



## Photoelectric sensors W100-2, Photoelectric proximity sensor, Background blanking

WT100-2P1412S01



Type > [WT100-2P1412S01](#)  
Part No. > [6052402](#)



Illustration may differ

#### At a glance

- Standard miniature housing with integrated M3 threaded mounting holes
- Bright emitted light spot and clearly visible indicator LEDs
- Light/dark switching and sensitivity adjustment possible
- Effective background blanking

#### Your benefits

- Straightforward alignment thanks to bright light spot and clearly visible indicator LEDs
- Compatibility with a number of common mounting systems due to standard housing with 1-inch hole spacing and integrated M3 threaded mounting hole
- Highly reliable and durable despite optical interference and mechanical loads
- Precise detection, irrespective of reflective objects and backgrounds



#### Features

|                                  |                                                     |
|----------------------------------|-----------------------------------------------------|
| Sensor/detection principle:      | Photoelectric proximity sensor, Background blanking |
| Dimensions (W x H x D):          | 11 mm x 31 mm x 20 mm                               |
| Housing design (light emission): | Rectangular                                         |
| Sensing range max.:              | 10 mm ... 240 mm <sup>1)</sup>                      |
| Sensing range:                   | 10 mm ... 240 mm <sup>2)</sup>                      |
| Type of light:                   | Visible red light                                   |
| Light source:                    | LED <sup>3)</sup>                                   |
| Wave length:                     | 632 nm                                              |
| Adjustment:                      | Fix                                                 |
| Light spot size (distance):      | Ø 8 mm (90 mm)                                      |

<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

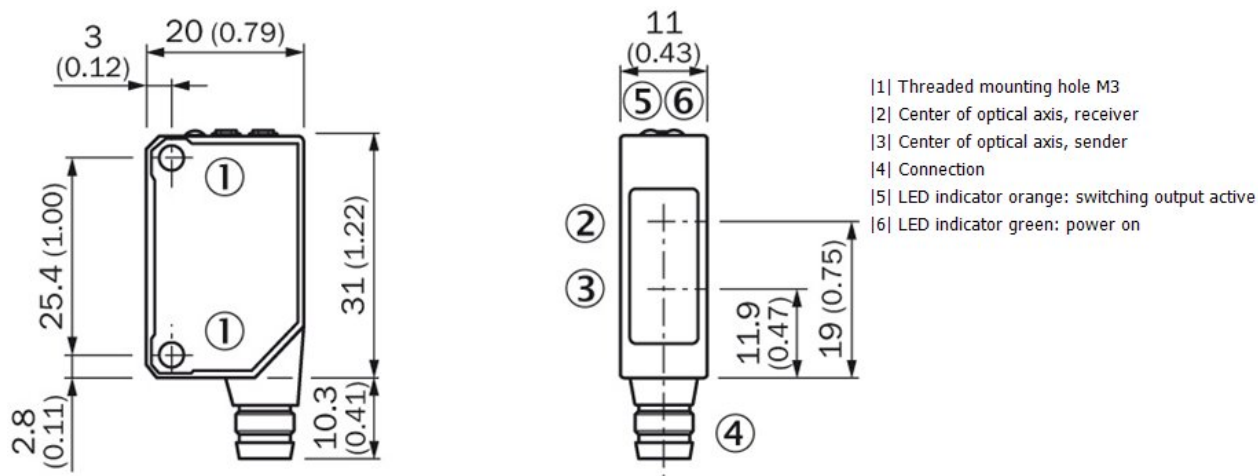
#### Mechanics/electronics

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:                           | ± 10 % <sup>2)</sup>              |
| Current consumption:              | ≤ 30 mA <sup>3)</sup>             |
| Output type:                      | PNP                               |
| Switching mode:                   | Dark switching                    |
| Output current I <sub>max</sub> : | 100 mA                            |
| Response time:                    | ≤ 0.5 ms <sup>4)</sup>            |

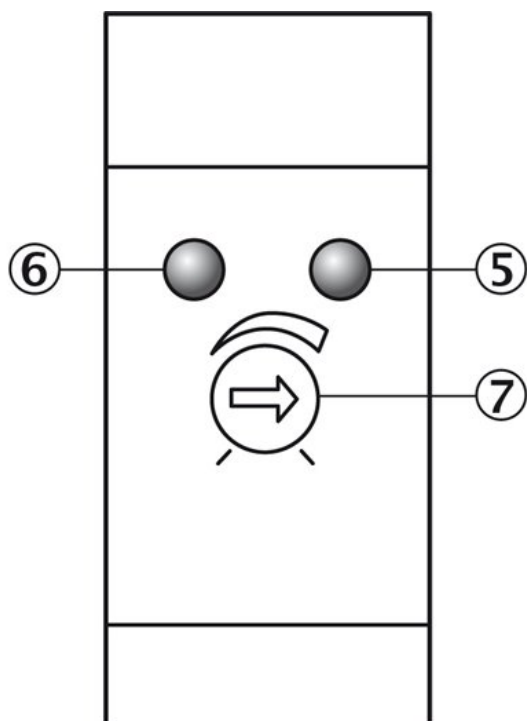
|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Switching frequency:           | 1,000 Hz <sup>5)</sup>                            |
| Connection type:               | Cable with Stocko-connector, 260 mm <sup>6)</sup> |
| Cable material:                | PVC                                               |
| Circuit protection:::          | A, B, D <sup>7)</sup> 8) 9)                       |
| Protection class:              | III                                               |
| Special device:                | -                                                 |
| Optics material:               | PMMA                                              |
| Enclosure rating:              | IP 67                                             |
| Ambient operating temperature: | -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 <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 = output reverse-polarity protected <sup>9)</sup> D = outputs overcurrent and short-circuit protected

