SICK.COM

DATA SHEET

# MLG25A-1175R10501

MLG-2
Automation light grids

SICK Sensor Intelligence

Illustration may differ

# AUTOMATION LIGHT GRIDS

# MLG25A-1175R10501

## ORDERING INFORMATION

| Type | part no. |
|---|---|
| MLG25A-1175R10501 | 1217202 |

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

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Device version | Pro - Extended functionality |
| Sensor principle | Sender/receiver |
| Minimum detectable object (MDO) | 25 mm [1]<br>29 mm [2] [3] |
| Beam separation | 25 mm |
| Type of synchronization | Cable |
| Number of beams | 48 |
| Detection height | 1,175 mm |
| Software features (default) | |
| $Q_1$ | Presence detection |
| Q2 / IN | Teach input |
| $Q_3$ | Presence detection |
| Q4 / IN2 | Presence detection |
| Teach | Standard 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 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 |
| Part number of individual components | 2082514 MLGT25A-1175F10101, 2074887 MLGR25A-1175R10201 |

[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 | 57.4 mA [2] |
| Power consumption receiver | 129.6 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<br>Male connector M12, 8-pin, 0.27 m<br>M12 female connector, 4-pin, D-coded, 0.19 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 | 2.649 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 | 5 ms [2] |

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

[2] Without high speed.

## INTERFACES

| | |
|---|---|
| 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 | 80014B |
| DeviceID DEC | 8388939 |
| Process data length | 32 Byte (TYPE_2_V) [1] |
| Inputs/outputs | 4 x Q (IO-Link) |
| Digital output | $Q_1$ ... $Q_4$ |
| Number | 4 |
| Digital input | $In_1$, $In_2$ |
| Number | 2 |

[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<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

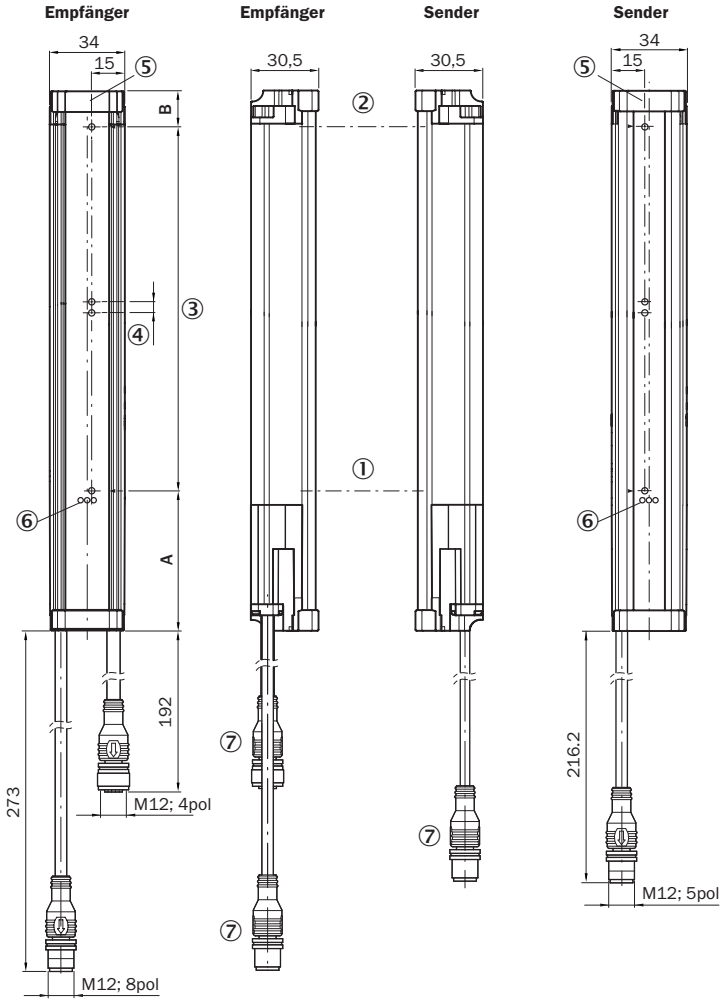
| | |
|---|---|
| Smart Task name | Base logics |

