



# WS/WE150-P430

W150

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	Part no.
WS/WE150-P430	6011032

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

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

## Detailed technical data

### Features

<b>Sensor/ detection principle</b>	Through-beam photoelectric sensor
<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 ... 4.4 m
<b>Sensing range</b>	0 m ... 4 m
<b>Focus</b>	6°
<b>Type of light</b>	Visible red light
<b>Light source</b>	LED <sup>1)</sup>
<b>Angle of dispersion</b>	6°
<b>Adjustment</b>	Potentiometer, 270°

<sup>1)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	± 10 % <sup>2)</sup>
<b>Current consumption</b>	15 mA <sup>3)</sup> 20 mA <sup>4)</sup>
<b>Switching output</b>	PNP

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

<sup>2)</sup> May not exceed or fall below U<sub>V</sub> 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<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> B = inputs and output reverse-polarity protected.

<sup>9)</sup> C = interference suppression.

<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

<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>5)</sup>
<b>Switching frequency</b>	1,000 Hz <sup>6)</sup>
<b>Angle of reception</b>	15°
<b>Connection type</b>	Male connector M8, 4-pin
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> C <sup>9)</sup> D <sup>10)</sup>
<b>Protection class</b>	II
<b>Weight</b>	7 g
<b>Enclosure rating</b>	IP67
<b>Items supplied</b>	BEF-W150-A mounting bracket
<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> 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> B = inputs and output reverse-polarity protected.

<sup>9)</sup> C = interference suppression.

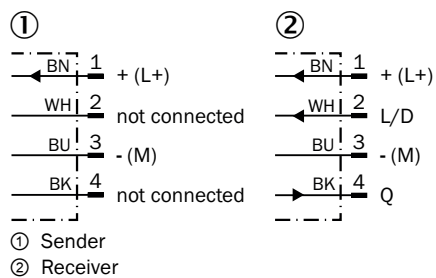
<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

## Classifications

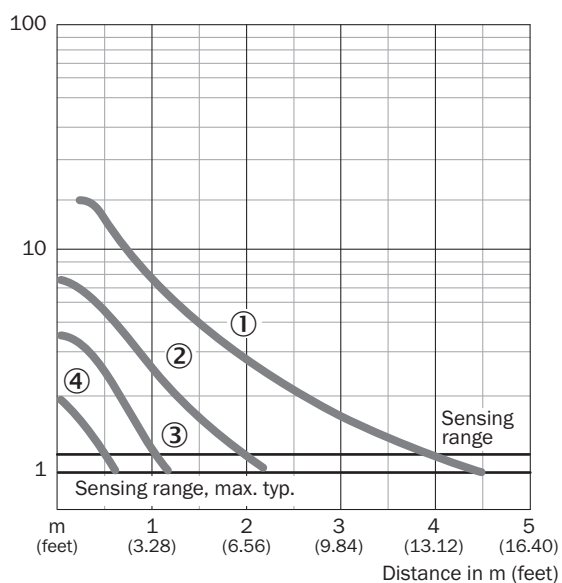
<b>ECl@ss 5.0</b>	27270901
<b>ECl@ss 5.1.4</b>	27270901
<b>ECl@ss 6.0</b>	27270901
<b>ECl@ss 6.2</b>	27270901
<b>ECl@ss 7.0</b>	27270901
<b>ECl@ss 8.0</b>	27270901
<b>ECl@ss 8.1</b>	27270901
<b>ECl@ss 9.0</b>	27270901
<b>ECl@ss 10.0</b>	27270901
<b>ECl@ss 11.0</b>	27270901
<b>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>ETIM 7.0</b>	EC002716
<b>ETIM 8.0</b>	EC002716
<b>UNSPSC 16.0901</b>	39121528

### Connection diagram

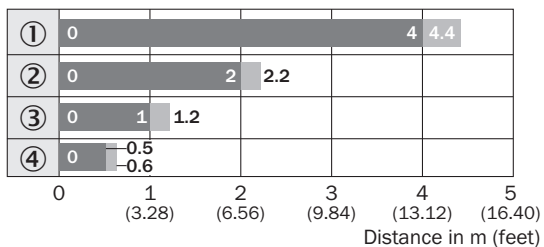
Cd-060



### Characteristic curve



### Sensing range diagram

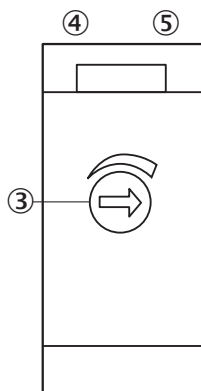


■ Sensing range    ■ Sensing range typ. max.

#### Reduction in sensing range with slotted masks

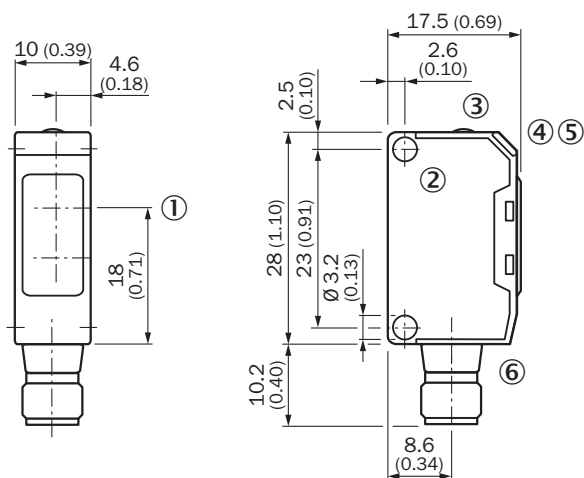
- ① Without slotted mask
- ② Mask aperture width 2.0 mm
- ③ Mask aperture width 1.0 mm
- ④ Mask aperture width 0.5 mm

## Adjustments



- ③ Sensitivity adjustment 270° (only WE)
- ④ Green LED: stability indicator (WE only)
- ⑤ Orange LED: output active (WE only)

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




- ① Center of optical axis
- ② Mounting hole,  $\varnothing$  approx. 3.1 mm
- ③ Sensing range adjustment: potentiometer, 5 turns
- ④ LED indicator green: stability indicator
- ⑤ LED indicator orange: output active
- ⑥ Connection

## Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889

	Brief description	Type	Part no.
	Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded	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)