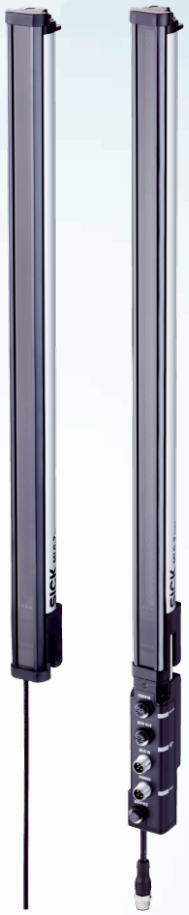
Data sheet



# MLG50N-2050P10501

## MLG-2

AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.

Illustration may differ

## Ordering information

| Type | part no. |
|---|---|
| MLG50N-2050P10501 | 1114564 |

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

## Detailed technical data

### Features

| | |
|---|---|
| **Device version** | ProNet – extended functionality including fieldbus |
| **Sensor principle** | Sender/receiver |
| **Minimum detectable object (MDO)** | 50 mm [1]<br>54 mm [2]<br>[3] |
| **Beam separation** | 50 mm |
| **Type of synchronization** | Cable |
| **Number of beams** | 42 |
| **Detection height** | 2,050 mm |
| **Software features (default)** | |
| $Q_1$ | Presence detection |
| Address | 126 (SSA) |
| PROFIBUS DP | DPV1 |
| **Operating mode** | |
| Standard | ✓ |
| Transparent | ✓ |
| Dust- and sunlight-resistant | ✓ |
| **Function** | |
| Cross beam | ✓ |
| Beam blanking | ✓ |

[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.

| | |
|---|---|
| High measurement accuracy | ✓ |
| **Applications** | |
| Switching output | Object detection/object width<br>Object recognition<br>Height classification<br>Hole detection/hole size<br>Outside/inside dimension<br>Object position<br>Hole position<br>Zone definition |
| Data interface | 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<br>4/6 x QuickFix brackets (6 x QuickFix brackets for monitoring heights above 2 m)<br>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** | 57.1 mA [2] |
| **Power consumption receiver** | 128.4 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<br>[3] |
| **Circuit protection** | $U_V$ connections, reverse polarity protected<br>Output Q short-circuit protected<br>Interference pulse suppression |

[1] Without load.
[2] Without load with 24 V.
[3] Operating in outdoor condition only with a external protection housing.

| | |
|---|---|
| **Protection class** | III |
| **Weight** | 4.449 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** | 4.6 ms [2] |

[1] No reserve for environmental issue and deterioration of the diode.
[2] Without high speed.

## Interfaces

| | |
|---|---|
| **PROFIBUS DP** | ✓ , DPV1 |
| Data transmission rate | Autobaud, 9,600 kbit/s ...12 Mbit/s |
| **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.

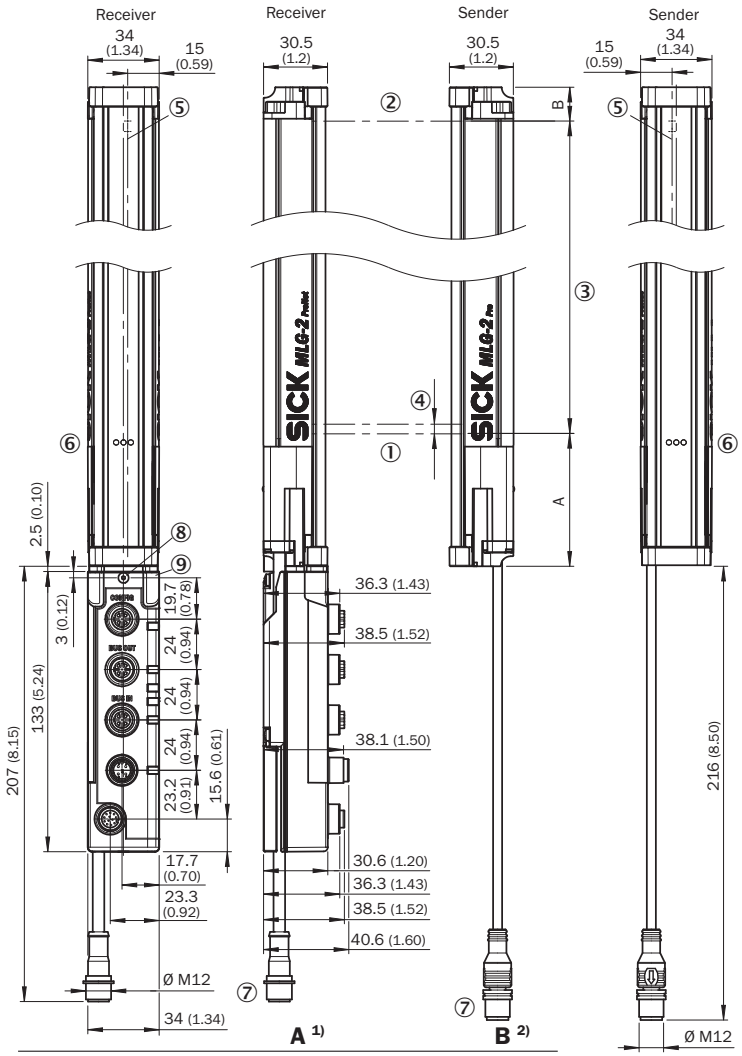
## Certificates

| | |
|---|---|
| **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)** | ✓ |

