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DATA SHEET

WT2S-P231

W2
Photoelectric sensors

SICK Sensor Intelligence

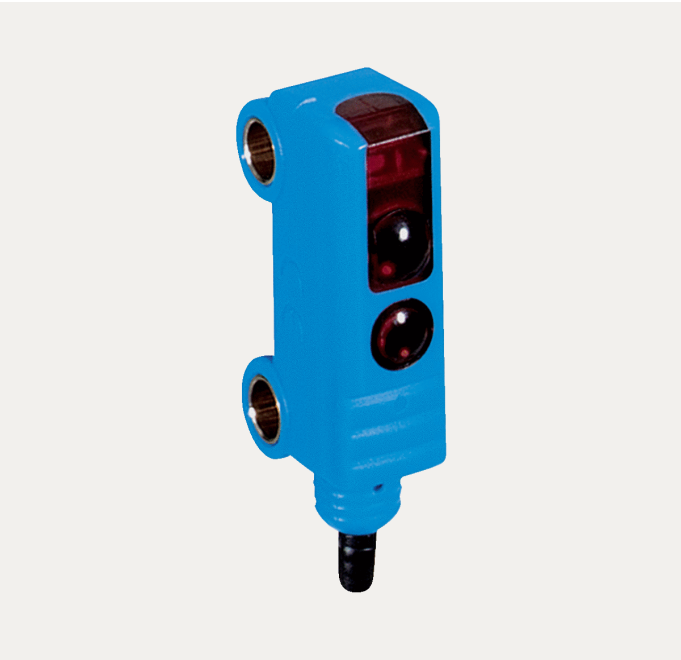


Illustration may differ

PHOTOELECTRIC SENSORS

WT2S-P231

ORDERING INFORMATION

Type	part no.
WT2S-P231	1022659

Further device versions and accessories at www.sick.com/W2

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	7.6 mm x 25.1 mm x 12.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	1 mm ... 30 mm ¹⁾
Sensing range	1 mm ... 30 mm ¹⁾
Focus	15 mm
Type of light	Visible red light
Light source	PinPoint LED ²⁾
Light spot size (distance)	Ø 1.5 mm (15 mm)
Wave length	660 nm
Adjustment	None

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

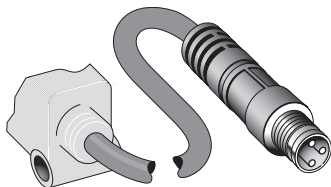
²⁾ Average service life: 75,000 h at TU = +25 °C.

MECHANICS/ELECTRONICS

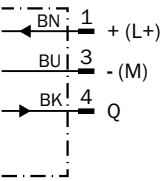
Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Switching output	PNP
Switching mode	Light switching
Output current I_{max}	≤ 50 mA
Response time	< 0.6 ms ³⁾
Switching frequency	800 Hz ⁴⁾
Connection type	Cable with connector M8, 3-pin, 200 mm ⁵⁾
Cable material	Plastic, PVC
Cable diameter	Ø 2.4 mm
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾
Weight	20 g
Reverse polarity protection	✓
Short-circuit protection	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67 IP69K
Ambient operating temperature	-20 °C ... +50 °C
Ambient temperature, storage	-40 °C ... +75 °C

¹⁾ Limit values.²⁾ May not fall below or exceed U_V tolerances.³⁾ Signal transit time with resistive load.⁴⁾ With light/dark ratio 1:1.⁵⁾ Do not bend below 0 °C.⁶⁾ A = V_S connections reverse-polarity protected.⁷⁾ C = interference suppression.⁸⁾ D = outputs overcurrent and short-circuit protected.**SAFETY-RELATED PARAMETERS**

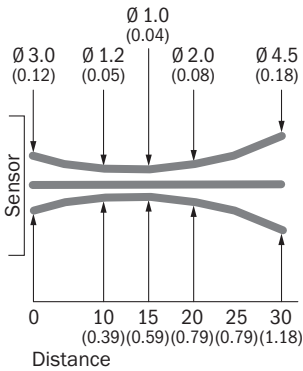
MTTF _D	1,495 years
DC _{avg}	0 %

CONNECTION TYPE WX2S-X2XX

CONNECTION DIAGRAM CD-045

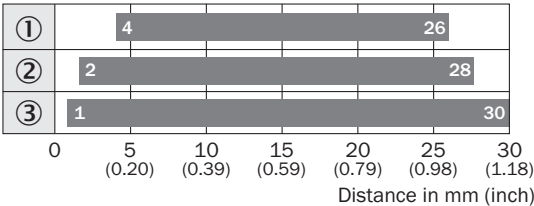


LIGHT SPOT SIZE WT2S, 30 MM



All dimensions in mm (inch)

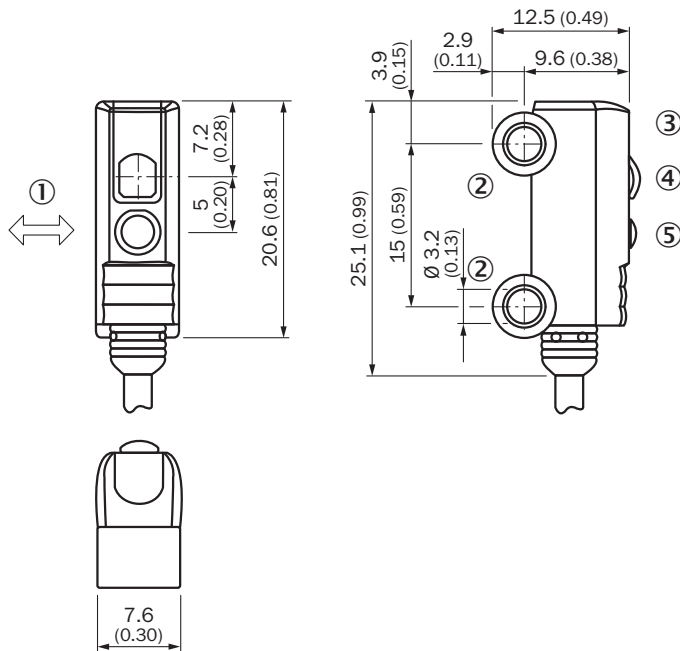
SENSING RANGE DIAGRAM WT2S, 30 MM



■ 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

DIMENSIONAL DRAWING WT2S, BACKGROUND SUPPRESSION



Dimensions in mm (inch)

- ① Standard direction of the material being detected
- ② Mounting hole, $\varnothing$ approx. 3.1 mm
- ③ Receive indicator
- ④ optical axis, receiver
- ⑤ Optical axis, sender

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/1022659



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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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