



WL23-2S3730

W23-2

COMPACT 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

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 ¹⁾ |
| Sensing range | 0.3 m ... 7 m ¹⁾ |
| Focus | 1.5° |
| Type of light | Visible red light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 45 mm (2.7 m) |
| Angle of dispersion | 1.5° |
| Wave length | 660 nm |
| Adjustment | None |

¹⁾ Reflector PL80A.

²⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

| | |
|-----------------------|------------------------------------|
| Supply voltage | 90 V AC ... 265 V AC ¹⁾ |
|-----------------------|------------------------------------|

¹⁾ Limit values.

²⁾ Provide suitable spark suppression for inductive or capacitive loads.

³⁾ With light/dark ratio 1:1.

⁴⁾ Do not bend below 0 °C.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ C = interference suppression.

⁷⁾ Reference voltage: 250 V AC.

⁸⁾ UL: 0 °C ... +60 °C.

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

¹⁾ Limit values.

²⁾ Provide suitable spark suppression for inductive or capacitive loads.

³⁾ With light/dark ratio 1:1.

⁴⁾ Do not bend below 0 °C.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ C = interference suppression.

⁷⁾ Reference voltage: 250 V AC.

⁸⁾ UL: 0 °C ... +60 °C.

Safety-related parameters

| | |
|-------------------------|---------------------------------------|
| MTTF_D | 1,393 years |
| DC_{avg} | 0 % |
| B_{10d} | 65,693 Switching cycles ¹⁾ |

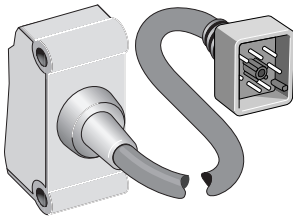
¹⁾ Only for devices containing electro-mechanical components. In this case, the MTTFD value of the entire device must be calculated from the given B_{10D} value, the number of switching cycles and the given MTTFD value.

Classifications

| | |
|---------------------|----------|
| eCl@ss 5.0 | 27270902 |
| eCl@ss 5.1.4 | 27270902 |
| eCl@ss 6.0 | 27270902 |
| eCl@ss 6.2 | 27270902 |
| eCl@ss 7.0 | 27270902 |
| eCl@ss 8.0 | 27270902 |

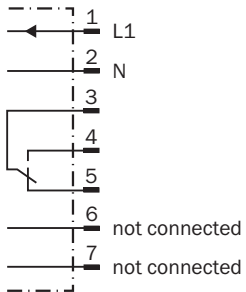
| | |
|-----------------------|----------|
| eCl@ss 8.1 | 27270902 |
| eCl@ss 9.0 | 27270902 |
| eCl@ss 10.0 | 27270902 |
| eCl@ss 11.0 | 27270902 |
| eCl@ss 12.0 | 27270902 |
| ETIM 5.0 | EC002717 |
| ETIM 6.0 | EC002717 |
| ETIM 7.0 | EC002717 |
| ETIM 8.0 | EC002717 |
| UNSPSC 16.0901 | 39121528 |

Connection type



Connection diagram

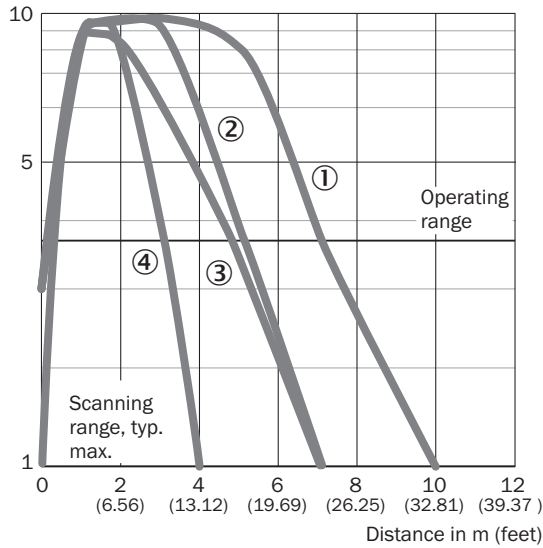
Cd-193



Characteristic curve

WL23-2

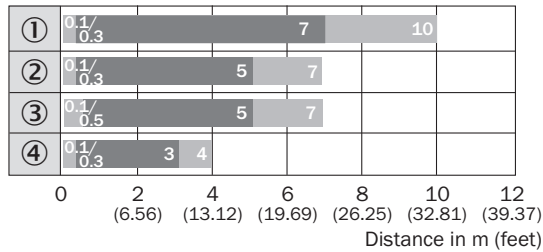
Operating reserve



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

Sensing range diagram

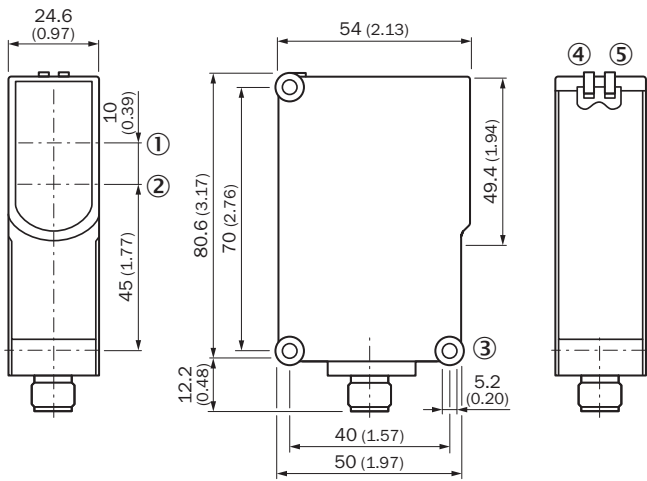
WL23-2



- Operating range
- Scanning range typ. max.
- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector C110A
- ④ Reflector PL20A

Dimensional drawing (Dimensions in mm (inch))



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- 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

| | Brief description | Type | Part no. |
|---|---|-------------|----------|
| Mounting brackets and plates | | | |
|  | Universal mounting bracket for reflectors, steel, zinc coated | BEF-WN-REFX | 2064574 |
| Reflectors | | | |
|  | Rectangular, screw connection, 84 mm x 84 mm, PMMA/ABS, Screw-on, 2 hole mounting | 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.”

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