



Photoelectric sensors
W4S-3, Photoelectric proximity sensor,
Background suppression

WTB4S-3P3234



Model Name > [WTB4S-3P3234](#)
Part No. > [1042051](#)



Illustration may differ

At a glance

- Best background suppression in its class
- Setting either via teach-in pushbutton, 5-turn potentiometer cable or by IO-Link
- All models with PinPoint LED technology
- Versions with laser-like LED light spots
- High immunity to ambient light

Your benefits

- Less downtime due to reliable detection of all types of objects
- Laser-like light spot provides quick and easy alignment
- Smart machine design makes it possible to mount the sensor in the tightest spaces
- Reliable object detection due to best-in-class background suppression and high immunity to ambient light



Features

| | |
|----------------------------------|--------------------------------------------------------|
| Sensor/detection principle: | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D): | 12.2 mm x 41.8 mm x 17.3 mm |
| Housing design (light emission): | Rectangular |
| Sensing range max.: | 4 mm ... 120 mm ¹⁾ |
| Sensing range: | 10 mm ... 120 mm ²⁾ |
| Type of light: | Visible red light |
| Light source: | PinPoint LED ³⁾ |
| Wave length: | 650 nm |
| Teach-in: | Single teach-in button |
| Adjustment: | Teach-in cable ⁴⁾ |
| Light spot size (distance): | Ø 2.5 mm (50 mm) |

^{1) 2)} Object with 90 % reflectance (referred to standard white DIN 5033) ³⁾ Average service life of 100,000 h at T_A = +25 °C ⁴⁾ External teach-in: pulse > 2 s with voltage Uv with PNP and M with NPN

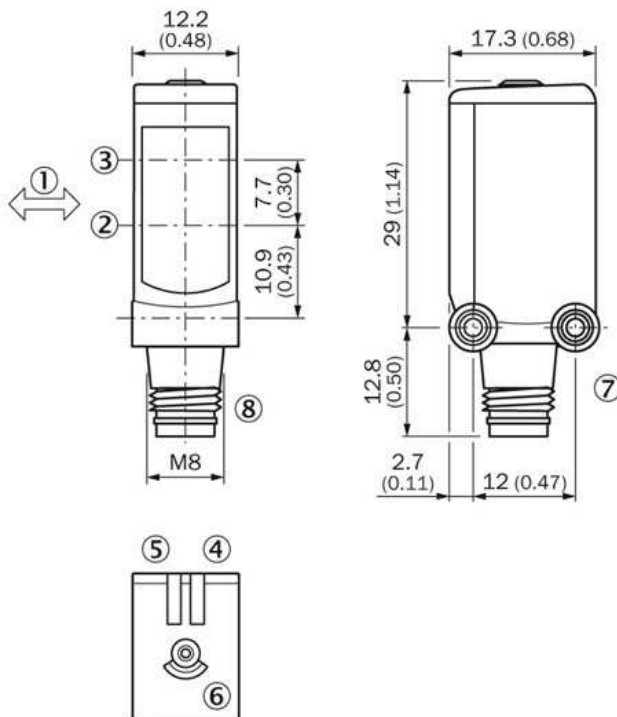
Mechanics/electronics

| | |
|--------------------|-----------------------------------|
| Supply voltage: | 10 V DC ... 30 V DC ¹⁾ |
| Ripple: | < 5 Vpp ²⁾ |
| Power consumption: | ≤ 20 mA ³⁾ |
| 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⁾ |
| Connection type: | Cable with connector M8, 4-pin, 100 mm ⁶⁾ |
| Cable material: | PVC |
| Conductor cross-section: | 0.14 mm ² |
| Cable diameter: | Ø 3.4 mm |
| Circuit protection::: | A, C, D ^{7) 8) 9)} |
| Protection class: | III |
| Weight: | 30 g |
| Housing material: | ABS, Plastic |
| Optics material: | PMMA |
| Enclosure rating: | IP 67 IP 66 |
| Ambient operating temperature: | -40 °C ... 60 °C |
| Ambient storage temperature: | -40 °C ... 75 °C |
| UL File No.: | NRKH.E181493 & NRKH7.E181493 |

