



MLG10N-1940P10502

MLG-2

AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|-------------------|----------|
| MLG10N-1940P10502 | 1221359 |

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

Illustration may differ



Detailed technical data

Features

| | | | | | | | |
|--|--|----------------|--------------------|---------------|-----------|------------------------------|------|
| Device version | ProNet – extended functionality including fieldbus | | | | | | |
| Sensor principle | Sender/receiver | | | | | | |
| Minimum detectable object (MDO) | 10 mm ¹⁾ 14 mm ²⁾ ³⁾ | | | | | | |
| Beam separation | 10 mm | | | | | | |
| Type of synchronization | Cable | | | | | | |
| Number of beams | 195 | | | | | | |
| Detection height | 1,940 mm | | | | | | |
| Software features (default) | <table border="0"> <tr> <td>Q₁</td> <td>Presence detection</td> </tr> <tr> <td>Address</td> <td>126 (SSA)</td> </tr> <tr> <td>PROFIBUS DP</td> <td>DPV0</td> </tr> </table> | Q ₁ | Presence detection | Address | 126 (SSA) | PROFIBUS DP | DPV0 |
| Q ₁ | Presence detection | | | | | | |
| Address | 126 (SSA) | | | | | | |
| PROFIBUS DP | DPV0 | | | | | | |
| Operating mode | <table border="0"> <tr> <td>Standard</td> <td>✓</td> </tr> <tr> <td>Transparent</td> <td>✓</td> </tr> <tr> <td>Dust- and sunlight-resistant</td> <td>✓</td> </tr> </table> | Standard | ✓ | Transparent | ✓ | Dust- and sunlight-resistant | ✓ |
| Standard | ✓ | | | | | | |
| Transparent | ✓ | | | | | | |
| Dust- and sunlight-resistant | ✓ | | | | | | |
| Function | <table border="0"> <tr> <td>Cross beam</td> <td>✓</td> </tr> <tr> <td>Beam blanking</td> <td>✓</td> </tr> <tr> <td>High-speed scan</td> <td>✓</td> </tr> </table> | Cross beam | ✓ | Beam blanking | ✓ | High-speed scan | ✓ |
| Cross beam | ✓ | | | | | | |
| Beam blanking | ✓ | | | | | | |
| High-speed scan | ✓ | | | | | | |

¹⁾ MDO min. detectable object at high measurement accuracy.

²⁾ MDO min. detectable object for standard measurement accuracy.

³⁾ Depending on beam separation without cross beam setting.

| | | |
|-------------------------------|--|--|
| High measurement accuracy | ✓ | |
| Applications | Switching output | Object detection/object width Object recognition Height classification Hole detection/hole size- Outside/inside dimension Object position Hole position Zone definition |
| | Data interface | Object detection Hole detection Object height measurement Measurement of the outside dimension Measurement of the inside dimension Measurement of the object position Measurement of the hole position |
| Included with delivery | 1 × sender 1 × receiver 1 × Fieldbus module 4/6 × QuickFix brackets (6 × QuickFix brackets for monitoring heights above 2 m) 1 × Quick Start Guide | |

1) MDO min. detectable object at high measurement accuracy.

2) MDO min. detectable object for standard measurement accuracy.

3) Depending on beam separation without cross beam setting.

Mechanics/electronics

| | |
|--|--|
| Light source | LED, Infrared light |
| Wave length | 850 nm |
| Supply voltage V_s | DC 19.2 V ... 28.8 V ¹⁾ |
| Power consumption sender | 64.75 mA ²⁾ |
| Power consumption receiver | 159 mA ²⁾ |
| Fieldbus module current consumption | 115 mA |
| Ripple | < 5 V _{pp} |
| Output current I_{max} | 100 mA |
| Output load, capacitive | 100 nF |
| Output load, Inductive | 1 H |
| Initialization time | < 1 s |
| Switching output | Push-pull: PNP/NPN |
| Connection type | Plug, M12, 5-pin, 0.22 m Connector M12, 12-pin, 0.21 m |
| Housing material | Aluminum |
| Display | LED |
| Enclosure rating | IP65, IP67 ³⁾ |
| Circuit protection | U _V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression |
| Protection class | III |
| Weight | 4.149 kg |
| Front screen | PMMA |
| Option | None |
| UL File No. | NRKH.E181493 (Sensor) |

1) Without load.

