



## WSE4S-3P2230 W4

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.

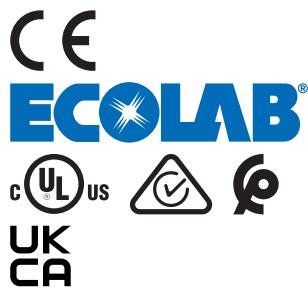


### Ordering information

| Type         | part no. |
|--------------|----------|
| WSE4S-3P2230 | 1067843  |

Other models and accessories → [www.sick.com/W4](http://www.sick.com/W4)

Illustration may differ



### Detailed technical data

#### Features

|   |   |
|---|---|
| <b>Functional principle</b>                 | Through-beam photoelectric sensor       |
| <b>Sensing range max.</b>                   | 0 m ... 5 m                             |
| <b>Sensing range</b>                        | 0 m ... 4.5 m                           |
| <b>Emitted beam</b>                         |   |
| Light source                                | PinPoint LED <sup>1)</sup>              |
| Type of light                               | Visible red light                       |
| Light spot size (distance)                  | Ø 50 mm (2 m)                           |
| <b>Key LED figures</b>                      |   |
| Wave length                                 | 650 nm                                  |
| <b>Adjustment</b>                           | None                                    |
| <b>Part number of individual components</b> | 2073737 WS4S-3D2230 2073738 WE4S-3P2230 |

<sup>1)</sup> Average service life: 100,000 h at  $T_U = +25^\circ\text{C}$ .

#### Safety-related parameters

|                                     |           |
|-------------------------------------|-----------|
| <b>MTTF<sub>D</sub></b>             | 968 years |
| <b>DC<sub>avg</sub></b>             | 0 %       |
| <b>T<sub>M</sub> (mission time)</b> | 20 years  |

## Electronics

|  |   |
|--|---|
| <b>Supply voltage <math>U_B</math></b> | 10 V DC ... 30 V DC <sup>1)</sup>                     |
| <b>Ripple</b>                          | < 5 V <sub>pp</sub> <sup>2)</sup>                     |
| <b>Current consumption</b>             | 20 mA <sup>3)</sup><br>20 mA <sup>4)</sup>            |
| <b>Protection class</b>                | III   |
| <b>Digital output</b>                  |   |
| Type                                   | PNP   |
| Switching mode                         | Light/dark switching                                  |
| Output current $I_{max}$               | ≤ 100 mA  |
| Response time                          | < 0.5 ms <sup>5)</sup>                                |
| Switching frequency                    | 1,000 Hz <sup>6)</sup>                                |
| <b>Circuit protection</b>              | A <sup>7)</sup><br>C <sup>8)</sup><br>D <sup>9)</sup> |
| <b>Test input sender off</b>           | TE to 0 V   |

<sup>1)</sup> Limit values.<sup>2)</sup> May not fall below or exceed  $U_y$  tolerances.<sup>3)</sup> Sender.<sup>4)</sup> Receiver.<sup>5)</sup> Signal transit time with resistive load.<sup>6)</sup> With light/dark ratio 1:1.<sup>7)</sup> A =  $V_S$  connections reverse-polarity protected.<sup>8)</sup> C = interference suppression.<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

## Mechanics

|                               |                             |
|-------------------------------|-----------------------------|
| <b>Housing</b>                | Rectangular                 |
| <b>Design detail</b>          | Slim                        |
| <b>Dimensions (W x H x D)</b> | 12.2 mm x 41.8 mm x 17.3 mm |
| <b>Connection</b>             | Male connector M8, 4-pin    |
| <b>Material</b>               |                             |
| Housing                       | Plastic, ABS                |
| Front screen                  | Plastic, PMMA               |
| <b>Weight</b>                 | 40 g                        |

## Ambient data

|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Enclosure rating</b>              | IP67<br>IP66                 |
| <b>Ambient operating temperature</b> | -40 °C ... +60 °C            |
| <b>Ambient temperature, storage</b>  | -40 °C ... +75 °C            |
| <b>UL File No.</b>                   | NRKH.E181493 & NRKH7.E181493 |

## Certificates

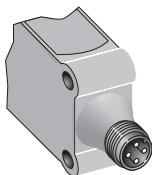
|                                     |   |
|-------------------------------------|---|
| <b>EU declaration of conformity</b> | ✓ |
| <b>UK declaration of conformity</b> | ✓ |

|  |   |
|--|---|
| <b>ACMA declaration of conformity</b>                    | ✓ |
| <b>Moroccan declaration of conformity</b>                | ✓ |
| <b>China-RoHS</b>  | ✓ |
| <b>ECOLAB certificate</b>                                | ✓ |
| <b>cULus certificate</b>                                 | ✓ |
| <b>Photobiological safety (DIN EN 62471) certificate</b> | ✓ |

