SICK.COM



DATA SHEET

# MLG25A-1325R11401

MLG-2
Automation light grids

SICK Sensor Intelligence



Illustration may differ

# AUTOMATION LIGHT GRIDS

# MLG25A-1325R11401

## ORDERING INFORMATION

| Type | part no. |
|---|---|
| MLG25A-1325R11401 | 1146855 |

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 | 54 |
| Detection height | 1,325 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 | 2146110 MLGT25A-1325F10401, 2076119 MLGR25A-1325R10201 |

[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 | 57.7 mA [2] |
| Power consumption receiver | 130.8 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 | 2.949 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 | 20 m [1] |
| Minimum range | ≥ 0 m |
| Operating range | 14.5 m |
| Response time | 5.5 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

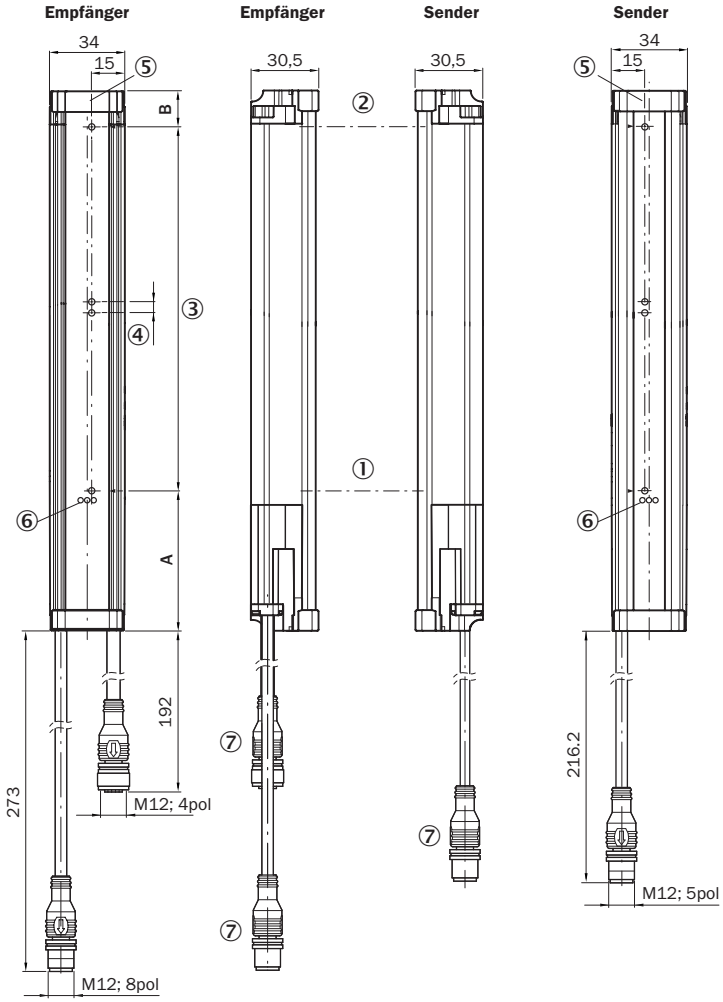
| | |
|---|---|
| Smart Task name | Base logics |

## 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

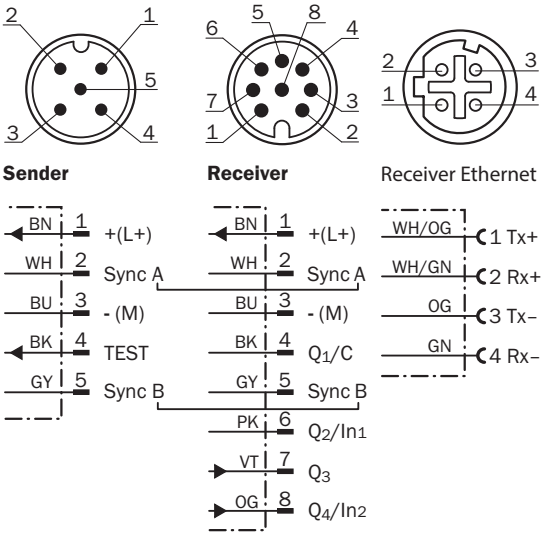



| | A [1] | B [2] |
|---|---|---|
| **Strahlabstand 2,5 mm** | 62,25 | 17,15 |
| **Strahlabstand 5 mm** | 63,3 | 16,1 |
| **Strahlabstand 10 mm** | 68,3 | 16,1 |
| **Strahlabstand 20 mm** | 68,3/78,3 [3] | 16,1 |
| **Strahlabstand 25 mm** | 83,3 | 16,1 |
| **Strahlabstand 30 mm** | 88,3 | 16,1 |
| **Strahlabstand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

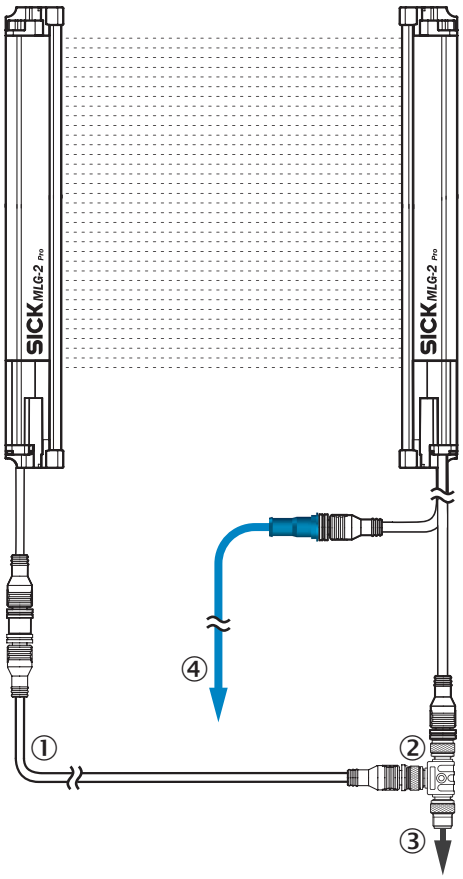
[1] Abstand: MLG-2 Kante - erster Strahl
[2] Abstand: MLG-2 Kante - letzter Strahl
[3] MLG20x-xx**40**: 68,3 mm
MLG20x-xx**80**: 78,3 mm

