



WL160-F440

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	Part no.
WL160-F440	6022774

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

## Detailed technical data

### Features

<b>Sensor/ detection principle</b>	Photoelectric retro-reflective sensor
<b>Dimensions (W x H x D)</b>	11 mm x 38 mm x 23 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0.01 m ... 6.5 m <sup>1)</sup>
<b>Sensing range</b>	0.01 m ... 4.5 m <sup>1)</sup>
<b>Type of light</b>	Visible red light
<b>Light source</b>	LED
<b>Wave length</b>	680 nm

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

### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC
<b>Ripple</b>	± 10 %
<b>Current consumption</b>	25 mA <sup>1)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via light/dark rotary switch
<b>Response time</b>	≤ 0.5 ms <sup>2)</sup>
<b>Connection type</b>	Male connector M8, 4-pin
<b>Housing material</b>	Plastic, PBT
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	-25 °C ... +55 °C

<sup>1)</sup> Without load.

<sup>2)</sup> Signal transit time with resistive load.

<b>Ambient temperature, storage</b>	-40 °C ... +70 °C
<b>UL File No.</b>	NRNT2.E128350 & NRNT8.E128350

1) Without load.

2) Signal transit time with resistive load.

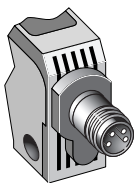
### Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,574 years
<b>DC<sub>avg</sub></b>	0 %

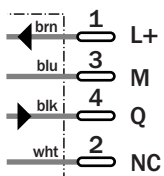
### Classifications

<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>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

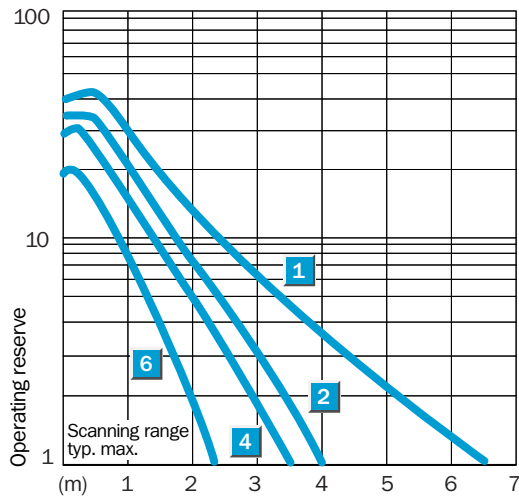
### Connection type



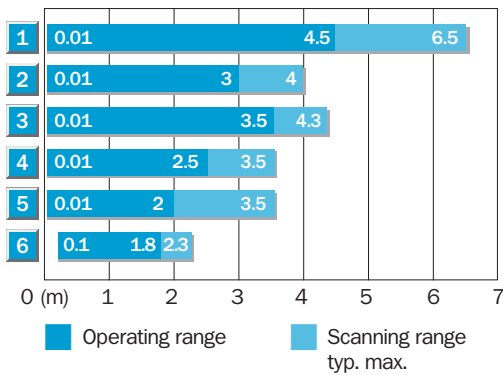
### Connection diagram



## Characteristic curve

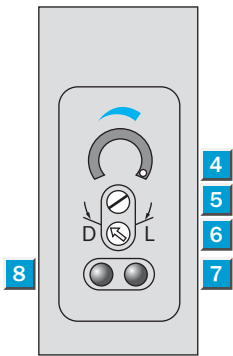


## Sensing range diagram



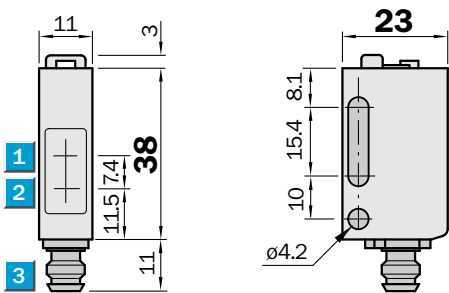
Reflector type	Operating range
1	PL80A 0.01 ... 4.5 m
2	P250 0.01 ... 3 m
3	PL50A/PL40A 0.01 ... 3.5 m
4	PL30A/PL31A 0.01 ... 2.5 m
5	PL20A 0.01 ... 2 m
6	Reflective tape Diamond Grade 0.1 ... 1.8 m (100 x 100 mm <sup>2</sup> )

### Adjustments



- ④ Scaling 270°
- ⑤ Sensitivity control
- ⑥ Light/ dark rotary switch: L = light switching, D = dark switching
- ⑦ Orange LED indicator : switching output active
- ⑧ Green LED indicator: light reception with operating reserve >1.1 and < 0.9

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



- ① Center of optical axis, receiver
- ② Center of optical axis, sender
- ③ Connection

## 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:

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