



## Photoelectric sensors Z1, Photoelectric proximity sensor, Background suppression

ZT1-F3215



**Model Name** > ZT1-F3215  
**Part No.** > 1045564



*Illustration may differ*

#### At a glance

- Sensing distances of 50 mm, 60 mm, 100 mm or 155 mm, which are non-adjustable
- Infrared LED emitter
- Compact, transparent housing with 360° status indication
- M18 front mount and 24-25.4 mm slotted side through holes compatible with competitor devices

#### Your benefits

- Low-cost sensor for standard applications with small sensing distances
- Suitable for applications where the light spot needs to be invisible
- Clear housing provides 360° status indication, which simplifies troubleshooting
- Simple and unique mounting options lower installation costs
- Small size fits applications with limited space
- Compatibility with competitor products for easy integration into existing systems



#### Features

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Sensor/detection principle:      | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D):          | 13.6 mm x 34.8 mm x 23 mm                              |
| Housing design (light emission): | Hybrid                                                 |
| Thread diameter (housing):       | M18 x 1                                                |
| Sensing range max.:              | 0 mm ... 50 mm <sup>1)</sup>                           |
| Sensing range:                   | 0 mm ... 50 mm                                         |
| Type of light:                   | Infrared light                                         |
| Light source:                    | LED <sup>2)</sup>                                      |
| Wave length:                     | 880 nm                                                 |
| Light spot diameter (distance):  | 10.5 mm (50 mm)                                        |

<sup>1)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>2)</sup> Average service life 100,000 h at Ta = +25 °C

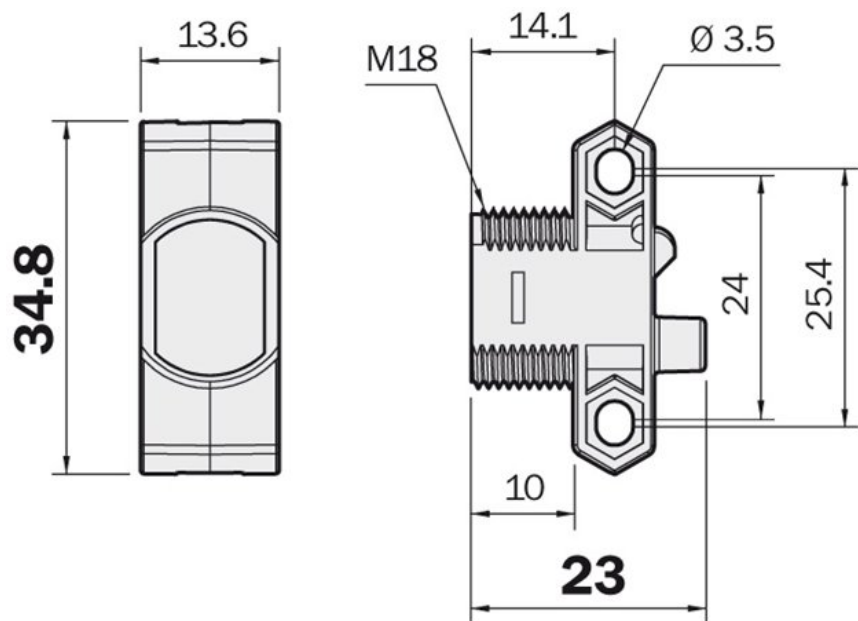
#### Mechanics/electronics

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:                           | < 5 Vpp <sup>2)</sup>             |
| Power consumption:                | < 20 mA <sup>3)</sup>             |
| Output type:                      | PNP, Dark-switching               |
| Output current I <sub>max</sub> : | 50 mA                             |
| Switching frequency:              | 200 Hz <sup>4)</sup>              |

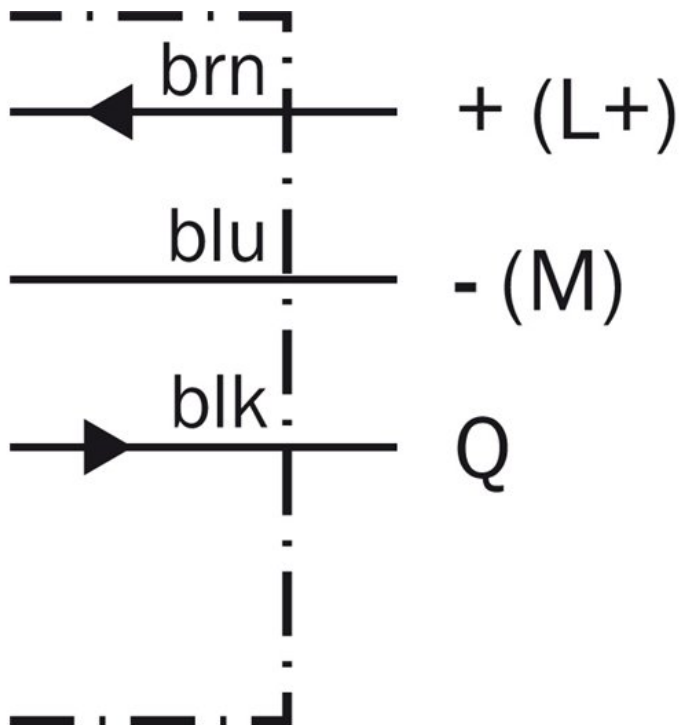
|                                |                                    |
|--------------------------------|------------------------------------|
| Connection type:               | Cable, 3-wire, 2 m <sup>5)</sup>   |
| Cable material:                | PVC                                |
| Conductor cross-section:       | 0.23 mm <sup>2</sup>               |
| Circuit protection::           | A, D <sup>6) 7)</sup>              |
| Protection class:              | III <sup>8)</sup>                  |
| Housing material:              | Glass fiber reinforced ABS plastic |
| Enclosure rating:              | IP 67                              |
| Items supplied:                | Mounting nut M18                   |
| Ambient operating temperature: | -25 °C ... 50 °C                   |
| Ambient storage temperature:   | -40 °C ... 70 °C                   |

<sup>1)</sup> Limit values    <sup>2)</sup> May not exceed or fall short of  $V_S$     <sup>3)</sup> Without load    <sup>4)</sup> With light/dark ratio 1:1    <sup>5)</sup> Do not bend below 0 °C    <sup>6)</sup> A =  $V_S$  connections reverse-polarity protected    <sup>7)</sup> D = outputs overcurrent and short-circuit protected    <sup>8)</sup> Reference voltage 50 V DC

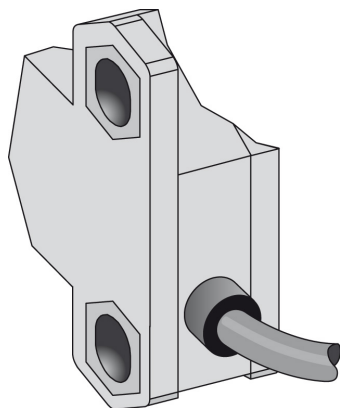
Dimensional drawing



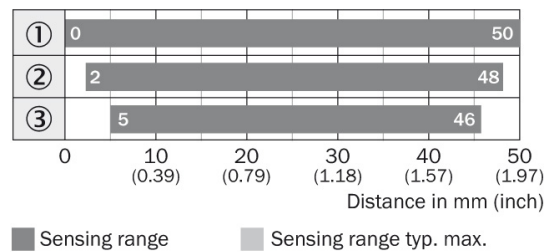
Connection diagram



Connection type



Sensing range diagram



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

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