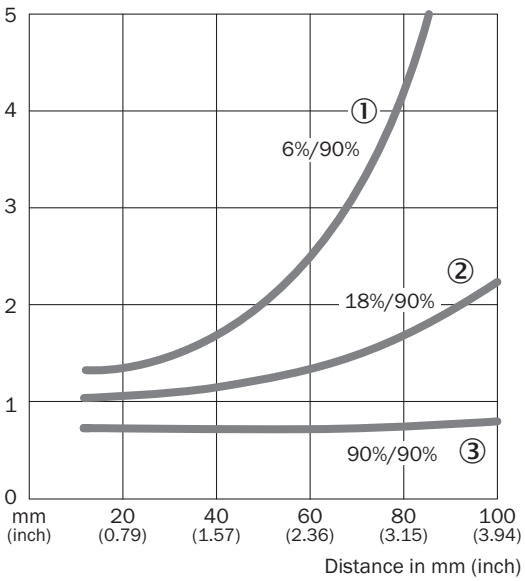
CONNECTION TYPE



CONNECTION DIAGRAM CD-066

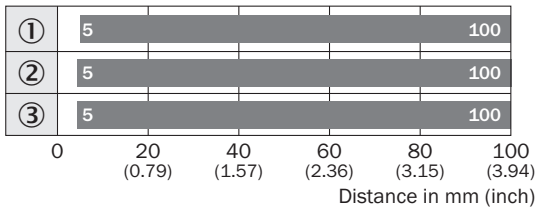


CHARACTERISTIC CURVE WTB8, 100 MM



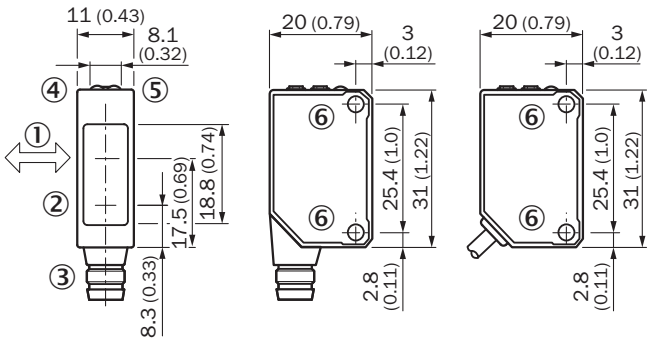
① Sensing range on black, 6% remission factor
② Sensing range on gray, 18% remission factor
③ Sensing range on white, 90% remission factor

SENSING RANGE DIAGRAM WTB8, 100 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

DIMENSIONAL DRAWING



Dimensions in mm (inch)
① Standard direction
② Center of optical axis, sender
③ Connection
④ Orange LED indicator : switching output active
⑤ LED indicator green: stability indicator
⑥ Threaded mounting hole M3

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/6033215

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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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