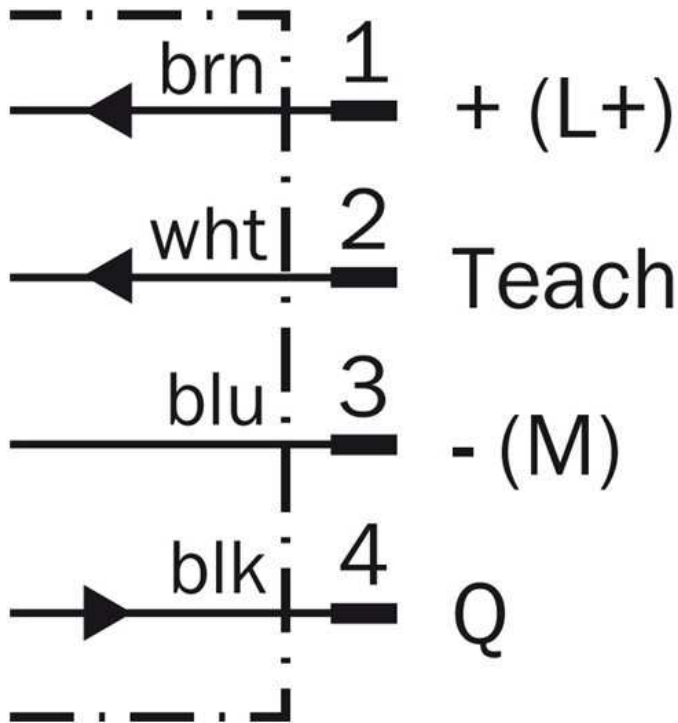
1) Limit values 2) May not exceed or fall short of V_S tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) Do not bend below 0 °C 7) A = V connections reverse-polarity protected 8) C = interference suppression 9) D = outputs overcurrent and short-circuit protected

Dimensional drawing

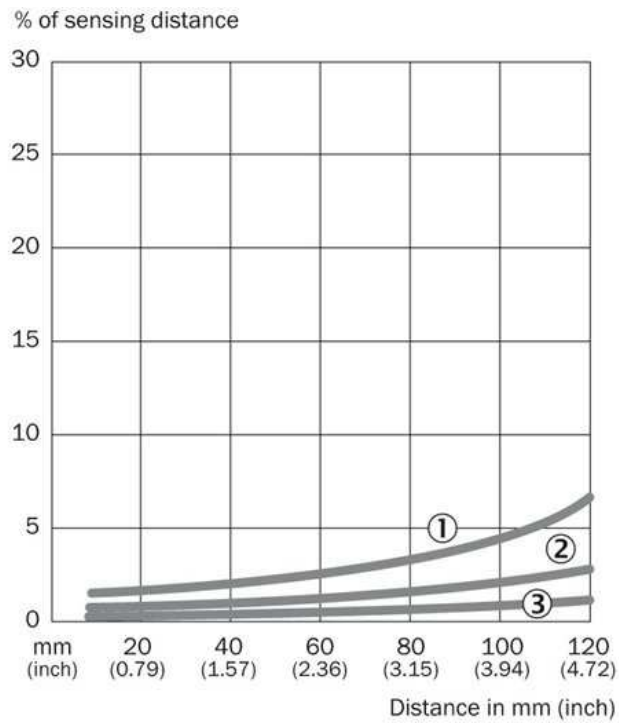


- |1| Standard direction of the material being scanned
- |2| Optical axis receiver
- |3| Optical axis sender
- |4| Status indicator LED green: power on
- |5| Status indicator LED, yellow: Status of received light beam
- |6| Teach-in button
- |7| Threaded mounting hole M3
- |8| Connection

Connection diagram



Characteristic curve

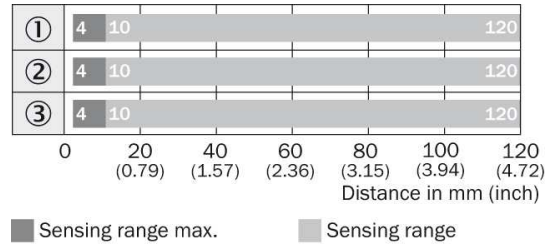


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

Connection type



Sensing range diagram



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