



WTB2S-2P3275

W2S-2

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|--------------|----------|
| WTB2S-2P3275 | 1064620 |

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 ... 90 mm ¹⁾ |
| Sensing range | 10 mm ... 70 mm ¹⁾ |
| Type of light | Visible red light |
| Light source | PinPoint LED ²⁾ |
| Light spot size (distance) | 2.2 mm x 9 mm (45 mm) |
| Wave length | 640 nm |
| Adjustment | Cable |
| Special applications | Detecting small objects, Detecting perforated objects, Detecting uneven, shiny objects, Detecting objects wrapped in film, Detecting objects with position tolerances |
| Special features | Line-shaped light spot |

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 | < 0.5 ms ⁴⁾ |
| Switching frequency | 1,000 Hz ⁵⁾ |
| Connection type | Cable with M8 male connector, 4-pin, 200 mm 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 |
| Special feature | Line-shaped light spot |
| 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 | 1,547 years |
| DC_{avg} | 0% |

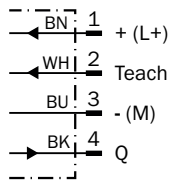
Classifications

| | |
|---------------------|----------|
| ECl@ss 5.0 | 27270904 |
| ECl@ss 5.1.4 | 27270904 |
| ECl@ss 6.0 | 27270904 |
| ECl@ss 6.2 | 27270904 |
| ECl@ss 7.0 | 27270904 |
| ECl@ss 8.0 | 27270904 |
| ECl@ss 8.1 | 27270904 |

| | |
|-----------------------|----------|
| ECl@ss 9.0 | 27270904 |
| ECl@ss 10.0 | 27270904 |
| ECl@ss 11.0 | 27270904 |
| ETIM 5.0 | EC002719 |
| ETIM 6.0 | EC002719 |
| ETIM 7.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

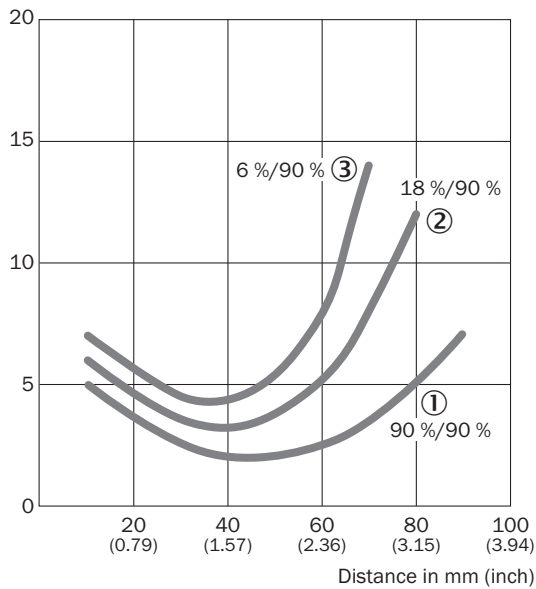
Connection diagram

Cd-092



Characteristic curve

WTB2S-2, 90 mm, line-shaped light spot

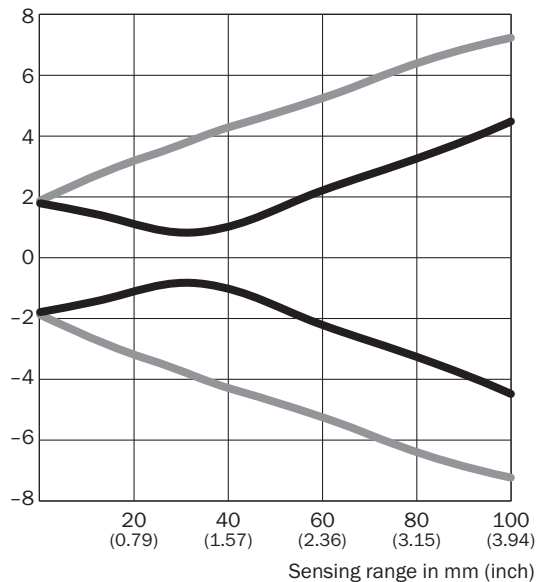


- ① Sensing range on white, 90% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on black, 6% remission

Light spot size

WTB2S-2, 90 mm, line-shaped light spot

Spot diameter in mm (inch)



