



MLG20S-0140D10501

MLG-2

AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | part no. |
|-------------------|----------|
| MLG20S-0140D10501 | 1217848 |

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



Detailed technical data

Features

| | |
|--|---|
| Device version | Prime - Standard functionality |
| Sensor principle | Sender/receiver |
| Minimum detectable object (MDO) | 24 mm ¹⁾ |
| Beam separation | 20 mm |
| Type of synchronization | Optical |
| Number of beams | 8 |
| Detection height | 140 mm |
| Software features (default) | <ul style="list-style-type: none"> Q₁ Auto-define height classification Q₂ / IN Auto-define height classification Q₃ Auto-define height classification inverted – Teach – key lock off |
| Operating mode | <ul style="list-style-type: none"> Standard ✓ |
| Function | <ul style="list-style-type: none"> Cross beam ✓ Beam blanking ✓ |

¹⁾ Depending on beam separation without cross beam setting.

| | | |
|-------------------------------|------------------|---|
| Applications | Switching output | Object detectionObject recognitionHeight classification |
| | Data interface | Object detectionObject height measurement |
| 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⁾ 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 | 55.4 mA ²⁾ |
| Power consumption receiver | 121.6 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 |
| 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 | 0.549 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 | ≥ 0.2 m |
| Operating range | 5 m |
| Response time | 6 ms |

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

Interfaces

| | |
|------------------------|-----------------------------------|
| IO-Link | ✓ , IO-Link V1.1 |
| Data transmission rate | 38,4 kbit/s (COM2) |
| Maximum cable length | 20 m |
| Cycle time | 6 ms |
| VendorID | 26 |
| DeviceID HEX | 800067 |
| DeviceID DEC | 8388711 |
| Process data length | 6 Byte (TYPE_2_V) ¹⁾ |
| Inputs/outputs | 3 x Q (IO-Link) |
| Digital output | Q ₁ ... Q ₃ |
| Number | 3 |
| Digital input | In ₁ |
| Number | 1 |

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: 12,000 lx ¹⁾ Indirect: 50,000 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 | ✓ |
| China-RoHS | ✓ |
| cULus certificate | ✓ |
| IO-Link | ✓ |
| 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)

| | |
|------------------------------|-----------------------------|
| Beam separation 5 mm | 63.3 (2.49) |
| Beam separation 10 mm | 68.3 (2.69) |
| Beam separation 20 mm | 68.3 (2.69)/78.3 (3.08) (2) |
| Beam separation 25 mm | 83.3 (3.28) |
| Beam separation 30 mm | 88.3 (3.48) |
| Beam separation 50 mm | 108.3 (4.26) |

¹⁾ Distance: MLG edge - first beam

²⁾ 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-pin, switching outputs Q



Adjustments



- ① MLG-2 with switching outputs Q
- ② MLG-2 with analog outputs Q_A
- ③ status indicator: green, yellow, red LEDs

Functional principle Optical synchronization




The sender and receiver synchronize with each other optically, so no electrical connection is necessary. For this reason, either the first or the last beam of the automation light grid must remain clear. If both beams are interrupted, no measurements can be taken.

- ① Optical synchronization
- ② Beam separation
- ③ scanning range

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, 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 |

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

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