



# WL23-2P1130

W23-2

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

| Type        | part no. |
|-------------|----------|
| WL23-2P1130 | 1027784  |

Other models and accessories → [www.sick.com/W23-2](http://www.sick.com/W23-2)

### Detailed technical data

#### Features

|  |                                       |
|--|---------------------------------------|
| <b>Functional principle</b>            | Photoelectric retro-reflective sensor |
| <b>Functional principle detail</b>     | Dual lens                             |
| <b>Dimensions (W x H x D)</b>          | 24.6 mm x 80.6 mm x 54 mm             |
| <b>Housing design (light emission)</b> | Rectangular                           |
| <b>Sensing range max.</b>              | 0.1 m ... 10 m <sup>1)</sup>          |
| <b>Sensing range</b>                   | 0.3 m ... 7 m <sup>1)</sup>           |
| <b>Focus</b>                           | 1.5°                                  |
| <b>Type of light</b>                   | Visible red light                     |
| <b>Light source</b>                    | LED <sup>2)</sup>                     |
| <b>Light spot size (distance)</b>      | Ø 45 mm (2.7 m)                       |
| <b>Angle of dispersion</b>             | 1.5°                                  |
| <b>Wave length</b>                     | 660 nm                                |
| <b>Adjustment</b>                      | None                                  |

<sup>1)</sup> Reflector PL80A.

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

#### Mechanics/electronics

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| <b>Supply voltage U<sub>B</sub></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> C = interference suppression.

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

<sup>10)</sup> Reference voltage: 50 V DC.

|   |   |
|---|---|
| <b>Current consumption</b>                  | 35 mA <sup>3)</sup>                                   |
| <b>Switching output</b>                     | PNP   |
| <b>Output function</b>                      | Complementary   |
| <b>Switching mode</b>                       | Light/dark switching                                  |
| <b>Signal voltage PNP HIGH/LOW</b>          | Approx. $V_S - 2.5 \text{ V} / 0 \text{ V}$           |
| <b>Output current <math>I_{\max}</math></b> | $\leq 100 \text{ mA}$                                 |
| <b>Response time</b>                        | $\leq 2.5 \text{ ms}$ <sup>4)</sup>                   |
| <b>Switching frequency</b>                  | 200 Hz <sup>5)</sup>                                  |
| <b>Connection type</b>                      | Cable, 4-wire, 2 m <sup>6)</sup>                      |
| <b>Cable material</b>                       | PVC   |
| <b>Circuit protection</b>                   | A <sup>7)</sup><br>C <sup>8)</sup><br>D <sup>9)</sup> |
| <b>Protection class</b>                     | II <sup>10)</sup>                                     |
| <b>Weight</b>                               | 180 g   |
| <b>Polarisation filter</b>                  | ✓   |
| <b>Housing material</b>                     | Plastic, ABS  |
| <b>Optics material</b>                      | Plastic, PMMA   |
| <b>Enclosure rating</b>                     | IP67  |
| <b>Ambient operating temperature</b>        | -25 °C ... +60 °C                                     |
| <b>Ambient temperature, storage</b>         | -40 °C ... +70 °C                                     |
| <b>UL File No.</b>                          | NRKH.E181493 & NRKH7.E181493                          |

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

<sup>2)</sup> May not exceed or fall below  $U_V$  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> Do not bend below 0 °C.

<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.

<sup>10)</sup> Reference voltage: 50 V DC.

## Safety-related parameters

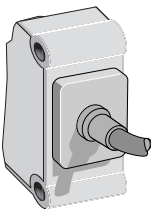
|                         |             |
|-------------------------|-------------|
| <b>MTTF<sub>D</sub></b> | 2,205 years |
| <b>DC<sub>avg</sub></b> | 0 %         |

## Classifications

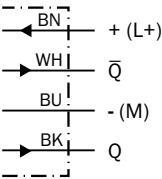
|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270902 |
| <b>ECLASS 5.1.4</b> | 27270902 |
| <b>ECLASS 6.0</b>   | 27270902 |
| <b>ECLASS 6.2</b>   | 27270902 |
| <b>ECLASS 7.0</b>   | 27270902 |
| <b>ECLASS 8.0</b>   | 27270902 |
| <b>ECLASS 8.1</b>   | 27270902 |

|                       |          |
|-----------------------|----------|
| <b>ECLASS 9.0</b>     | 27270902 |
| <b>ECLASS 10.0</b>    | 27270902 |
| <b>ECLASS 11.0</b>    | 27270902 |
| <b>ECLASS 12.0</b>    | 27270902 |
| <b>ETIM 5.0</b>       | EC002717 |
| <b>ETIM 6.0</b>       | EC002717 |
| <b>ETIM 7.0</b>       | EC002717 |
| <b>ETIM 8.0</b>       | EC002717 |
| <b>UNSPSC 16.0901</b> | 39121528 |

Connection type








Connection diagram Cd-094



## Recommended accessories

Other models and accessories → [www.sick.com/W23-2](http://www.sick.com/W23-2)

|   | Brief description  | Type        | part no. |
|---|--|-------------|----------|
| Mounting systems  |  |             |          |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> W23-2, W27-3, Reflex Array</li> </ul>   | BEF-WN-W23  | 2019085  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket with hinged arm</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> W23-2, W27-3, Reflex Array</li> </ul>                         | BEF-WN-W27  | 2009122  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Universal mounting bracket for reflectors</li> <li><b>Dimensions (W x H x L):</b> 85 mm x 90 mm x 35 mm</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Suitable for:</b> C110A, P250, PL20, PL30A, PL40A, PL80A</li> </ul> | BEF-WN-REFX | 2064574  |
| reflectors and optics   |  |             |          |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Rectangular, screw connection</li> <li><b>Dimensions:</b> 84 mm 84 mm</li> <li><b>Ambient operating temperature:</b> -30 °C ... +65 °C</li> </ul>   | PL80A       | 1003865  |
| connectors and cables   |  |             |          |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 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> ≤ 0.75 mm²</li> </ul>  | STE-1204-G  | 6009932  |

## 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)