



WL12L-2B530S05

W12

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|----------------|----------|
| WL12L-2B530S05 | 1059521 |

Other models and accessories → www.sick.com/W12

Detailed technical data

Features

| | |
|------------------------------------|---|
| Functional principle | Photoelectric retro-reflective sensor |
| Functional principle detail | Without reflector minimum distance (autocollimation/coaxial optics) |
| Sensing range max. | 0 mm ... 530 mm ¹⁾ |
| Polarisation filter | Yes |
| Emitted beam | |
| Light source | Laser ²⁾ |
| Type of light | Visible red light |
| Light spot size (distance) | Ø 0.5 mm (290 mm) |
| Key laser figures | |
| Normative reference | EN 60825-1:2014, IEC 60825-1:2007 |
| Laser class | 2 ^{3) 4)} |
| Key LED figures | |
| Wave length | 650 nm |
| Adjustment | No adjustment possibility |
| Special applications | Detecting small objects, Detection of objects moving at high speeds |

¹⁾ P41F reflector.

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

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

⁴⁾ Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

Electronics

| | |
|--|---|
| 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, NPN |
| Switching mode | Light/dark switching |
| Switching mode selector | Selectable via L/D control cable |
| Signal voltage PNP HIGH/LOW | $U_v - < 2.9 \text{ V}, U_v \text{ V} / 0 \text{ V} \leq 1.5 \text{ V}$ |
| Signal voltage NPN HIGH/LOW | $U_v - < 2.9 \text{ V}, U_v \text{ V} / 0 \text{ V} \leq 1.5 \text{ V}$ |
| Output current I_{max} | ≤ 100 mA |
| Response time | ≤ 200 μs ⁴⁾ |
| Switching frequency | 2,500 Hz ⁵⁾ |
| Circuit protection | A ⁶⁾ C ⁷⁾ D ⁸⁾ |

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

²⁾ May not fall below or exceed U_v tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

Mechanics

| | |
|-------------------------------|-------------------------|
| Housing | Rectangular |
| Dimensions (W x H x D) | 15 mm x 49 mm x 41.5 mm |
| Connection | Plug, M12, 5-pin |
| Material | |
| Housing | Metal |
| Front screen | Plastic, PMMA |
| Weight | 130 g |

Ambient data

| | |
|--------------------------------------|------------------------------|
| Enclosure rating | IP67 IP69K |
| Ambient operating temperature | -10 °C ... +50 °C |
| Ambient temperature, storage | -25 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

Certificates

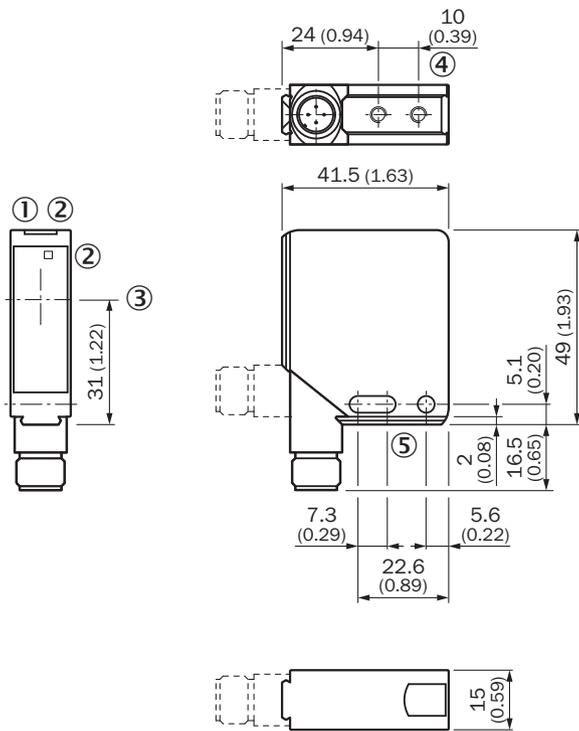
| | |
|---------------------------------------|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |

| | |
|---|---|
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |
| Laser safety (IEC 60825-1) certificate | ✓ |

Classifications

| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270902 |
| ECLASS 5.1.4 | 27270902 |
| ECLASS 6.0 | 27270902 |
| ECLASS 6.2 | 27270902 |
| ECLASS 7.0 | 27270902 |
| ECLASS 8.0 | 27270902 |
| ECLASS 8.1 | 27270902 |
| ECLASS 9.0 | 27270902 |
| ECLASS 10.0 | 27270902 |
| ECLASS 11.0 | 27270902 |
| ECLASS 12.0 | 27270902 |
| ETIM 5.0 | EC002717 |
| ETIM 6.0 | EC002717 |
| ETIM 7.0 | EC002717 |
| ETIM 8.0 | EC002717 |
| UNSPSC 16.0901 | 39121528 |

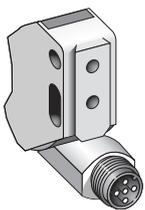
Dimensional drawing



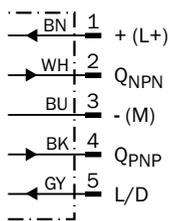
Dimensions in mm (inch)

- ① Operating indicator, green
- ② LED reception indicator, yellow
- ③ Center of optical axis
- ④ M4 threaded mounting hole - 4 mm depth
- ⑤ Mounting hole, Ø 4.2 mm

Connection type



Connection diagram Cd-145



Recommended accessories

Other models and accessories → www.sick.com/W12

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> Description: Mounting bracket, large Material: Stainless steel Details: Stainless steel Items supplied: Mounting hardware included Suitable for: W11-2, W12-3, W16 | BEF-WG-W12 | 2013942 |
|  | <ul style="list-style-type: none"> Description: Universal mounting bracket for reflectors Dimensions (W x H x L): 85 mm x 90 mm x 35 mm Material: Steel Details: Steel, zinc coated Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A | BEF-WN-REFX | 2064574 |
| reflectors and optics | | | |
|  | <ul style="list-style-type: none"> Description: Rectangular, screw connection, width across flats 48 mm Ambient operating temperature: -20 °C ... +65 °C | PL50A | 1000132 |
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with chemicals | YF2A15-050VB5XLEAX | 2096240 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M12, 5-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² Note: For field bus technology | STE-1205-G | 6022083 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A15-050UB5XLEAX | 2095618 |

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