



WT12L-2P140S03

W12-2 Laser

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|----------------|----------|
| WT12L-2P140S03 | 1026463 |

Other models and accessories → www.sick.com/W12-2_Laser

Illustration may differ



Detailed technical data

Features

| | |
|------------------------------------|---|
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | Background suppression |
| Sensing range max. | 30 mm ... 250 mm ¹⁾ |
| Emitted beam | |
| Light source | Laser ²⁾ |
| Type of light | Visible red light |
| Light spot size (distance) | Ø 0.1 mm (100 mm) |
| Key laser figures | |
| Normative reference | EN 60825-1:2014, IEC 60825-1:2007 |
| Laser class | 2 ³⁾ |
| Key LED figures | |
| Wave length | 650 nm |
| Adjustment | Potentiometer |
| Special applications | Detecting small objects, Detection of objects moving at high speeds |

¹⁾ Object with 6 % reflectance (referred to standard black, DIN 5033).

²⁾ Average service life: 50,000 h at T_U = +25 °C.

³⁾ Pulse length 4 µs, max. pulse power < 5,0 mW.

Electrical data

| | |
|--|--|
| Supply voltage U_B | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | < 5 V _{pp} ²⁾ |
| Current consumption | 55 mA ³⁾ |
| Protection class | III |
| Digital output | |
| Type | PNP ^{4) 5)} |
| Switching mode | Light switching, Dark switching ^{4) 5)} |
| Switching mode selector | Selectable via L/D control cable |
| Signal voltage PNP HIGH/LOW | $U_v - < 2 \text{ V}, U_v / 0 \text{ V}, \leq 1.5 \text{ V}$ |
| Signal voltage NPN HIGH/LOW | $U_v - < 2 \text{ V}, U_v / 0 \text{ V}, \leq 1.5 \text{ V}$ |
| Output current I_{max} | $\leq 100 \text{ mA}$ |
| Response time | $\leq 200 \mu\text{s}$ ⁶⁾ |
| Switching frequency | 2,500 Hz ⁷⁾ |
| Circuit protection | A ⁸⁾ C ⁹⁾ D ¹⁰⁾ |

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not exceed or fall below U_v tolerances.

³⁾ Without load.

⁴⁾ 0 V or not connected, light switching.

⁵⁾ U_v , dark switching.

⁶⁾ Signal transit time with resistive load.

⁷⁾ With light/dark ratio 1:1.

⁸⁾ A = V_S connections reverse-polarity protected.

⁹⁾ C = interference suppression.

¹⁰⁾ D = outputs overcurrent and short-circuit protected.

Mechanical data

| | |
|-------------------------------|---|
| Housing | Rectangular |
| Dimensions (W x H x D) | 15 mm x 49 mm x 41.5 mm |
| Connection | Cable with M8 male connector, 4-pin, 300 mm |
| Connection detail | |
| Length of cable (L) | 300 mm |
| Material | |
| Housing | Metal |
| Front screen | Plastic, PMMA |
| Weight | 130 g |

Ambient data

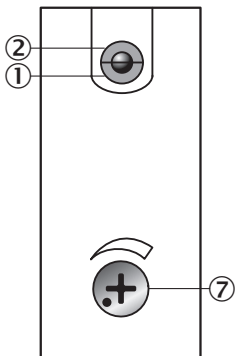
| | |
|--------------------------------------|------------------------------|
| Enclosure rating | IP67 |
| Ambient operating temperature | -10 °C ... +50 °C |
| Ambient temperature, storage | -25 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

Classifications

| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270904 |
| ECLASS 5.1.4 | 27270904 |
| ECLASS 6.0 | 27270904 |
| ECLASS 6.2 | 27270904 |
| ECLASS 7.0 | 27270904 |
| ECLASS 8.0 | 27270904 |
| ECLASS 8.1 | 27270904 |
| ECLASS 9.0 | 27270904 |
| ECLASS 10.0 | 27270904 |
| ECLASS 11.0 | 27270904 |
| ECLASS 12.0 | 27270903 |
| ETIM 5.0 | EC002719 |
| ETIM 6.0 | EC002719 |
| ETIM 7.0 | EC002719 |
| ETIM 8.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

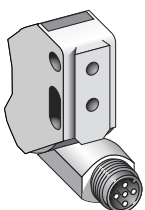
Adjustments

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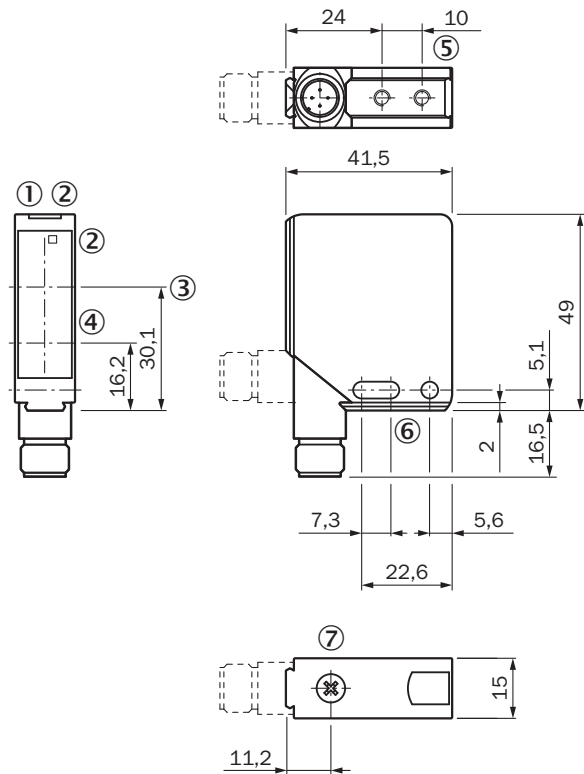
- ① Operating indicator, green
- ② LED reception indicator, yellow
- ⑦ Adjustment of sensing range

Connection type



Dimensional drawing (Dimensions in mm (inch))

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- ① Operating indicator, green
- ② LED reception indicator, yellow
- ③ Optical axis, receiver
- ④ Optical axis, sender
- ⑤ M4 threaded mounting hole - 4 mm depth
- ⑥ Mounting hole, \varnothing 4.2 mm
- ⑦ Adjustment of sensing range

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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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