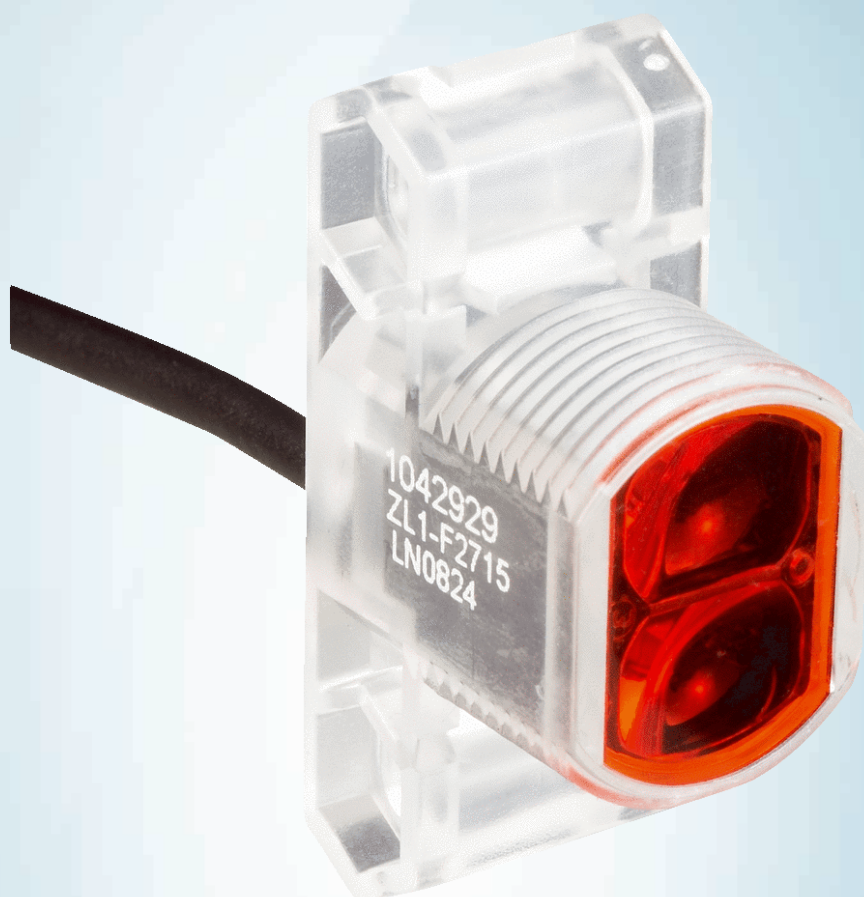




# ZT2-P5228

Z-Sensor

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.

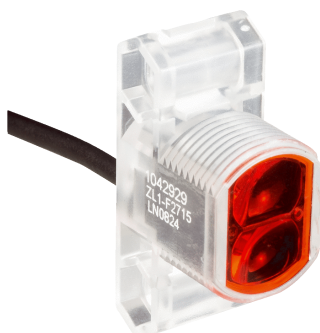


Illustration may differ

## Ordering information

| Type      | part no. |
|-----------|----------|
| ZT2-P5228 | 1045469  |

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

## Detailed technical data

### Features

|                                        |                                |
|----------------------------------------|--------------------------------|
| <b>Functional principle</b>            | Photoelectric proximity sensor |
| <b>Functional principle detail</b>     | Energetic                      |
| <b>Dimensions (W x H x D)</b>          | 13.6 mm x 45.2 mm x 31.7 mm    |
| <b>Housing design (light emission)</b> | Hybrid                         |
| <b>Thread diameter (housing)</b>       | M18 x 1                        |
| <b>Sensing range max.</b>              | 5 mm ... 155 mm <sup>1)</sup>  |
| <b>Sensing range</b>                   | 5 mm ... 155 mm                |
| <b>Type of light</b>                   | Infrared light                 |
| <b>Light source</b>                    | LED <sup>2)</sup>              |
| <b>Light spot size (distance)</b>      | Ø 31 mm (100 mm)               |
| <b>Wave length</b>                     | 880 nm                         |
| <b>Adjustment</b>                      | None                           |

<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>             | 20 mA <sup>3)</sup>               |
| <b>Switching output</b>                | PNP                               |
| <b>Switching mode</b>                  | Light switching                   |
| <b>Output current I<sub>max.</sub></b> | ≤ 50 mA                           |

<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> With light/dark ratio 1:1.

<sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>6)</sup> D = outputs overcurrent and short-circuit protected.

