



## Photoelectric sensors W100, Photoelectric proximity sensor, energetic

WT100-P0412S06



**Model Name** > **WT100-P0412S06**  
**Part No.** > **6049447**



*Illustration may differ*

#### At a glance

- Standard miniature housing with M3 threaded mounting holes
- Optics with standard red LED or bright light LED
- Available as a background blanking sensor or as an energetic proximity sensor
- Light/dark switching and sensitivity adjustment via rotary switch possible (depending on type)
- Wide variety of accessories available (depending on type)

#### Your benefits

- Highly visible light spot allows for quick and easy alignment
- M3 threaded mounting holes provide easy installation

**Product will be phased out and can be ordered until 31.12.2015.**



#### Features

|                                  |                                           |
|----------------------------------|-------------------------------------------|
| Sensor/detection principle:      | Photoelectric proximity sensor, energetic |
| Dimensions (W x H x D):          | 11 mm x 31 mm x 20 mm                     |
| Housing design (light emission): | Rectangular                               |
| Sensing range max.:              | 0 mm ... 900 mm <sup>1)</sup>             |
| Sensing range:                   | 0 mm ... 700 mm                           |
| Type of light:                   | Visible red light                         |
| Light source:                    | LED <sup>2)</sup>                         |
| Wave length:                     | 680 nm                                    |
| Angle of dispersion:             | Ca. 6.8 °                                 |
| Focus adjustable:                | -                                         |
| Adjustment:                      | Potentiometer, 270 °                      |
| Light spot size (distance):      | Ø 55 mm (400 mm)                          |

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

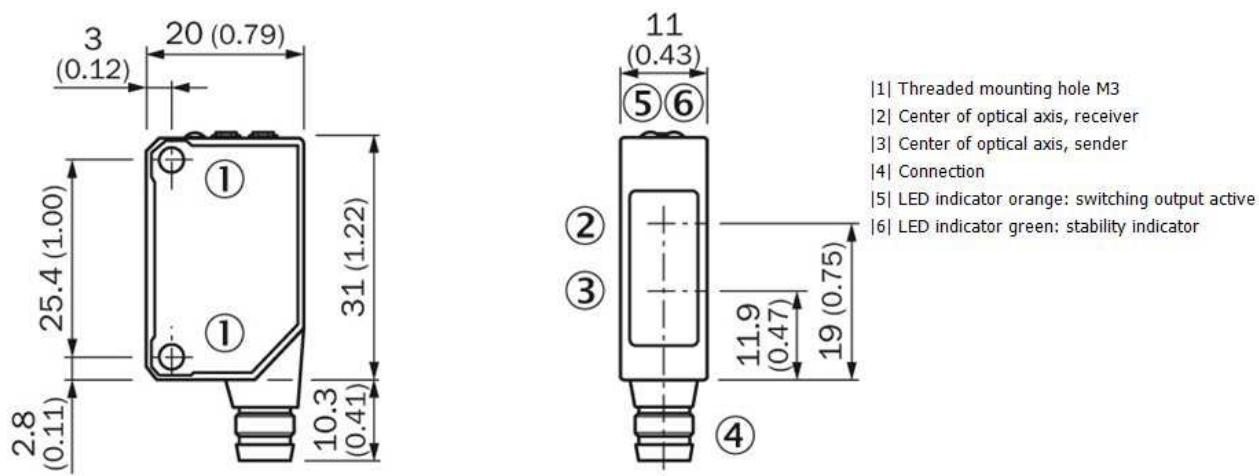
#### Mechanics/electronics

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup> |
| Residual ripple:                  | ± 10 % <sup>2)</sup>              |
| Power consumption:                | ≤ 30 mA <sup>3)</sup>             |
| Output type:                      | PNP, open collector               |
| Switching mode:                   | Light/dark switching              |
| Switching mode selector:          | Manually selectable               |
| Output current I <sub>max</sub> : | ≤ 100 mA                          |

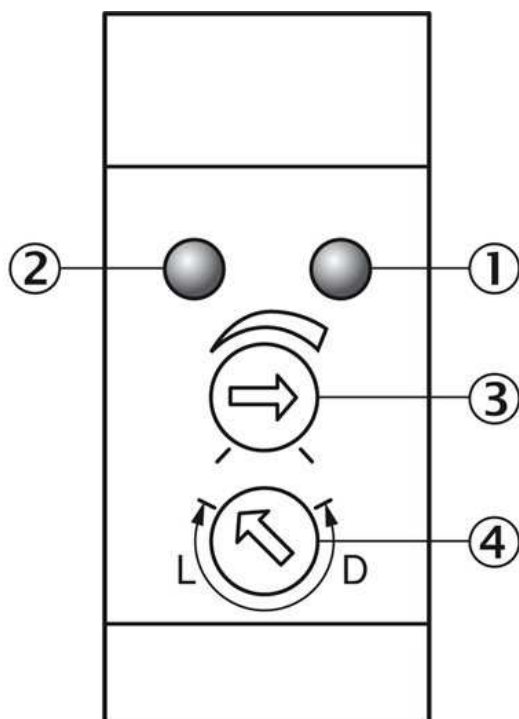
|                                |                                                      |
|--------------------------------|------------------------------------------------------|
| Response time:                 | $\leq 0.5 \text{ ms}$ <sup>4)</sup>                  |
| Switching frequency:           | 1,000 Hz <sup>5)</sup>                               |
| Electrical connection:         | Cable with connector M8, 4-pin, 200 mm <sup>6)</sup> |
| Cable material:                | PVC                                                  |
| Conductor cross-section:       | 0.18 mm <sup>2</sup>                                 |
| Circuit protection:::          | A, B, D <sup>7)</sup> <sup>8)</sup> <sup>9)</sup>    |
| Weight:                        | 30 g                                                 |
| Polarisation filter:           | -                                                    |
| Special device:                | ✓                                                    |
| Optics material:               | PMMA                                                 |
| Enclosure rating:              | IP 65                                                |
| Ambient temperature operation: | -25 °C ... +55 °C                                    |
| Ambient storage temperature:   | -40 °C ... +70 °C                                    |
| Signal voltage PNP HIGH/LOW:   | UV - 1,8 V/ca. 0 V                                   |
| Housing material:              | ABS/PC/POM, Plastic                                  |

