Product data sheet


# MLG05A-0145I10850

## MLG-2

**MEASURING AUTOMATION LIGHT GRIDS**

SICK
Sensor Intelligence.

Illustration may differ

## Ordering information

| Type | Part no. |
|---|---|
| MLG05A-0145I10850 | 1219500 |

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

## Detailed technical data

### Features

| | |
|---|---|
| **Device version** | Pro - Advanced functionality |
| **Sensor principle** | Sender/receiver |
| **Minimum detectable object (MDO)** | 5 mm, 9 mm [1) 2) 3)] |
| **Beam separation** | 5 mm |
| **Type of synchronization** | Cable |
| **Number of beams** | 30 |
| **Detection height** | 145 mm |
| **Software features (default)** | |
| Interface RS-485 | System status, flow counter, RLC1 ... RLC16 |
| Baud rate RS-485 | 500 kbit/s |
| $Q_1$ | Number of broken beams/NBB |
| Q2 / IN | Teach input |
| Teach | Blanking, high speed mode |
| **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 recognition/object width<br>Object recognition<br>Height classification<br>Hole detection/hole size<br>Outside dimension/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 external dimension<br>Measurement of inside dimension<br>Measurement of object position<br>Measurement of hole position |
| **Included with delivery** | 1 × sender<br>1 × receiver<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** | 56.5 mA [2] |
| **Power consumption receiver** | 126 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** | Male connector M12, 5-pin, 0.22 m<br>Male connector M12, 8-pin, 0.27 m<br>M12 female connector, 4-pin, D-coded, 0.19 m |
| **Housing material** | Aluminum |
| **Indication** | 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 |
| **Protection class** | III |

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

| | |
|---|---|
| **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** | 12 m [1] |
| **Minimum range** | ≥ 0 m |
| **Operating range** | 8.5 m |
| **Response time** | 3.6 ms [2] |

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

## Communication interface

| | |
|---|---|
| **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] |
| **Serial** | ✓, RS-485 |
| Data transmission rate | 1.2 kbit/s ...921.6 kbit/s |
| **Inputs/outputs** | RS-485 + 2 x Q (IO-Link) |
| **Digital output** | $Q_1$, $Q_2$ |
| Number | 2 |
| **Digital input** | $In_1$ |
| Number | 1 |

[1] With an IO-Link master with V1.0, fall back 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<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.

