



# WSE280-2R1531

W280-2

COMPACT PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	Part no.
WSE280-2R1531	6044763

**Included in delivery:** BEF-W280 (2)

Other models and accessories → [www.sick.com/W280-2](http://www.sick.com/W280-2)

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

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

### Mechanics/electronics

<b>Supply voltage</b>	24 V DC ... 240 V DC <sup>1)</sup> 24 V AC ... 240 V AC <sup>1)</sup>
<b>Power consumption, sender</b>	≤ 3.5 VA
<b>Power consumption, receiver</b>	≤ 3.5 VA
<b>Switching output</b>	Relay, electrically isolated <sup>2)</sup>
<b>Output function</b>	Change-over contacts

<sup>1)</sup> ±10 %.

<sup>2)</sup> Provide suitable spark suppression for inductive or capacitive loads.

<sup>3)</sup> With light/dark ratio 1:1.

<sup>4)</sup> Do not bend below 0 °C.

<sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>6)</sup> C = interference suppression.

<sup>7)</sup> Rated voltage: 250 V AC/DC.

<sup>8)</sup> In the case of a DC supply (relating to EN 61000-6-3) the length of cable between the supply source and the sensor must be < 30 m.

<sup>9)</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.

<b>Switching mode</b>	Light switching <sup>2)</sup>
<b>Switching current (switching voltage)</b>	3 A (240 V AC) 3 A (30 V DC)
<b>Response time</b>	≤ 15 ms
<b>Switching frequency</b>	33 Hz <sup>3)</sup>
<b>Connection type</b>	Cable, 5-wire, 2 m <sup>4)</sup>
<b>Cable material</b>	PVC
<b>Conductor cross-section</b>	0.76 mm <sup>2</sup>
<b>Circuit protection</b>	A <sup>5)</sup> C <sup>6)</sup>
<b>Protection class</b>	II <sup>7)</sup>
<b>Overvoltage category</b>	3
<b>Weight</b>	300 g
<b>Interference emission</b>	EN 61000-6-3 (only -2Hxxxx) <sup>8)</sup>
<b>Housing material</b>	Plastic, ABS
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP66 IP67
<b>Items supplied</b>	Mounting bracket BEF-W280
<b>Usage category</b>	AC-15, DC-13, according to EN 60947-1
<b>EMC</b>	EN 60947-5-2 <sup>9)</sup>
<b>Ambient operating temperature</b>	-25 °C ... +55 °C
<b>Ambient storage temperature</b>	-40 °C ... +70 °C
<b>UL File No.</b>	NRKH2.E300503 & NRKH8.E300503

1) ±10 %.

2) Provide suitable spark suppression for inductive or capacitive loads.

3) With light/dark ratio 1:1.

4) Do not bend below 0 °C.

5) A = V<sub>S</sub> connections reverse-polarity protected.

6) C = interference suppression.

7) Rated voltage: 250 V AC/DC.

8) In the case of a DC supply (relating to EN 61000-6-3) the length of cable between the supply source and the sensor must be < 30 m.

9) 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.

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	446 years
<b>DC<sub>avg</sub></b>	0%

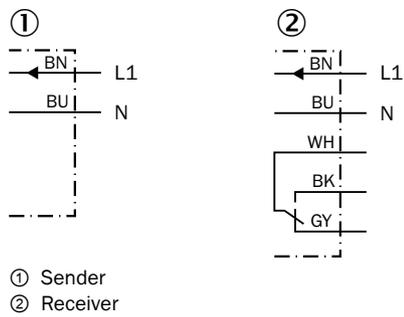
### Classifications

<b>ECl@ss 5.0</b>	27270901
<b>ECl@ss 5.1.4</b>	27270901
<b>ECl@ss 6.0</b>	27270901
<b>ECl@ss 6.2</b>	27270901
<b>ECl@ss 7.0</b>	27270901
<b>ECl@ss 8.0</b>	27270901