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**

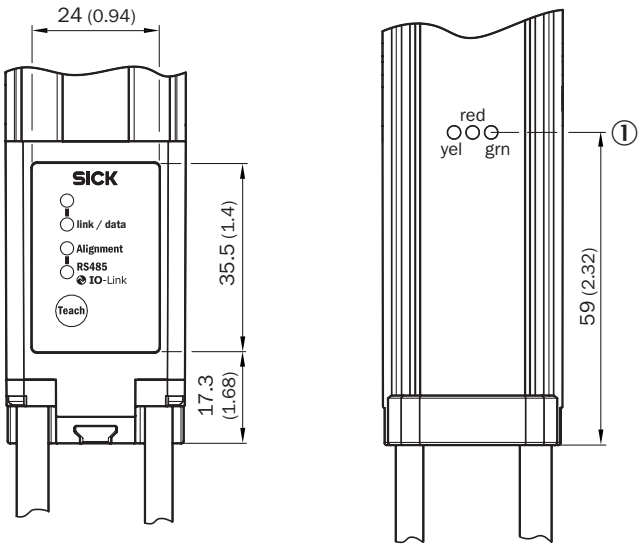



**PINOUTS**



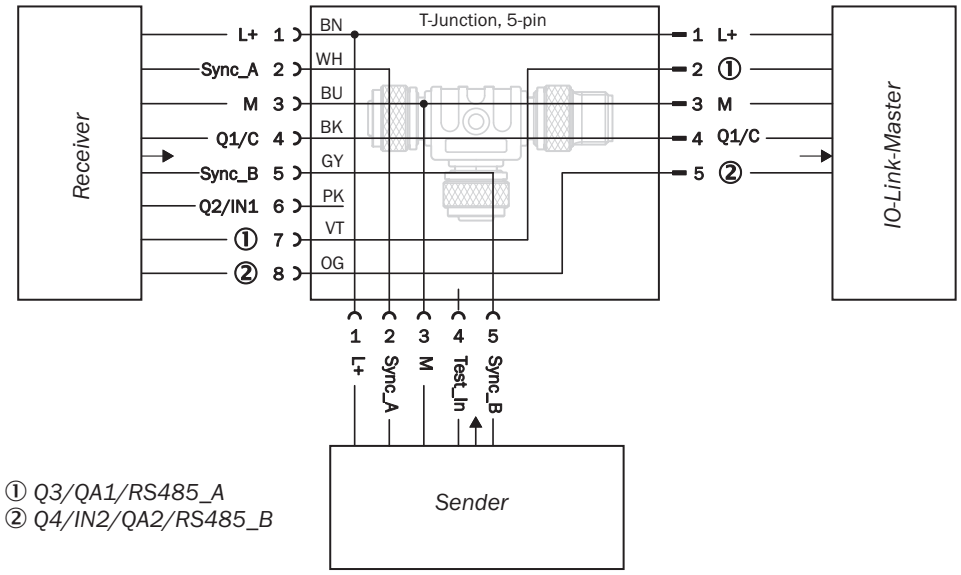

① Connection cable receiver (2096010)
② T-piece
③ Connection cable (6020664)
④ Ethernet Connection cable

## ADJUSTMENTS



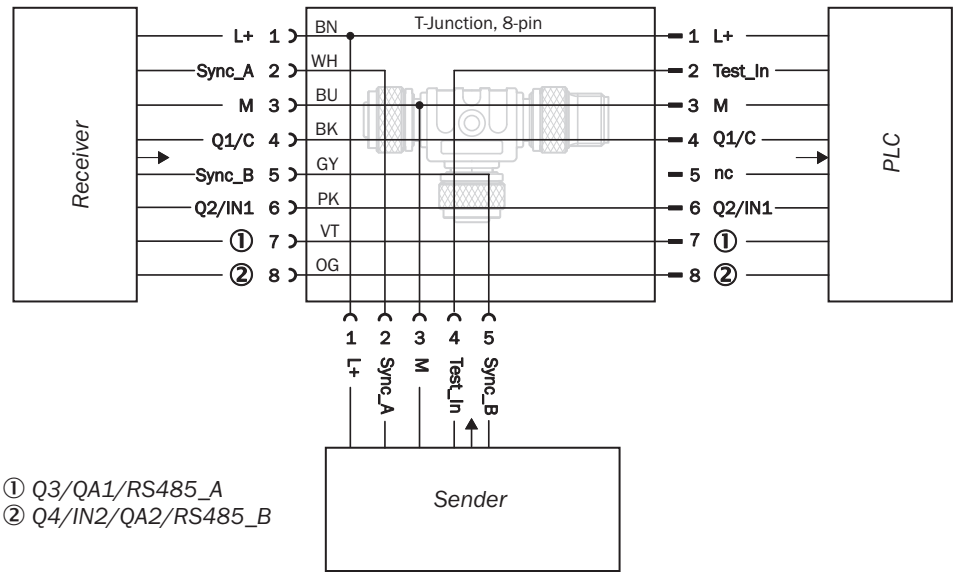

① status indicator: green, yellow, red LEDs

## 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/1146855

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