



MLSE-0300A2TP0

MLS

MAGNETIC SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|----------------|----------|
| MLSE-0300A2TP0 | 1092497 |

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



Detailed technical data

Features

| | |
|-----------------------------|--------------------------------|
| Detection range typ. | 300 mm |
| Operating height | 10 mm ... 70 mm |
| Electrical wiring | DC 4-wire |
| Enclosure rating | IP65, IP67, IP68 ¹⁾ |

¹⁾ According to EN 60529.

Mechanics/electronics

| | |
|--|--|
| Supply voltage | 9 V DC ... 30 V DC |
| Terminal resistor | Internal 120 Ω terminator |
| Protection class | III |
| Power consumption | 600 mW |
| Resolution, typ. | 1 mm |
| Repeat accuracy, typ. | 1 mm |
| Update rate | 100 Hz |
| Teach-in | ✓ |
| Reverse polarity protection | ✓ |
| Short-circuit protection | ✓ |
| Internal terminating resistor (CAN) | ✓ |
| Ambient operating temperature | -20 °C ... +70 °C |
| Shock and vibration resistance | 30 g, 11 ms/10 Hz ... 55 Hz, 1 mm |
| EMC | EN 61000-6-2, EN 61000-6-4 |
| Connection type | Cable with M8 male connector, 4-pin, 0.3 m ¹⁾ |
| Connection type Detail | |
| Conductor cross section | 0.08 mm ² |
| Material | |
| Housing | Metal, Aluminum, plastic |

¹⁾ Do not bend below 0 °C.

| | | |
|--------------------|-------|------------------------------|
| | Cable | PUR |
| UL File No. | | NRKH.E181493 & NRKH7.E181493 |

¹⁾ Do not bend below 0 °C.

Safety-related parameters

| | |
|-------------------------------------|-----------|
| MTTF_D | 125 years |
| DC_{avg} | 0 % |
| T_M (mission time) | 20 years |

Communication interface

| | |
|--------------------------------|---------|
| Communication interface | CANopen |
|--------------------------------|---------|

Diagnosis

| | |
|-----------------------------------|---------------------------|
| Orientation | |
| Number of axis | 3 |
| Roll Euler angle measuring range | ± 180° |
| Pitch Euler angle measuring range | ± 90° |
| Yaw Euler angle measuring range | ± 180° |
| Resolution | 0.02° |
| Roll repeatability | ± 1° |
| Pitch repeatability | ± 1° |
| Yaw repeatability | ± 1° ¹⁾ |
| Maximum rotation rate | 2,000 °/s |
| Quaternion w measuring range | 0 ... + 1 |
| Quaternion x measuring range | -1 ... 1 |
| Quaternion y measuring range | -1 ... 1 |
| Quaternion z measuring range | -1 ... 1 |
| Update rate | 100 Hz |
| Limit frequency | 100 Hz |
| Initialization time | 640 ms |
| Sampling rate | 200 Hz ²⁾ |
| Acceleration measuring range | ± 16 g ²⁾ |
| Rotation rate measuring range | ± 2,000 °/s ²⁾ |

¹⁾ Not long-term stable.

²⁾ Raw data.

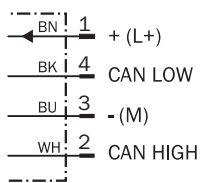
Classifications

| | |
|---------------------|----------|
| ECLASS 5.0 | 27270104 |
| ECLASS 5.1.4 | 27270104 |
| ECLASS 6.0 | 27270104 |
| ECLASS 6.2 | 27270104 |
| ECLASS 7.0 | 27270104 |
| ECLASS 8.0 | 27270104 |
| ECLASS 8.1 | 27270104 |
| ECLASS 9.0 | 27270104 |

