



MLG20N-2240C10594

MLG-2

MEASURING AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|-------------------|----------|
| MLG20N-2240C10594 | 1138899 |

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

Detailed technical data

Features

| | |
|--|---|
| Device version | ProNet - Advanced functionality incl. fieldbus |
| Sensor principle | Sender/receiver |
| Minimum detectable object (MDO) | 20 mm, 24 mm ^{1) 2) 3)} |
| Beam separation | 20 mm |
| Type of synchronization | Cable |
| Number of beams | 113 |
| Detection height | 2,240 mm |
| Operating mode | <ul style="list-style-type: none"> Standard ✓ Transparent ✓ Dust- and sunlight-resistant ✓ |
| Function | <ul style="list-style-type: none"> Cross beam ✓ Beam blanking ✓ High-speed scan ✓ High measurement accuracy ✓ |
| Applications | <ul style="list-style-type: none"> Switching output <ul style="list-style-type: none"> Object recognition/object width Object recognition Height classification Hole detection/hole size Outside dimension/inside dimension Object position Hole position Zone definition Data interface <ul style="list-style-type: none"> Object detection |

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.

| | |
|-------------------------------|---|
| | Hole detection 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 x Fieldbus module 4/6 x QuickFix brackets (6 x 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 | 61.6 mA ²⁾ |
| Power consumption receiver | 143.4 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 | 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 | 4.749 kg |
| Front screen | PMMA |
| Option | None |
| UL File No. | NRKH.E181493 |

- 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 | 3.6 ms ²⁾ |

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

²⁾ Without high speed.

Communication interface

| | |
|------------------------|------------------------|
| CANopen | ✓ |
| Data transmission rate | 10 kbit/s ... 1 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.

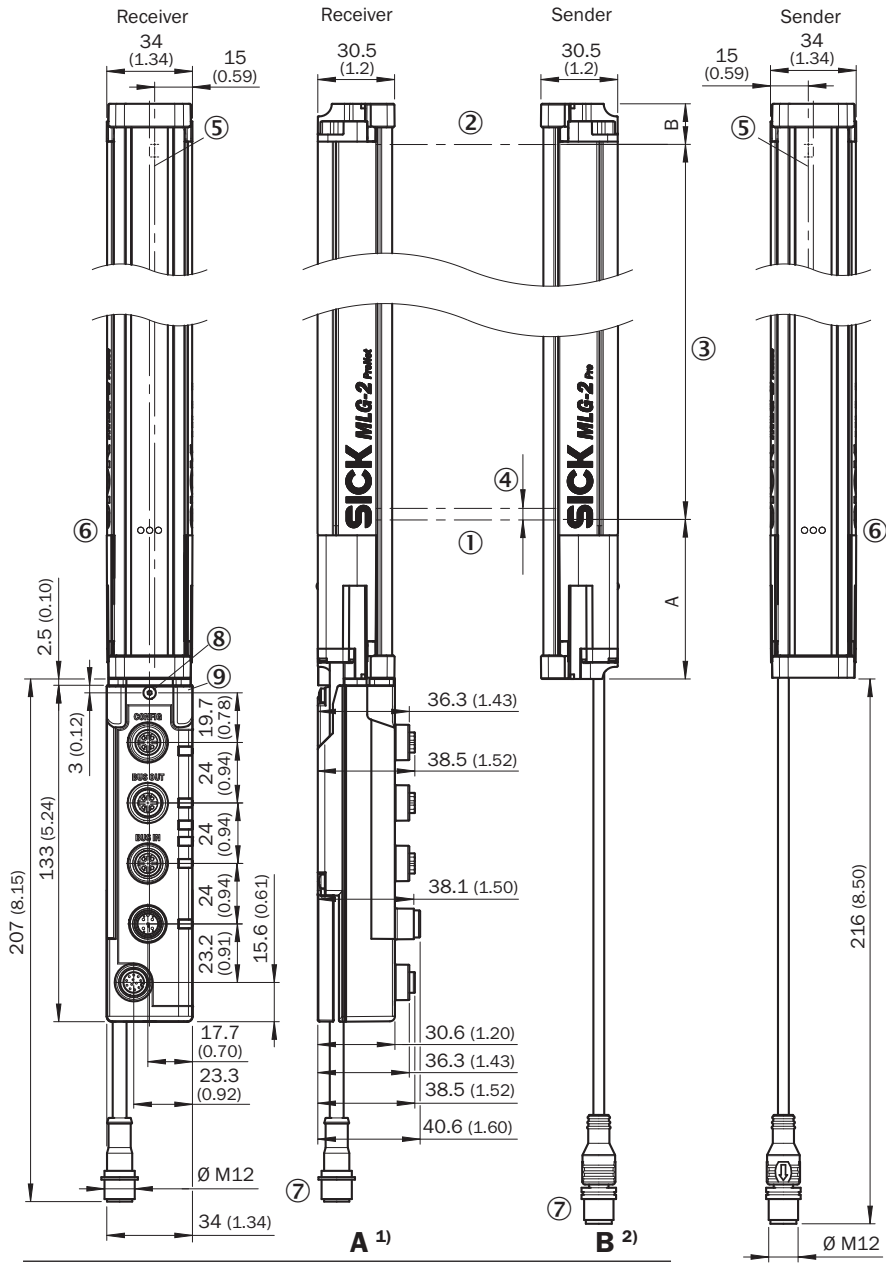
²⁾ Light resistance indirect.

