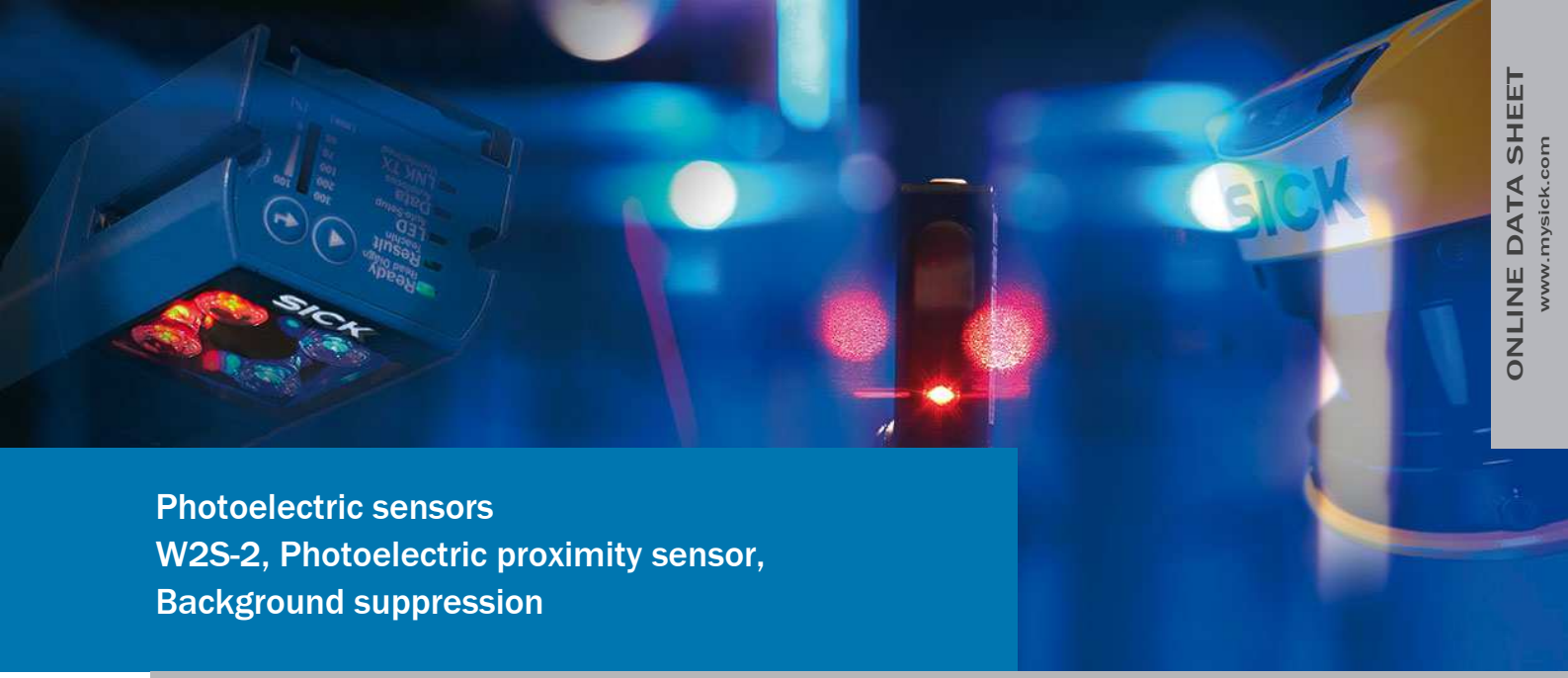



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# Photoelectric sensors
# W2S-2, Photoelectric proximity sensor, Background suppression

WTV2S-2P3220




SICK
Sensor Intelligence.

# Photoelectric sensors
# W2S-2, Photoelectric proximity sensor, Background suppression

**Model Name** > WTV2S-2P3220
**Part No.** > 1064661





*Illustration may differ*

### At a glance

- Laser-like, clearly visible light spot
- PinPoint 2.0 LED
- Background suppression that is immune to optical interference
- Rugged housing design
- Established and proven housing design

### Your benefits

- Reliable detection of flat, transparent and highly-reflective objects without a reflector
- Space-saving integration in compact machines where space is limited
- Increased productivity due to highly repeatable switching points
- Consistent detection of wafers, displays and foil in all production steps
- High reliability and long-term use in grippers thanks to flexible and rugged cable entry

## 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.: | 1 mm ... 36 mm [1)] |
| Sensing range: | 4 mm ... 30 mm [2)] |
| Type of light: | Visible red light |
| Light source: | PinPoint LED [3)] |
| Wave length: | 640 nm |
| Special features: | V-optics |
| Light spot size (distance): | Ø 2 mm (15 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

