



**WL23-2S3730**

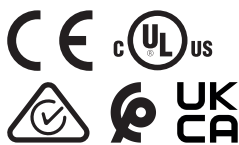
W23-2

**PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WL23-2S3730	1027789

Other models and accessories → [www.sick.com/W23-2](http://www.sick.com/W23-2)

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Dual lens
Dimensions (W x H x D)	24.6 mm x 80.6 mm x 54 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.1 m ... 10 m <sup>1)</sup>
Sensing range	0.3 m ... 7 m <sup>1)</sup>
Focus	1.5°
Type of light	Visible red light
Light source	LED <sup>2)</sup>
Light spot size (distance)	Ø 45 mm (2.7 m)
Angle of dispersion	1.5°
Wave length	660 nm
Adjustment	None

<sup>1)</sup> Reflector PL80A.  
<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Mechanics/electronics

<b>Supply voltage <math>U_B</math></b>	90 V AC ... 265 V AC <sup>1)</sup>
<b>Power consumption</b>	≤ 2.5 VA
<b>Switching output</b>	Relay, electrically isolated <sup>2)</sup>
<b>Output function</b>	Change-over contacts
<b>Switching mode</b>	Light switching <sup>2)</sup>
<b>Switching current (switching voltage)</b>	3 A (230 V AC) 0.11 A (230 V DC) 3 A (24 V DC)
<b>Response time</b>	≤ 10 ms
<b>Switching frequency</b>	10 Hz <sup>3)</sup>
<b>Connection type</b>	Cable with cubic connector, 7-pin, 150 mm <sup>4)</sup>
<b>Cable material</b>	PVC
<b>Circuit protection</b>	A <sup>5)</sup> C <sup>6)</sup>
<b>Protection class</b>	II <sup>7)</sup>
<b>Weight</b>	140 g
<b>Polarisation filter</b>	✓
<b>Housing material</b>	Plastic, ABS
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	-25 °C ... +60 °C <sup>8)</sup>
<b>Ambient temperature, storage</b>	-40 °C ... +70 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

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

<sup>2)</sup> Provide suitable spark suppression for inductive or capacitive loads.

<sup>3)</sup> With light/dark ratio 1:1.

<sup>4)</sup> Do not bend below 0 °C.

<sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>6)</sup> C = interference suppression.

<sup>7)</sup> Reference voltage: 250 V AC.

<sup>8)</sup> UL: 0 °C ... +60 °C.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,393 years
<b>DC<sub>avg</sub></b>	0 %
<b>B<sub>10d</sub></b>	65,693 Switching cycles <sup>1)</sup>

<sup>1)</sup> Only for devices containing electro-mechanical components. In this case, the MTTF<sub>D</sub> value of the entire device must be calculated from the given B<sub>10D</sub> value, the number of switching cycles and the given MTTF<sub>D</sub> value.

## Certificates

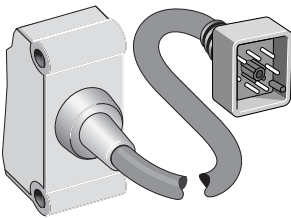
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓

<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Photobiological safety (DIN EN 62471) certificate</b>	✓