<b>ECl@ss 8.1</b>	27270901
<b>ECl@ss 9.0</b>	27270901
<b>ECl@ss 10.0</b>	27270901
<b>ECl@ss 11.0</b>	27270901
<b>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>ETIM 7.0</b>	EC002716
<b>UNSPSC 16.0901</b>	39121528

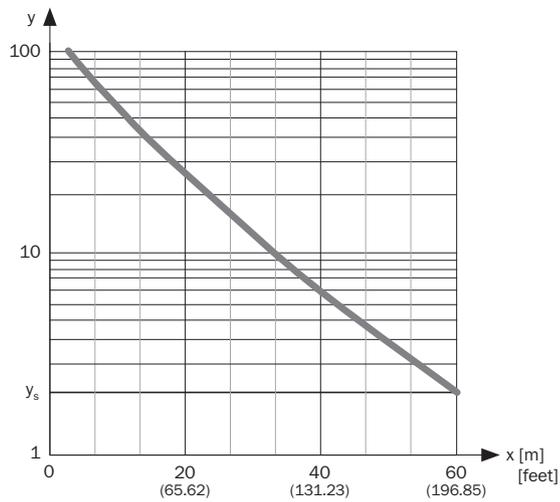
**Connection diagram**

Cd-228



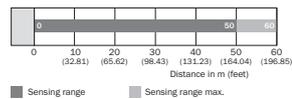
**Characteristic curve**

WSE280-2



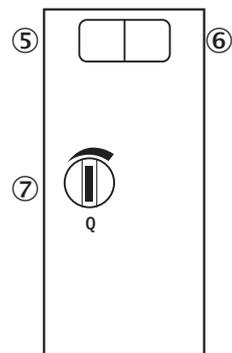
## Sensing range diagram

WSE280-2



## Adjustments possible

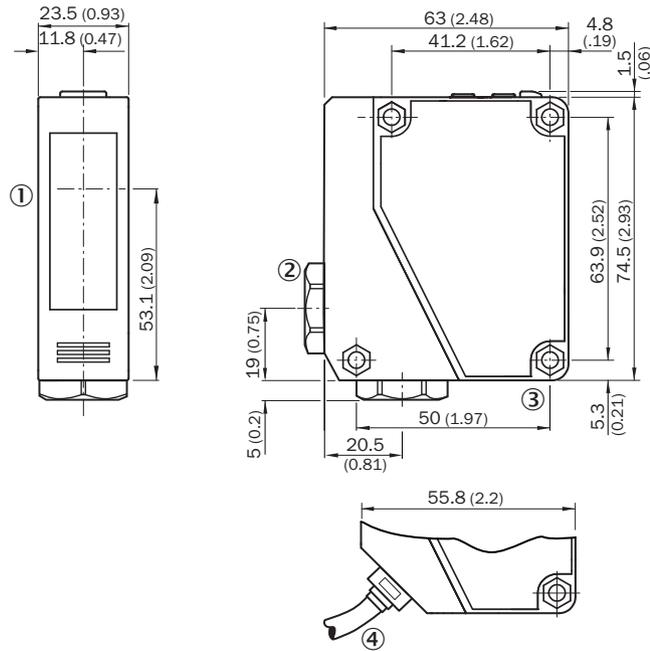
WSE280-2H/-2R



- ⑤ LED indicator green: Stability indicator
- ⑥ Status indicator LED, yellow: Status of received light beam (only receiver WE)
- ⑦ Sensitivity adjustment: Potentiometer (only receiver WE)

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

WSE280-2, AC/DC



- 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 Cable, 2 m, 5-wire, Ø 6.3 mm

**Recommended accessories**

Other models and accessories → [www.sick.com/W280-2](http://www.sick.com/W280-2)

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: male connector, M12, 5-pin, straight Cable: unshielded For field bus technology	STE-1205-G	6022083

## 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)