



# WL150-N430

W150

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type       | Part no. |
|------------|----------|
| WL150-N430 | 6011035  |

**Included in delivery:** BEF-W150-A (1), PL20A (1)

Other models and accessories → [www.sick.com/W150](http://www.sick.com/W150)

### 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>          | 10 mm x 28 mm x 17.5 mm               |
| <b>Housing design (light emission)</b> | Rectangular                           |
| <b>Sensing range max.</b>              | 0 m ... 2.4 m <sup>1)</sup>           |
| <b>Sensing range</b>                   | 0.01 m ... 2 m <sup>1)</sup>          |
| <b>Focus</b>                           | Approx. 6°                            |
| <b>Type of light</b>                   | Visible red light                     |
| <b>Light source</b>                    | LED <sup>2)</sup>                     |
| <b>Angle of dispersion</b>             | Approx. 6°                            |
| <b>Adjustment</b>                      | Potentiometer, 270°                   |

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

<sup>2)</sup> Average service life: 100,000 h at T<sub>J</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>                       | ± 10 % <sup>2)</sup>              |
| <b>Current consumption</b>          | 20 mA <sup>3)</sup>               |

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

<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> 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.

|  |  |
|--|--|
| <b>Switching output</b>                    | NPN  |
| <b>Switching mode</b>                      | Light/dark switching   |
| <b>Switching mode selector</b>             | Selectable via L/D control cable   |
| <b>Output current <math>I_{max}</math></b> | $\leq 100$ mA  |
| <b>Response time</b>                       | $\leq 0.5$ ms <sup>4)</sup>  |
| <b>Switching frequency</b>                 | 1,000 Hz <sup>5)</sup>   |
| <b>Connection type</b>                     | Male connector M8, 4-pin   |
| <b>Circuit protection</b>                  | A <sup>6)</sup><br>B <sup>7)</sup><br>C <sup>8)</sup><br>D <sup>9)</sup> |
| <b>Protection class</b>                    | II   |
| <b>Weight</b>                              | 7 g  |
| <b>Polarisation filter</b>                 | ✓  |
| <b>Housing material</b>                    | Plastic, ABS   |
| <b>Optics material</b>                     | Plastic, PMMA  |
| <b>Enclosure rating</b>                    | IP67   |
| <b>Items supplied</b>                      | BEF-W150-A mounting bracket, Reflector PL20A                             |
| <b>Ambient operating temperature</b>       | -25 °C ... +55 °C  |
| <b>Ambient temperature, storage</b>        | -40 °C ... +75 °C  |
| <b>UL File No.</b>                         | NRNT2.E128350 & NRNT8.E128350  |

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

<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> A =  $V_S$  connections reverse-polarity protected.

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

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

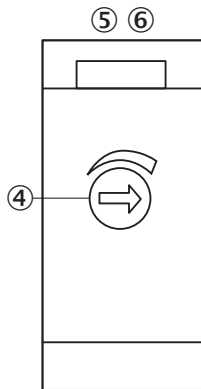
<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

## Classifications

|                     |          |
|---------------------|----------|
| <b>eCl@ss 5.0</b>   | 27270902 |
| <b>eCl@ss 5.1.4</b> | 27270902 |
| <b>eCl@ss 6.0</b>   | 27270902 |
| <b>eCl@ss 6.2</b>   | 27270902 |
| <b>eCl@ss 7.0</b>   | 27270902 |
| <b>eCl@ss 8.0</b>   | 27270902 |
| <b>eCl@ss 8.1</b>   | 27270902 |
| <b>eCl@ss 9.0</b>   | 27270902 |
| <b>eCl@ss 10.0</b>  | 27270902 |
| <b>eCl@ss 11.0</b>  | 27270902 |
| <b>eCl@ss 12.0</b>  | 27270902 |
| <b>ETIM 5.0</b>     | EC002717 |

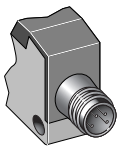
|                       |          |
|-----------------------|----------|
| <b>ETIM 6.0</b>       | EC002717 |
| <b>ETIM 7.0</b>       | EC002717 |
| <b>ETIM 8.0</b>       | EC002717 |
| <b>UNSPSC 16.0901</b> | 39121528 |

