



Photoelectric sensors  
ELF3, Photoelectric proximity sensor,  
Background suppression

ET3-P3228



**SICK**  
Sensor Intelligence.

**Model Name** > [ET3-P3228](#)  
**Part No.** > [1045211](#)



*Illustration may differ*

#### At a glance

- Background suppression or energetic variants
- Infrared light or visible red light
- Clear back cover for status indication
- 18 mm front and base mount
- Status and output indicator
- IP 67-rated for harsh environments
- Flush red lens

#### Your benefits

- A wide range of customizable options reduces material and labor costs
- Flush red lens provides an increased sensing range for a broader range of application possibilities
- IP 67-rated housing offers a long service life that stands up to harsh environments, reducing maintenance time and costs
- Highly visible status/power indicator provides quick and easy troubleshooting from a distance
- M18 front and base mounting ensures quick and easy installation
- Small sensor footprint easily fits into applications with limited space



#### Features

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Sensor/detection principle:      | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D):          | 23.8 mm x 43.4 mm x 33.6 mm                            |
| Housing design (light emission): | Hybrid                                                 |
| Thread diameter (housing):       | M18                                                    |
| Sensing range max.:              | 0 mm ... 50 mm <sup>1)</sup>                           |
| Sensing range:                   | 0 mm ... 50 mm <sup>2)</sup>                           |
| Type of light:                   | Infrared light                                         |
| Light source:                    | LED <sup>3)</sup>                                      |
| Light spot (distance):           | 50 mm                                                  |
| Wave length:                     | 880 nm                                                 |

<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

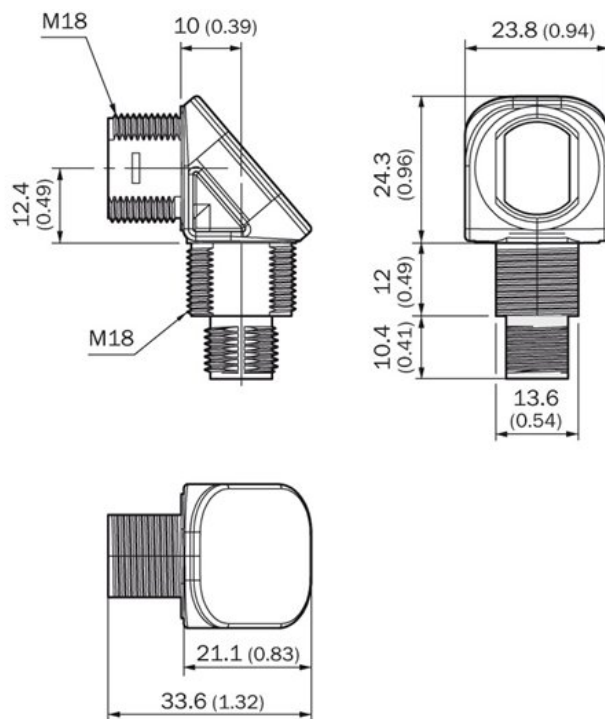
#### Mechanics/electronics

|                 |                                   |
|-----------------|-----------------------------------|
| Supply voltage: | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:         | < 5 Vpp <sup>2)</sup>             |

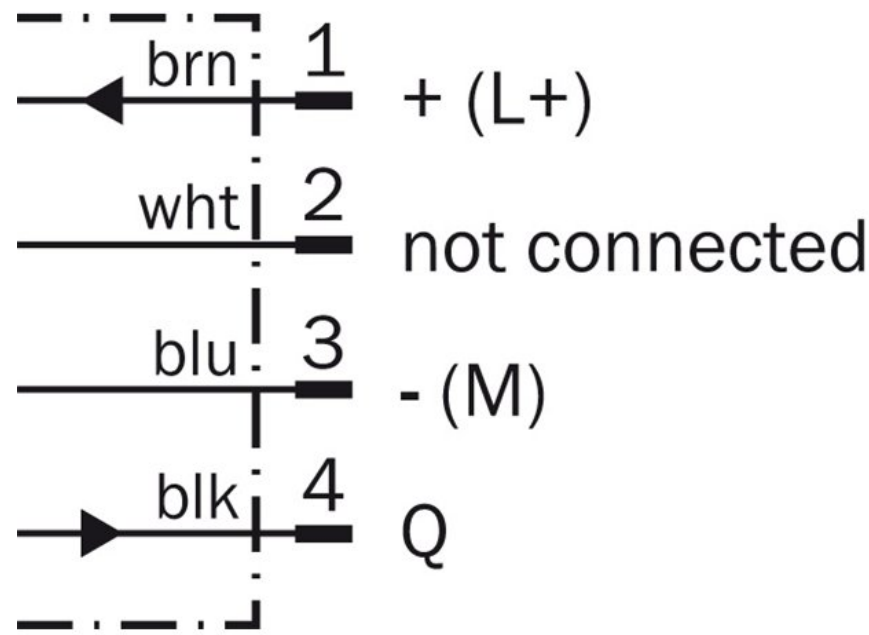
|                                   |                                    |
|-----------------------------------|------------------------------------|
| Power consumption:                | < 20 mA <sup>3)</sup>              |
| Output type:                      | PNP, Light-switching               |
| Output current I <sub>max</sub> : | 50 mA                              |
| Switching frequency:              | 200 Hz <sup>4)</sup>               |
| Connection type:                  | Connector M12, 4-pin               |
| Circuit protection:               | A, D <sup>5) 6)</sup>              |
| Protection class:                 | III <sup>7)</sup>                  |
| Weight:                           | 0.014 kg, 0.03 lbs                 |
| 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<sub>S</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

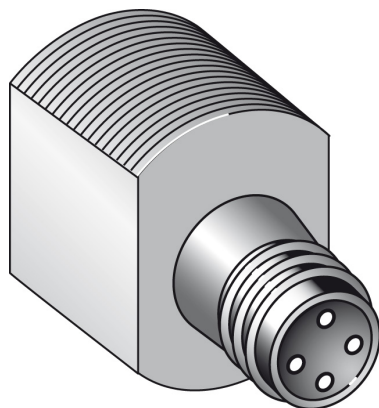
## Dimensional drawing



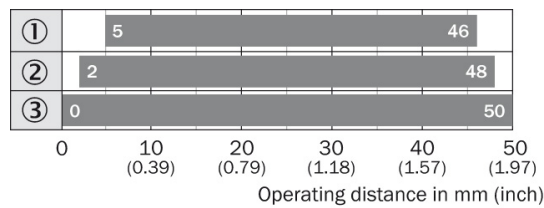
Connection diagram



Connection type



Sensing range diagram



- ① Scanning distance on black, 6 % remission
- ② Scanning distance on grey, 18 % remission
- ③ Scanning distance on white, 90 % remission

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