Data sheet

# WTB2S-2N1330

W2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

## Ordering information

| Type | part no. |
|---|---|
| WTB2S-2N1330 | 1064578 |

**Included in delivery:** SCREW SET W2S/G2S (1)

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 ... 36 mm [1] |
| **Sensing range** | 3 mm ... 30 mm [1] |
| **Background suppression typ. from** | 38 mm |
| **Type of light** | Visible red light |
| **Light source** | PinPoint LED [2] |
| **Light spot size (distance)** | Ø 3 mm (15 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.

## 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** | 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** | Plastic, PVC |
| **Conductor cross section** | 0.09 mm² |
| **Cable diameter** | Ø 3 mm |
| **Circuit protection** | A [7]<br>B [8]<br>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 fall below or exceed $U_V$ 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 % |

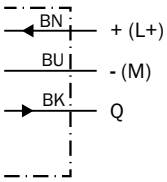
## Certificates

| | |
|---|---|
| **EU declaration of conformity** | ✓ |
| **UK declaration of conformity** | ✓ |
| **ACMA declaration of conformity** | ✓ |
| **Moroccan declaration of conformity** | ✓ |
| **China RoHS** | ✓ |
| **cULus certificate** | ✓ |
| **Photobiological safety (DIN EN 62471) certificate** | ✓ |

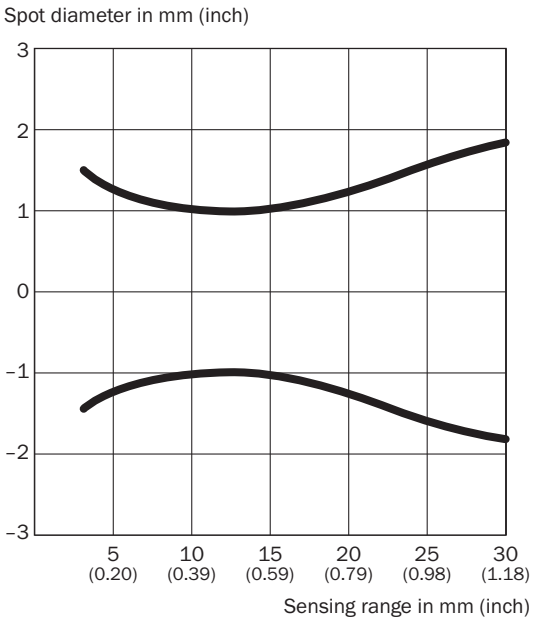
## Classifications

| | |
|---|---|
| **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 |

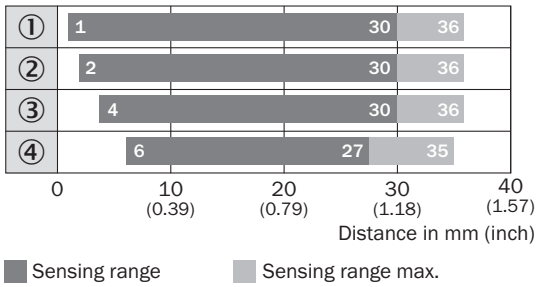
## Connection diagram Cd-044



## Light spot size WTB2S-2, 36 mm



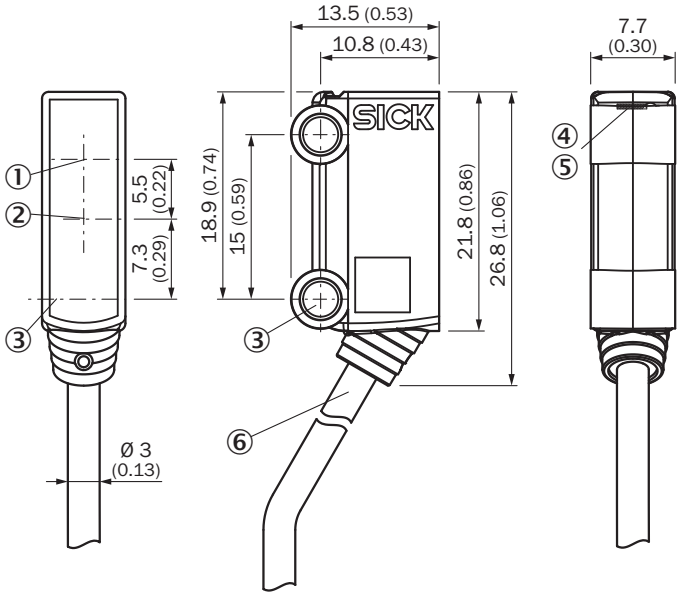

## Sensing range diagram WTB2S-2, 36 mm




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 to ultra-black, 1% remission factor

## 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

## Recommended accessories

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

| | Brief description | Type | part no. |
|---|---|---|---|
| Mounting systems | | | |
| | • **Description:** Mounting bracket for floor mounting<br>• **Material:** Steel<br>• **Details:** Steel, zinc coated<br>• **Items supplied:** Without mounting hardware<br>• **Suitable for:** W2S-2 | BEF-W2S-A | 4034748 |
| | • **Description:** Plate N11N for universal clamp bracket<br>• **Material:** Stainless steel<br>• **Details:** Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)<br>• **Items supplied:** Universal clamp (5322627), mounting hardware<br>• **Usable for:** DeltaPac, Glare, WTD20E | BEF-KHS-N11N | 2071081 |

| | Brief description | Type | part no. |
|---|---|---|---|
| connectors and cables | | | |
| | • **Connection type head A:** Male connector, M8, 3-pin, straight, A-coded<br>• **Description:** Unshielded<br>• **Connection systems:** Screw-type terminals<br>• **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.

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