



# WT18X-3P930

W18-3 Ex

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type        | Part no. |
|-------------|----------|
| WT18X-3P930 | 1083904  |

Other models and accessories → [www.sick.com/W18-3\\_Ex](http://www.sick.com/W18-3_Ex)

## Detailed technical data

### Features

|  |                                |
|--|--------------------------------|
| <b>Functional principle</b>            | Photoelectric proximity sensor |
| <b>Functional principle detail</b>     | Background suppression         |
| <b>Dimensions (W x H x D)</b>          | 23.6 mm x 117 mm x 49.3 mm     |
| <b>Housing design (light emission)</b> | Rectangular                    |
| <b>Sensing range max.</b>              | 10 mm ... 600 mm <sup>1)</sup> |
| <b>Sensing range</b>                   | 50 mm ... 600 mm <sup>1)</sup> |
| <b>Type of light</b>                   | Visible red light              |
| <b>Light source</b>                    | LED <sup>2)</sup>              |
| <b>Light spot size (distance)</b>      | Ø 15 mm (300 mm)               |
| <b>Wave length</b>                     | 625 nm                         |
| <b>Adjustment</b>                      | Potentiometer, 4 turns         |
| <b>Special applications</b>            | Explosive areas                |

<sup>1)</sup> Object with 90% remission (based on 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>             | 55 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>                   | < 700 μs <sup>4)</sup>   |
| <b>Switching frequency</b>             | 700 Hz <sup>5)</sup>   |
| <b>Connection type</b>                 | Cable with M12 male connector, 4-pin, 0.29 m <sup>6)</sup>   |
| <b>Cable material</b>                  | PVC  |
| <b>Circuit protection</b>              | A <sup>7)</sup><br>C <sup>8)</sup><br>D <sup>9)</sup>  |
| <b>Weight</b>                          | 300 g  |
| <b>Housing material</b>                | Plastic, ABS   |
| <b>Optics material</b>                 | Plastic, PMMA  |
| <b>Enclosure rating</b>                | IP67   |
| <b>ATEX marking</b>                    | Ex II 3G Ex nA op is IIB T4 Gc X<br>Ex II 3D Ex tc IIIB T135 °C Dc X<br>In accordance with directive 2014/34 / EU <sup>10)</sup> |
| <b>Ex area category</b>                | 3D, 3G   |
| <b>Ambient operating temperature</b>   | -20 °C ... +50 °C  |
| <b>Ambient temperature, storage</b>    | -40 °C ... +75 °C  |

1) Limit values when operated in short-circuit protected network: max. 8 A.

2) May not exceed or fall below U<sub>v</sub> 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<sub>S</sub> connections reverse-polarity protected.

8) C = interference suppression.

9) D = outputs overcurrent and short-circuit protected.

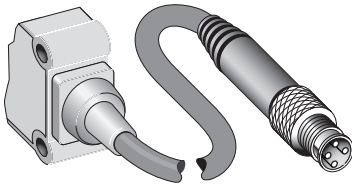
10) Conformity with directives. Explosion prevention: Directive 2014/34/EX/EU.

## Classifications

|                     |          |
|---------------------|----------|
| <b>eCl@ss 5.0</b>   | 27270904 |
| <b>eCl@ss 5.1.4</b> | 27270904 |
| <b>eCl@ss 6.0</b>   | 27270904 |
| <b>eCl@ss 6.2</b>   | 27270904 |
| <b>eCl@ss 7.0</b>   | 27270904 |
| <b>eCl@ss 8.0</b>   | 27270904 |
| <b>eCl@ss 8.1</b>   | 27270904 |
| <b>eCl@ss 9.0</b>   | 27270904 |
| <b>eCl@ss 10.0</b>  | 27270904 |

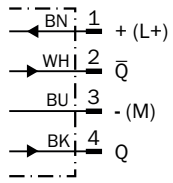
|                       |          |
|-----------------------|----------|
| <b>eCl@ss 11.0</b>    | 27270904 |
| <b>eCl@ss 12.0</b>    | 27270903 |
| <b>ETIM 5.0</b>       | EC002719 |
| <b>ETIM 6.0</b>       | EC002719 |
| <b>ETIM 7.0</b>       | EC002719 |
| <b>ETIM 8.0</b>       | EC002719 |
| <b>UNSPSC 16.0901</b> | 39121528 |