2) Without load with 24 V.

3) Operating in outdoor condition only with a external protection housing.

Performance

| | |
|------------------------|-----------------------|
| Maximum range | 7 m ¹⁾ |
| Minimum range | ≥ 0 m |
| Operating range | 5 m |
| Response time | 16.3 ms ²⁾ |

¹⁾ No reserve for environmental issue and deterioration of the diode.

²⁾ Without high speed.

Interfaces

| | |
|------------------------|-------------------------------------|
| PROFIBUS DP | ✓ , DPV0 |
| Data transmission rate | Autobaud, 9,600 kbit/s ...12 Mbit/s |
| Digital output | Q ₁ |
| Number | 1 |

Ambient data

| | |
|--------------------------------------|--|
| Shock resistance | Continuous shocks 10 g, 16 ms, 1000 shocks Single shocks 15 g, 11 ms 3 per axle |
| Vibration resistance | Sinusoidal oscillation 10-150 Hz 5 g |
| EMC | EN 60947-5-2 |
| Ambient light immunity | Direct: 150,000 lx ¹⁾ Indirect: 200,000 lx ²⁾ |
| Ambient operating temperature | -30 °C ... +55 °C |
| Ambient temperature, storage | -40 °C ... +70 °C |

¹⁾ Outdoor mode.

²⁾ Light resistance indirect.

Certificates

| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China-RoHS | ✓ |
| cULus certificate | ✓ |
| Photobiological safety (IEC EN 62471) | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

Classifications

| | |
|---------------------|----------|
| ECLASS 5.0 | 27270910 |
| ECLASS 5.1.4 | 27270910 |
| ECLASS 6.0 | 27270910 |
| ECLASS 6.2 | 27270910 |
| ECLASS 7.0 | 27270910 |
| ECLASS 8.0 | 27270910 |
| ECLASS 8.1 | 27270910 |
| ECLASS 9.0 | 27270910 |

| | |
|-----------------------|----------|
| ECLASS 10.0 | 27270910 |
| ECLASS 11.0 | 27270910 |
| ECLASS 12.0 | 27270910 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |
| ETIM 8.0 | EC002549 |
| UNSPSC 16.0901 | 39121528 |

Dimensional drawing



| | A ¹⁾ | B ²⁾ |
|------------------------|---------------------------------------|-----------------|
| Beam separation 2.5 mm | 62.25 (2.45) | 17.15 (0.68) |
| Beam separation 5 mm | 63.3 (2.49) | 16.1 (0.63) |
| Beam separation 10 mm | 68.3 (2.69) | 16.1 (0.63) |
| Beam separation 20 mm | 68.3 (2.69)/78.3 (3.08) ³⁾ | 16.1 (0.63) |
| Beam separation 25 mm | 83.3 (3.28) | 16.1 (0.63) |
| Beam separation 30 mm | 88.3 (2.69) | 16.1 (0.63) |
| Beam separation 50 mm | 108.3 (4.26) | 16.1 (0.63) |

¹⁾ Distance: MLG-2 edge - first beam

²⁾ Distance: MLG-2 edge - last beam

³⁾ MLG20x-xx40: 68.3 mm
MLG20x-xx80: 78.3 mm

Dimensions in mm (inch)

- ① First beam
- ② last beam
- ③ detection height (see technical data)
- ④ Beam separation
- ⑤ Optical axis
- ⑥ status indicator: green, yellow, red LEDs
- ⑦ Connection
- ⑧ safety screw M4; turning moment 0,5 Nm
- ⑨ for thread bold M4; turning moment 0,5 Nm

Connection type and diagram PROFIBUS



- ① Connection to fieldbus module
- ② Not connected

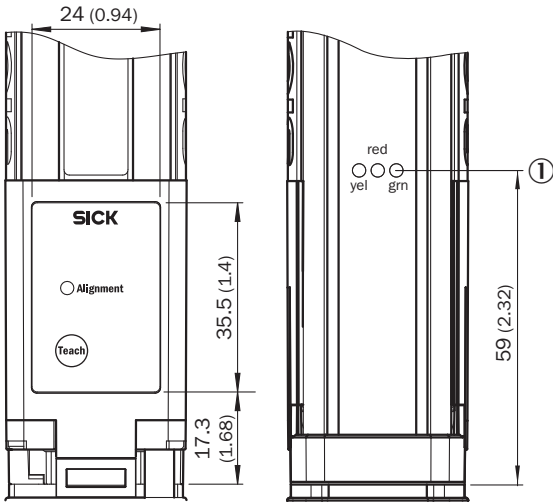
Pinouts Ethernet



- ① Connection cable receiver (2096010)
- ② T-piece
- ③ Connection cable (2096240)