## CERTIFICATES

| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |
| IO-Link certificate | ✓ |

| | |
|---|---|
| Photobiological safety (IEC EN 62471) | ✓ |

## DIMENSIONAL DRAWING

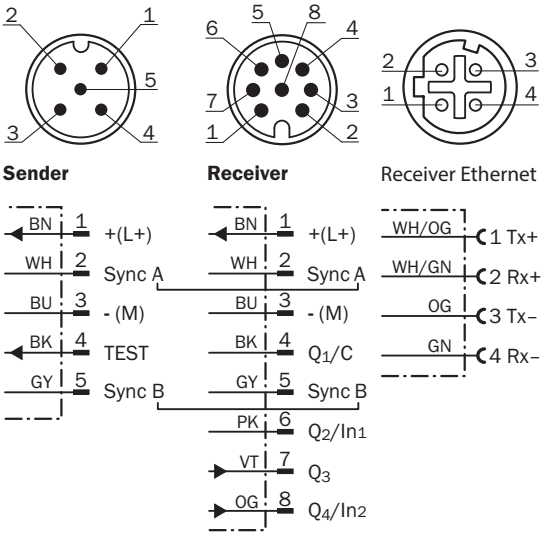



| | A [1] | B [2] |
|---|---|---|
| **Strahlabstand 2,5 mm** | 62,25 | 17,15 |
| **Strahlabstand 5 mm** | 63,3 | 16,1 |
| **Strahlabstand 10 mm** | 68,3 | 16,1 |
| **Strahlabstand 20 mm** | 68,3/78,3 [3] | 16,1 |
| **Strahlabstand 25 mm** | 83,3 | 16,1 |
| **Strahlabstand 30 mm** | 88,3 | 16,1 |
| **Strahlabstand 50 mm** | 108,3 | 16,1 |

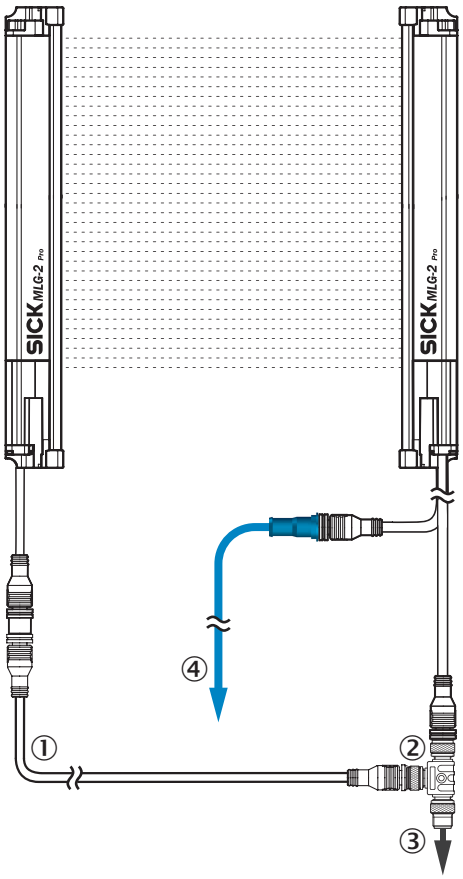
[1] Abstand: MLG-2 Kante - erster Strahl
[2] Abstand: MLG-2 Kante - letzter Strahl
[3] MLG20x-xx**40**: 68,3 mm
MLG20x-xx**80**: 78,3 mm

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, 5/8-PIN, SWITCHING OUTPUTS Q**

