

# WTF12G-3N2432

TranspaTect

MULTITASK PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.

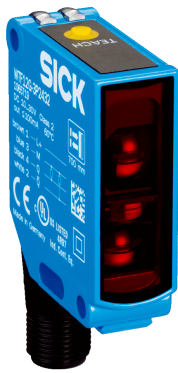


Illustration may differ



## Ordering information

| Type          | Part no. |
|---------------|----------|
| WTF12G-3N2432 | 1066279  |

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

## Detailed technical data

### Features

|  |  |
|--|--|
| <b>Functional principle</b>            | Photoelectric proximity sensor                                 |
| <b>Functional principle detail</b>     | Foreground suppression   |
| <b>Dimensions (W x H x D)</b>          | 15.6 mm x 48.5 mm x 42 mm                                      |
| <b>Housing design (light emission)</b> | Rectangular  |
| <b>Sensing range max.</b>              | 150 mm ... 700 mm <sup>1)</sup>                                |
| <b>Sensing range</b>                   | 0 mm ... 400 mm <sup>2)</sup>                                  |
| <b>Type of light</b>                   | Visible red light  |
| <b>Light source</b>                    | PinPoint LED <sup>3)</sup>                                     |
| <b>Light spot size (distance)</b>      | Ø 8 mm (300 mm)  |
| <b>Wave length</b>                     | 660 nm   |
| <b>Adjustment</b>                      | Single teach-in button   |
| <b>Special feature</b>                 | Detecting transparent objects                                  |
| <b>Special applications</b>            | Detecting transparent objects, Detecting uneven, shiny objects |

<sup>1)</sup> Adjustable background; referring to the background with 90 % remission (based on glass-bead blasted stainless steel, equivalent to standard white DIN 5033).

<sup>2)</sup> Detection range transparent objects.

<sup>3)</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>                | NPN   |
| <b>Output function</b>                 | Complementary   |
| <b>Switching mode</b>                  | Light/dark switching                                  |
| <b>Signal voltage NPN HIGH/LOW</b>     | Approx. V <sub>S</sub> / < 2.5 V                      |
| <b>Output current I<sub>max.</sub></b> | ≤ 100 mA  |
| <b>Response time</b>                   | 2 ms <sup>4)</sup>                                    |
| <b>Switching frequency</b>             | 250 Hz <sup>5)</sup>                                  |
| <b>Connection type</b>                 | Male connector M12, 4-pin                             |
| <b>Circuit protection</b>              | A <sup>6)</sup><br>C <sup>7)</sup><br>D <sup>8)</sup> |
| <b>Protection class</b>                | II  |
| <b>Weight</b>                          | 120 g   |
| <b>Housing material</b>                | Metal   |
| <b>Enclosure rating</b>                | IP66<br>IP67  |
| <b>Special feature</b>                 | Detecting transparent objects                         |
| <b>Ambient operating temperature</b>   | -40 °C ... +60 °C                                     |
| <b>Ambient temperature, storage</b>    | -40 °C ... +75 °C                                     |
| <b>UL File No.</b>                     | NRKH.E181493 & NRKH7.E181493                          |

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

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

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

## Safety-related parameters

|                         |           |
|-------------------------|-----------|
| <b>MTTF<sub>D</sub></b> | 479 years |
| <b>DC<sub>avg</sub></b> | 0 %       |

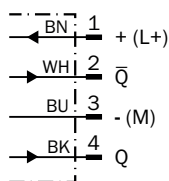
## Classifications

|                     |          |
|---------------------|----------|
| <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 |