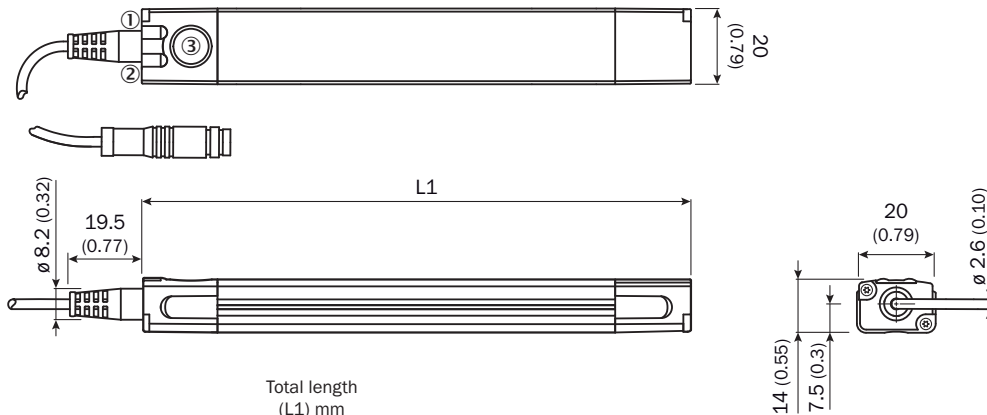
| | |
|-----------------------|----------|
| ECLASS 10.0 | 27270104 |
| ECLASS 11.0 | 27270104 |
| ECLASS 12.0 | 27274301 |
| ETIM 5.0 | EC002544 |
| ETIM 6.0 | EC002544 |
| ETIM 7.0 | EC002544 |
| ETIM 8.0 | EC002544 |
| UNSPSC 16.0901 | 39122230 |

Connection diagram

Cd-396



Dimensional drawing (Dimensions in mm (inch))



| | Total length (L1) mm |
|------------------|-------------------------|
| MLSE-0200 | 217 |
| MLSE-0300 | 325 |
| MLSE-0400 | 397 |
| MLSE-0500 | 505 |
| MLSE-0600 | 613 |

- ① Function signal indicator 1
- ② Function signal indicator 2
- ③ Teach-Pad

Recommended accessories

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

| | Brief description | Type | Part no. |
|---|---|-----------------------|----------|
| Bus adapter | | | |
|  | CAN-USB Adapter to connect MLS with a PC | AKA-NXL1BXB12KX | 6067651 |
| Magnets | | | |
|  | Magnetic tape, North is top side, adhesive, width 25 mm, length 50 m | MAGNETIC TAPE | 5337613 |
| | Magnetic tape, South is top side, adhesive, width 25 mm, length 50 m | MAGNETIC TAPE | 5337614 |
|  | Magnetic tape, north pole on top, self-adhesive, width = 25mm, external length = 524 mm, internal length = 511 mm, radius = 1000 mm, 30° section | Magnetic tape, curved | 5344198 |
|  | Positioning device for magnetic markers (5337613, 5337614) for MLS | TEMPLATE | 4097520 |
| Distributors | | | |
|  | <ul style="list-style-type: none"> Description: Y-cable to connect MLS to a CAN-USB Adapter and a power supply (Input: 100-240V, 1.0A max., 50-60Hz; Output: +24V DC; Connector: 2.1x5.5x11-S) | YF8U14-011VA3FYDN2 | 2098412 |
| Mounting brackets and plates | | | |
|  | Bracket for low mounting, Stainless steel V2A (bracket/mounting screw), Brass (fixing screw) | BEF-WNLO1MPA | 2065973 |
|  | Bracket for lateral mounting, Stainless steel V2A (bracket/mounting screw), Brass (fixing screw) | BEF-WNZ01MPA | 2065577 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot | YF8U14-020UA3XLEAX | 2094791 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot | YF8U14-050UA3XLEAX | 2094792 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot | YG8U14-020UA3XLEAX | 2095589 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot | YG8U14-050UA3XLEAX | 2095590 |

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