



DATA SHEET

MLG30S-2970A10501

MLG-2
Automation light grids

SICK Sensor Intelligence

AUTOMATION LIGHT GRIDS

ML- G30S-2970A10501

ORDERING INFORMATION

| Type | part no. |
|-------------------|-------------------------|
| MLG30S-2970A10501 | 1223023 |

Further device versions and accessories at www.sick.com/MLG-2



Illustration may differ



DETAILED TECHNICAL DATA

FEATURES

| | | |
|---------------------------------|--------------------------------|---|
| Device version | Prime - Standard functionality | |
| Sensor principle | Sender/receiver | |
| Minimum detectable object (MDO) | 34 mm ¹⁾ | |
| Beam separation | 30 mm | |
| Type of synchronization | Optical | |
| Number of beams | 100 | |
| Detection height | 2,970 mm | |
| Software features (default) | Q _{A1} | Height measurement (first beam)/FBB |
| | Q _{A2} | Height measurement (last beam)/LBB |
| | Q ₁ | Presence detection |
| | inverted | — |
| | Teach | — |
| Operating mode | Standard | ✓ |
| Function | Cross beam | ✓ |
| | Beam blanking | ✓ |
| Applications | Switching output | Object detection Object recognition Height classification |
| | Data interface | Object detection |

¹⁾ Depending on beam separation without cross beam setting.

| | |
|------------------------|---|
| | Object 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 | 60 mA ²⁾ |
| Power consumption receiver | 140 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 | 6.249 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 | 12.2 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⁾ |
| - | ✓, Current |
| Inputs/outputs | 2 x analog + 1 x Q (IO-Link) |
| Analog output (current) | 4 mA ... 20 mA |
| Analog output | Q _{A1} , Q _{A2} |
| Number | 2 |
| Type | Current output |
| Current | 4 mA ... 20 mA |
| Digital output | Q 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.

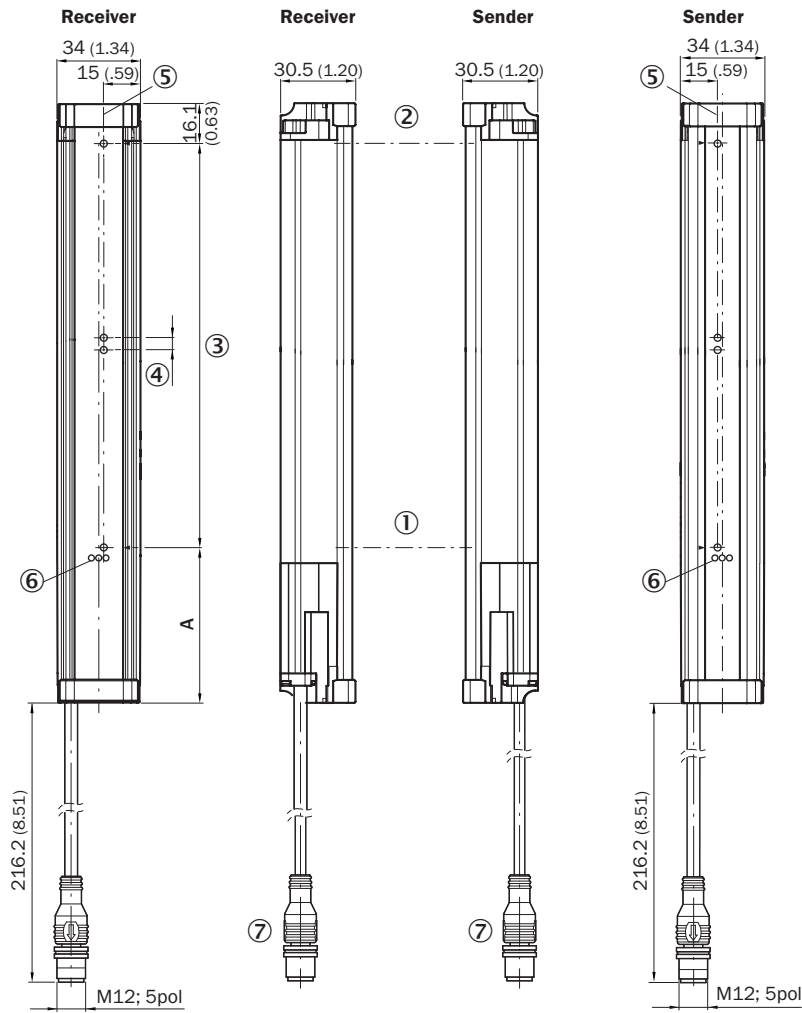
SMART TASK

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

CERTIFICATES

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

DIMENSIONAL DRAWING



A¹⁾

| | |
|------------------------------|--|
| 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) |

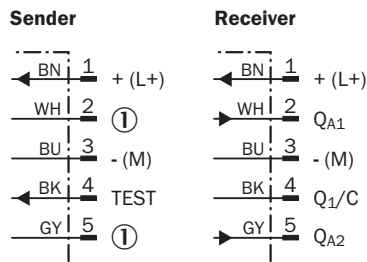
¹⁾ Distance: MLG edge - first beam

²⁾ MLG20x-xx40: 68.3 mm
MLG20x-xx80: 78.3 mm

Dimensions in mm (inch)

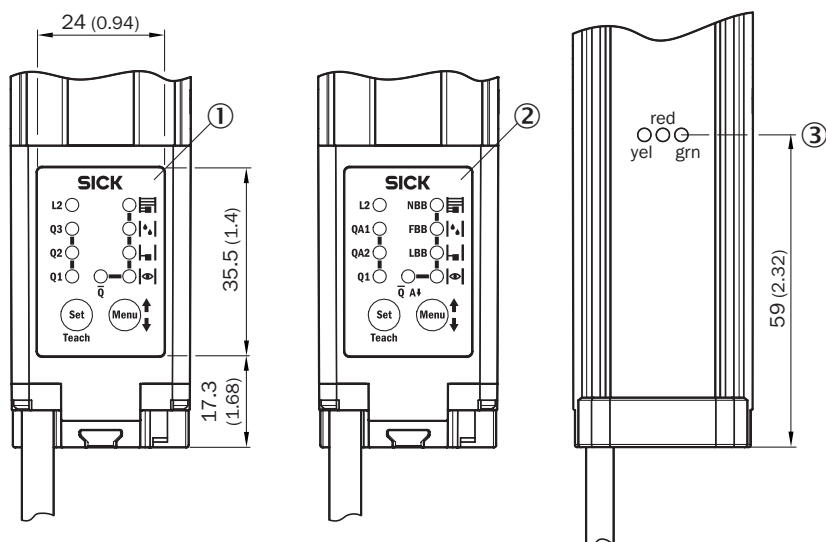
- ① First beam
- ② last beam
- ③ detection height (see technical data)
- ④ Beam separation
- ⑤ Optical axis
- ⑥ status indicator: green, yellow, red LEDs
- ⑦ Connection

CONNECTION TYPE AND DIAGRAM CONNECTOR M12, 5-PIN, ANALOG OUTPUTS Q_A



① Not assigned

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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1223023



SICK AG
WALDKIRCH
GERMANY
SICK.COM

SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

SICK
Sensor Intelligence