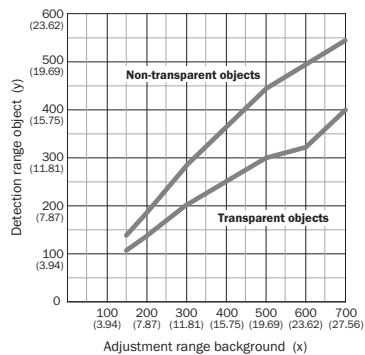
|                       |          |
|-----------------------|----------|
| <b>eCl@ss 9.0</b>     | 27270904 |
| <b>eCl@ss 10.0</b>    | 27270904 |
| <b>eCl@ss 11.0</b>    | 27270904 |
| <b>eCl@ss 12.0</b>    | 27270903 |
| <b>ETIM 5.0</b>       | EC002719 |
| <b>ETIM 6.0</b>       | EC002719 |
| <b>ETIM 7.0</b>       | EC002719 |
| <b>ETIM 8.0</b>       | EC002719 |
| <b>UNSPSC 16.0901</b> | 39121528 |

## Connection diagram

Cd-084



## Characteristic curve



### Legend:

x: Sensing range max. in mm (adjustment range background)  
 = Distance sensor / background  
 y: Sensing range in mm (detection range object)  
 = Maximum distance sensor / front edge of the object

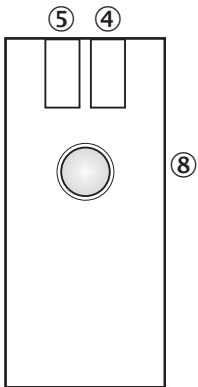
Minimum distance sensor / background : 150 mm\*

\*) Referring to the background with 90 % remission equivalent to standard white DIN 5033 (i.e. glass-bead blasted stainless steel). The use of a shiny background can increase the minimum distance to the background (i.e. brushed and pickled stainless steel, minimum distance sensor to background: 300 mm).

### How to use this diagram:

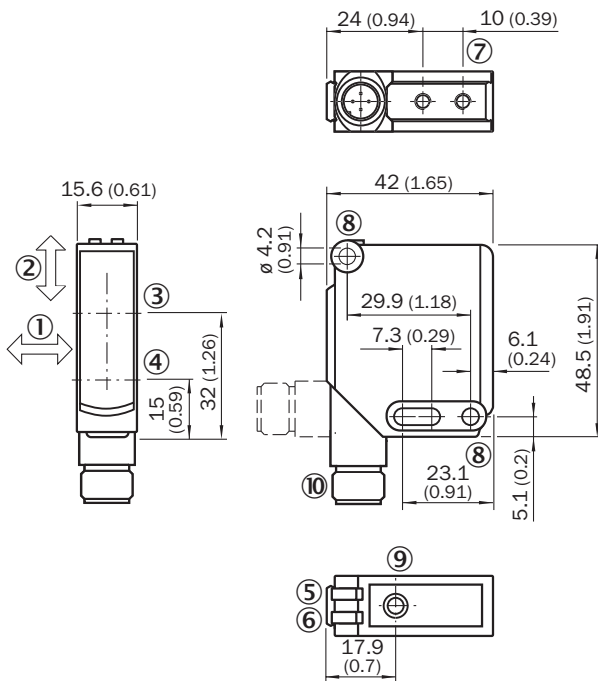
Measure the distance from the sensor to the metal surface in the background. This is the value for x (adjustment range background). If this is 500 mm for example, the maximum distance between the sensor and the leading edge of a transparent object is 300 mm.

## Adjustments



- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑧ Adjustment sensing range: single teach-in button



## Dimensional drawing (Dimensions in mm (inch))



- ① Recommended installation for the detection of transparent trays
- ② Recommended installation for the detection of transparent bottles
- ③ Optical axis, receiver
- ④ Optical axis, sender
- ⑤ LED indicator green: Supply voltage active
- ⑥ LED indicator yellow: Status of received light beam
- ⑦ M4 threaded mounting hole, 4 mm deep
- ⑧ Mounting hole,  $\varnothing$  4.2 mm
- ⑨ Adjustment sensing range: single teach-in button
- ⑩ Connection

Recommended accessories

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

|   | Brief description   | Type               | Part no. |
|---|---|--------------------|----------|
| Plug connectors and cables  |   |                    |          |
|  | 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)