## Mechanics/electronics

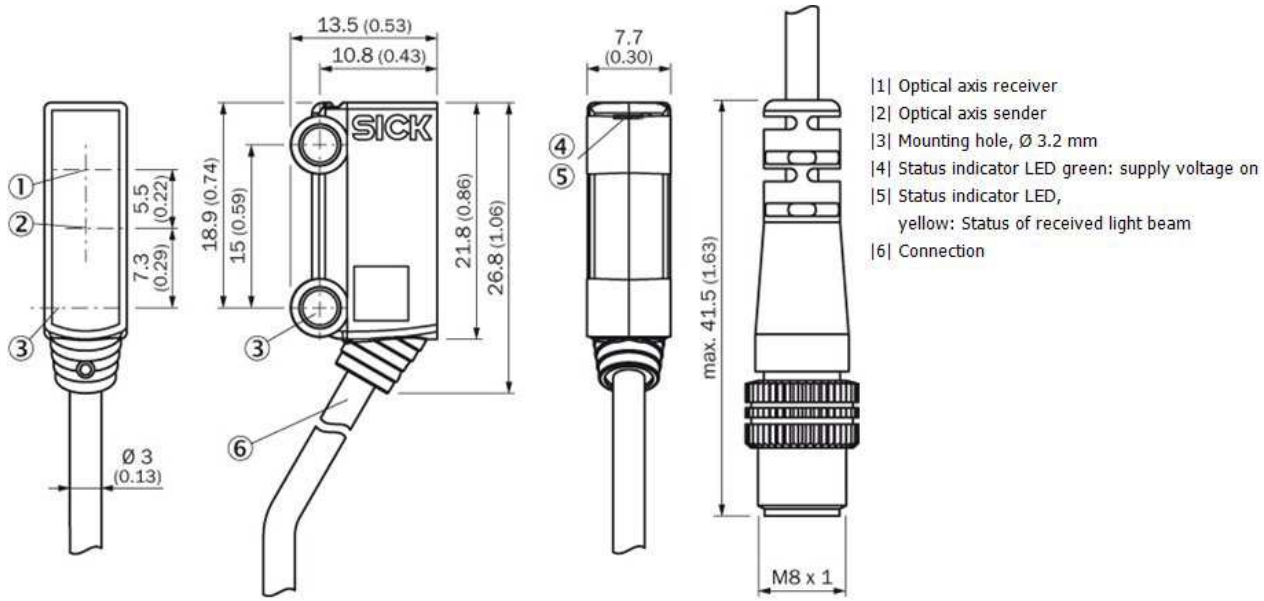
| | |
|---|---|
| Supply voltage: | 10 V DC ... 30 V DC [1)] |
| Ripple: | ≤ 5 Vpp [2)] |
| Power consumption: | ≤ 20 mA [3)] |
| Output type: | PNP |
| Switching mode: | Light/dark switching |
| Output current Imax.: | < 50 mA |


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| | |
|---|---|
| Response time: | < 0.5 ms [4] |
| Switching frequency: | 1,000 Hz [5] |
| Connection type: | Cable with connector M8, 4-pin, 200 mm [6] |
| Cable material: | PVC |
| Cable diameter: | Ø 3 mm |
| Circuit protection::: | A, B, D [7) 8) 9)] |
| IO-Link: | - |
| Optics material: | PMMA |
| Enclosure rating: | IP 67 |
| Special feature: | V-optics |
| Ambient temperature operation: | -25 °C ... +50 °C |
| Ambient storage temperature: | -40 °C ... +75 °C |
| UL File No.: | NRKH.E181493 |
| Housing material: | ABS/PC, Plastic |

[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 = $V_S$ connections reverse-polarity protected [8)] B = output reverse-polarity protected [9)] D = outputs overcurrent and short-circuit protected