### Adjustments



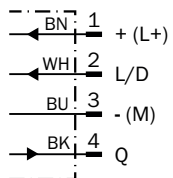
- ⑤ Sensing range adjustment: potentiometer, 5 turns
- ⑥ LED indicator green: stability indicator
- ⑦ LED indicator orange: output active

### Connection type

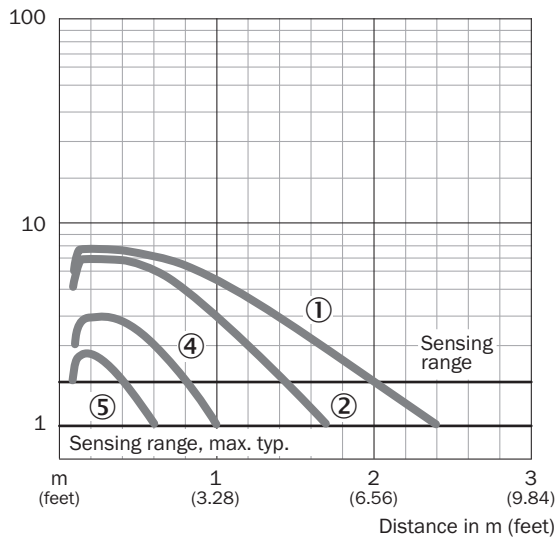


### Connection diagram

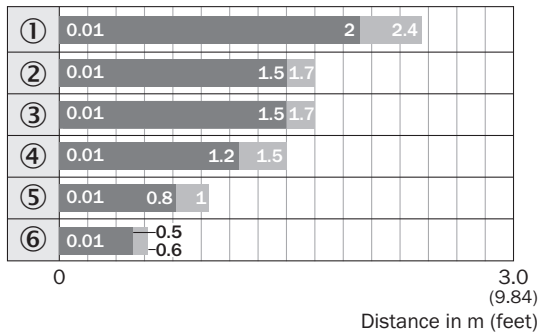
Cd-087



Characteristic curve



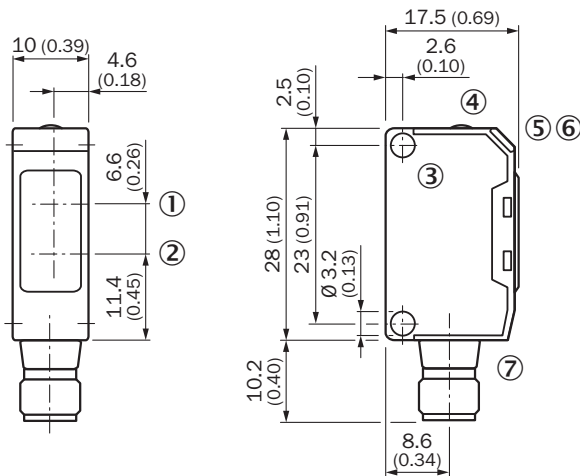
Sensing range diagram



Reflector type

- ① PL80A
- ② PL250
- ③ PL50A or PL40A
- ④ PL30A or PL31A
- ⑤ PL20A
- ⑥ Reflective tape  
Diamond Grade





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



- ① Standard direction of the material being detected
- ② Center of optical axis, receiver
- ③ Center of optical axis, sender
- ④ Mounting hole,  $\varnothing$  3.2 mm
- ⑤ Sensing range adjustment: potentiometer, 5 turns
- ⑥ LED indicator green: stability indicator
- ⑦ LED indicator orange: output active
- ⑧ Connection

### Recommended accessories

Other models and accessories → [www.sick.com/W150](http://www.sick.com/W150)

|   | Brief description  | Type               | Part no. |
|---|--|--------------------|----------|
| <b>Mounting brackets and plates</b>   |  |                    |          |
|  | Universal mounting bracket for reflectors, steel, zinc coated  | BEF-WN-REFX        | 2064574  |
| <b>Plug connectors and cables</b>   |  |                    |          |
|  | Head A: female connector, M8, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF8U14-050VA3XLEAX | 2095889  |
|  | Head A: male connector, M8, 4-pin, straight<br>Cable: unshielded   | STE-0804-G         | 6037323  |
| <b>Reflectors</b>   |  |                    |          |
|  | Rectangular, screw connection, 51 mm x 61 mm, PMMA/ABS, Screw-on, 2 hole mounting  | P250               | 5304812  |

## 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)