Connection type



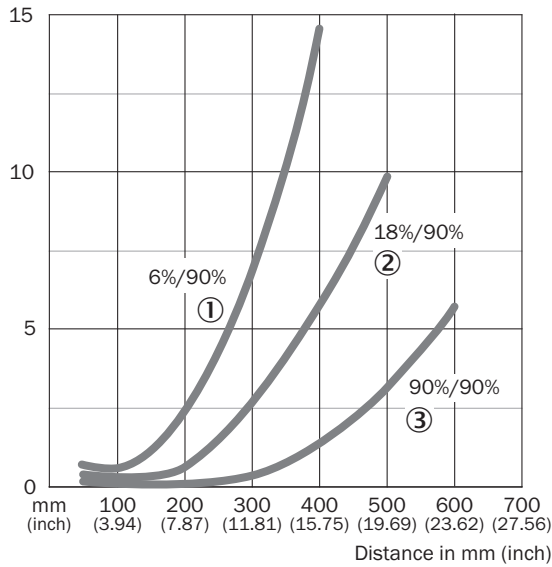
Connection diagram

Cd-083



### Characteristic curve

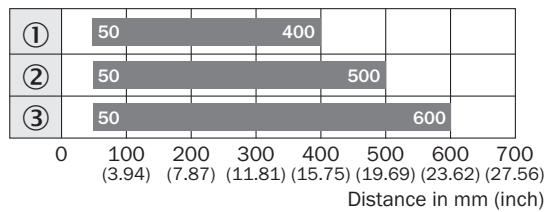
WT18-3, red light



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

### Sensing range diagram

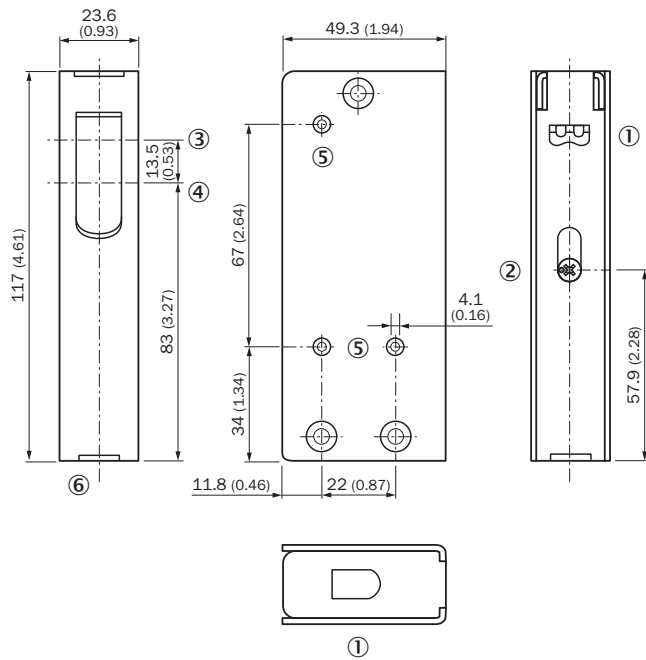
WT18-3, red light



- Sensing range
- ① Sensing range on black, 6% remission
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**Dimensional drawing** (Dimensions in mm (inch))



WT18-3 Ex



- ① Display LED
- ② Adjustment of sensing range
- ③ Center of optical axis, sender
- ④ Center of optical axis, receiver
- ⑤ Mounting hole  $\varnothing$  4.1 mm
- ⑥ Connection

**Recommended accessories**

Other models and accessories → [www.sick.com/W18-3\\_Ex](http://www.sick.com/W18-3_Ex)

|   | <b>Brief description</b>  | <b>Type</b>        | <b>Part no.</b> |
|---|---|--------------------|-----------------|
| <b>Plug connectors and cables</b>   |   |                    |                 |
|  | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235         |
|  | Head A: male connector, M12, 4-pin, straight<br>Cable: unshielded   | STE-1204-G         | 6009932         |

## 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)