



# WS/WE280-P132

## W280

COMPACT PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	Part no.
WS/WE280-P132	6028290

**Included in delivery:** BEF-W280 (1)

Other models and accessories → [www.sick.com/W280](http://www.sick.com/W280)

## Detailed technical data

### Features

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

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

### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	≤ 5 V <sub>pp</sub> <sup>2)</sup>

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not exceed or fall below U<sub>V</sub> 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<sub>S</sub> 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> To VDE 0106.

<b>Power consumption, sender</b>	3.5 mA <sup>3)</sup>
<b>Power consumption, receiver</b>	3.5 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via light/dark rotary switch
<b>Output current I<sub>max.</sub></b>	100 mA
<b>Response time</b>	≤ 0.5 ms <sup>4)</sup>
<b>Switching frequency</b>	1,000 Hz <sup>5)</sup>
<b>Angle of reception</b>	6°
<b>Connection type</b>	Cable, 3-wire, 2 m <sup>6)</sup>
<b>Conductor cross-section</b>	0.18 mm <sup>2</sup>
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> C <sup>9)</sup> D <sup>10)</sup>
<b>Protection class</b>	II <sup>11)</sup>
<b>Weight</b>	300 g
<b>Housing material</b>	Plastic, ABS
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP66
<b>Items supplied</b>	Mounting bracket BEF-W280
<b>Ambient operating temperature</b>	-25 °C ... +55 °C
<b>Ambient storage temperature</b>	-40 °C ... +70 °C

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not exceed or fall below U<sub>v</sub> 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<sub>S</sub> 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.

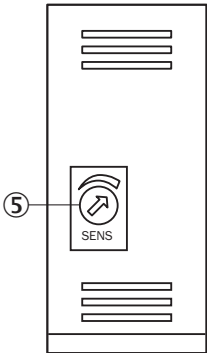
<sup>11)</sup> To VDE 0106.

## Classifications

<b>ECI@ss 5.0</b>	27270901
<b>ECI@ss 5.1.4</b>	27270901
<b>ECI@ss 6.0</b>	27270901
<b>ECI@ss 6.2</b>	27270901
<b>ECI@ss 7.0</b>	27270901
<b>ECI@ss 8.0</b>	27270901
<b>ECI@ss 8.1</b>	27270901
<b>ECI@ss 9.0</b>	27270901

ETIM 5.0	EC002716
ETIM 6.0	EC002716
UNSPSC 16.0901	39121528

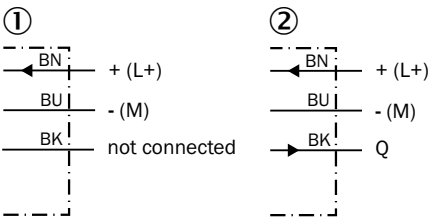
Adjustments possible



⑤ Sensitivity control

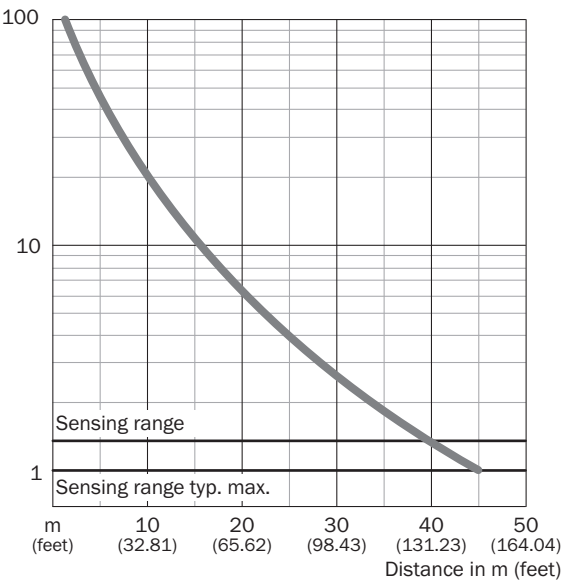
Connection diagram

Cd-049

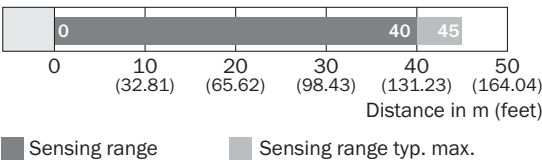


- ① Sender
- ② Receiver

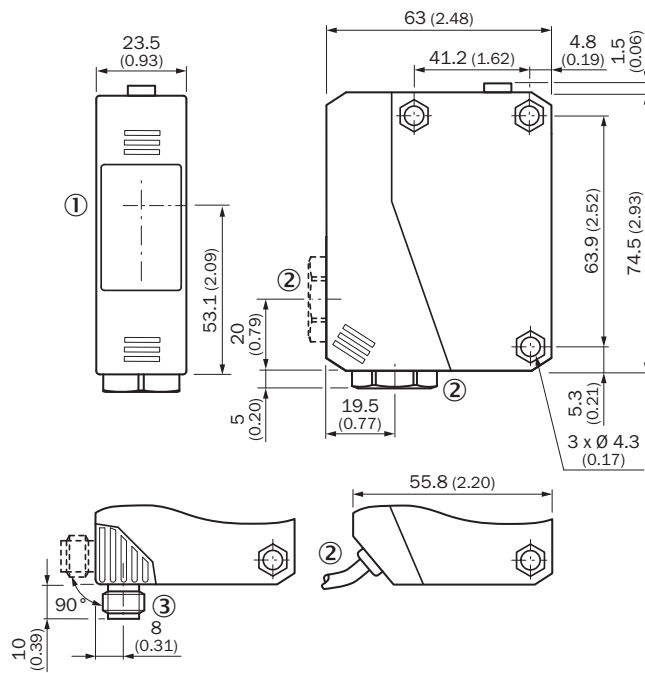
Characteristic curve



Sensing range diagram



### Dimensional drawing (Dimensions in mm (inch))



## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)