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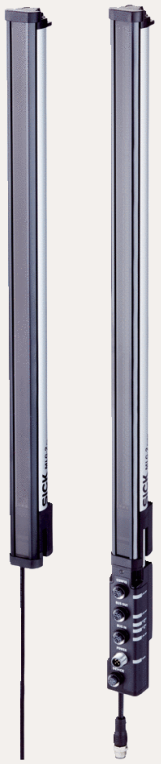


DATA SHEET

# MLG10N-0290E10501

MLG-2
Automation light grids

SICK Sensor Intelligence

Illustration may differ

## AUTOMATION LIGHT GRIDS

# MLG10N-0290E10501

### ORDERING INFORMATION

| Type | part no. |
|---|---|
| MLG10N-0290E10501 | 1217124 |

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

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Device version | ProNet – extended functionality including fieldbus |
| Sensor principle | Sender/receiver |
| Minimum detectable object (MDO) | 10 mm [1]<br>14 mm [2]<br>[3] |
| Beam separation | 10 mm |
| Type of synchronization | Cable |
| Number of beams | 30 |
| Detection height | 290 mm |
| Software features (default) | |
| $Q_L$ | Presence detection |
| Address | – |
| Baud rate RS-485 | – |
| Operating mode | |
| Standard | ✓ |
| Transparent | ✓ |
| Dust- and sunlight-resistant | ✓ |
| Function | |
| Cross beam | ✓ |
| Beam blanking | ✓ |
| High measurement accuracy | ✓ |
| Applications | |
| Switching output | Object detection/object width<br>Object recognition<br>Height classification |

[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.

| | |
|---|---|
| Data interface | Hole detection/hole size<br>Outside/inside dimension<br>Object position<br>Hole position<br>Zone definition<br>Object detection<br>Hole detection<br>Object height measurement<br>Measurement of the outside dimension<br>Measurement of the inside dimension<br>Measurement of the object position<br>Measurement of the hole position |
| Included with delivery | 1 × sender<br>1 × receiver<br>1 x Fieldbus module |
| Part number of individual components | 2085968 MLGR10N-0290F10201, 2076099 MLGT10A-0290F10101 |

[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 | Plug, M12, 5-pin, 0.22 m<br>Connector M12, 12-pin, 0.21 m |
| Housing material | Aluminum |
| Display | LED |
| Enclosure rating | IP65, IP67 [3] |
| Circuit protection | $U_V$ connections, reverse polarity protected<br>Output Q short-circuit protected<br>Interference pulse suppression |
| Protection class | III |
| Weight | 0.849 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.

## INTERFACES

| | |
|---|---|
| EtherCAT® | ✓ |
| Digital output | $Q_1$ |
| Number | 1 |

## AMBIENT DATA

| | |
|---|---|
| Shock resistance | Continuous shocks 10 g, 16 ms, 1000 shocks<br>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]<br>Indirect: 200,000 lx [2] |
| Ambient operating temperature | –30 °C ... +55 °C |
| Ambient temperature, storage | –40 °C ... +70 °C |

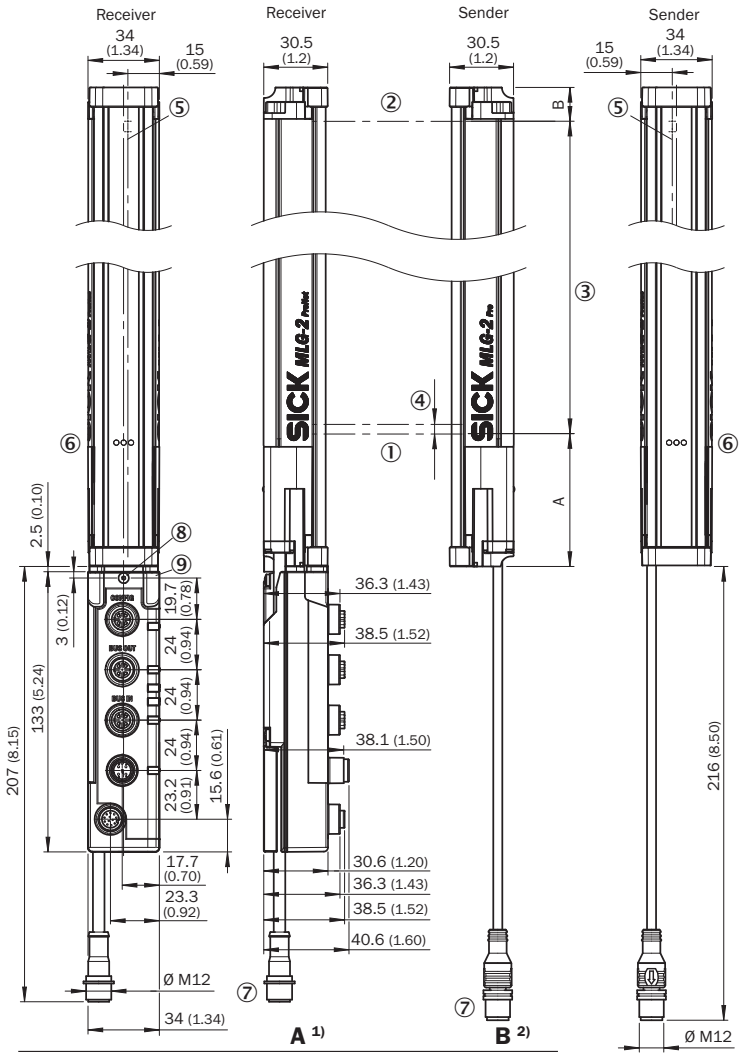
[1] Outdoor mode.