## Dimensional drawing



## Adjustments possible

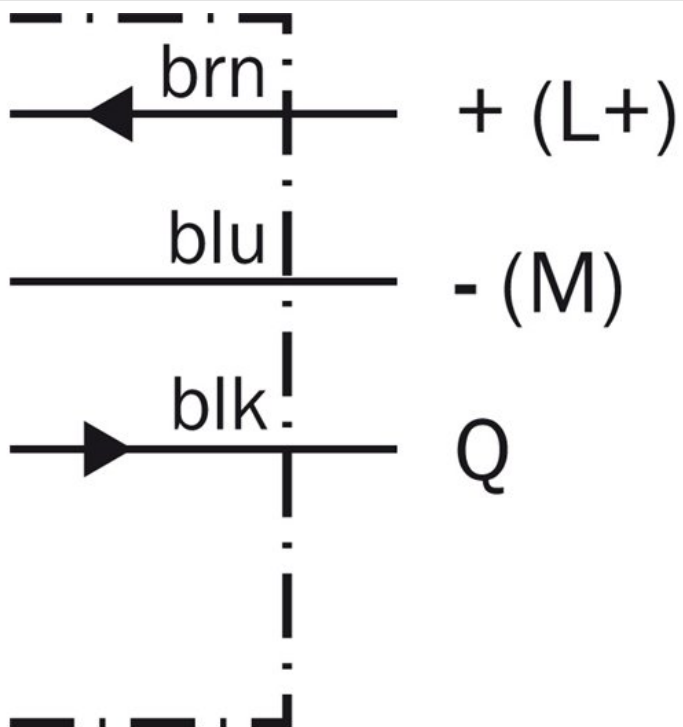


|5| Orange LED indicator : switching output active

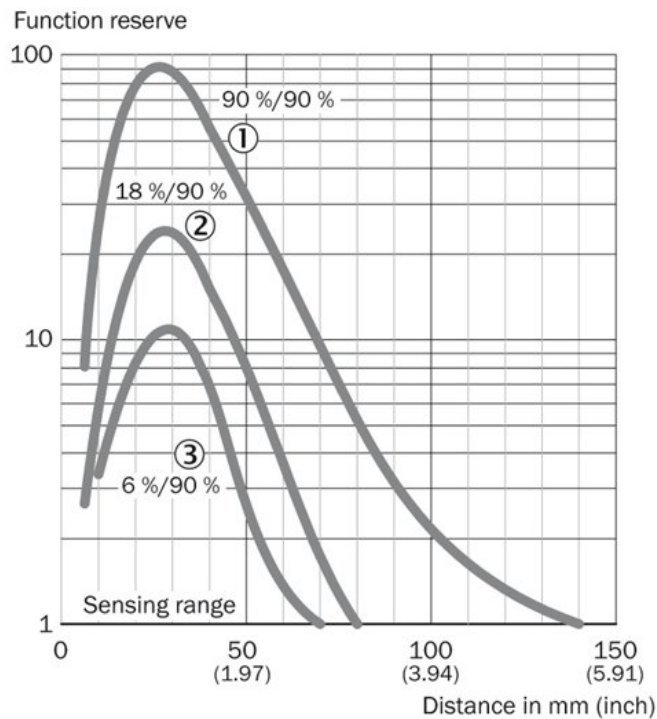
|6| LED indicator green: stability indicator

|7| Sensitivity adjustment

## Connection diagram

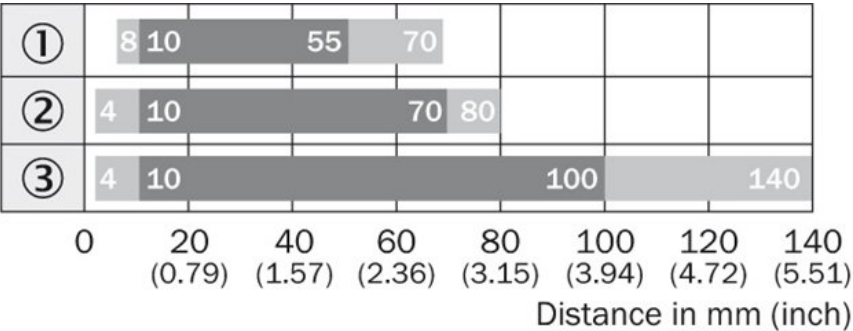


Characteristic curve



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

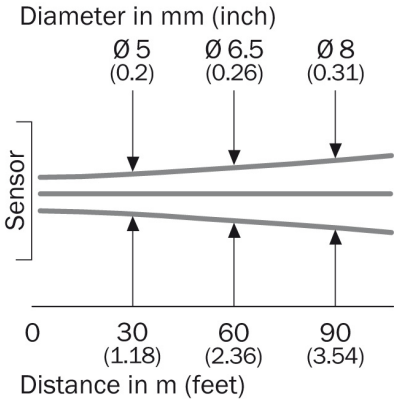
Sensing range diagram



- |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 max.

Light spot size



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