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 (Dimensions in mm (inch))

Dimensional drawing



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

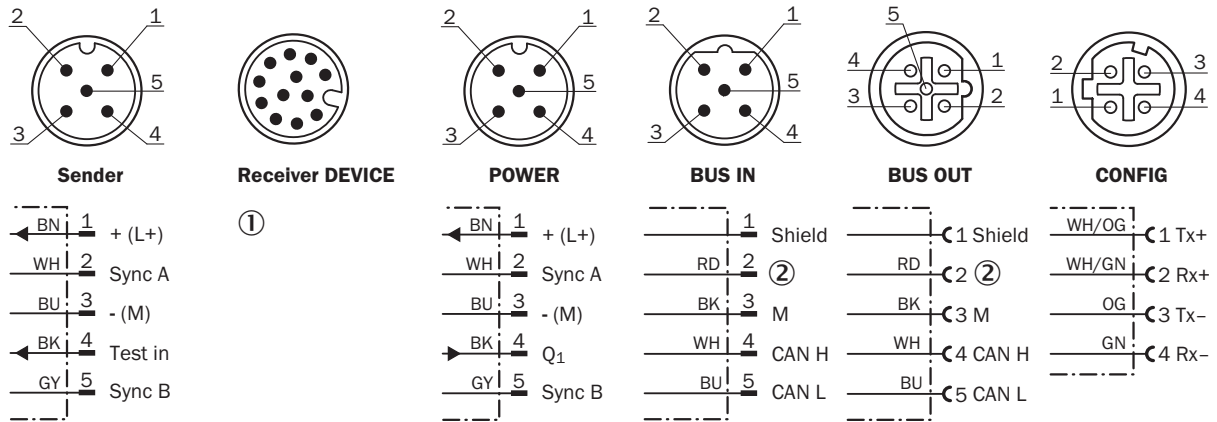
¹⁾ Distance: MLG-2 edge - first beam
²⁾ Distance: MLG-2 edge - last beam
³⁾ MLG20x-xx40: 68.3 mm
 MLG20x-xx80: 78.3 mm

- 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 Safty screw M4; turning moment 0,5 Nm
- ⑨ For thread bold M4; turning moment 0,5 Nm

Connection type and diagram

CANopen



- 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"

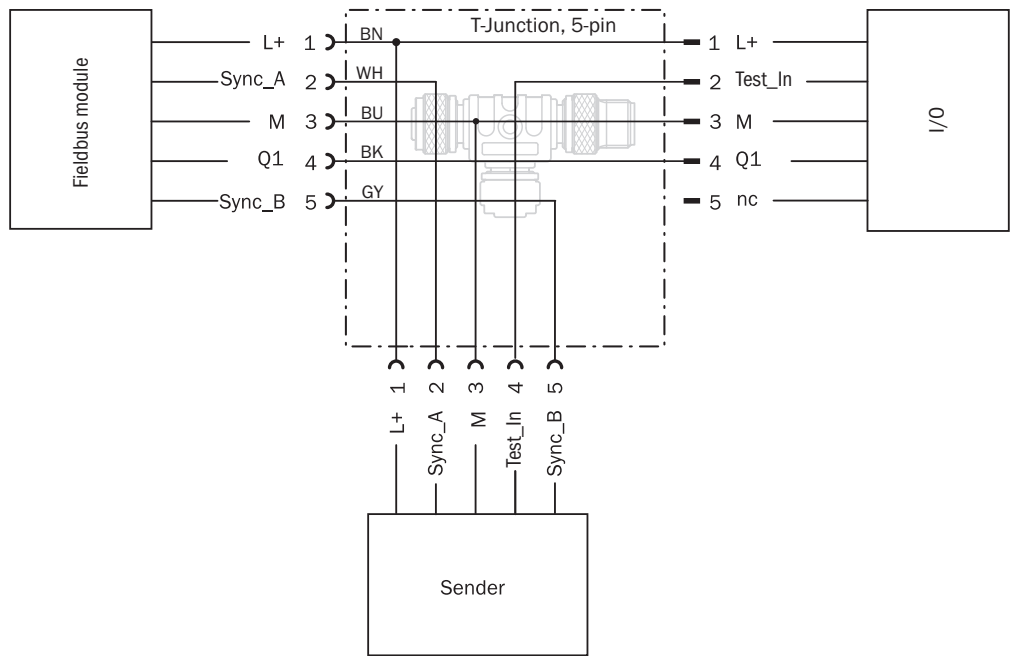
Adjustments



① Status indicator: green, yellow, red LEDs

Connection diagram

T-piece



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