## 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

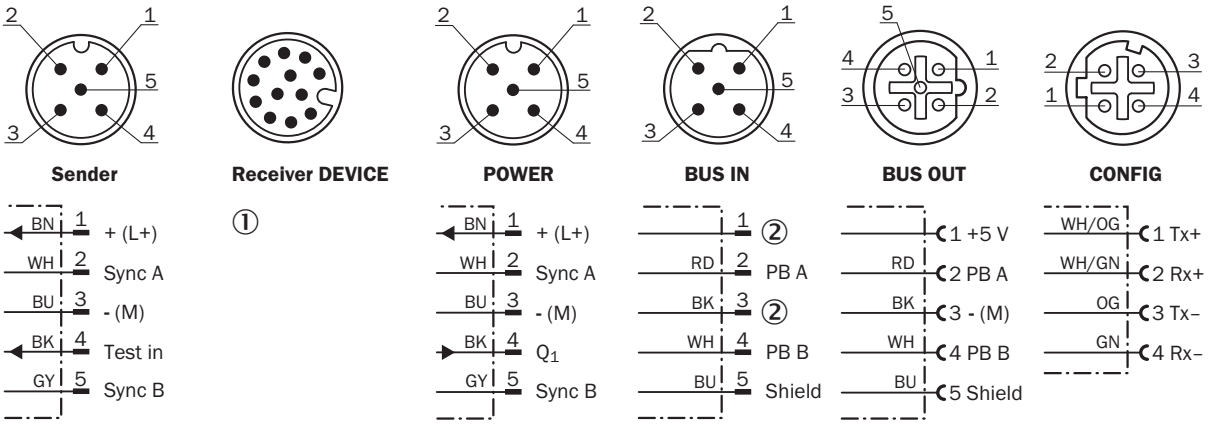



| | | |
|---|---|---|
| **Beam separation 2.5 mm** | 62.25 (2.45) | 17.15 (0.68) |
| **Beam separation 5 mm** | 63.3 (2.49) | 16.1 (0.63) |
| **Beam separation 10 mm** | 68.3 (2.69) | 16.1 (0.63) |
| **Beam separation 20 mm** | 68.3 (2.69)/78.3 (3.08) [3] | 16.1 (0.63) |
| **Beam separation 25 mm** |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

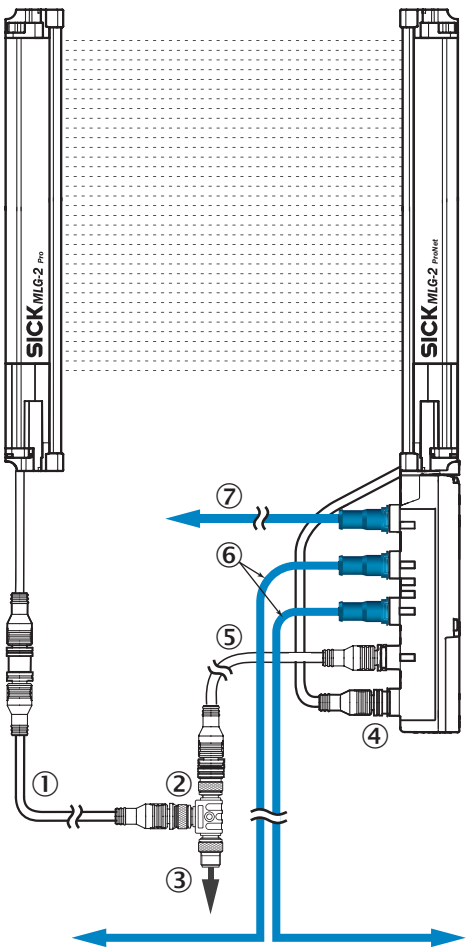
Dimensions in mm (inch)
① First beam
② last beam
③ detection height (see technical data)
④ Beam separation
⑤ Optical axis
⑥ status indicator: green, yellow, red LEDs
⑦ Connection
⑧ safty screw M4; turning moment 0,5 Nm
⑨ for thread bold M4; turning moment 0,5 Nm