<sup>7)</sup> Reference voltage: 50 V DC.

|                                      |                                             |
|--------------------------------------|---------------------------------------------|
| <b>Switching frequency</b>           | 200 Hz <sup>4)</sup>                        |
| <b>Connection type</b>               | Male connector M12, 4-pin                   |
| <b>Circuit protection</b>            | A <sup>5)</sup><br>D <sup>6)</sup>          |
| <b>Protection class</b>              | III <sup>7)</sup>                           |
| <b>Housing material</b>              | Plastic, Glass fiber reinforced ABS plastic |
| <b>Enclosure rating</b>              | IP67                                        |
| <b>Items supplied</b>                | Mounting nut M18                            |
| <b>Ambient operating temperature</b> | -25 °C ... +50 °C                           |
| <b>Ambient temperature, storage</b>  | -40 °C ... +70 °C                           |
| <b>UL File No.</b>                   | NRKH.E189383 & NRKH7.E189383                |

1) Limit values.

2) May not exceed or fall below  $U_V$  tolerances.

3) Without load.

4) With light/dark ratio 1:1.

5) A =  $V_S$  connections reverse-polarity protected.

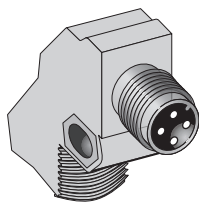
6) D = outputs overcurrent and short-circuit protected.

7) Reference voltage: 50 V DC.

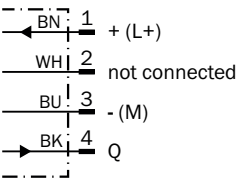
## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270903 |
| <b>ECLASS 5.1.4</b>   | 27270903 |
| <b>ECLASS 6.0</b>     | 27270903 |
| <b>ECLASS 6.2</b>     | 27270903 |
| <b>ECLASS 7.0</b>     | 27270903 |
| <b>ECLASS 8.0</b>     | 27270903 |
| <b>ECLASS 8.1</b>     | 27270903 |
| <b>ECLASS 9.0</b>     | 27270903 |
| <b>ECLASS 10.0</b>    | 27270904 |
| <b>ECLASS 11.0</b>    | 27270904 |
| <b>ECLASS 12.0</b>    | 27270903 |
| <b>ETIM 5.0</b>       | EC001821 |
| <b>ETIM 6.0</b>       | EC001821 |
| <b>ETIM 7.0</b>       | EC002719 |
| <b>ETIM 8.0</b>       | EC002719 |
| <b>UNSPSC 16.0901</b> | 39121528 |

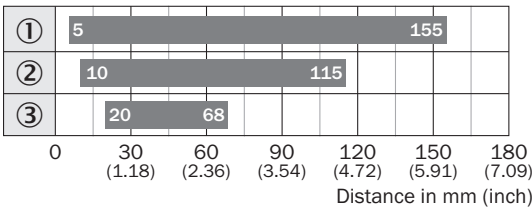
Connection type



Connection diagram Cd-067

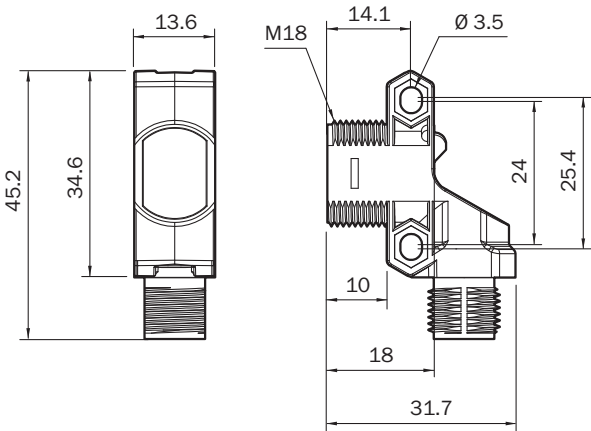


Sensing range diagram ZT1, 155 mm



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

Dimensional drawing ZT2, ZL2, Connector M12, 4-pin



Dimensions in mm (inch)

## Recommended accessories

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

|                                                                                    | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Type               | part no. |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| connectors and cables                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |          |
|   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>                                                      | YF2A14-050VB3XLEAX | 2096235  |
|   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> ≤ 0.75 mm<sup>2</sup></li> </ul>                                                                                                                                                                                   | STE-1204-G         | 6009932  |
|   | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul> | YF2A14-050UB3XLEAX | 2095608  |
| Mounting systems                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |          |
|  | <ul style="list-style-type: none"> <li>• <b>Description:</b> Plate N11N for universal clamp bracket</li> <li>• <b>Material:</b> Stainless steel</li> <li>• <b>Details:</b> Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li>• <b>Items supplied:</b> Universal clamp (5322627), mounting hardware</li> <li>• <b>Usable for:</b> DeltaPac, Glare, WTD20E</li> </ul>                                                                                                | BEF-KHS-N11N       | 2071081  |

## 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)