



WTB2S-2P1380

W2S-2

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WTB2S-2P1380	1088075

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

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	$\leq 5 V_{pp}$ 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
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	3,138 years
DC_{avg}	0%

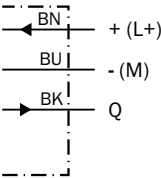
Classifications

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

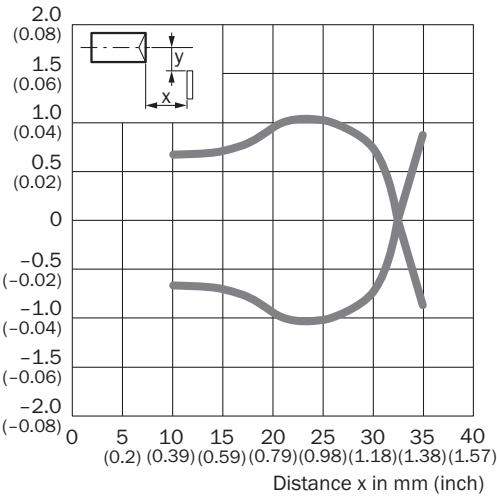
Cd-044



Characteristic curve

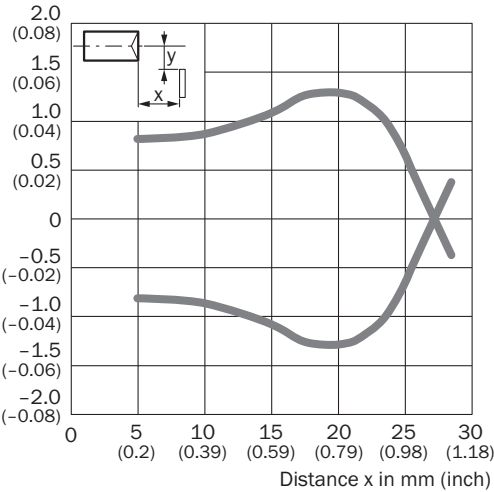
Operating reserve

Parallel operating range y in mm (inch), 90 % remission



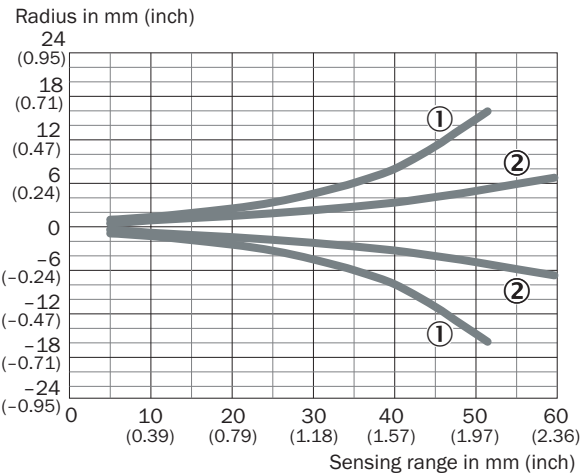
Operating reserve

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



Light spot size

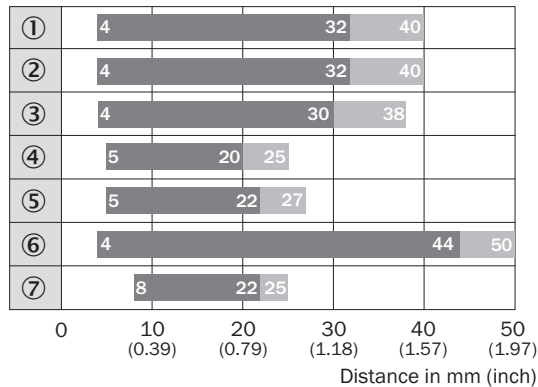
WTB2S-2, 35 mm



- ① Vertical
- ② Horizontal

Sensing range diagram

WTB2S-2, 35 mm

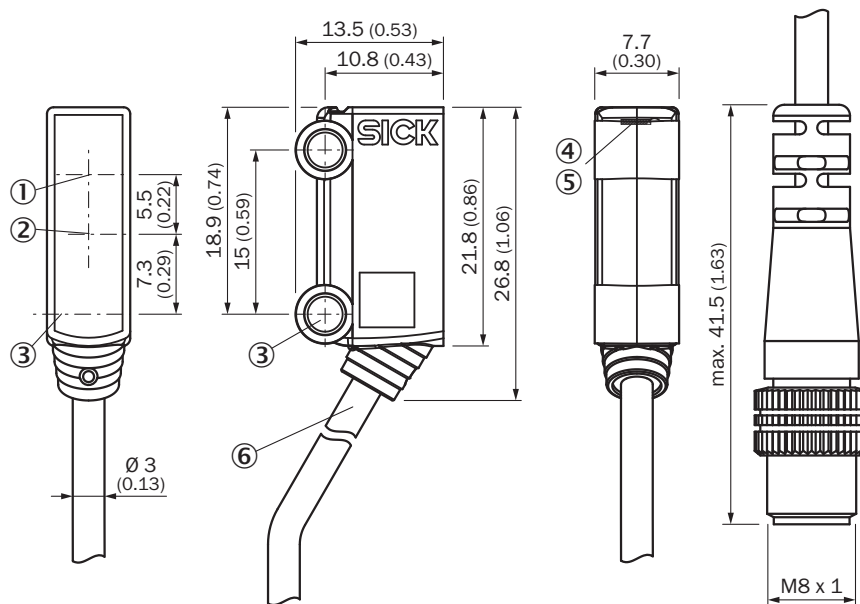


■ Sensing range ■ Sensing range max.

- 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



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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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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