



## Photoelectric sensors W280-2, Photoelectric proximity sensor, energetic

WTE280-2N1131



**Model Name** > [WTE280-2N1131](#)  
**Part No.** > [6044727](#)



*Illustration may differ*

#### At a glance

- Highly visible red light spot thanks to the BrightLight LED
- Potentiometer for adjusting sensing range
- Light/dark switching (DC devices only)
- Rotatable connector, cable connection or terminal chamber
- Versions for 10 - 30 V DC or 24 - 240 V DC/AC voltage supply
- Stainless steel mounting bracket included in delivery

#### Your benefits

- Simple and fast commissioning with the highly visible light spot of the BrightLight LED
- Simple operation via potentiometer
- Light/dark switching provides application flexibility
- All necessary mounting and operating accessories are included in delivery, enabling quick and easy setup: since mounting bracket (stainless steel 1.4301) is included in delivery scope
- DC devices and AC/DC devices available in the same housing, allowing electrical flexibility



#### Features

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Sensor/detection principle:      | Photoelectric proximity sensor, energetic              |
| Dimensions (W x H x D):          | 23.5 mm x 74.5 mm x 63 mm                              |
| Housing design (light emission): | Rectangular                                            |
| Sensing range max.:              | 10 mm ... 2,000 mm <sup>1)</sup>                       |
| Sensing range:                   | 10 mm ... 1,500 mm                                     |
| Type of light:                   | Visible red light                                      |
| Light source:                    | BrightLight LED <sup>2)</sup>                          |
| Adjustment:                      | Adjustable via sensing range adjustment, Potentiometer |
| Light spot size (distance):      | Ø 45 mm (1,500 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

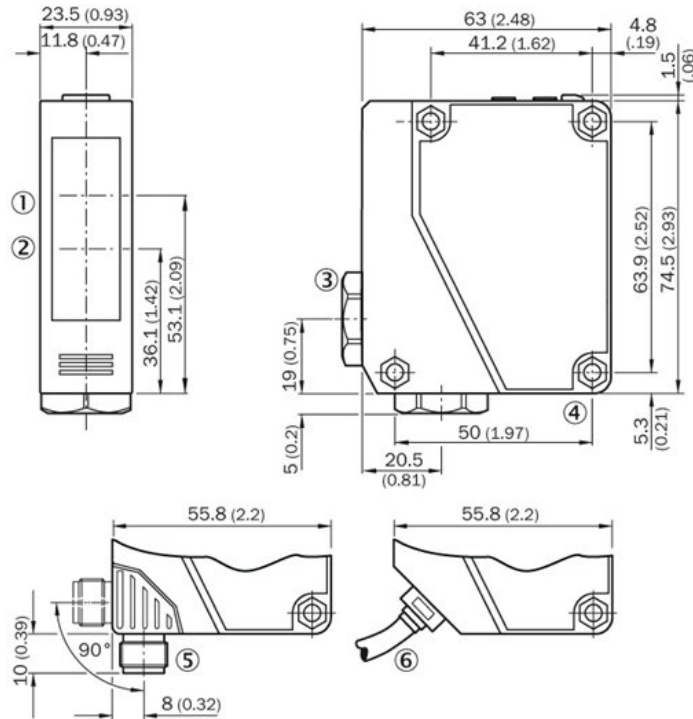
#### Mechanics/electronics

|                    |                                   |
|--------------------|-----------------------------------|
| Supply voltage:    | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:            | ≤ 5 Vpp <sup>2)</sup>             |
| Power consumption: | ≤ 20 mA <sup>3)</sup>             |
| Output type:       | NPN, open collector               |
| Switching mode:    | Light/dark-switching              |

|                                   |                                         |
|-----------------------------------|-----------------------------------------|
| Switching mode selector:          | Selectable via light/dark rotary switch |
| 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, 3-wire, 2 m <sup>6)</sup>        |
| Conductor cross-section:          | 0.18 mm <sup>2</sup>                    |
| Circuit protection:::             | A, B, C, D <sup>7)</sup> 8) 9) 10)      |
| Protection class:                 | III                                     |
| Weight:                           | 150 g                                   |
| Housing material:                 | ABS, Plastic                            |
| Optics material:                  | PMMA                                    |
| Enclosure rating:                 | IP 66<br>IP 67                          |
| Items supplied:                   | Mounting bracket BEF-W280               |
| EMC:                              | EN 60947-5-2 <sup>11)</sup>             |
| Ambient operating temperature:    | -25 °C ... 55 °C                        |
| Ambient storage temperature:      | -40 °C ... 70 °C                        |

