



MLG50A-0850R10501

MLG-2

AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | part no. |
|-------------------|----------|
| MLG50A-0850R10501 | 1216402 |

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



Detailed technical data

Features

| | | | | | | | | | | | |
|--|--|----------------|--------------------|---------------------|-------------|----------------|--------------------|----------------------|--------------------|-------|---------------|
| Device version | Pro - Extended functionality | | | | | | | | | | |
| Sensor principle | Sender/receiver | | | | | | | | | | |
| Minimum detectable object (MDO) | 50 mm ¹⁾ 54 mm ²⁾ ³⁾ | | | | | | | | | | |
| Beam separation | 50 mm | | | | | | | | | | |
| Type of synchronization | Cable | | | | | | | | | | |
| Number of beams | 18 | | | | | | | | | | |
| Detection height | 850 mm | | | | | | | | | | |
| Software features (default) | <table border="0"> <tr> <td>Q₁</td> <td>Presence detection</td> </tr> <tr> <td>Q₂ / IN</td> <td>Teach input</td> </tr> <tr> <td>Q₃</td> <td>Presence detection</td> </tr> <tr> <td>Q₄ / IN2</td> <td>Presence detection</td> </tr> <tr> <td>Teach</td> <td>Standard mode</td> </tr> </table> | Q ₁ | Presence detection | Q ₂ / IN | Teach input | Q ₃ | Presence detection | Q ₄ / IN2 | Presence detection | Teach | Standard mode |
| Q ₁ | Presence detection | | | | | | | | | | |
| Q ₂ / IN | Teach input | | | | | | | | | | |
| Q ₃ | Presence detection | | | | | | | | | | |
| Q ₄ / IN2 | Presence detection | | | | | | | | | | |
| Teach | Standard mode | | | | | | | | | | |
| Operating mode | <table border="0"> <tr> <td>Standard</td> <td>✓</td> </tr> <tr> <td>Transparent</td> <td>✓</td> </tr> </table> | Standard | ✓ | Transparent | ✓ | | | | | | |
| Standard | ✓ | | | | | | | | | | |
| Transparent | ✓ | | | | | | | | | | |

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.

| | |
|-------------------------------|--|
| Dust- and sunlight-resistant | ✓ |
| Function | |
| Cross beam | ✓ |
| Beam blanking | ✓ |
| 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 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 | 55.9 mA ²⁾ |
| Power consumption receiver | 123.6 mA ²⁾ |
| 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 Male connector M12, 8-pin, 0.27 m M12 female connector, 4-pin, D-coded, 0.19 m |
| Housing material | Aluminum |
| Display | LED |
| Enclosure rating | IP65, IP67 |

1) Without load.

2) Without load with 24 V.

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

| | |
|---------------------------|--|
| | 3) |
| Circuit protection | U _V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression |
| Protection class | III |
| Weight | 2.049 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.

Interfaces

| | |
|------------------------|-----------------------------------|
| IO-Link | ✓ , IO-Link V1.1 |
| Data transmission rate | 230,4 kbit/s (COM3) |
| Maximum cable length | 20 m |
| Cycle time | 2.3 ms |
| VendorID | 26 |
| DeviceID HEX | 800068 |
| DeviceID DEC | 8388712 |
| Process data length | 32 Byte (TYPE_2_V) ¹⁾ |
| Inputs/outputs | 4 x Q (IO-Link) |
| Digital output | Q ₁ ... Q ₄ |
| Number | 4 |
| Digital input | In ₁ , In ₂ |
| Number | 2 |

¹⁾ For an IO-Link master with V1.0, reverts to interleaved mode (consisting of TYPE_1_1 (ProcessData) and TYPE_1_2 (on-request data)).

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⁾ |

¹⁾ Outdoor mode.

²⁾ Light resistance indirect.

| | |
|--------------------------------------|------------------------------------|
| | 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.

Smart Task

| | |
|------------------------|-------------|
| Smart Task name | Base logics |
|------------------------|-------------|

Certificates

| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| cULus certificate | ✓ |
| IO-Link certificate | ✓ |
| Photobiological safety (IEC EN 62471) | ✓ |

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⁾ |
|-----------------------------|-------------------------|-----------------|
| Strahlabstand 2,5 mm | 62,25 | 17,15 |
| Strahlabstand 5 mm | 63,3 | 16,1 |
| Strahlabstand 10 mm | 68,3 | 16,1 |
| Strahlabstand 20 mm | 68,3/78,3 ³⁾ | 16,1 |
| Strahlabstand 25 mm | 83,3 | 16,1 |
| Strahlabstand 30 mm | 88,3 | 16,1 |
| Strahlabstand 50 mm | 108,3 | 16,1 |

¹⁾ Abstand: MLG-2 Kante - erster Strahl

²⁾ Abstand: MLG-2 Kante - letzter Strahl

³⁾ MLG20x-xx**40**: 68,3 mm

MLG20x-xx**80**: 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

Connection type and diagram Connector M12, 5/8-pin, switching outputs Q



Pinouts



- ① Connection cable receiver (2096010)
- ② T-piece
- ③ Connection cable (6020664)
- ④ Ethernet Connection cable

Adjustments



① status indicator: green, yellow, red LEDs

Connection diagram T-splitter, IO-Link Master



Connection diagram T-splitter, PLC



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"> Description: Unshielded Connection type head A: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 8-pin, A-coded Connection type head C: Male connector, M12, 8-pin, A-coded Note: For connecting of a PLC | SBO-02F12-SM1 | 6053172 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, special color code, shielded Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 8-wire, PVC Connection systems: Flying leads Application: Uncontaminated zones, Zones with chemicals | DOL-1208-G05MF | 6020664 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, 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 |

| | Brief description | Type | part no. |
|---|-------------------|------------------|----------|
| network devices | | | |
|  | | SIG350-0004AP100 | 6076871 |
|  | | SIG350-0006AP100 | 6076924 |
|  | | SIG350-0005AP100 | 6076923 |

SICK AT A GLANCE

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Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

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