



WTB4S-3P3434V

W4

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|---------------|----------|
| WTB4S-3P3434V | 1048016 |

Other models and accessories → www.sick.com/W4

Detailed technical data

Features

| | |
|------------------------------------|---------------------------------------------|
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | Background suppression |
| Sensing range max. | 4 mm ... 120 mm ¹⁾ |
| Sensing range | 10 mm ... 120 mm ¹⁾ |
| Emitted beam | |
| Light source | PinPoint LED ²⁾ |
| Type of light | Visible red light |
| Light spot size (distance) | Ø 2.5 mm (50 mm) |
| Key LED figures | |
| Wave length | 650 nm |
| Adjustment | Cable, Single teach-in button ³⁾ |
| Special applications | Hygienic and washdown zones |
| Housing design | Washdown |

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

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

³⁾ External teach-in: pulse > 2 s with voltage U_v with PNP and M with NPN.

Safety-related parameters

| | |
|-------------------------|-------------|
| MTTF_D | 1,211 years |
| DC_{avg} | 0 % |

| | |
|-------------------------------------|----------|
| T_M (mission time) | 20 years |
|-------------------------------------|----------|

Electrical data

| | |
|-------------------------------------|-------------------------------------------------------|
| Supply voltage U_B | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | < 5 V _{pp} ²⁾ |
| Current consumption | 30 mA ³⁾ |
| Protection class | III |
| Digital output | |
| Type | PNP |
| Switching mode | Light switching |
| Output current I _{max.} | ≤ 100 mA |
| Response time | < 0.5 ms ⁴⁾ |
| Switching frequency | 1,000 Hz ⁵⁾ |
| Circuit protection | A ⁶⁾ B ⁷⁾ C ⁸⁾ |

¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

²⁾ May not fall below or exceed U_y tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

⁸⁾ C = interference suppression.

Mechanical data

| | |
|-------------------------------|-------------------------------------------------------|
| Housing | Rectangular |
| Design detail | Slim |
| Dimensions (W x H x D) | 15.25 mm x 49.2 mm x 22.2 mm |
| Connection | Cable with M12 male connector, 4-pin ^{1) 2)} |
| Connection detail | |
| Length of cable (L) | 150 mm ²⁾ |
| Material | |
| Housing | Metal, Stainless steel V4A (1.4404, 316L) |
| Front screen | Plastic, PMMA |
| Cable | Plastic, PVC |
| Weight | 60 g |

¹⁾ Max. tightening torque: 0.7 Nm.

²⁾ Do not bend below 0 °C.

Ambient data

| | |
|-------------------------|-------------------------------|
| Enclosure rating | IP66 IP67 IP68 IP69K |
|-------------------------|-------------------------------|

¹⁾ At UV ≤ 24 V and IA < 30 mA.

| | |
|--------------------------------------|------------------------------------------------------|
| Ambient operating temperature | -30 °C ... +70 °C ¹⁾ -30 °C ... +60 °C |
| Ambient temperature, storage | -30 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

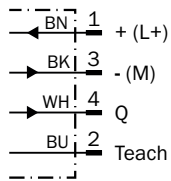
¹⁾ At $UV \leq 24\text{ V}$ and $IA < 30\text{ mA}$.

Classifications

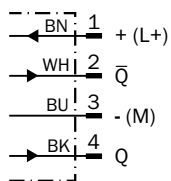
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270904 |
| ECLASS 5.1.4 | 27270904 |
| ECLASS 6.0 | 27270904 |
| ECLASS 6.2 | 27270904 |
| ECLASS 7.0 | 27270904 |
| ECLASS 8.0 | 27270904 |
| ECLASS 8.1 | 27270904 |
| ECLASS 9.0 | 27270904 |
| ECLASS 10.0 | 27270904 |
| ECLASS 11.0 | 27270904 |
| 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-224