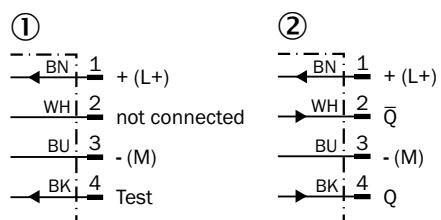
## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270901 |
| <b>ECLASS 5.1.4</b>   | 27270901 |
| <b>ECLASS 6.0</b>     | 27270901 |
| <b>ECLASS 6.2</b>     | 27270901 |
| <b>ECLASS 7.0</b>     | 27270901 |
| <b>ECLASS 8.0</b>     | 27270901 |
| <b>ECLASS 8.1</b>     | 27270901 |
| <b>ECLASS 9.0</b>     | 27270901 |
| <b>ECLASS 10.0</b>    | 27270901 |
| <b>ECLASS 11.0</b>    | 27270901 |
| <b>ECLASS 12.0</b>    | 27270901 |
| <b>ETIM 5.0</b>       | EC002716 |
| <b>ETIM 6.0</b>       | EC002716 |
| <b>ETIM 7.0</b>       | EC002716 |
| <b>ETIM 8.0</b>       | EC002716 |
| <b>UNSPSC 16.0901</b> | 39121528 |

## Connection type



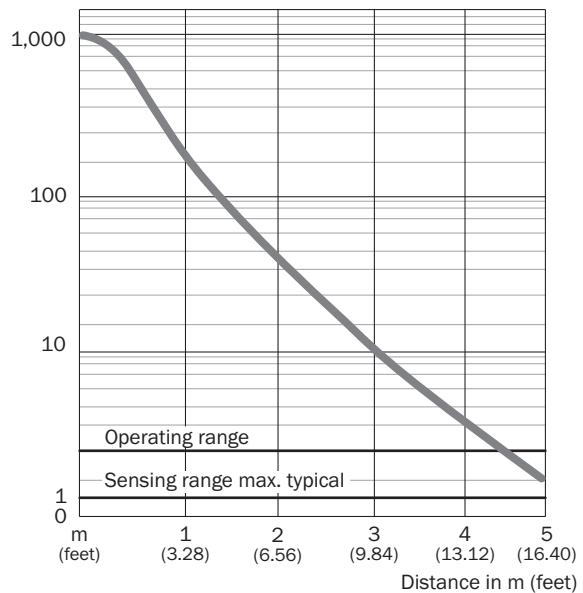
## Connection diagram Cd-072



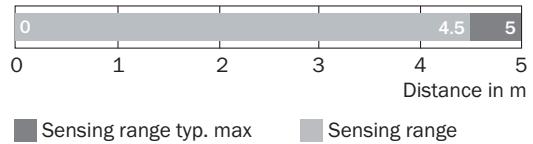
- ① sender
- ② receiver

### Characteristic curve WSE4S-3

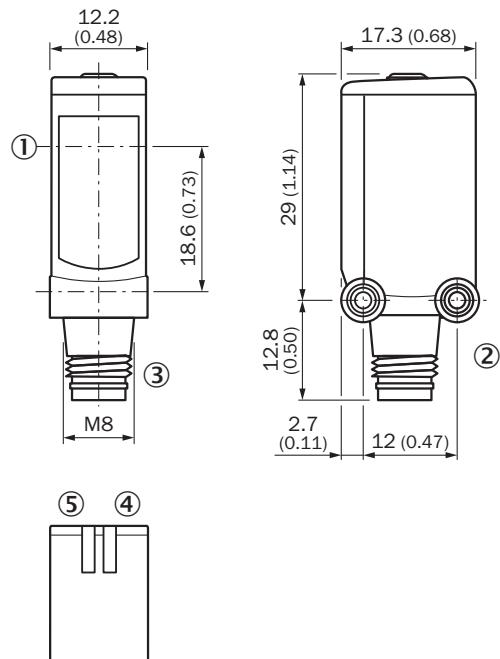
Operating reserve



### Sensing range diagram WSE4S-3



Dimensional drawing WL4S-3, WSE4S-3, potentiometer



Dimensions in mm (inch)

- ① Center of optical axis
- ② Threaded mounting hole M3
- ③ Connection
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam

**Recommended accessories**

Other models and accessories → [www.sick.com/W4](http://www.sick.com/W4)

|   | <b>Brief description</b>  | <b>Type</b> | <b>part no.</b> |
|---|---|-------------|-----------------|
| <b>Mounting systems</b>   |   |             |                 |
|  | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting bracket for wall mounting</li> <li>• <b>Material:</b> Stainless steel</li> <li>• <b>Details:</b> Stainless steel 1.4571</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> <li>• <b>Suitable for:</b> W4S, W4F, W4S</li> </ul> | BEF-W4-A    | 2051628         |

|   | <b>Brief description</b>   | <b>Type</b>        | <b>part no.</b> |
|---|--|--------------------|-----------------|
| connectors and cables   |  |                    |                 |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul> | YF8U14-050VA3XLEAX | 2095889         |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M8, 4-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>   | STE-0804-G         | 6037323         |

## 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)