## Smart Task

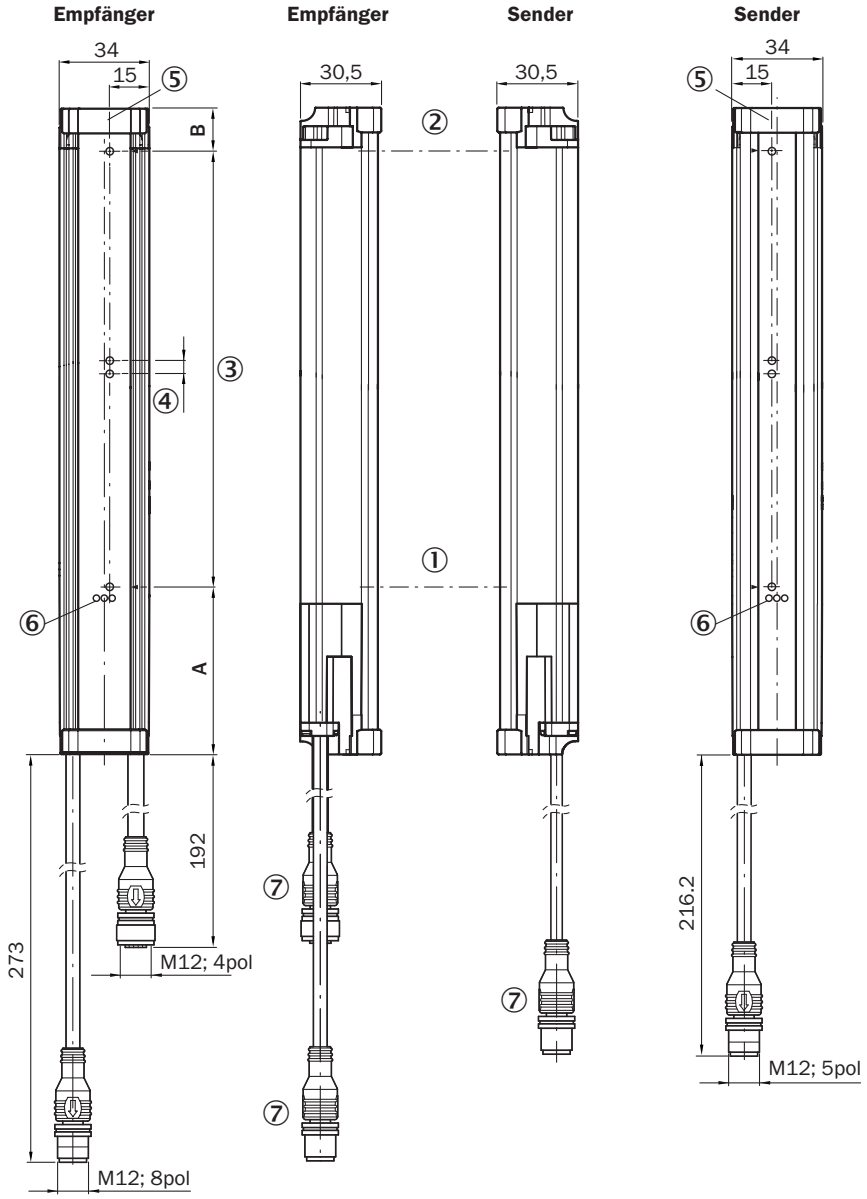
| | |
|---|---|
| **Smart Task name** | Base logics |

## 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 (Dimensions in mm (inch))

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 |

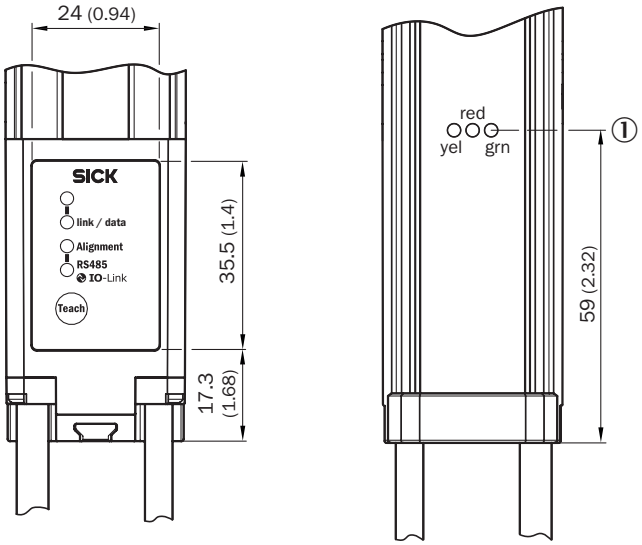
[1] Abstand: MLG-2 Kante - erster Strahl
[2] Abstand: MLG-2 Kante - letzter Strahl
[3] MLG20x-xx**40**: 68,3 mm
MLG20x-xx**80**: 78,3 mm

