



**WTV4-3P1141**

W4-3

**MINIATURE PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type        | Part no. |
|-------------|----------|
| WTV4-3P1141 | 1084397  |

Other models and accessories → [www.sick.com/W4-3](http://www.sick.com/W4-3)

### Detailed technical data

#### Features

|                                        |                                                                    |
|----------------------------------------|--------------------------------------------------------------------|
| <b>Sensor/ detection principle</b>     | Photoelectric proximity sensor, Background suppression             |
| <b>Dimensions (W x H x D)</b>          | 16 mm x 39.5 mm x 12 mm                                            |
| <b>Housing design (light emission)</b> | Rectangular                                                        |
| <b>Sensing range max.</b>              | 4 mm ... 50 mm <sup>1)</sup>                                       |
| <b>Sensing range</b>                   | 15 mm ... 50 mm <sup>1)</sup>                                      |
| <b>Type of light</b>                   | Visible red light                                                  |
| <b>Light source</b>                    | PinPoint LED <sup>2)</sup>                                         |
| <b>Light spot size (distance)</b>      | Ø 10 mm (40 mm)                                                    |
| <b>Wave length</b>                     | 650 nm                                                             |
| <b>Adjustment</b>                      | Potentiometer, 5 turns                                             |
| <b>Special applications</b>            | Detecting uneven, shiny objects, Detecting objects wrapped in film |

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Mechanics/electronics

|                                       |                                                       |
|---------------------------------------|-------------------------------------------------------|
| <b>Supply voltage</b>                 | 10 V DC ... 30 V DC <sup>1)</sup>                     |
| <b>Ripple</b>                         | < 5 V <sub>pp</sub> <sup>2)</sup>                     |
| <b>Current consumption</b>            | 20 mA <sup>3)</sup>                                   |
| <b>Switching output</b>               | PNP                                                   |
| <b>Switching mode</b>                 | Light/dark switching                                  |
| <b>Output current I<sub>max</sub></b> | ≤ 100 mA                                              |
| <b>Response time</b>                  | < 0.5 ms <sup>4)</sup>                                |
| <b>Switching frequency</b>            | 1,000 Hz <sup>5)</sup>                                |
| <b>Connection type</b>                | Cable, 4-wire, 2 m <sup>6)</sup>                      |
| <b>Cable material</b>                 | PVC                                                   |
| <b>Conductor cross-section</b>        | 0.14 mm <sup>2</sup>                                  |
| <b>Cable diameter</b>                 | Ø 3.4 mm                                              |
| <b>Circuit protection</b>             | A <sup>7)</sup><br>C <sup>8)</sup><br>D <sup>9)</sup> |
| <b>Protection class</b>               | III                                                   |
| <b>Weight</b>                         | 30 g                                                  |
| <b>Housing material</b>               | Plastic, ABS                                          |
| <b>Optics material</b>                | Plastic, PMMA                                         |
| <b>Enclosure rating</b>               | IP67<br>IP66                                          |
| <b>Special feature</b>                | V-optics                                              |
| <b>Ambient operating temperature</b>  | -40 °C ... +60 °C                                     |
| <b>Ambient storage temperature</b>    | -40 °C ... +75 °C                                     |
| <b>UL File No.</b>                    | NRKH.E181493 & NRKH7.E181493                          |

<sup>1)</sup> Limit values.

<sup>2)</sup> May not exceed or fall below U<sub>v</sub> tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> Do not bend below 0 °C.

<sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

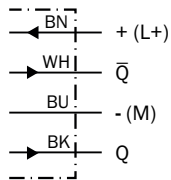
## Classifications

|                     |          |
|---------------------|----------|
| <b>ECI@ss 5.0</b>   | 27270904 |
| <b>ECI@ss 5.1.4</b> | 27270904 |
| <b>ECI@ss 6.0</b>   | 27270904 |
| <b>ECI@ss 6.2</b>   | 27270904 |
| <b>ECI@ss 7.0</b>   | 27270904 |
| <b>ECI@ss 8.0</b>   | 27270904 |
| <b>ECI@ss 8.1</b>   | 27270904 |

|                       |          |
|-----------------------|----------|
| <b>ECI@ss 9.0</b>     | 27270904 |
| <b>ECI@ss 10.0</b>    | 27270904 |
| <b>ECI@ss 11.0</b>    | 27270904 |
| <b>ETIM 5.0</b>       | EC002719 |
| <b>ETIM 6.0</b>       | EC002719 |
| <b>ETIM 7.0</b>       | EC002719 |
| <b>UNSPSC 16.0901</b> | 39121528 |

### Connection diagram

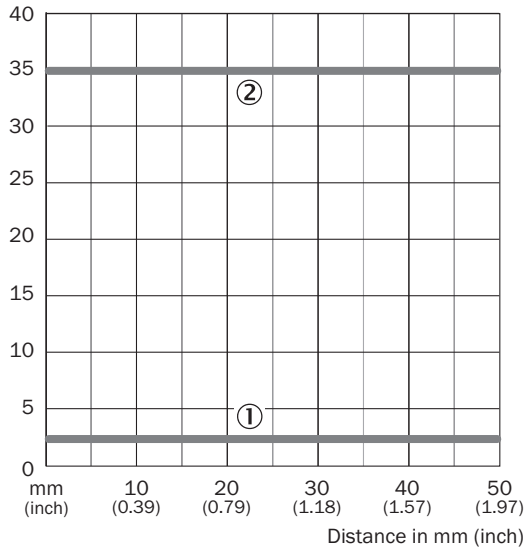
Cd-094



### Characteristic curve

WTV4-3, V-optics

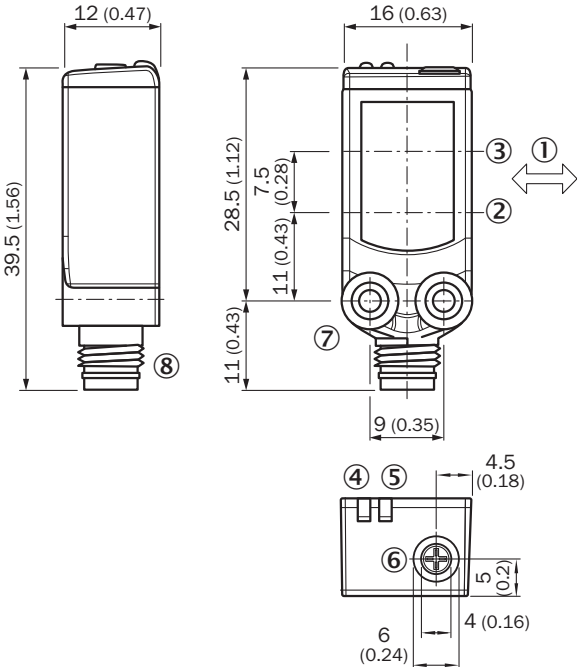
Background



- ① Black/white shift 90% / 6%
- ② Distance to the background with transparent objects

Dimensional drawing (Dimensions in mm (inch))

WTx4-3, potentiometer



- ① Standard direction of the material being detected
- ② Optical axis, sender
- ③ Optical axis, receiver
- ④ LED indicator yellow: Status of received light beam
- ⑤ LED indicator green: Supply voltage active
- ⑥ Potentiometer
- ⑦ Threaded mounting hole M3
- ⑧ Connection

Recommended accessories

Other models and accessories → [www.sick.com/W4-3](http://www.sick.com/W4-3)

|                                                                                     | Brief description                                                             | Type       | Part no. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------|----------|
| Plug connectors and cables                                                          |                                                                               |            |          |
|  | Head A: male connector, M8, 4-pin, straight<br>Head B: -<br>Cable: unshielded | STE-0804-G | 6037323  |

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.

**For us, that is “Sensor Intelligence.”**

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)