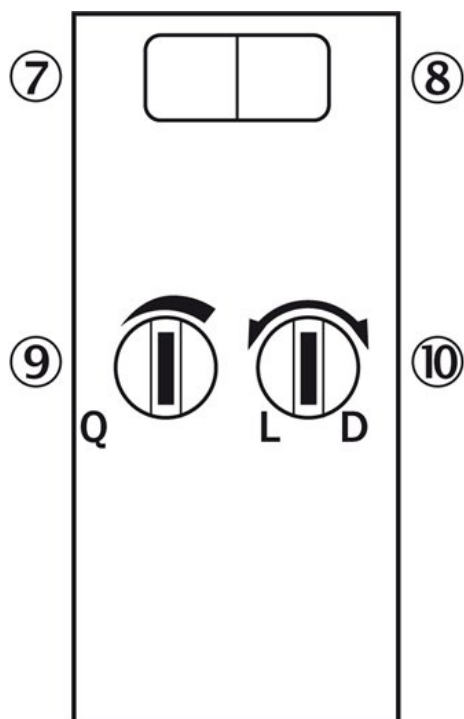
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A    <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances    <sup>3)</sup> Without load    <sup>4)</sup> Signal transit time with resistive load  
<sup>5)</sup> With light/dark ratio 1:1    <sup>6)</sup> Do not 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> C = interference suppression    <sup>10)</sup> D = outputs overcurrent and short-circuit protected    <sup>11)</sup> The AC/DC devices meet the interference suppression requirements for industrial use (interference suppression class A). When used in residential areas it can cause interference.

## Dimensional drawing



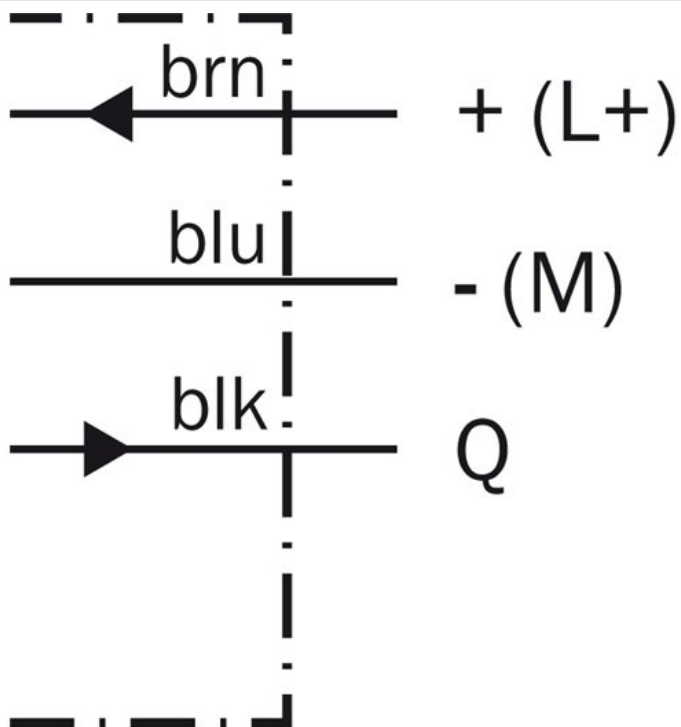
- [1] Center of optical axis, receiver
- [2] Center of optical axis, sender
- [3] Cable entry gland 3/8" for cable diameter 6 to 8 mm
- [4] Mounting hole, Ø 4.3 mm
- [5] Connector M12, 4-pin, 90°  
rotatable, can be locked with slider
- [6] Cable, 2 m, 3-pin, Ø 3,8 mm

## Adjustments possible

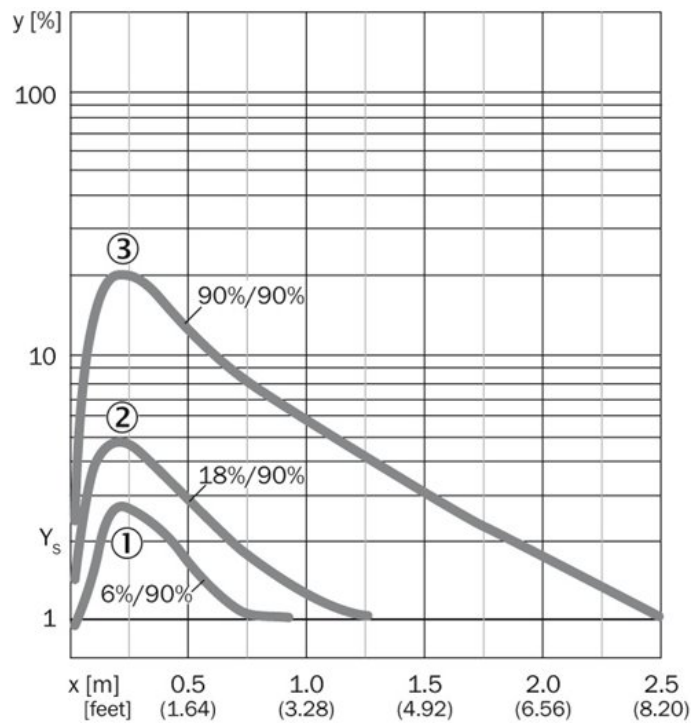


- |7| LED indicator green: Stability indicator
- |8| Status indicator LED,  
yellow: Status of received light beam
- |9| Sensing range adjustment: potentiometer
- |10| Light/dark selector

## Connection diagram

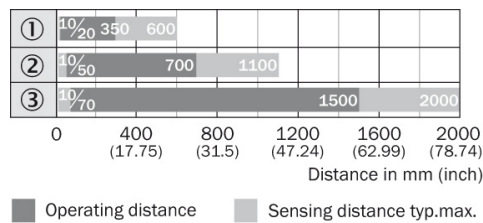


Characteristic curve



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

Sensing range diagram



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