



MLG05N-1795P10501

MLG-2

MEASURING AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|-------------------|----------|
| MLG05N-1795P10501 | 1220284 |

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

Detailed technical data

Features

| | | | | | | | | | |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------|---------------|--------------------|------------------------------|-----------------------|---------------------------|---|
| Device version | ProNet - Advanced functionality incl. fieldbus | | | | | | | | |
| 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 | 360 | | | | | | | | |
| Detection height | 1,795 mm | | | | | | | | |
| Software features (default) | <table border="0"> <tr> <td>Q₁</td> <td>Presence detection</td> </tr> <tr> <td>Address</td> <td>126 (SSA)</td> </tr> <tr> <td>PROFIBUS DP</td> <td>DPV1</td> </tr> </table> | Q ₁ | Presence detection | Address | 126 (SSA) | PROFIBUS DP | DPV1 | | |
| Q ₁ | Presence detection | | | | | | | | |
| Address | 126 (SSA) | | | | | | | | |
| PROFIBUS DP | DPV1 | | | | | | | | |
| Operating mode | <table border="0"> <tr> <td>Standard</td> <td>✓</td> </tr> <tr> <td>Transparent</td> <td>✓</td> </tr> <tr> <td>Dust- and sunlight-resistant</td> <td>✓</td> </tr> </table> | Standard | ✓ | Transparent | ✓ | Dust- and sunlight-resistant | ✓ | | |
| Standard | ✓ | | | | | | | | |
| Transparent | ✓ | | | | | | | | |
| Dust- and sunlight-resistant | ✓ | | | | | | | | |
| Function | <table border="0"> <tr> <td>Cross beam</td> <td>✓</td> </tr> <tr> <td>Beam blanking</td> <td>✓</td> </tr> <tr> <td>High-speed scan</td> <td>✓</td> </tr> <tr> <td>High measurement accuracy</td> <td>✓</td> </tr> </table> | Cross beam | ✓ | Beam blanking | ✓ | High-speed scan | ✓ | High measurement accuracy | ✓ |
| Cross beam | ✓ | | | | | | | | |
| Beam blanking | ✓ | | | | | | | | |
| High-speed scan | ✓ | | | | | | | | |
| High measurement accuracy | ✓ | | | | | | | | |
| Applications | <table border="0"> <tr> <td>Switching output</td> <td>Object recognition/object width</td> </tr> <tr> <td></td> <td>Object recognition</td> </tr> <tr> <td></td> <td>Height classification</td> </tr> </table> | Switching output | Object recognition/object width | | Object recognition | | Height classification | | |
| Switching output | Object recognition/object width | | | | | | | | |
| | Object recognition | | | | | | | | |
| | 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.

| | |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Hole detection/hole size Outside dimension/inside dimension Object position Hole position Zone definition |
| Data interface | Object detection Hole detection Object height measurement Measurement of external dimension Measurement of inside dimension Measurement of object position Measurement of hole position |
| Included with delivery | 1 × sender 1 × receiver 1 x Fieldbus module 4/6 x QuickFix brackets (6 x QuickFix brackets for monitoring heights above 2 m) 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 | 73 mA ²⁾ |
| Power consumption receiver | 192 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 | Male connector M12, 5-pin, 0.22 m Connector M12, 12-pin, 0.21 m |
| Housing material | Aluminum |
| Indication | LED |
| Enclosure rating | IP65, IP67 ³⁾ |
| Circuit protection | U _v connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression |
| Protection class | III |
| Weight | 3.849 kg |
| Front screen | PMMA |
| Option | None |

1) Without load.

2) , Without load with 24 V.

3) Operating in outdoor condition only with a external protection housing.

| | |
|--------------------|-----------------------|
| 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 | 29 ms ²⁾ |

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

²⁾ Without high speed.

Communication interface

| | |
|------------------------|-------------------------------------|
| 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 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⁾ 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.