[2] Light resistance indirect.

## CERTIFICATES

| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |
| Profinet certificate | ✓ |
| Photobiological safety (IEC EN 62471) | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

## DIMENSIONAL DRAWING

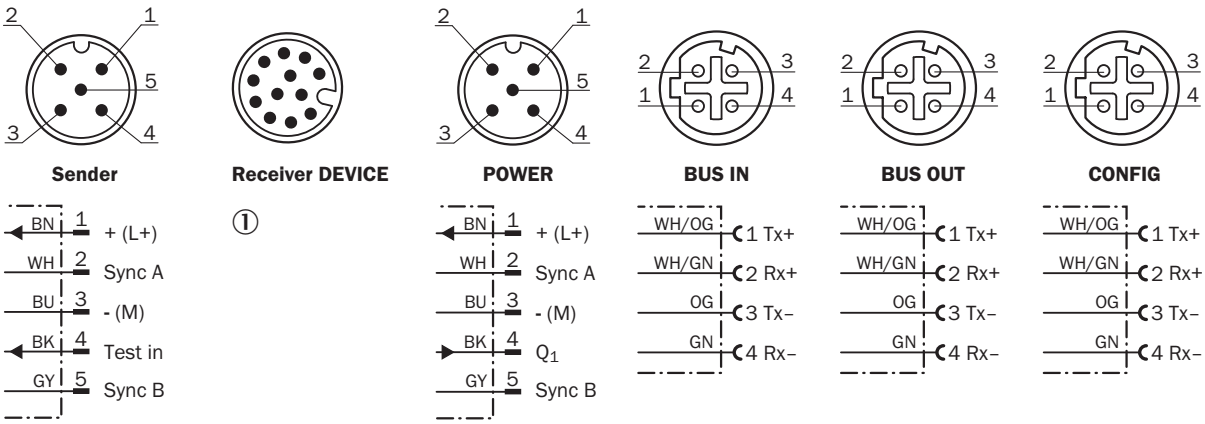



| | | |
|---|---|---|
| **Beam separation 2.5 mm** | 62.25 (2.45) | 17.15 (0.68) |
| **Beam separation 5 mm** | 63.3 (2.49) | 16.1 (0.63) |
| **Beam separation 10 mm** | 68.3 (2.69) | 16.1 (0.63) |
| **Beam separation 20 mm** | 68.3 (2.69)/78.3 (3.08) [3] | 16.1 (0.63) |
| **Beam separation 25 mm** | 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-xx**40**: 68.3 mm
MLG20x-xx**80**: 78.3 mm

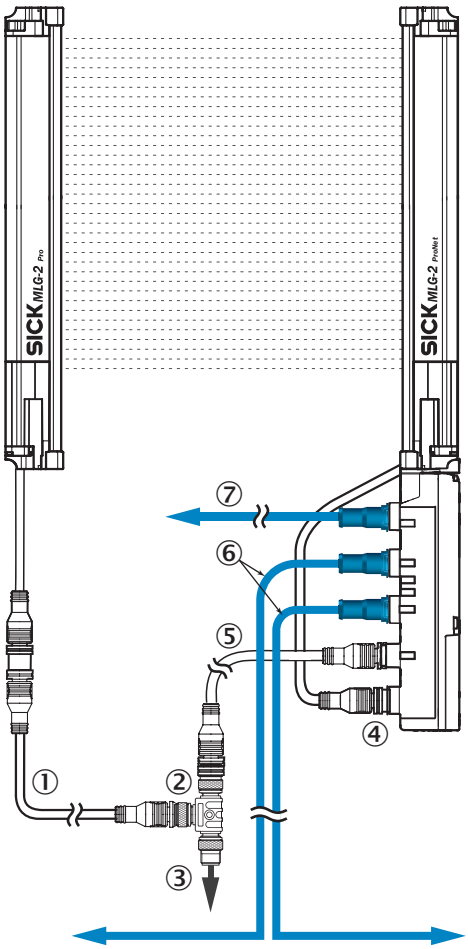
Dimensions in mm (inch)
① First beam
② last beam
③ detection height (see technical data)
④ Beam separation
⑤ Optical axis
⑥ status indicator: green, yellow, red LEDs
⑦ Connection
⑧ safty screw M4; turning moment 0,5 Nm
⑨ for thread bold M4; turning moment 0,5 Nm

