



MLG05N-0145C10501

MLG-2

MEASURING AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|-------------------|----------|
| MLG05N-0145C10501 | 1217251 |

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) | 5 mm, 9 mm ^{1) 2) 3)} | |
| Beam separation | 5 mm | |
| Type of synchronization | Cable | |
| Number of beams | 30 | |
| Detection height | 145 mm | |
| Software features (default) | Q ₁ | Presence detection |
| | Address | 6 (LSS) |
| | Baud rate RS-485 | 125 kbit/s |
| Operating mode | Standard | ✓ |
| | Transparent | ✓ |
| | Dust- and sunlight-resistant | ✓ |
| Function | Cross beam | ✓ |
| | Beam blanking | ✓ |
| | High measurement accuracy | ✓ |
| Applications | Switching output | Object recognition/object width Object recognition Height classification Hole detection/hole size Outside dimension/inside dimension |

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.

| | |
|-------------------------------|---|
| | Object position Hole position Zone definition |
| Data interface | Object detection 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 × 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 | 56.5 mA ²⁾ |
| Power consumption receiver | 126 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 | 0.549 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 | 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 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

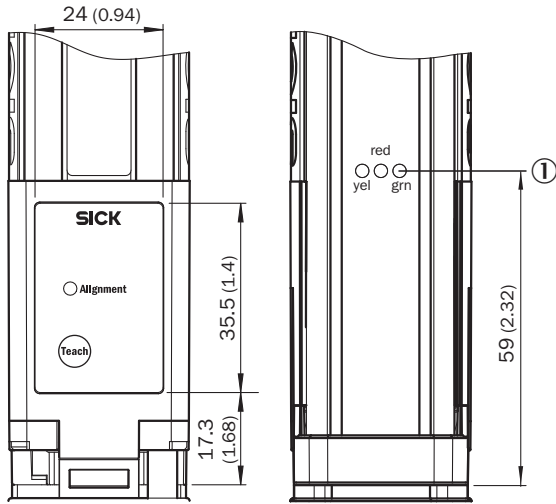
³⁾ MLG20x-xx40: 68.3 mm

MLG20x-xx80: 78.3 mm

- 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

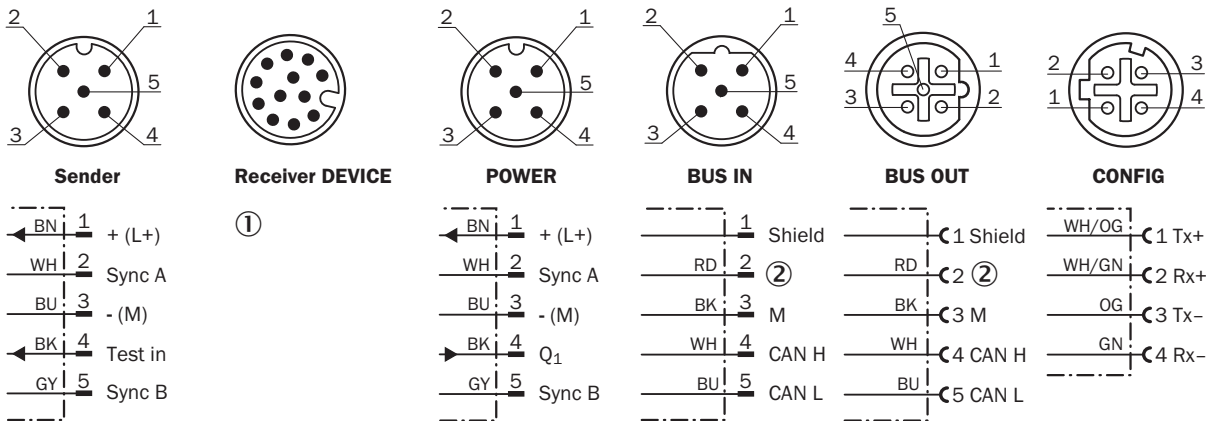
Adjustments



① Status indicator: green, yellow, red LEDs

Connection type and diagram

CANopen



- ① Connection to fieldbus module
- ② Not connected

Pin assignment

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. |
|---|---|--------------------|----------|
| Distributors | | | |
|  | <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, 5-pin, A-coded • Note: 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 | | | |
|  | <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 | 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: Zones with oils and lubricants, Drag chain operation, Robot | YF2A15-050UB5M2A15 | 2096010 |

| | Brief description | Type | Part no. |
|---|---|--------------------|----------|
|  | <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: 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, PROFINET, shielded • Application: Drag chain operation, Zones with oils and lubricants | YM2D24-050PN1MRJA4 | 2106184 |
| Terminal and alignment brackets | | | |
|  | Mounting bracket for external mounting of the fieldbus module, 1 × mounting bracket and 1 × M5 × 6 screw, Stainless steel V2A (1.4301) | BEF-WN-FBM-SET1 | 2082322 |

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