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

## Adjustments

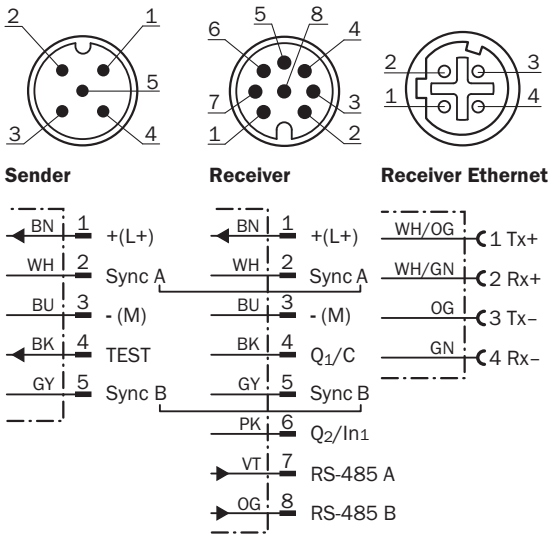
Adjustments



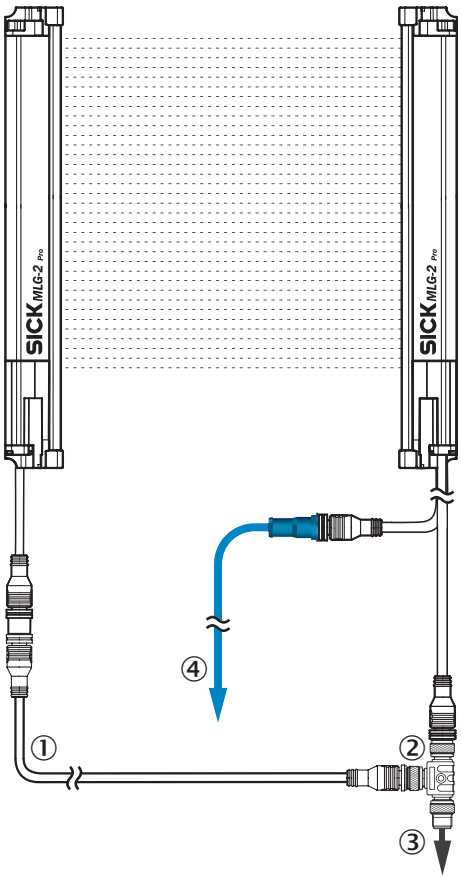

① Status indicator: green, yellow, red LEDs

## Connection type and diagram

Connector M12, 5/8-pin, RS-485 interface



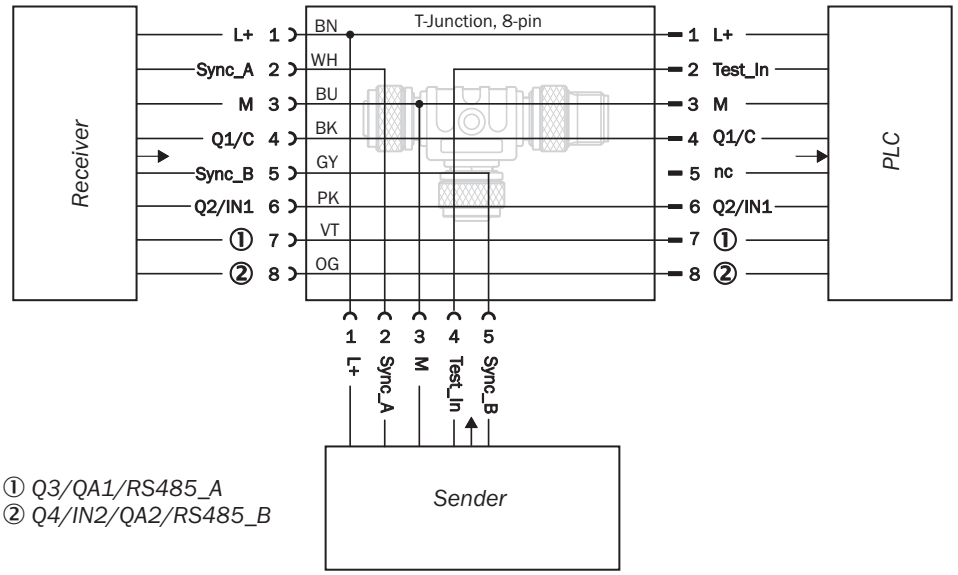
## Pin assignment




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

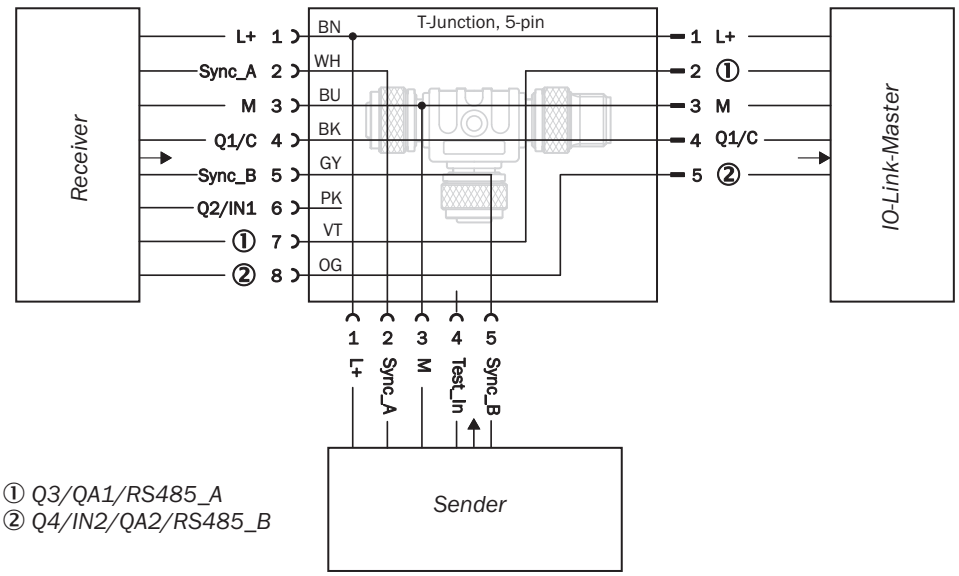
## Connection diagram

T-junction, PLC




① *Q3/QA1/RS485_A*
② *Q4/IN2/QA2/RS485_B*

T-junction, IO-Link-Master




① *Q3/QA1/RS485_A*
② *Q4/IN2/QA2/RS485_B*

## Recommended accessories

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

| | Brief description | Type | Part no. |
|---|---|---|---|
| Distributors | | | |
|  | • **Connection type head A:** Female connector, M12, 5-pin, A-coded<br>• **Connection type head B:** Female connector, M12, 8-pin, A-coded<br>• **Connection type head C:** Male connector, M12, 8-pin, A-coded<br>• **Note:** Male connector M12, 8-pin, to 1 x female connector M12, 8-pin, to 1 x female connector M12, 5-pin, for connecting of a PLC | SBO-02F12-SM1 | 6053172 |
| Plug connectors and cables | | | |
|  | • **Connection type head A:** Female connector, M12, 8-pin, straight<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 5 m, 8-wire, PVC<br>• **Description:** Sensor/actuator cable, special color code, shielded<br>• **Connection systems:** Flying leads | DOL-1208-G05MF | 6020664 |
|  | • **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:** Zones with oils and lubricants, Drag chain operation, Robot | 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, PROFINET, shielded<br>• **Application:** Drag chain operation, Zones with oils and lubricants | YM2D24-050PN1MRJA4 | 2106184 |
| Sensor Integration Gateway | | | |
|  | • **Further functions:** Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions<br>• **Connection CONFIG:** 1 x M8, 4-pin female connector, USB 2.0 (USB-A)<br>• **Logic editor:** yes<br>• **Communication interface:** IO-Link, USB, Ethernet, PROFINET, REST API<br>• **Product category:** IO-Link Master | SIG200-0A0412200 | 1089794 |
|  | • **Further functions:** Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions<br>• **Connection CONFIG:** 1 x M8, 4-pin female connector, USB 2.0 (USB-A)<br>• **Logic editor:** yes<br>• **Communication interface:** IO-Link, USB, Ethernet, REST API<br>• **Product category:** IO-Link Master | SIG200-0A0G12200 | 1102605 |

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