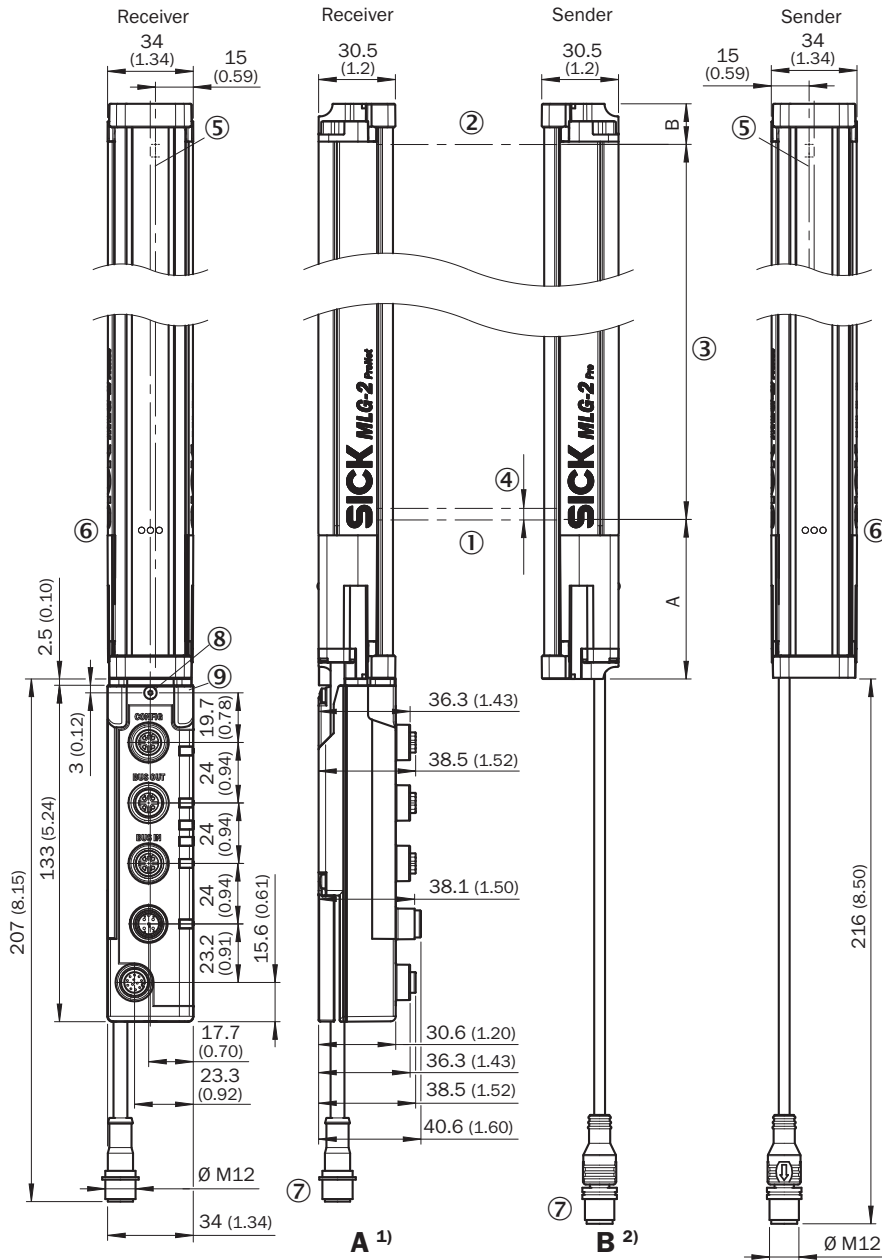
Classifications

| | |
|---------------------|----------|
| 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



| | | |
|-------------------------------|---------------------------------------|--------------|
| 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