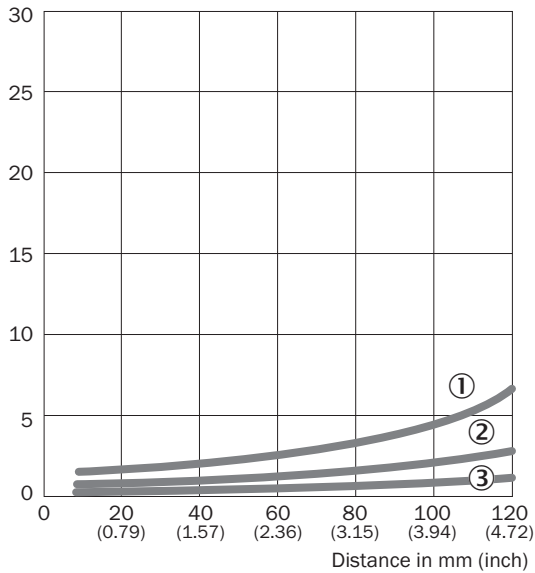


Cd-083



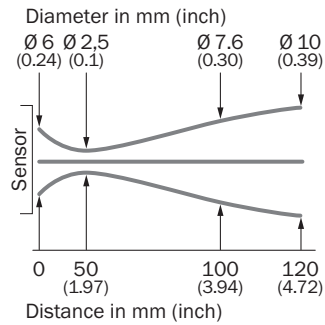
Characteristic curve

WTB4S-3, 120 mm



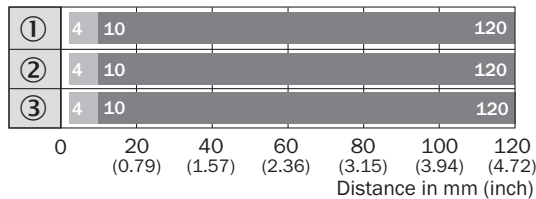
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

Light spot size



Sensing range diagram

WTB4S-3, 120 mm

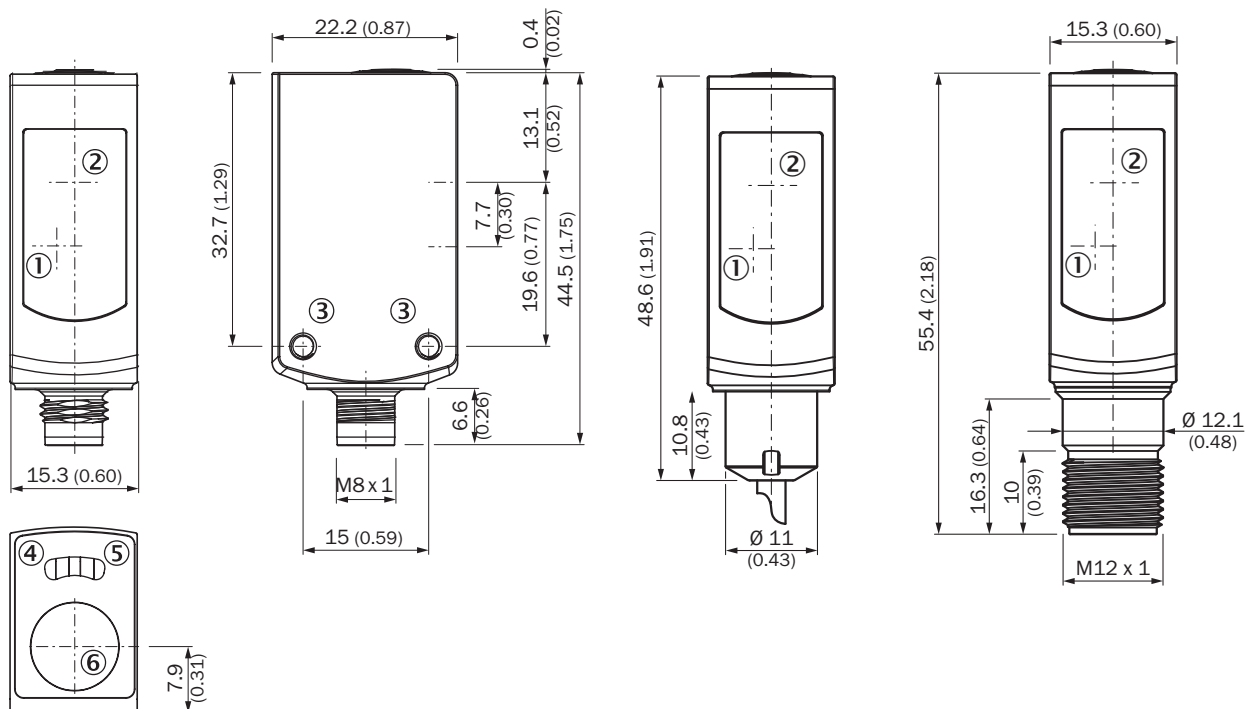


■ Sensing range ■ Sensing range max.

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

Dimensional drawing (Dimensions in mm (inch))



WTB4S-3V, WTF4S-3V, Single teach-in button



- ① Center of optical axis, receiver
- ② Center of optical axis, sender
- ③ Threaded mounting hole M3
- ④ LED indicator yellow: Status of received light beam
- ⑤ LED indicator green: Supply voltage active
- ⑥ Teach-in button

Recommended accessories

Other models and accessories → www.sick.com/W4

| | Brief description | Type | Part no. |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|
| Mounting brackets and plates | | | |
|  | Mounting bracket for floor mounting, Stainless steel 1.4571, mounting hardware included | BEF-W4-B | 2051630 |
| Others | | | |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation | DOL-1204-G05MRN | 6058476 |

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