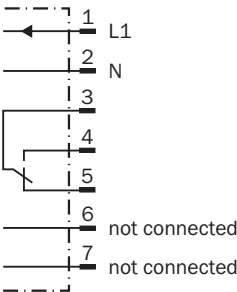
Classifications

<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

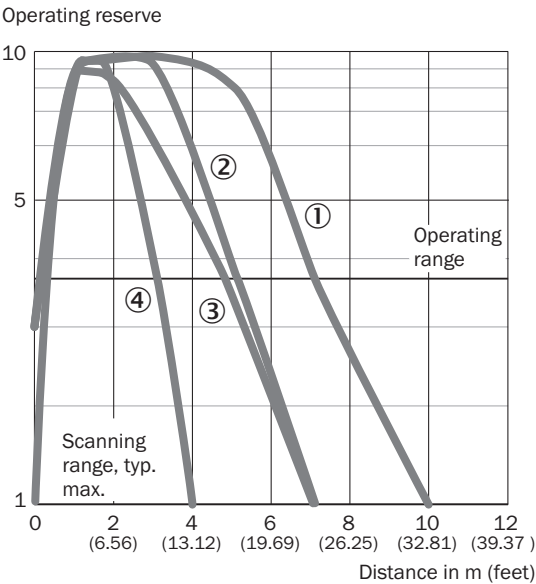
Connection type



Connection diagram Cd-193

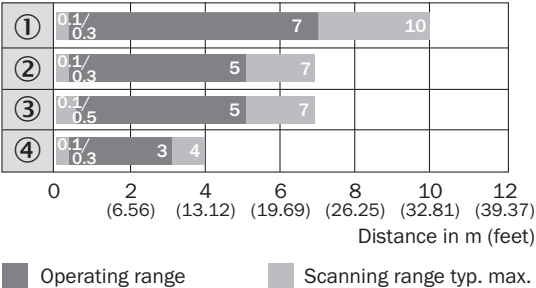


Characteristic curve WL23-2



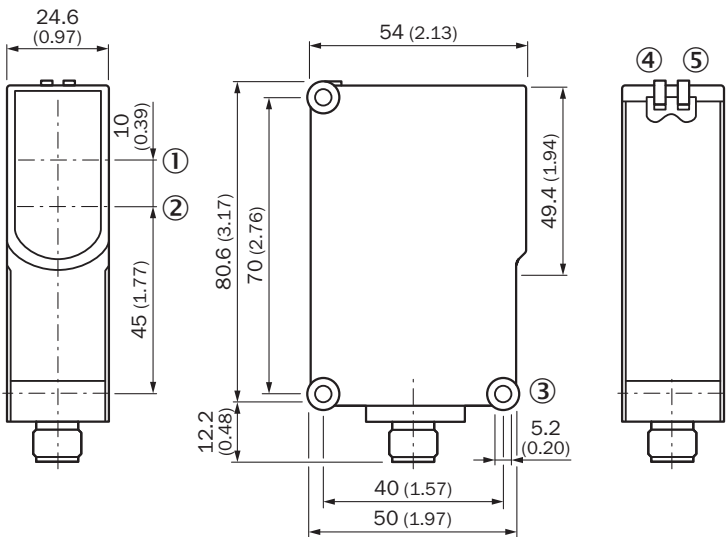
- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector C110A
- ④ Reflector PL20A

Sensing range diagram WL23-2



- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector C110A
- ④ Reflector PL20A




Dimensional drawing WL23-2




- Dimensions in mm (inch)
- ① Optical axis, sender
  - ② Optical axis, receiver
  - ③ Mounting hole  $\varnothing$  5.2 mm
  - ④ LED indicator green: Supply voltage active
  - ⑤ LED indicator yellow: Status of received light beam

Recommended accessories

Other models and accessories → [www.sick.com/W23-2](http://www.sick.com/W23-2)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"><li>• <b>Description:</b> Mounting bracket</li><li>• <b>Material:</b> Steel</li><li>• <b>Details:</b> Steel, zinc coated</li><li>• <b>Items supplied:</b> Mounting hardware included</li><li>• <b>Suitable for:</b> W23-2, W27-3, Reflex Array</li></ul>	BEF-WN-W23	2019085
	<ul style="list-style-type: none"><li>• <b>Description:</b> Mounting bracket with hinged arm</li><li>• <b>Material:</b> Steel</li><li>• <b>Details:</b> Steel, zinc coated</li><li>• <b>Items supplied:</b> Mounting hardware included</li><li>• <b>Suitable for:</b> W23-2, W27-3, Reflex Array</li></ul>	BEF-WN-W27	2009122
	<ul style="list-style-type: none"><li>• <b>Description:</b> Universal mounting bracket for reflectors</li><li>• <b>Dimensions (W x H x L):</b> 85 mm x 90 mm x 35 mm</li><li>• <b>Material:</b> Steel</li><li>• <b>Details:</b> Steel, zinc coated</li><li>• <b>Suitable for:</b> C110A, P250, PL20, PL30A, PL40A, PL80A</li></ul>	BEF-WN-REFX	2064574

	Brief description	Type	part no.
reflectors and optics			
	<ul style="list-style-type: none"><li>• <b>Description:</b> Rectangular, screw connection</li><li>• <b>Dimensions:</b> 84 mm 84 mm</li><li>• <b>Ambient operating temperature:</b> -30 °C ... +65 °C</li></ul>	PL80A	1003865

## 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)