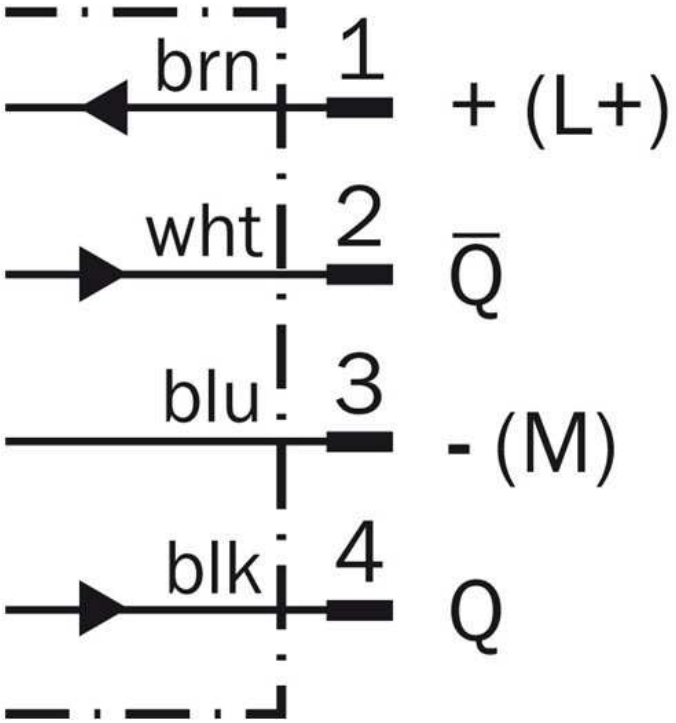
**Dimensional drawing**



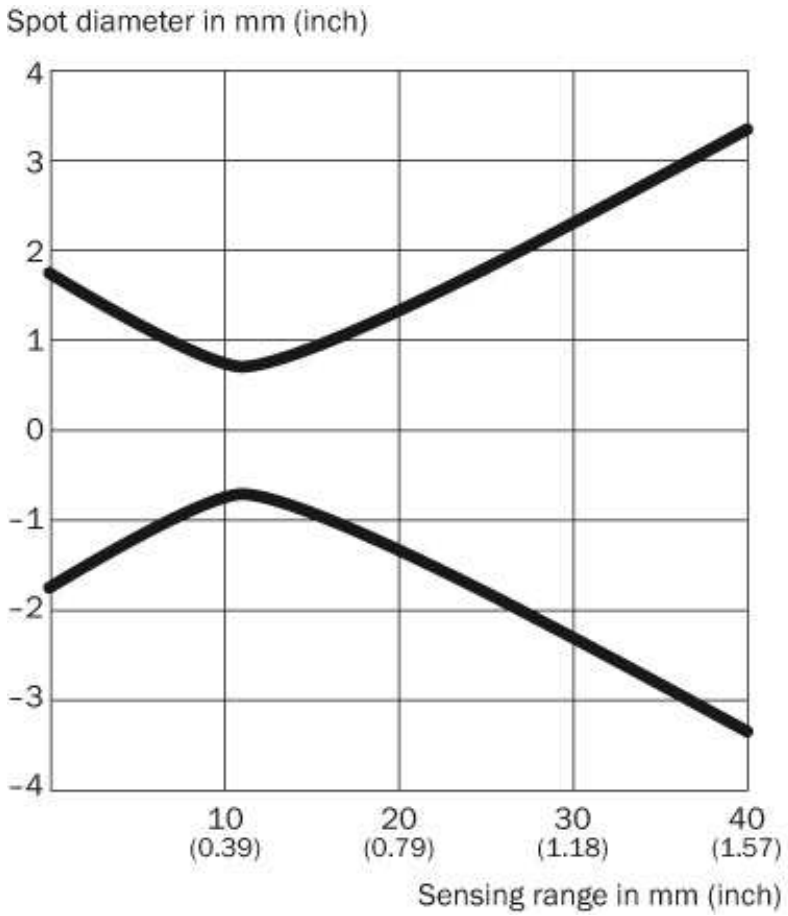


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## Connection diagram




## Light spot size

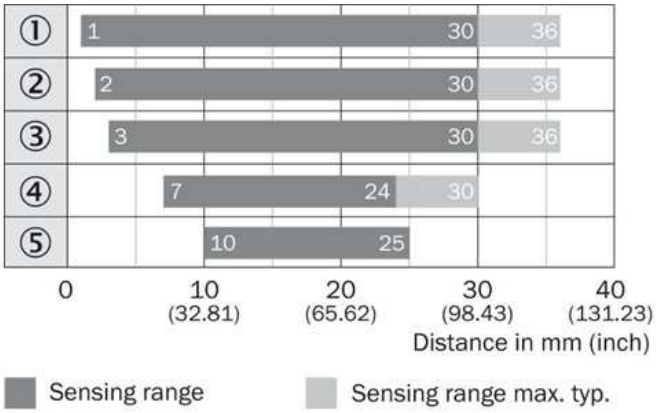



**Dimensions in mm (inch)**

| Sensing range | Spot diameter |
|---|---|
| **10** **(0.39)** | 1.5 (0.06) |
| **20** **(0.79)** | 2.6 (0.10) |
| **30** **(1.18)** | 4.6 (0.18) |
| **40** **(1.57)** | 6.6 (0.26) |


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## Sensing range diagram




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 reflective and transparent surfaces[1)]

[1)] Best detection of reflective and transparent surfaces within a tilt angle of < +/–10°


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