



# ZTB18-4PR4A1D06

SimpleSense

HYBRID PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type            | Part no. |
|-----------------|----------|
| ZTB18-4PR4A1D06 | 1110981  |

**Included in delivery:** BEF-MU-M18\*1 (1)

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

### Detailed technical data

#### Features

|  |  |
|--|--|
| <b>Device type</b>                     | Photoelectric sensors                                  |
| <b>Sensor/ detection principle</b>     | Photoelectric proximity sensor, Background suppression |
| <b>Dimensions (W x H x D)</b>          | 13.6 mm x 44.2 mm x 33.3 mm                            |
| <b>Housing design (light emission)</b> | Hybrid   |
| <b>Thread diameter (housing)</b>       | M18  |
| <b>Mounting system type</b>            | M18, nose / M18, base                                  |
| <b>Housing color</b>                   | Blue   |
| <b>Sensing range max.</b>              | 5 mm ... 150 mm <sup>1)</sup>                          |
| <b>Sensing range</b>                   | 5 mm ... 150 mm <sup>1)</sup>                          |
| <b>Type of light</b>                   | Infrared light   |
| <b>Light source</b>                    | PinPoint LED   |
| <b>Light spot size (distance)</b>      | Ø 8 mm (100 mm)  |
| <b>Wave length</b>                     | 850 nm   |

<sup>1)</sup> Object with 90% remission (based on standard white, DIN 5033).

#### Mechanics/electronics

|                            |                       |
|----------------------------|-----------------------|
| <b>Supply voltage</b>      | 10 V DC ... 30 V DC   |
| <b>Ripple</b>              | < 10 %                |
| <b>Current consumption</b> | ≤ 15 mA <sup>1)</sup> |
| <b>Switching output</b>    | PNP                   |
| <b>Switching mode</b>      | Light switching       |

<sup>1)</sup> Without load.

<sup>2)</sup> Signal transit time with resistive load.

<sup>3)</sup> With light/dark ratio 1:1.

<sup>4)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>5)</sup> B = inputs and output reverse-polarity protected.

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

|                                       |   |
|---------------------------------------|---|
| <b>Switching output detail</b>        |   |
| Switching output Q1                   | PNP, Light switching                                  |
| Switching output Q2                   | PNP, Health output                                    |
| <b>Output current I<sub>max</sub></b> | 100 mA  |
| <b>Response time</b>                  | ≤ 1 ms <sup>2)</sup>                                  |
| <b>Switching frequency</b>            | 500 kHz <sup>3)</sup>                                 |
| <b>Connection type</b>                | Male connector M12, 4-pin                             |
| <b>Circuit protection</b>             | A <sup>4)</sup><br>B <sup>5)</sup><br>D <sup>6)</sup> |
| <b>Protection class</b>               | III   |
| <b>Weight</b>                         | 4.54 g  |
| <b>Housing material</b>               | Plastic, ABS  |
| <b>Optics material</b>                | Plastic, PMMA   |
| <b>Enclosure rating</b>               | IP67  |
| <b>Ambient operating temperature</b>  | -40 °C ... +55 °C                                     |
| <b>Ambient temperature, storage</b>   | -40 °C ... +70 °C                                     |
| <b>UL File No.</b>                    | E189383   |

1) Without load.

2) Signal transit time with resistive load.

3) With light/dark ratio 1:1.

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

5) B = inputs and output reverse-polarity protected.

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

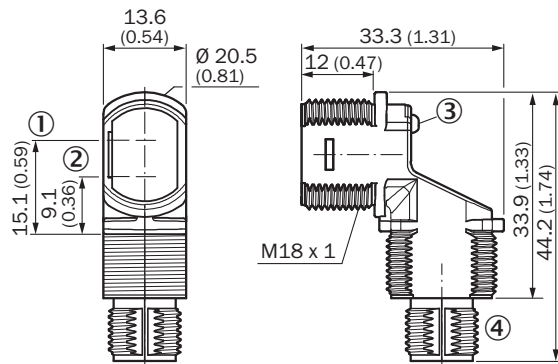
## Classifications

|                       |          |
|-----------------------|----------|
| <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/pin assignment

|                        |                           |
|------------------------|---------------------------|
| <b>Connection type</b> | Male connector M12, 4-pin |
| <b>Pin assignment</b>  |                           |
| BN 1                   | + (L+)                    |
| WH 2                   | Q <sub>2</sub>            |
| BU 3                   | - (M)                     |
| BK 4                   | Q <sub>1</sub>            |

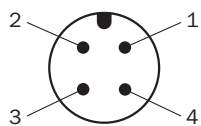
### Dimensional drawing (Dimensions in mm (inch))



- ① Optical axis, sender
- ② Optical axis, receiver
- ③ LED status indicator
- ④ Connection

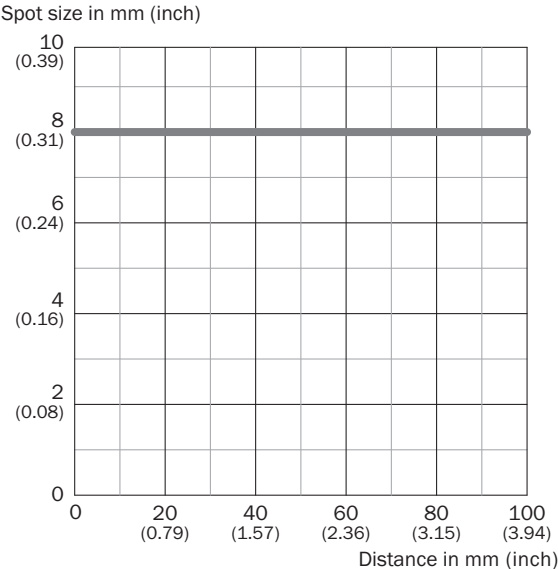
### Connection type

Connection type. see table: Connection/PIN assignment



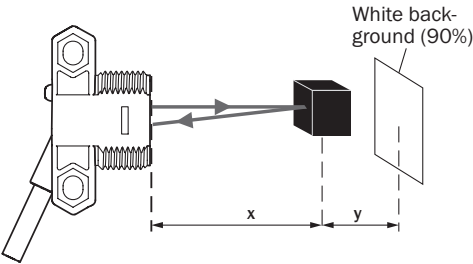
M12 male connector, 4-pin, A-coding

Light spot size



Functions

Sensing range on black, 6% remission



ZTB18-xxxxxD02:  $x = 47 \text{ mm} / y = 4 \text{ mm}$   
 ZTB18-xxxxxD04:  $x = 93 \text{ mm} / y = 8 \text{ mm}$

Recommended accessories

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

|                            | 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)