



## Photoelectric sensors W280, Through-beam photoelectric sensor

WS/WE280-P132



**Model Name** > [WS/WE280-P132](#)  
**Part No.** > [6028290](#)



*Illustration may differ*

#### At a glance

- Visible red light
- Large sensing range and high operating reserve
- 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 (1.4301) is included in delivery
- AC/DC devices are compliant with EN61000-6-3 (electromagnetic interference for "residential, commercial and light-industrial environments")
- UL recognized

#### Your benefits

- Less contamination due to high operating reserves, reducing downtime
- DC and AC/DC devices available in the same housing allow electrical flexibility
- Light/dark switching provides application flexibility and reduces the number of devices needed
- 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

**Note: This part is discontinued. Please see the replacement product under "Replacement Products" link. "**



#### Features

|                                  |                                   |
|----------------------------------|-----------------------------------|
| Sensor/detection principle:      | Through-beam photoelectric sensor |
| Dimensions (W x H x D):          | 23.5 mm x 74.5 mm x 63 mm         |
| Housing design (light emission): | Rectangular                       |
| Sensing range max.:              | 0 m ... 45 m                      |
| Sensing range:                   | 0 m ... 40 m                      |
| Type of light:                   | Visible red light                 |
| Light source:                    | LED <sup>1)</sup>                 |
| Angle of dispersion:             | 1.4 °                             |
| Adjustment:                      | Sensitivity adjustment            |
| Light spot size (distance):      | 40 m                              |

<sup>1)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

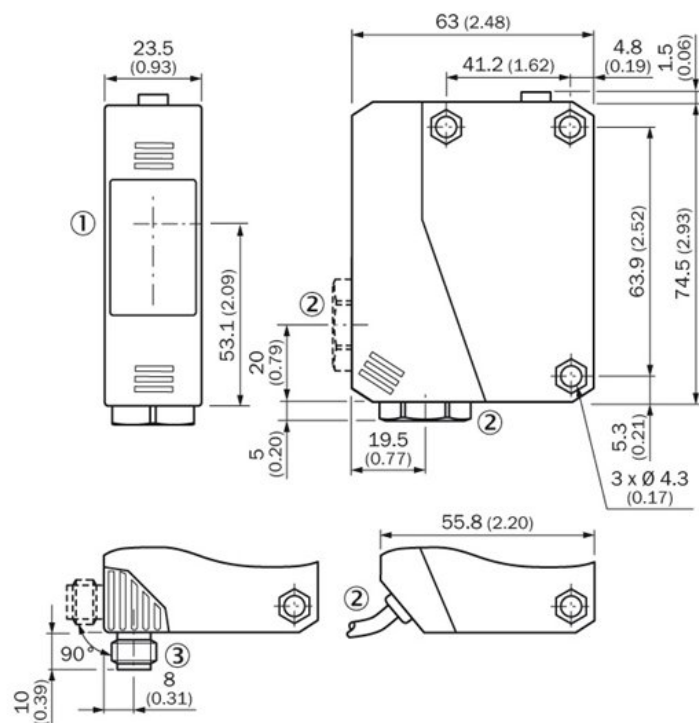
## Mechanics/electronics

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|                                   |                                         |
|-----------------------------------|-----------------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup>       |
| Ripple:                           | $\leq 5 \text{ V}_{pp}$ <sup>2)</sup>   |
| Power consumption, sender:        | 3.5 mA <sup>3)</sup>                    |
| Power consumption, receiver:      | 3.5 mA <sup>4)</sup>                    |
| Output type:                      | PNP, 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:                    | $\leq 0.5 \text{ ms}$ <sup>5)</sup>     |
| Switching frequency:              | 1,000 Hz <sup>6)</sup>                  |
| Angle of reception:               | 6 °                                     |
| Connection type:                  | Cable, 3-wire, 2 m <sup>7)</sup>        |
| Conductor cross-section:          | 0.18 mm <sup>2</sup>                    |
| Circuit protection::::            | A, B, C, D <sup>8) 9) 10) 11)</sup>     |
| Protection class:                 | II <sup>12)</sup>                       |
| Weight:                           | 300 g                                   |
| Housing material:                 | ABS, Plastic                            |
| Optics material:                  | PMMA                                    |
| Enclosure rating:                 | IP 66                                   |
| Items supplied:                   | Mounting bracket BEF-W280               |
| Ambient operating temperature:    | -25 °C ... 55 °C                        |
| Ambient storage temperature:      | -40 °C ... 70 °C                        |

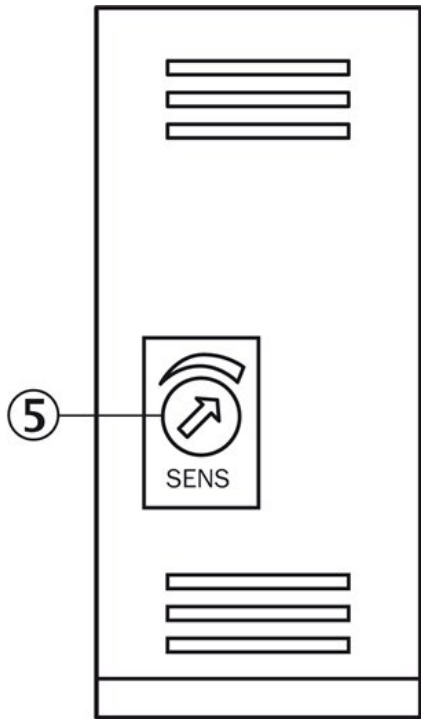
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3) 4)</sup> Without load <sup>5)</sup> Signal transit time with resistive load <sup>6)</sup> With light/dark ratio 1:1 <sup>7)</sup> Do not bend below 0 °C <sup>8)</sup> A =  $V_S$  connections reverse-polarity protected <sup>9)</sup> B = inputs and output reverse-polarity protected <sup>10)</sup> C = interference suppression <sup>11)</sup> D = outputs overcurrent and short-circuit protected <sup>12)</sup> To VDE 0106

