



WTB2S-2N1380

W2S-2

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
WTB2S-2N1380	1072490

Other models and accessories → www.sick.com/W2S-2

Illustration may differ



Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor, 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.	4 mm ... 40 mm ¹⁾
Sensing range	4 mm ... 32 mm ¹⁾
Background suppression typ. from	55 mm
Type of light	Visible blue light
Light source	LED ²⁾
Wave length	445 nm
Adjustment	None
Special applications	Detecting small objects

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

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

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	≤ 5 V _{pp} ²⁾

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.

Current consumption	20 mA ³⁾
Switching output	NPN
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
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 storage temperature	-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	3,378 years
DC_{avg}	0%

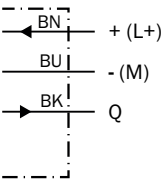
Classifications

ECI@ss 5.0	27270904
ECI@ss 5.1.4	27270904
ECI@ss 6.0	27270904
ECI@ss 6.2	27270904
ECI@ss 7.0	27270904
ECI@ss 8.0	27270904
ECI@ss 8.1	27270904
ECI@ss 9.0	27270904
ECI@ss 10.0	27270904
ECI@ss 11.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719

ETIM 7.0	EC002719
UNSPSC 16.0901	39121528

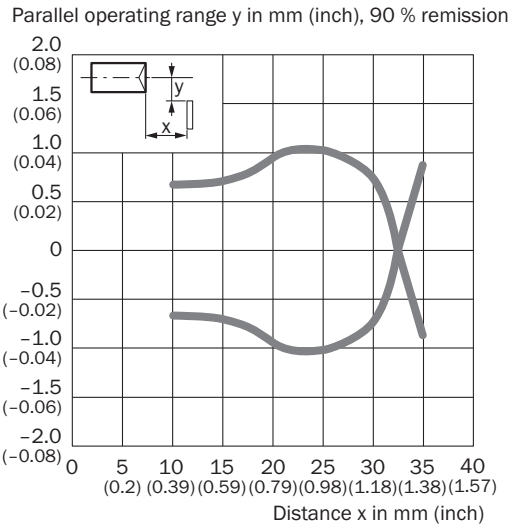
Connection diagram

Cd-044



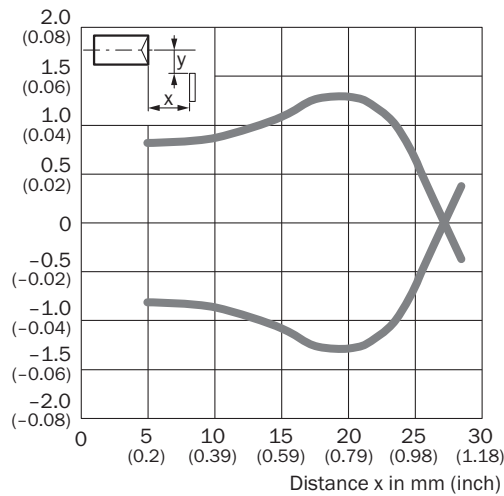
Characteristic curve

Operating reserve



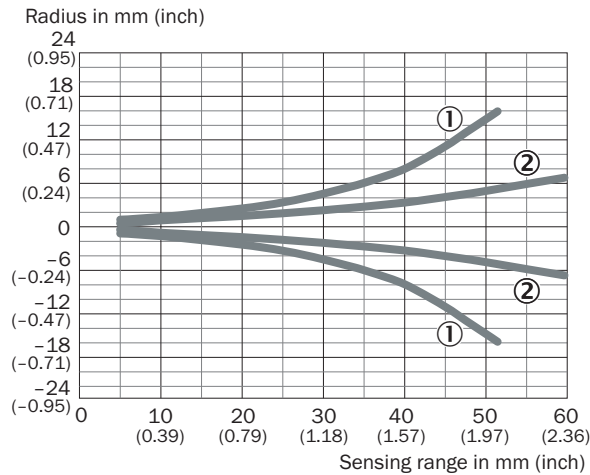
Operating reserve

Parallel operating range y in mm (inch), 6 % remission



Light spot size

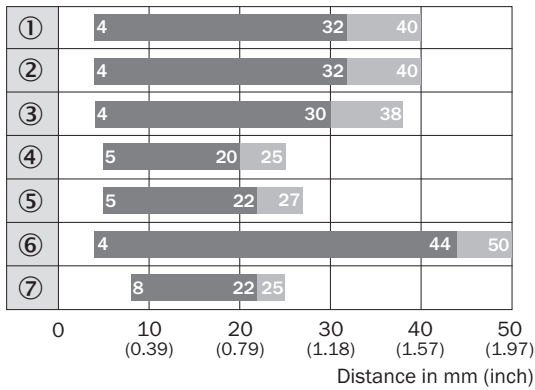
WTB2S-2, 35 mm



- ① Vertical
- ② Horizontal

Sensing range diagram

WTB2S-2, 35 mm

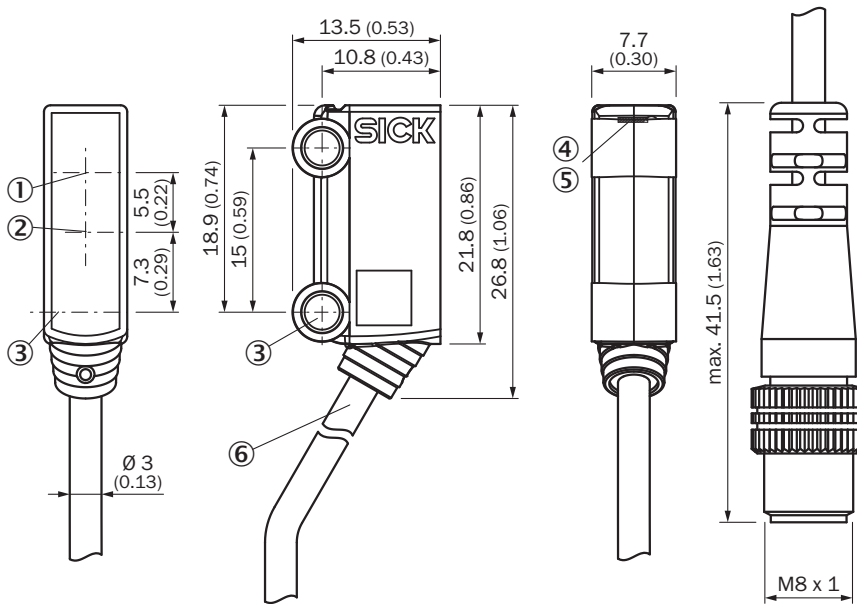


■ Sensing range ■ Sensing range max.

- ① Sensing range on white, 90% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on black, 6% remission
- ④ Sensing range on ultra black, 1% remission
- ⑤ Sensing range on blue solar wafer with anti-reflection layer, approx. 1 % remission
- ⑥ Sensing range on metallic, smooth surface
- ⑦ Sensing range on transparent, flat objects such as display without close up background

Dimensional drawing (Dimensions in mm (inch))

WTB2S-2, 18 mm, 36 mm, WTV2S-2



- 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

Recommended accessories

Other models and accessories → www.sick.com/W2S-2

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: male connector, M8, 3-pin, straight Head B: - Cable: unshielded	STE-0803-G	6037322

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Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

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