



MLG10N-1790E10501

MLG-2

MEASURING AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|-------------------|----------|
| MLG10N-1790E10501 | 1105739 |

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



Detailed technical data

Features

| | | |
|--|---|---|
| Device version | ProNet - Advanced functionality incl. feldbus | |
| Sensor principle | Sender/receiver | |
| Minimum detectable object (MDO) | 10 mm, 14 mm ^{1) 2) 3)} | |
| Beam separation | 10 mm | |
| Number of beams | 180 | |
| Detection height | 1,790 mm | |
| Software features (default) | Q ₁ | Presence detection |
| Operating mode | Standard | ✓ |
| | Transparent | ✓ |
| | Dust- and sunlight-resistant | ✓ |
| Function | Cross beam | ✓ |
| | Beam blanking | ✓ |
| | High-speed scan | ✓ |
| | High measurement accuracy | ✓ |
| Applications | Switching output | Object recognition/object width Object recognition Height classification Hole detection/hole size Outside dimension/inside dimension Object position Hole position Zone definition |

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.

| | |
|-------------------------------|--|
| Data interface | Object recognition Object height measurement Object height measurement Measurement of external dimension Measurement of inside dimension Measurement of object position Measurement of 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 18 V ... 30 V ¹⁾ |
| Power consumption sender | 64 mA ²⁾ |
| Power consumption receiver | 156 mA ²⁾ |
| Power consumption fieldbus module | 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 | Male connector M12, 5-pin, 0.22 m Connector M12, 12-pin, 0.21 m |
| Housing material | Aluminum |
| Indication | 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 | 3.849 kg |
| Front screen | PMMA |
| Option | None |

- 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 | 15.2 ms ²⁾ |

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

²⁾ Without high speed.

Communication interface

| | |
|-----------------------|----------------|
| EtherCAT® | ✓ |
| Digital output | Q ₁ |
| Number | 1 |

Ambient data

| | |
|--------------------------------------|--|
| EMC | EN 60947-5-2 |
| Ambient operating temperature | -30 °C +55 °C |
| Ambient storage temperature | -40 °C +70 °C |
| Ambient light immunity | Direct: 150,000 lx ¹⁾ Indirect: 200,000 lx ²⁾ |
| Vibration resistance | Sinusoidal oscillation 10-150 Hz 5 g |
| Shock load | Continuous shocks 10 g, 16 ms, 1000 shocks Single shocks 15 g, 11 ms 3 per axle |
| UL File No. | NRKH.E181493 (Sensor) |

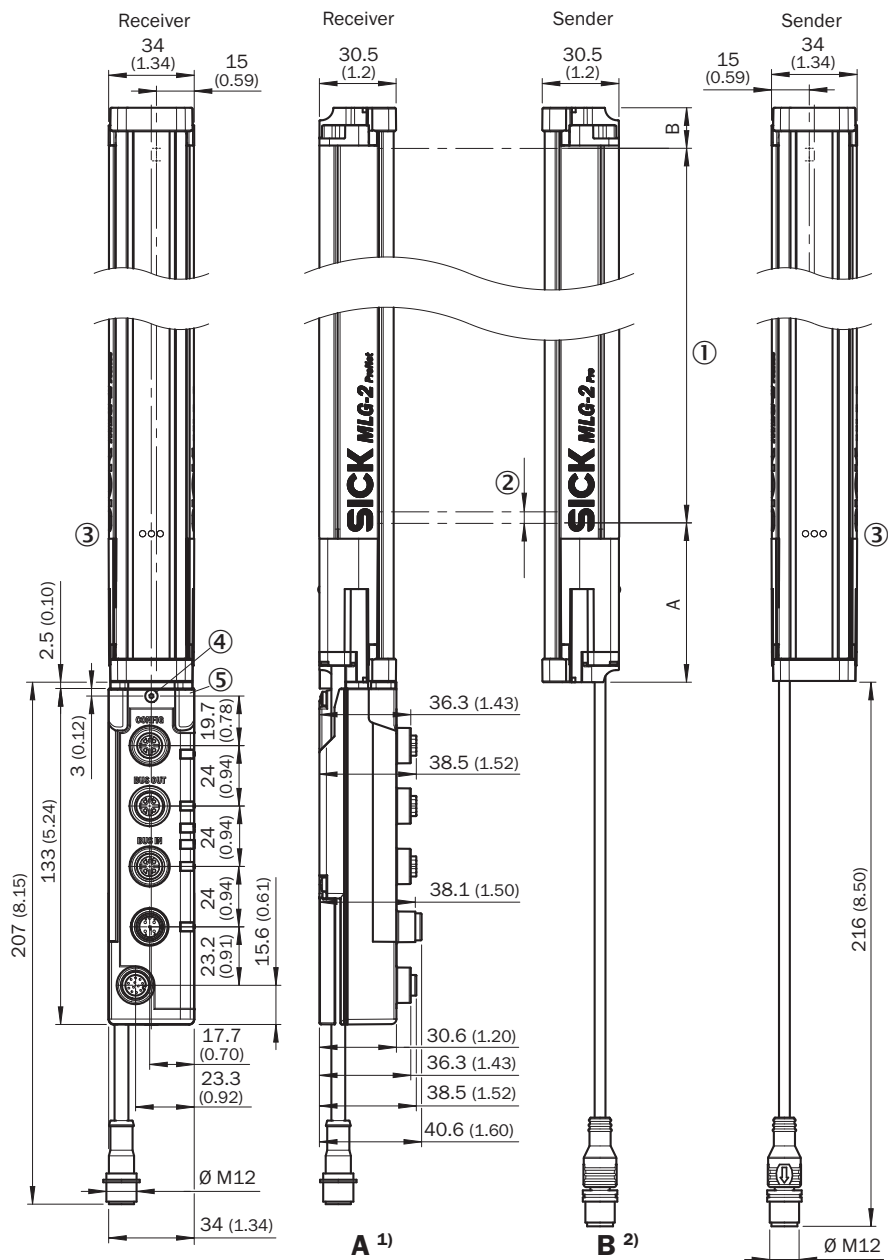
¹⁾ Outdoor mode.

