



DATA SHEET

# WSE280-2P4331

W280  
Photoelectric sensors

# SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WSE280-2P4331

ORDERING INFORMATION

| Type          | part no. |
|---------------|----------|
| WSE280-2P4331 | 6044741  |

Further device versions and accessories at [www.sick.com/W280](http://www.sick.com/W280)



DETAILED TECHNICAL DATA

FEATURES

|                                 |                                   |
|---------------------------------|-----------------------------------|
| Functional 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 ... 60 m                      |
| Sensing range                   | 0 m ... 50 m                      |
| Type of light                   | Visible red light                 |
| Light source                    | LED <sup>1)</sup>                 |
| Light spot size (distance)      | Ø 0.6 m (20 m)                    |
| Adjustment                      | Potentiometer                     |

<sup>1)</sup> Average service life: 100,000 h at T<sub>0</sub> = +25 °C.

MECHANICS/ELECTRONICS

|                               |                                   |
|-------------------------------|-----------------------------------|
| Supply voltage U <sub>B</sub> | 10 V DC ... 30 V DC <sup>1)</sup> |
|-------------------------------|-----------------------------------|

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

<sup>2)</sup> May not fall below or exceed 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> A = V<sub>s</sub> connections reverse-polarity protected.

<sup>7)</sup> B = inputs and output reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

<sup>10)</sup> The AC/DC devices (-2Rxxxx only) comply with the Radio Safety Requirements for the industrial sector (Radio Safety Class A). They may cause radio interference if used in a residential area.

|                                     |                                                                          |
|-------------------------------------|--------------------------------------------------------------------------|
| Ripple                              | $< 5 \text{ V}_{pp}^{2)}$                                                |
| Power consumption, sender           | $\leq 20 \text{ mA}$                                                     |
| Power consumption, receiver         | $\leq 20 \text{ mA}^{3)}$                                                |
| Switching output                    | PNP                                                                      |
| Switching mode                      | Light/dark switching                                                     |
| Switching mode selector             | Selectable via light/dark rotary switch                                  |
| Output current $I_{max}$            | $\leq 100 \text{ mA}$                                                    |
| Response time                       | $\leq 0.5 \text{ ms}^{4)}$                                               |
| Switching frequency                 | $1,000 \text{ Hz}^{5)}$                                                  |
| Connection type                     | Cable gland                                                              |
| Circuit protection                  | A <sup>6)</sup><br>B <sup>7)</sup><br>C <sup>8)</sup><br>D <sup>9)</sup> |
| Protection class                    | III                                                                      |
| Weight                              | 300 g                                                                    |
| Housing material                    | Plastic, ABS                                                             |
| Optics material                     | Plastic, PMMA                                                            |
| Enclosure rating                    | IP66<br>IP67                                                             |
| Items supplied                      | Mounting bracket BEF-W280                                                |
| Electromagnetic compatibility (EMC) | EN 60947-5-2<br><sub>10) 10)</sub>                                       |
| Ambient operating temperature       | -25 °C ... +55 °C                                                        |
| Ambient temperature, storage        | -40 °C ... +70 °C                                                        |
| UL File No.                         | NRKH2.E300503 & NRKH8.E300503                                            |

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

<sup>2)</sup> May not fall below or exceed  $U_v$  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> A =  $V_g$  connections reverse-polarity protected.

<sup>7)</sup> B = inputs and output reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

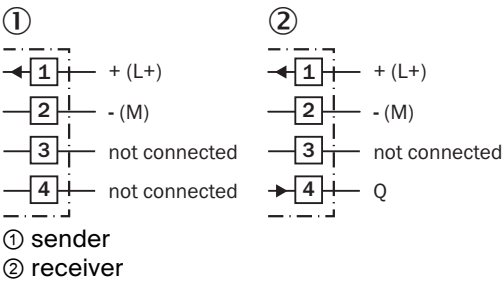
<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

<sup>10)</sup> The AC/DC devices (-2Rxxx only) comply with the Radio Safety Requirements for the industrial sector (Radio Safety Class A). They may cause radio interference if used in a residential area.

