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Product data sheet



WTB2S-2P1310

W2

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WTB2S-2P1310 | W2

MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WTB2S-2P1310	1064393

Other models and accessories ➜ www.sick.com/W2

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	7.7 mm x 21.8 mm x 13.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	1 mm ... 18 mm [1]
Sensing range	3 mm ... 15 mm [1]
Background suppression typ. from	20 mm
Type of light	Visible red light
Light source	PinPoint LED [2]
Light spot size (distance)	Ø 2 mm (8 mm)
Wave length	640 nm
Adjustment	None
Special applications	Detecting small objects

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

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

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Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	20 mA [3]
Switching output	PNP
Switching mode	Light switching
Output current $I_{max.}$	≤ 50 mA
Response time	< 0.4 ms [4]
Switching frequency	1,200 Hz [5]
Connection type	Cable, 3-wire, 2 m [6]
Cable material	PVC
Conductor cross section	0.09 mm²
Cable diameter	Ø 3 mm
Circuit protection	A [7] B [8] D [9]
Housing material	Plastic, ABS/PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	–25 °C ... +50 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493

[1] Limit values.
[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] Do not bend below 0 °C.
[7] A = V_S connections reverse-polarity protected.
[8] B = output reverse-polarity protected.
[9] D = outputs overcurrent and short-circuit protected.

Safety-related parameters

$MTTF_D$	3,487 years
DC_{avg}	0 %

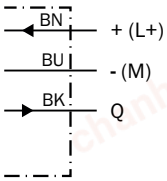
Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904

ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Connection diagram

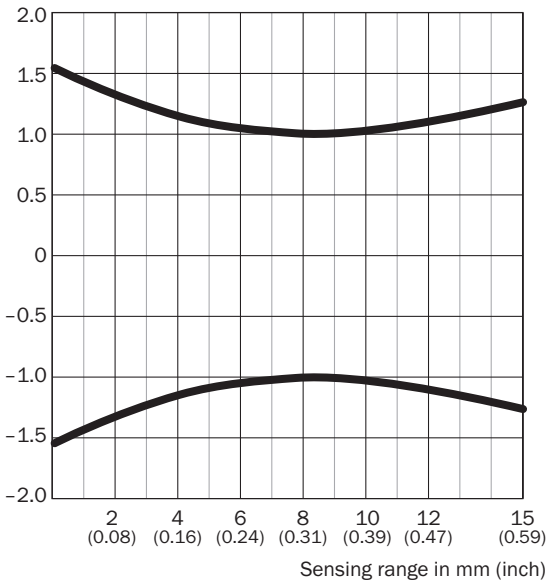
Cd-044



Light spot size

WTB2S-2, 18 mm

Spot diameter in mm (inch)



Sensing range in mm (inch)

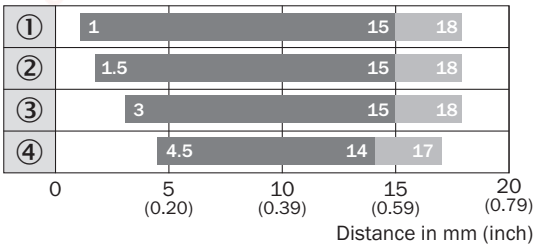
Dimensions in mm (inch)

Sensing range	Spot diameter
4 (0.16)	2.3 (0.09)
8 (0.31)	2.0 (0.08)
15 (0.59)	2.5 (0.10)

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Sensing range diagram

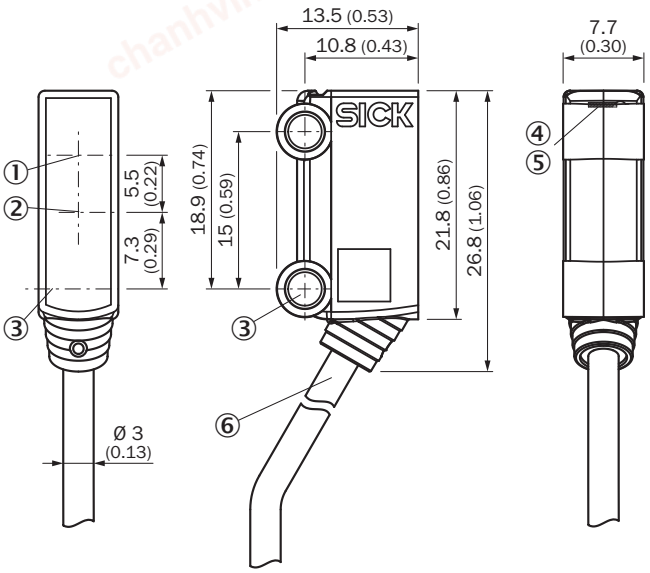
WTB2S-2, 18 mm



Sensing range Sensing range max.

① Sensing range on white, 90% remission factor
② Sensing range on gray, 18% remission factor
③ Sensing range on black, 6% remission factor
④ Sensing range on ultra black, 1% remission

Dimensional drawing (Dimensions in mm (inch))



① Optical axis, receiver
② Optical axis, sender
③ Mounting hole, Ø 3.2 mm
④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam
⑥ Connection

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Recommended accessories

Other models and accessories ➜ www.sick.com/W2

	Brief description	Type	Part no.
Plug connectors and cables			
	• **Connection type head A:** Male connector, M8, 3-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322

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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."

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