## Connection type and diagram PROFIBUS




① *Connection to fieldbus module*
② *Not connected*

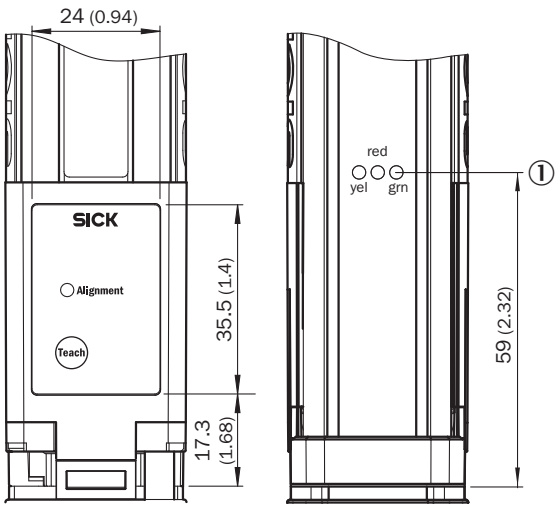
## Pinouts Ethernet




① Connection cable receiver (2096010)
② T-piece
③ Connection cable (2096240)

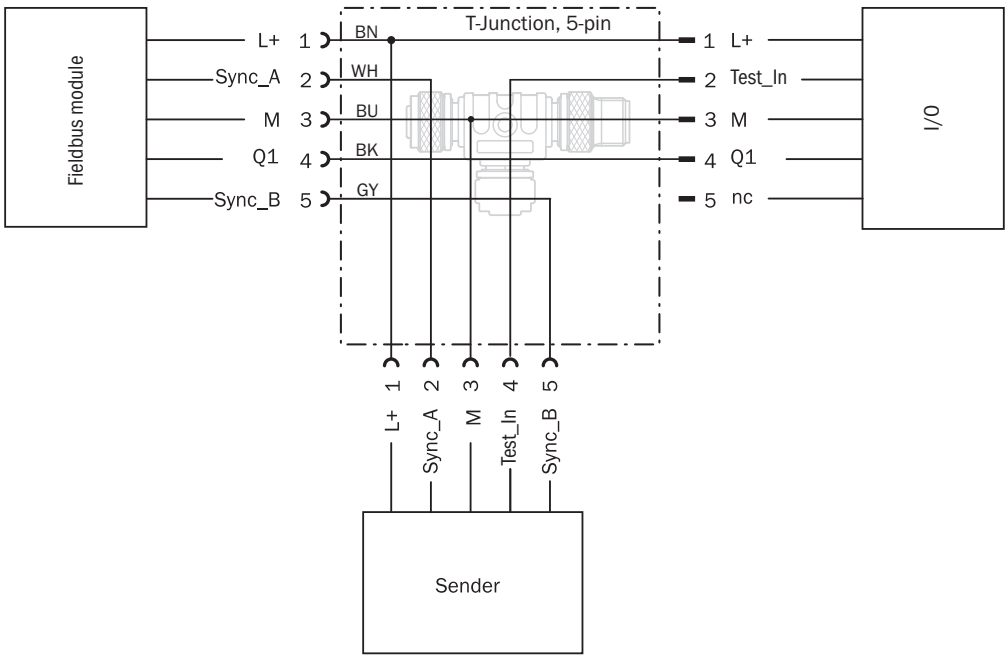
④ connection receiver “DEVICE”
⑤ Connection cable “POWER” (2096010)
⑥ Ethernet Connection cable “BUS IN, BUS OUT”
⑦ Ethernet connection cable “CONFIG”

## Adjustments



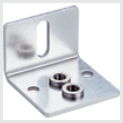

① status indicator: green, yellow, red LEDs

## Connection diagram T-piece



## Recommended accessories

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

| | Brief description | Type | part no. |
|---|---|---|---|
| connectors and cables | | | |
| | • **Connection type head A:** Female connector, M12, 5-pin, A-coded<br>• **Connection type head B:** Female connector, M12, 5-pin, A-coded<br>• **Connection type head C:** Male connector, M12, 4-pin, A-coded<br>• **Description:** Unshielded | SBO-02G12-SM | 6029305 |
| | • **Connection type head A:** Male connector, M12, 4-pin, D-coded<br>• **Connection type head B:** Male connector, M12, 4-pin, D-coded<br>• **Signal type:** Ethernet<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, twisted pair, shielded<br>• **Permitted cross-section:** ≥ 0.25 mm²<br>• **Application:** Zones with oils and lubricants | YM2D24-050EA2M2D24 | 6034422 |
| | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 5 m, 5-wire, PVC<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with chemicals | YF2A15-050VB5XLEAX | 2096240 |
| | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Connection type head B:** Male connector, M12, 5-pin, straight, A-coded<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 5 m, 5-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A15-050UB5M2A15 | 2096010 |
| | • **Connection type head A:** Male connector, M12, 4-pin, straight, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet, PROFINET<br>• **Cable:** 5 m, 4-wire, PUR, halogen-free<br>• **Description:** Ethernet, shielded, PROFINET<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-050P-N1MRJA4 | 2106184 |
| Mounting systems | | | |
|  | • **Description:** Mounting bracket for external mounting of the fieldbus module, 1 × mounting bracket and 1 × M5 × 6 screw<br>• **Material:** Stainless steel<br>• **Details:** Stainless steel V2A (1.4301) | BEF-WN-FBM-SET1 | 2082322 |

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

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