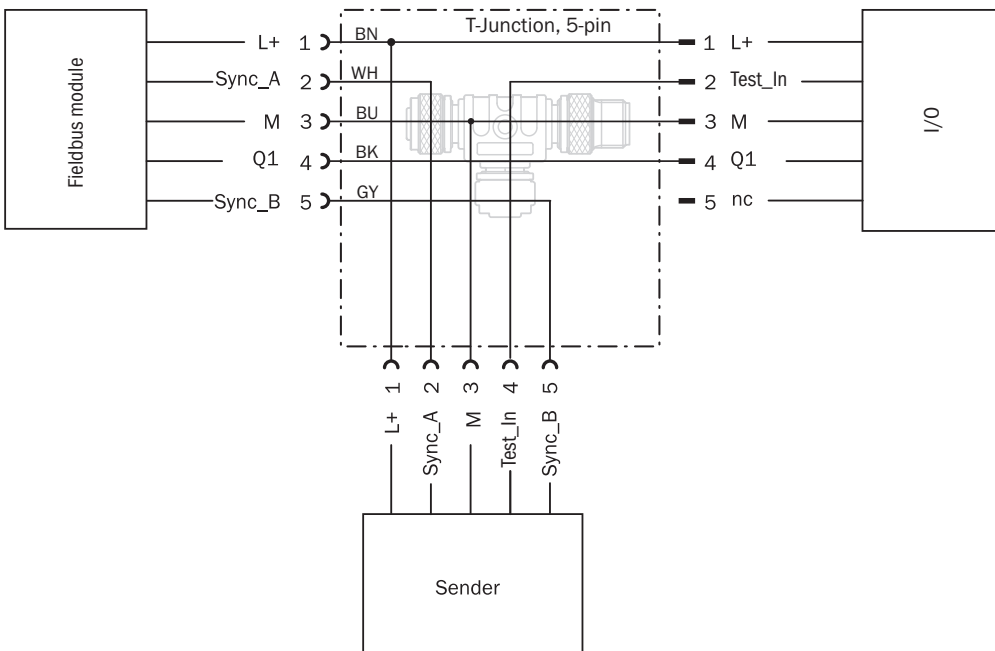
- ④ connection receiver "DEVICE"
- ⑤ Connection cable "POWER" (2096010)
- ⑥ Ethernet Connection cable "BUS IN, BUS OUT"
- ⑦ Ethernet connection cable "CONFIG"

Adjustments



① status indicator: green, yellow, red LEDs

Connection diagram T-piece



Recommended accessories

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

| | Brief description | Type | part no. |
|---|---|---------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, A-coded • Connection type head B: Female connector, M12, 5-pin, A-coded • Connection type head C: Male connector, M12, 4-pin, A-coded • Description: Unshielded | SBO-02G12-SM | 6029305 |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 4-pin, D-coded • Connection type head B: Male connector, M12, 4-pin, D-coded • Signal type: Ethernet • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Ethernet, twisted pair, shielded • Permitted cross-section: ≥ 0.25 mm² • Application: Zones with oils and lubricants | YM2D24-050EA2M2D24 | 6034422 |
|  | <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: Zones with chemicals, Uncontaminated zones | YF2A15-050VB5XLEAX | 2096240 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Male connector, M12, 5-pin, straight, A-coded • Signal type: Sensor/actuator cable • Cable: 5 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A15-050UB5M2A15 | 2096010 |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 4-pin, straight, D-coded • Connection type head B: Male connector, RJ45, 4-pin, straight • Signal type: Ethernet, PROFINET • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Ethernet, shielded, PROFINET • Application: Drag chain operation, Zones with oils and lubricants | YM2D24-050P-N1MRJA4 | 2106184 |
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> • Description: Mounting bracket for external mounting of the fieldbus module, 1 × mounting bracket and 1 × M5 × 6 screw • Material: Stainless steel • Details: Stainless steel V2A (1.4301) | BEF-WN-FBM-SET1 | 2082322 |

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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.

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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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