



WL4-3N2130  
W4

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

| Type       | part no. |
|------------|----------|
| WL4-3N2130 | 1028151  |

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

### Detailed technical data

#### Features

|                                    |   |
|------------------------------------|---|
| <b>Functional principle</b>        | Photoelectric retro-reflective sensor                 |
| <b>Functional principle detail</b> | With minimum distance to reflector (dual lens system) |
| <b>Sensing range max.</b>          | 0.01 m ... 4.5 m <sup>1)</sup>                        |
| <b>Sensing range</b>               | 0.02 m ... 3.5 m <sup>1)</sup>                        |
| <b>Polarisation filters</b>        | Yes   |
| <b>Emitted beam</b>                |   |
| Light source                       | PinPoint LED <sup>2)</sup>                            |
| Type of light                      | Visible red light                                     |
| Light spot size (distance)         | Ø 75 mm (1.5 m)                                       |
| <b>Key LED figures</b>             |   |
| Wave length                        | 650 nm  |
| <b>Adjustment</b>                  | None  |

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

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

#### 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> |
| <b>Current consumption</b>          | 20 mA <sup>3)</sup>               |
| <b>Protection class</b>             | III                               |

<sup>1)</sup> Limit values.

<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> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

|                           |   |                          |
|---------------------------|---|--------------------------|
| <b>Digital output</b>     | Type  | NPN                      |
|                           | Switching mode  | Light switching          |
|                           | Output current $I_{max}$                              | $\leq 100$ mA            |
|                           | Response time   | $< 0.5$ ms <sup>4)</sup> |
|                           | Switching frequency                                   | 1,000 Hz <sup>5)</sup>   |
| <b>Circuit protection</b> | A <sup>6)</sup><br>C <sup>7)</sup><br>D <sup>8)</sup> |                          |

1) Limit values.

2) May not fall below or exceed  $U_y$  tolerances.

3) Without load.

4) Signal transit time with resistive load.

5) With light/dark ratio 1:1.

6) A =  $V_S$  connections reverse-polarity protected.

7) C = interference suppression.

8) D = outputs overcurrent and short-circuit protected.

## Mechanics

|                               |                         |               |
|-------------------------------|-------------------------|---------------|
| <b>Housing</b>                | Rectangular             |               |
| <b>Design detail</b>          | Flat                    |               |
| <b>Dimensions (W x H x D)</b> | 16 mm x 39.5 mm x 12 mm |               |
| <b>Connection</b>             | Connector M8, 3-pin     |               |
| <b>Material</b>               | Housing                 | Plastic, ABS  |
|                               | Front screen            | Plastic, PMMA |
| <b>Weight</b>                 | 30 g                    |               |

## Ambient data

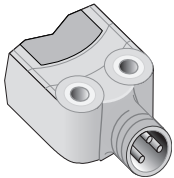
|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Enclosure rating</b>              | IP67<br>IP66                 |
| <b>Ambient operating temperature</b> | -40 °C ... +60 °C            |
| <b>Ambient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

## Classifications

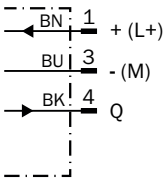
|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270902 |
| <b>ECLASS 5.1.4</b> | 27270902 |
| <b>ECLASS 6.0</b>   | 27270902 |
| <b>ECLASS 6.2</b>   | 27270902 |
| <b>ECLASS 7.0</b>   | 27270902 |
| <b>ECLASS 8.0</b>   | 27270902 |
| <b>ECLASS 8.1</b> 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