<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  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> Do not bend below 0 °C <sup>7)</sup> A =  $V_S$  connections reverse-polarity protected <sup>8)</sup> B = inputs and output reverse-polarity protected <sup>9)</sup> D = outputs overcurrent and short-circuit protected

## Dimensional drawing

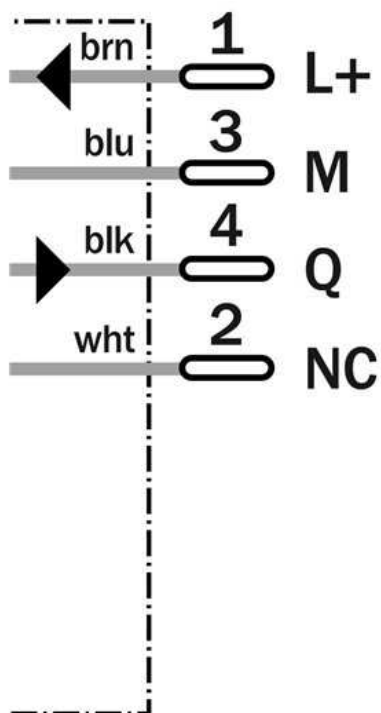


## Adjustments possible

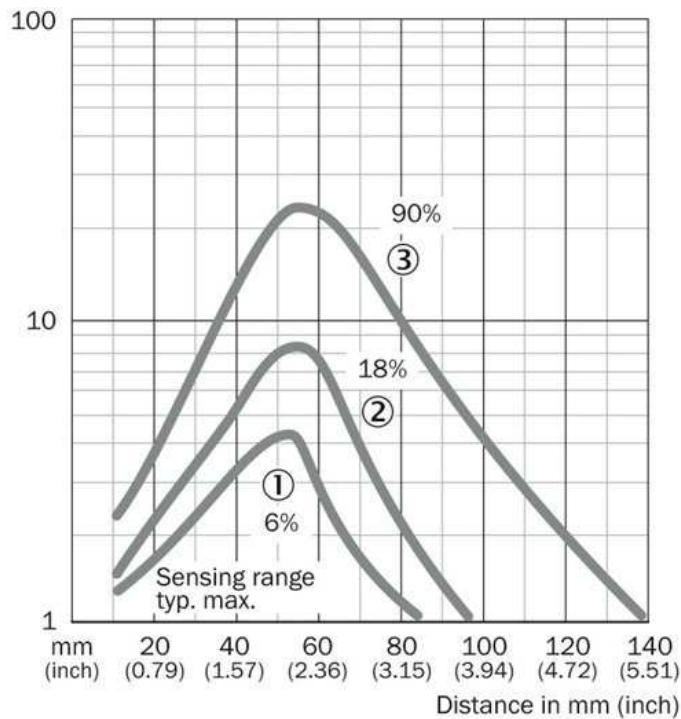


- |1| LED indicator orange: switching output active
- |2| LED indicator green: power on
- |3| Sensing range adjustment: potentiometer
- |4| Light/ dark rotary switch: L =  
light switching, D = dark switching

## Connection diagram

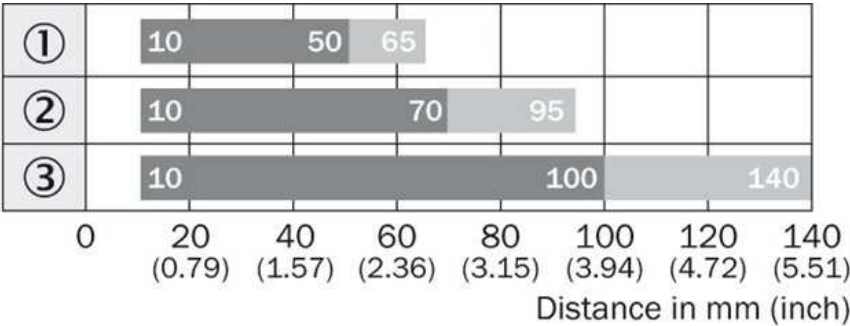


Characteristic curve



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

Sensing range diagram



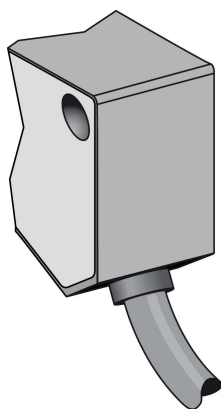
- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

■ Sensing range      ■ Sensing range typ. max.

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

## Connection type

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