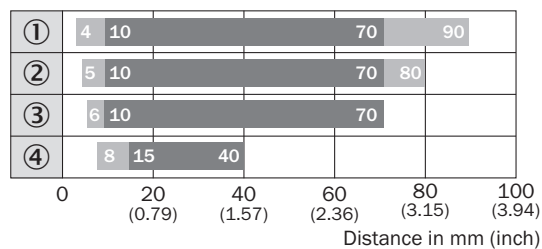
Dimensions in mm (inch)

| Sensing range | Spot diameter Vertical | Spot diameter Horizontal |
|---------------|------------------------|--------------------------|
| 0 (0.00) | 3.5 (0.14) | 3.8 (0.15) |
| 10 (0.39) | 3.0 (0.12) | 5.2 (0.20) |
| 20 (0.79) | 3.3 (0.13) | 6.4 (0.25) |
| 30 (1.18) | 1.8 (0.07) | 7.4 (0.29) |
| 40 (1.57) | 2.0 (0.08) | 8.6 (0.34) |
| 60 (2.36) | 4.4 (0.17) | 10.5 (0.41) |
| 80 (3.15) | 6.5 (0.26) | 12.8 (0.50) |
| 100 (3.94) | 9.0 (0.35) | 14.5 (0.57) |

— Vertical
— Horizontal

Sensing range diagram

WTB2S-2, 90 mm, line-shaped light spot

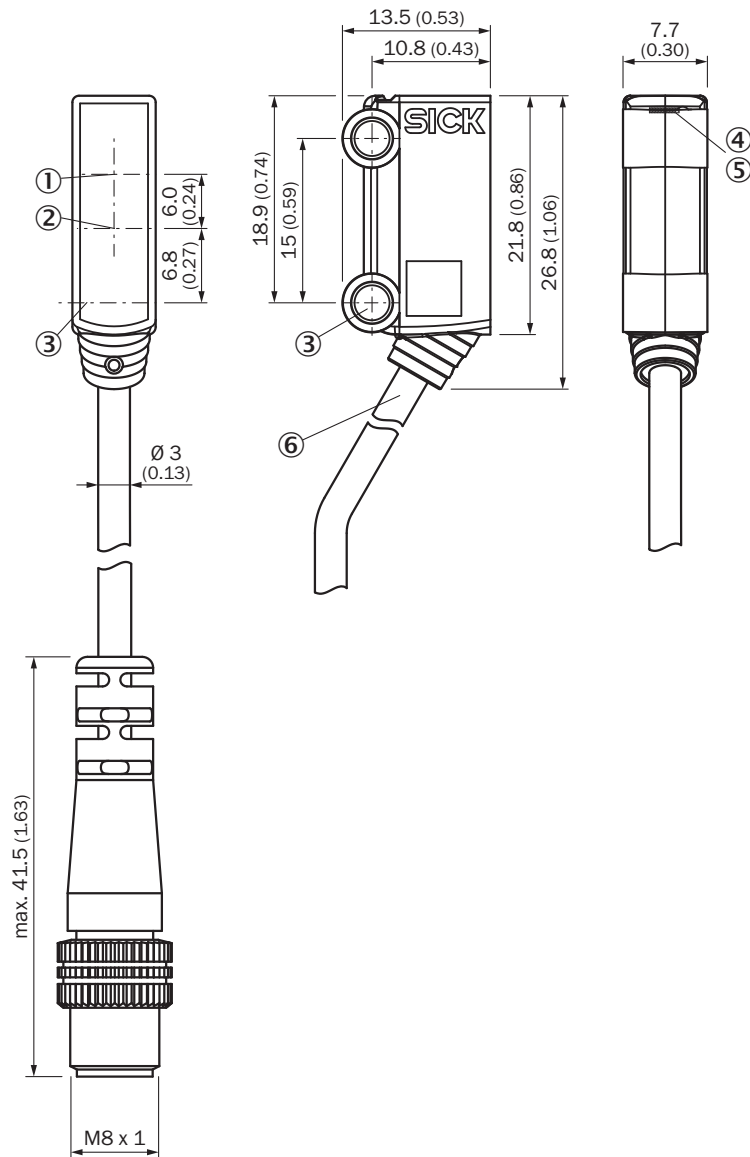


■ Sensing range ■ Sensing range max.

- 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

Dimensional drawing (Dimensions in mm (inch))



WTB2S-2, 66 mm, 90 mm, 110 mm



- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Middle axis fixing hole $\varnothing 3.2$ 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: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF8U14-050VA3XLEAX | 2095889 |
|  | Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded | STE-0804-G | 6037323 |

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For us, that is “Sensor Intelligence.”

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