Dimensional drawing



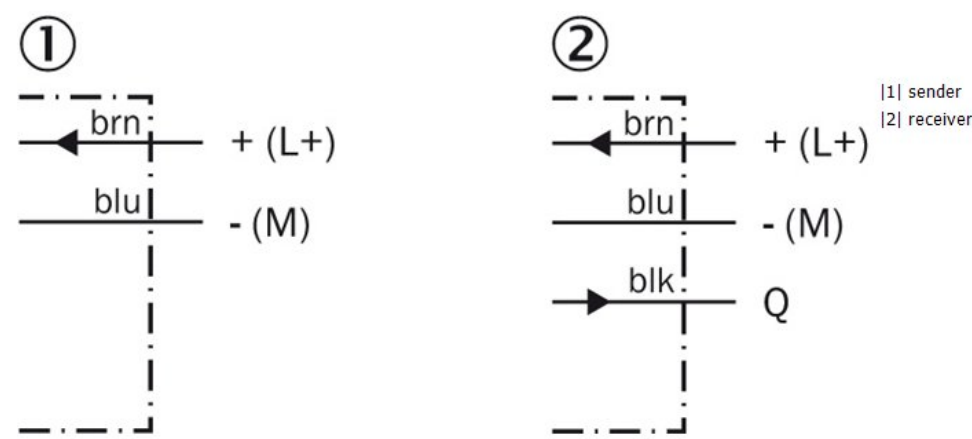
- [1] Optical axis, sender and receiver
- [2] Cable entry gland 1/2" PF for cable diameter 6 to 10 mm or 3-core cable Ø 3.8 mm
- [3] Connector M12, 4-pin , rotatable by 90°

Adjustments possible



- [5] Sensitivity adjustment

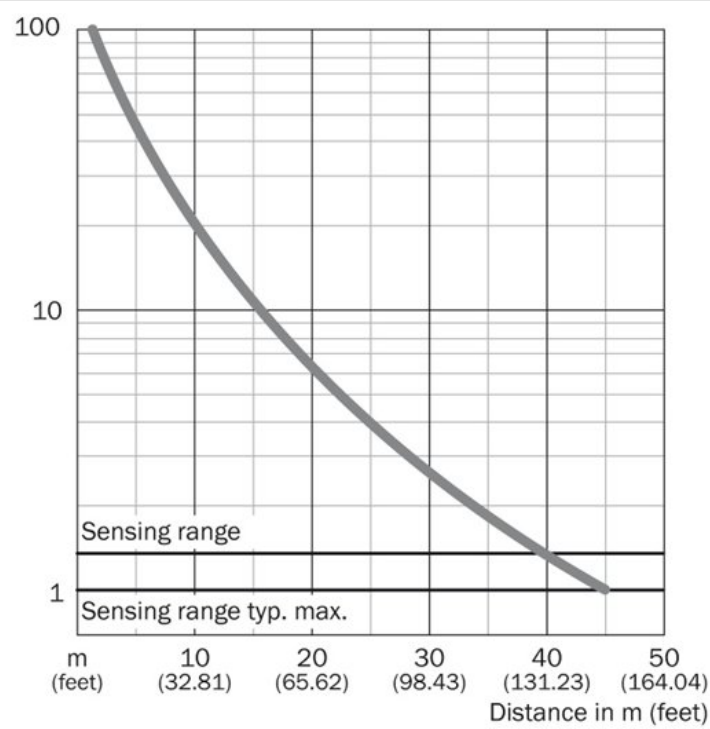
Connection diagram



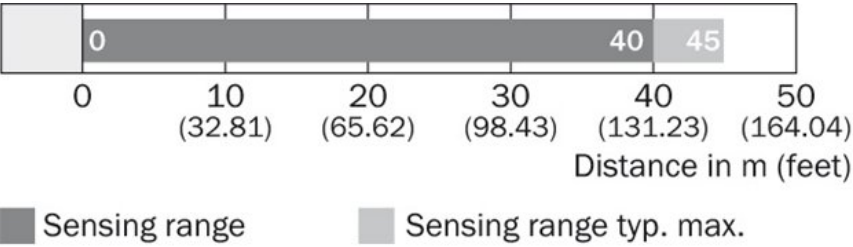
|1| sender

|2| receiver

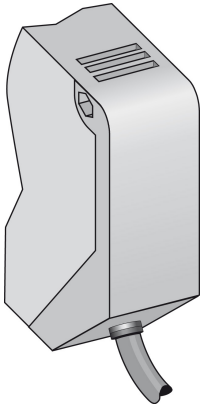
Characteristic curve



**Sensing range diagram**



**Connection type**



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