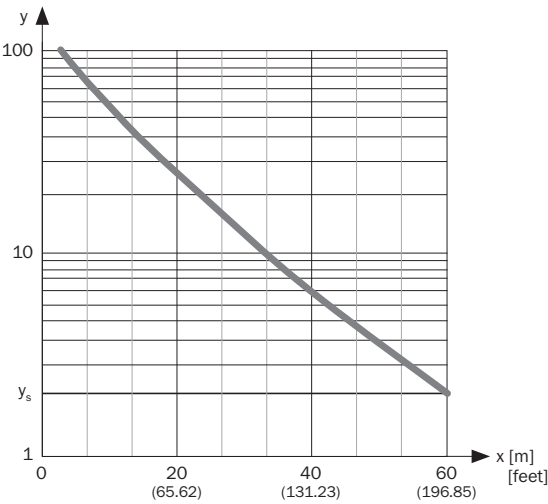
## CERTIFICATES

|                                                     |   |
|-----------------------------------------------------|---|
| EU declaration of conformity                        | ✓ |
| UK declaration of conformity                        | ✓ |
| ACMA declaration of conformity                      | ✓ |
| Moroccan declaration of conformity                  | ✓ |
| China RoHS                                          | ✓ |
| China Compulsory Product Certification (CCC) exempt | ✓ |
| cRUus certificate                                   | ✓ |
| Photobiological safety (DIN EN 62471) certificate   | ✓ |

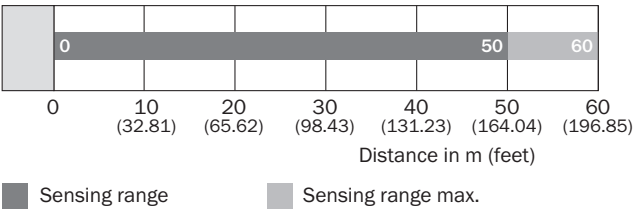
CONNECTION DIAGRAM CD-190

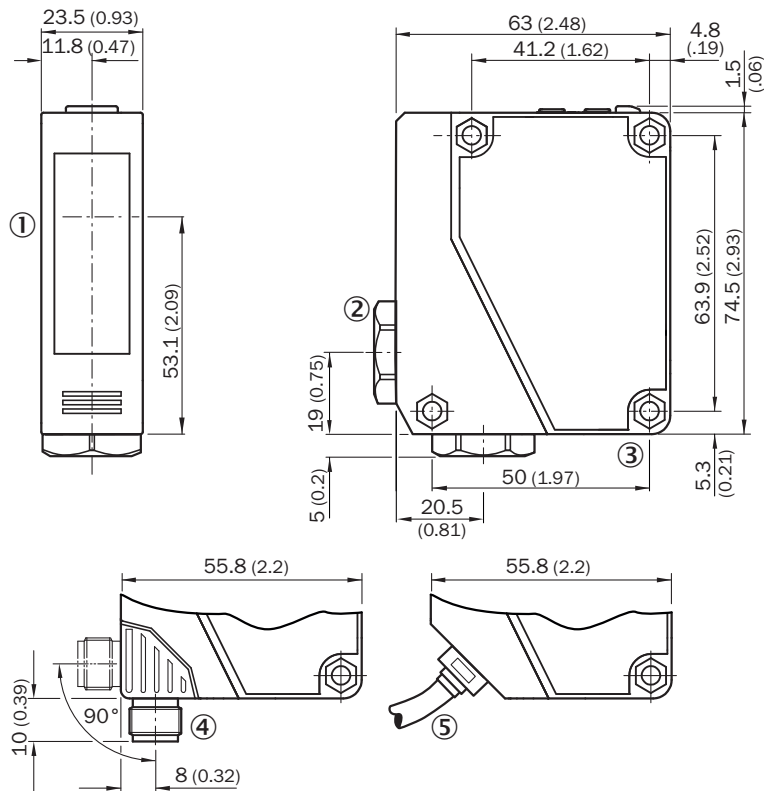


CHARACTERISTIC CURVE WSE280-2



SENSING RANGE DIAGRAM WSE280-2



**DIMENSIONAL DRAWING WSE280-2, DC**

Dimensions in mm (inch)

- ① Sender and receiver optical axis center
- ② Cable entry gland 3/8" for cable diameter 6 to 8 mm
- ③ Mounting hole, Ø 4.3 mm
- ④ M12 male connector, 4-pin, can be rotated through 90°, can be locked with slider
- ⑤ Cable, 2 m, 3-wire, Ø 3,8 mm

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/6044741](http://www.sick.com/6044741)



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# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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