²⁾ Light resistance indirect.

Classifications

| | |
|-----------------------|----------|
| ECl@ss 5.0 | 27270910 |
| ECl@ss 5.1.4 | 27270910 |
| ECl@ss 6.0 | 27270910 |
| ECl@ss 6.2 | 27270910 |
| ECl@ss 7.0 | 27270910 |
| ECl@ss 8.0 | 27270910 |
| ECl@ss 8.1 | 27270910 |
| ECl@ss 9.0 | 27270910 |
| ECl@ss 10.0 | 27270910 |
| ECl@ss 11.0 | 27270910 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |
| UNSPSC 16.0901 | 39121528 |

Dimensional drawing (Dimensions in mm (inch))



| | | |
|-------------------------------|---------------------------------------|--------------|
| 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-xx**40**: 68.3 mm
MLG20x-xx**80**: 78.3 mm

- ① Detection height (see optical performance)
- ② Beam separation (RM)
- ③ Status indicator: green, yellow, red LEDs
- ④ Safty screw M4; turning moment 0,5 Nm

⑥ For thread bold M4; turning moment 0,5 Nm

Adjustments



① Status indicator: green, yellow, red LEDs

Connection type and diagram

PROFINET, EtherCAT®, EtherNet/IP



① Connection to fieldbus module

Connection type

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"

Connection diagram


T-piece



Recommended accessories

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

| | Brief description | Type | Part no. |
|---|--|--------------------|----------|
| Terminal and alignment brackets | | | |
|  | Bracket for external mounting of the fieldbus module, 1 x angle holder and 1 x screw M5 x 6-8.8, Stainless steel V2A (1.4301) | BEF-WN-FBM-SET1 | 2082322 |
| Distributors | | | |
|  | Head A: female connector, M12, 5-pin, A-coded Head B: female connector, M12, 5-pin, A-coded Male connector M12, 5-pin, straight, A-coded to 2 x female connector M12, 5-pin, straight, A-coded | SB0-02G12-SM | 6029305 |
| Plug connectors and cables | | | |
|  | Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A15-050VB5XLEAX | 2096240 |
|  | Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m | YF2A15-050UB5M2A15 | 2096010 |
|  | Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, twisted pair, PUR, halogen-free, shielded, 5 m | YM2D24-050EA1MRJA4 | 6034415 |

| | Brief description | Type | Part no. |
|---|---|------------------------|-----------------|
|  | Head A: male connector, M12, 4-pin, D-coded Head B: male connector, M12, 4-pin, D-coded Cable: Ethernet, twisted pair, PUR, halogen-free, shielded, 5 m | YM2D24- 050EA2M2D24 | 6034422 |

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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.

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