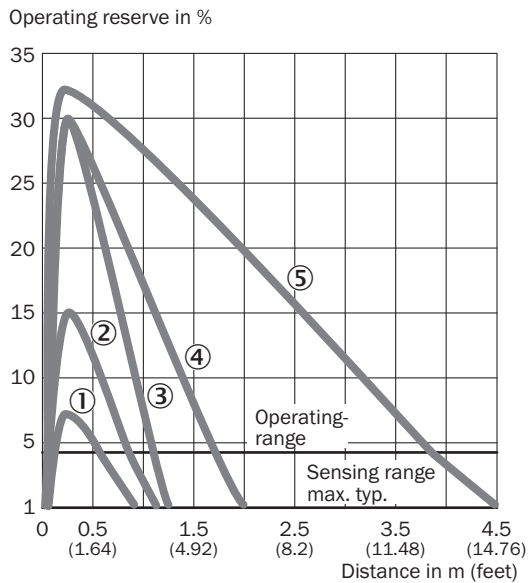
Connection type



Connection diagram Cd-045



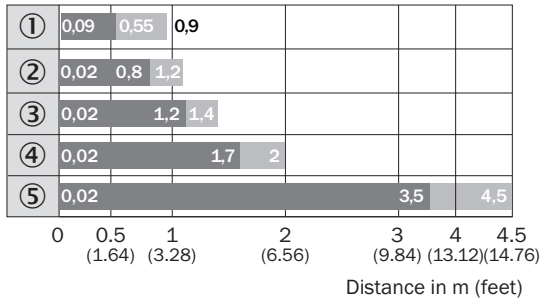
Characteristic curve WLG4-3 with polarisation filter



- ① Reflective tape REF-IRF-56
- ② PL10F reflector
- ③ Reflector PL20A

- ④ Reflector PL40A
- ⑤ Reflector PL80A

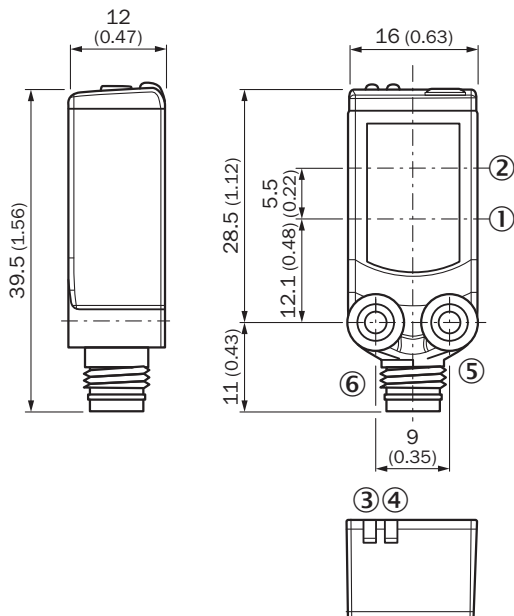
### Sensing range diagram WL4-3 with polarisation filter



■ Sensing range      ■ Sensing range max.

- ① Reflective tape REF-IRF-56
- ② PL10F reflector
- ③ Reflector PL20A
- ④ Reflector PL40A
- ⑤ Reflector PL80A

### Dimensional drawing WL4-3





Dimensions in mm (inch)

- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Orange LED indicator: status of received light beam
- ④ LED indicator green: Supply voltage active
- ⑤ Threaded mounting hole M3
- ⑥ Connection

Recommended accessories

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

|   | Brief description  | Type               | part no. |
|---|--|--------------------|----------|
| <b>Mounting systems</b>   |  |                    |          |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Plate N08 for universal clamp bracket</li> <li><b>Material:</b> Steel, zinc diecast</li> <li><b>Details:</b> Zinc plated steel (sheet), Zinc die cast (clamping bracket)</li> <li><b>Items supplied:</b> Universal clamp (5322626), mounting hardware</li> <li><b>Usable for:</b> W100, W150, W4S, W4F, W8, W9-3, W8G, W8 Laser, W8 Inox, G6, W100 Laser, W100-2, W10, G6 Inox, RAY10, W4SLG-3, W9, GR18, MultiPulse, Reflex Array, MultiLine, LUT3, KT5, KT8, KT10, CS8</li> </ul> | BEF-KHS-N08        | 2051607  |
|    | <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  |
|   | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for floor 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-B           | 2051630  |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Plate N11N for universal clamp bracket</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li><b>Items supplied:</b> Universal clamp (5322627), mounting hardware</li> <li><b>Usable for:</b> DeltaPac, Glare, WTD20E</li> </ul>  | BEF-KHS-N11N       | 2071081  |
| <b>reflectors and optics</b>  |  |                    |          |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Rectangular, screw connection</li> <li><b>Dimensions:</b> 40 mm 60 mm</li> <li><b>Ambient operating temperature:</b> -30 °C ... +65 °C</li> </ul>   | PL40A              | 1012720  |
| <b>connectors and cables</b>  |  |                    |          |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M8, 3-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-0803-G         | 6037322  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-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, 3-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>   | YF8U13-050VA1XLEAX | 2095884  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 3-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, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>  | YF8U13-050UA1XLEAX | 2094788  |

## 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)