**CONNECTION TYPE AND DIAGRAM PROFINET, ETHERCAT®, ETHERNET/IP**



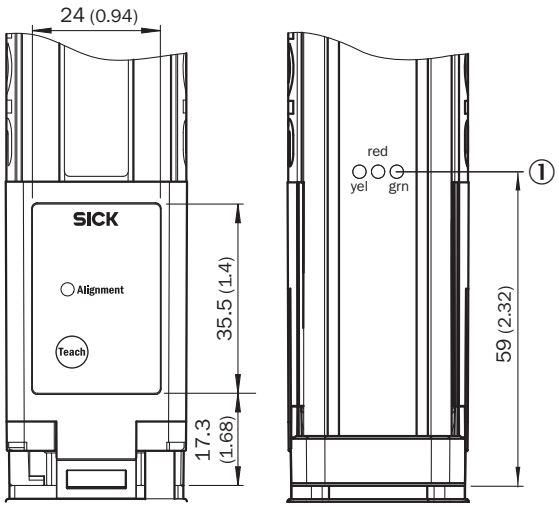

① *Connection to fieldbus module*

**PINOUTS ETHERNET**



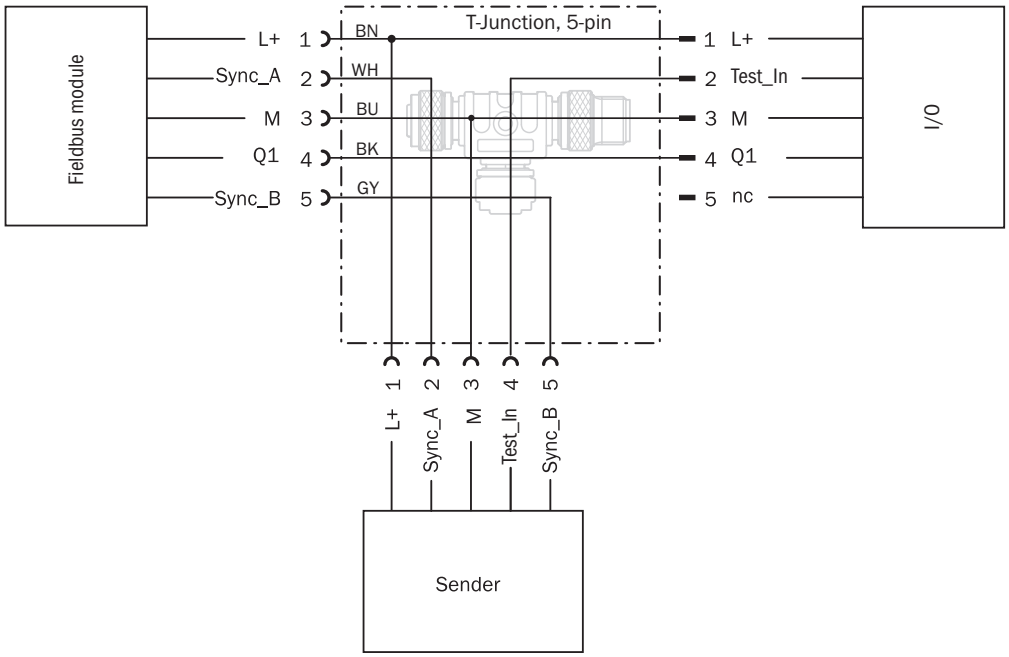

① Connection cable receiver (2096010)
② T-piece
③ Connection cable (2096240)
④ connection receiver “DEVICE”
⑤ Connection cable “POWER” (2096010)
⑥ Ethernet Connection cable “BUS IN, BUS OUT”
⑦ Ethernet connection cable “CONFIG”

## ADJUSTMENTS




① status indicator: green, yellow, red LEDs

## CONNECTION DIAGRAM T-PIECE




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/1217124

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# 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

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