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DATA SHEET

WL150-N430

W150  
Photoelectric sensors

**SICK** Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WL150-N430

ORDERING INFORMATION

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

Further device versions and accessories at [www.sick.com/WL150](http://www.sick.com/WL150)



DETAILED TECHNICAL DATA

FEATURES

|                                 |                                                       |
|---------------------------------|-------------------------------------------------------|
| Functional principle            | Photoelectric retro-reflective sensor                 |
| Functional principle detail     | With minimum distance to reflector (dual lens system) |
| Dimensions (W x H x D)          | 10 mm x 28 mm x 17.5 mm                               |
| Housing design (light emission) | Rectangular                                           |
| Sensing range max.              | 0 m ... 2.4 m <sup>1)</sup>                           |
| Sensing range                   | 0.01 m ... 2 m <sup>1)</sup>                          |
| Focus                           | Approx. 6°                                            |
| Type of light                   | Visible red light                                     |
| Light source                    | LED <sup>2)</sup>                                     |
| Angle of dispersion             | Approx. 6°                                            |
| Adjustment                      | Potentiometer, 270°                                   |

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

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

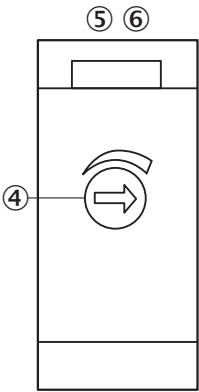
**MECHANICS/ELECTRONICS**

|                               |                                                                          |
|-------------------------------|--------------------------------------------------------------------------|
| Supply voltage $U_B$          | 10 V DC ... 30 V DC <sup>1)</sup>                                        |
| Ripple                        | $\pm 10\%$ <sup>2)</sup>                                                 |
| Current consumption           | 20 mA <sup>3)</sup>                                                      |
| Switching output              | NPN                                                                      |
| Switching mode                | Light/dark switching                                                     |
| Switching mode selector       | Selectable via L/D control cable                                         |
| Output current $I_{max}$      | $\leq 100$ mA                                                            |
| Response time                 | $\leq 0.5$ ms <sup>4)</sup>                                              |
| Switching frequency           | 1,000 Hz <sup>5)</sup>                                                   |
| Connection type               | Male connector M8, 4-pin                                                 |
| Circuit protection            | A <sup>6)</sup><br>B <sup>7)</sup><br>C <sup>8)</sup><br>D <sup>9)</sup> |
| Protection class              | II                                                                       |
| Weight                        | 7 g                                                                      |
| Polarizing filter             | ✓                                                                        |
| Housing material              | Plastic, ABS                                                             |
| Optics material               | Plastic, PMMA                                                            |
| Enclosure rating              | IP67                                                                     |
| Items supplied                | BEF-W150-A mounting bracket, Reflector PL20A                             |
| Ambient operating temperature | -25 °C ... +55 °C                                                        |
| Ambient temperature, storage  | -40 °C ... +75 °C                                                        |
| UL File No.                   | NRNT2.E128350 & NRNT8.E128350                                            |

<sup>1)</sup> Limit values.<sup>2)</sup> May not fall below or exceed  $U_V$  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 =  $V_B$  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.**CERTIFICATES**

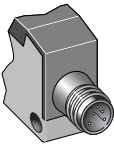
|                                                     |   |
|-----------------------------------------------------|---|
| EU declaration of conformity                        | ✓ |
| UK declaration of conformity                        | ✓ |
| ACMA declaration of conformity                      | ✓ |
| Moroccan declaration of conformity                  | ✓ |
| China RoHS                                          | ✓ |
| China Compulsory Product Certification (CCC) exempt | ✓ |
| cRUus certificate                                   | ✓ |
| Photobiological safety (DIN EN 62471) certificate   | ✓ |

ADJUSTMENTS

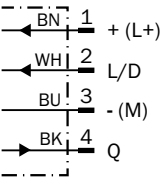


- ⑤ Sensing range adjustment: potentiometer, 5 turns
- ⑥ LED indicator green: stability indicator
- ⑦ LED indicator orange: output active

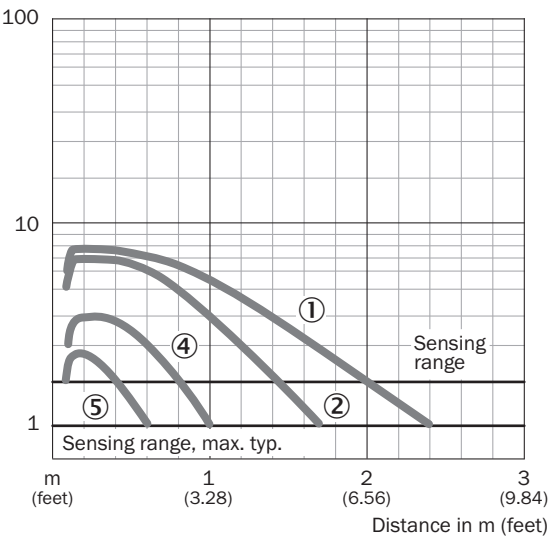
CONNECTION TYPE

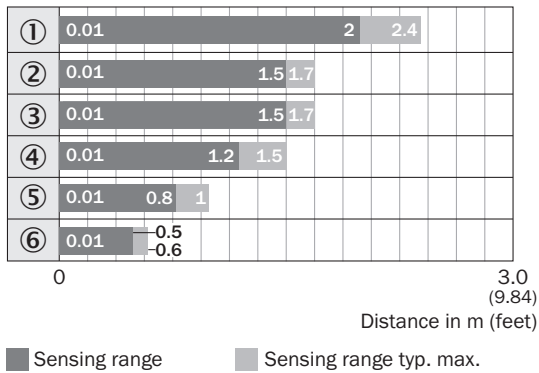


CONNECTION DIAGRAM CD-087

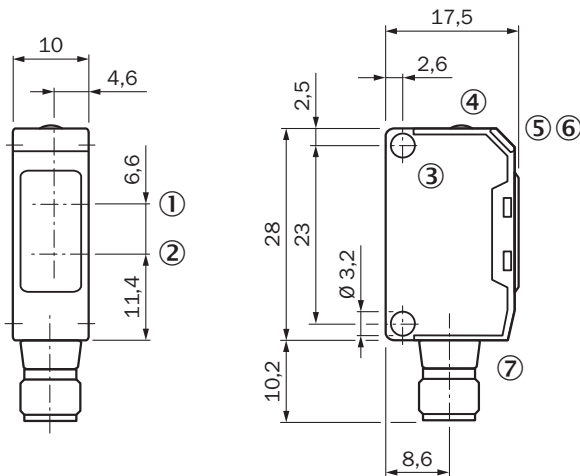


CHARACTERISTIC CURVE



**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, Ø 3.2 mm
- ⑤ Sensing range adjustment: potentiometer, 5 turns
- ⑥ LED indicator green: stability indicator
- ⑦ LED indicator orange: output active
- ⑧ Connection

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/6011035](http://www.sick.com/6011035)



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# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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