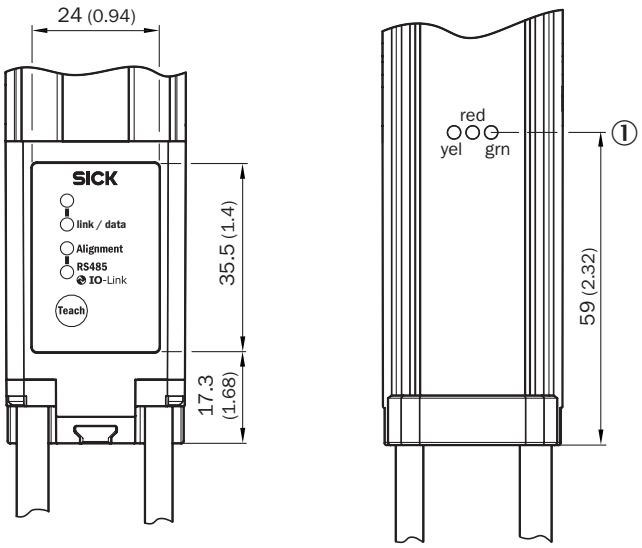



**PINOUTS**



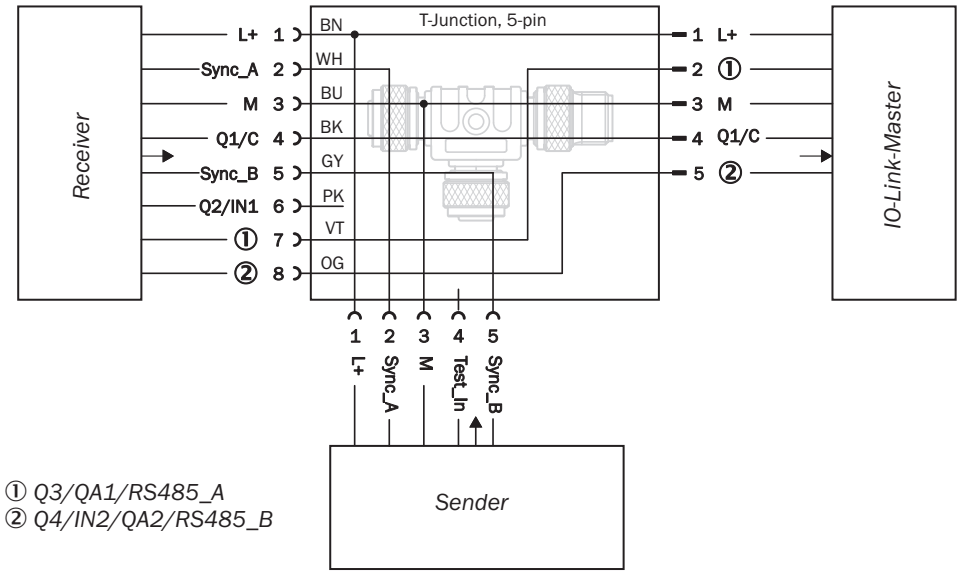

① Connection cable receiver (2096010)
② T-piece
③ Connection cable (6020664)
④ Ethernet Connection cable

## ADJUSTMENTS



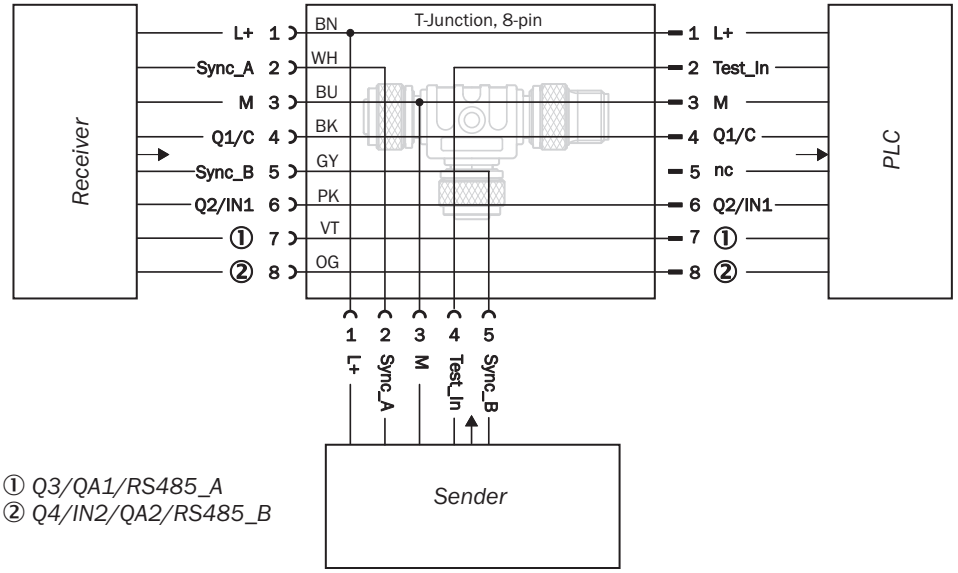

① status indicator: green, yellow, red LEDs

## CONNECTION DIAGRAM T-SPLITTER, IO-LINK MASTER




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

**CONNECTION DIAGRAM T-SPLITTER, PLC**




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

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/1217202

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# SICK AT A GLANCE

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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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