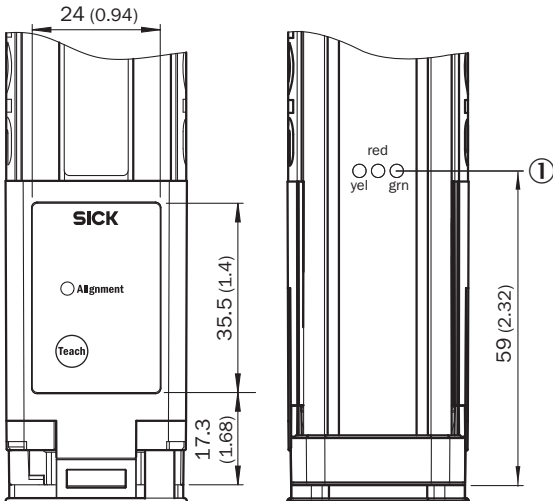
³⁾ MLG20x-xx**40**: 68.3 mm

MLG20x-xx**80**: 78.3 mm

- 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

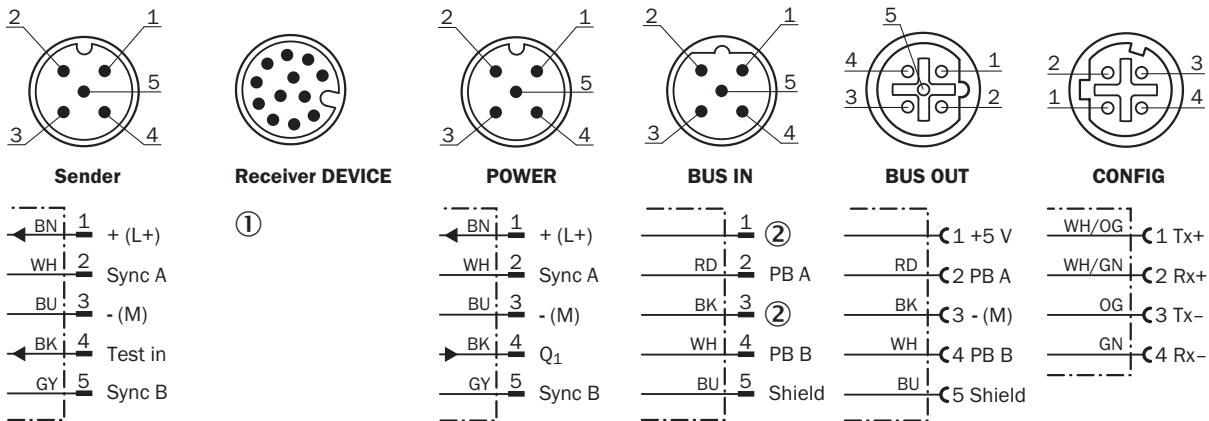
Adjustments



① Status indicator: green, yellow, red LEDs

Connection type and diagram

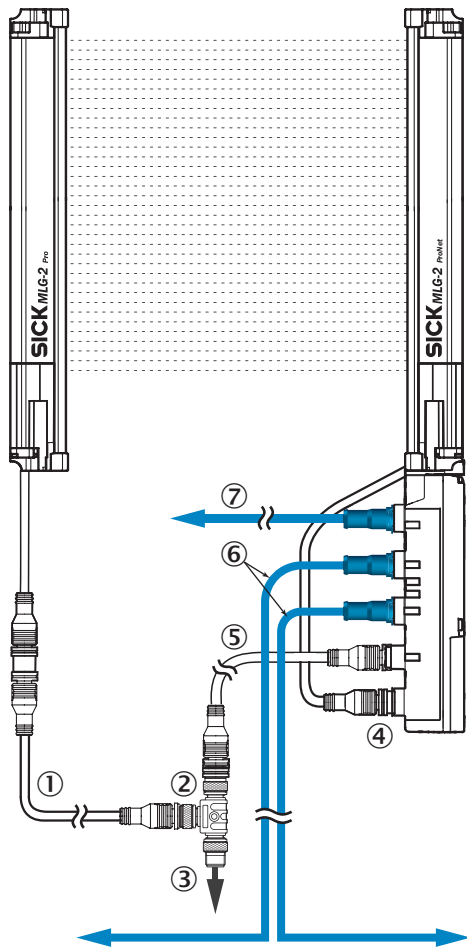
PROFIBUS



- ① Connection to fieldbus module
- ② Not connected

Pin assignment

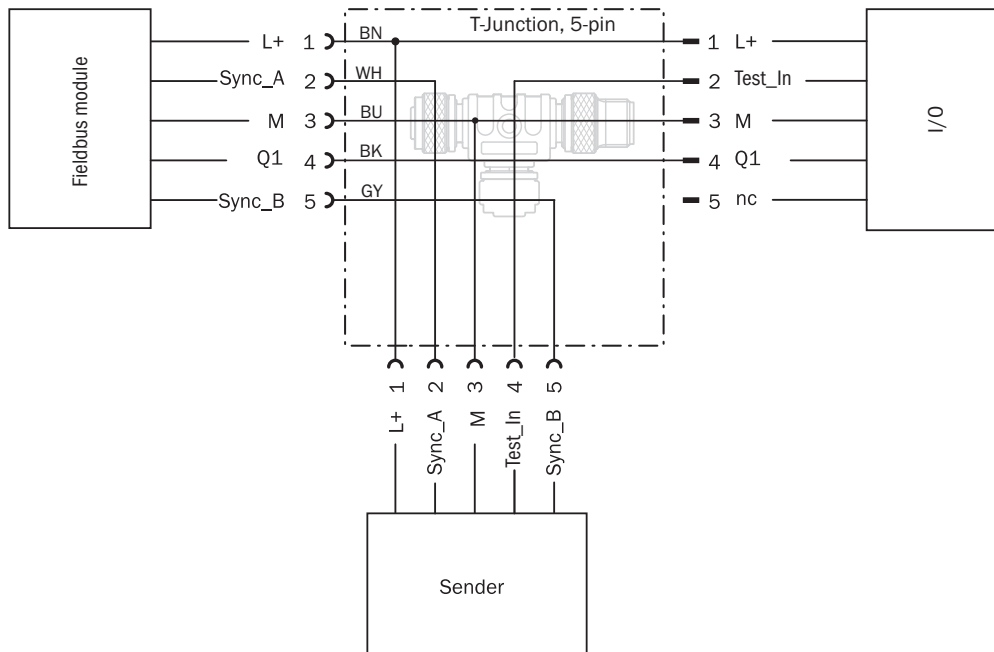
Ethernet



- 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"




Connection diagram




T-piece



Recommended accessories

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

| | Brief description | Type | Part no. |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| Distributors | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, A-coded Connection type head B: Female connector, M12, 5-pin, A-coded Connection type head C: Male connector, M12, 5-pin, A-coded Note: Male connector M12, 5-pin, straight, A-coded to 2 x female connector M12, 5-pin, straight, A-coded | SBO-02G12-SM | 6029305 |
| Plug connectors and cables | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals | YF2A15-050VB5XLEAX | 2096240 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot | YF2A15-050UB5M2A15 | 2096010 |

| | Brief description | Type | Part no. |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 4-pin, D-coded • Connection type head B: Male connector, M12, 4-pin, D-coded • Signal type: Ethernet • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Ethernet, twisted pair, shielded • Permitted cross-section: ≥ 0.25 mm² • Application: Zones with oils and lubricants | YM2D24-050EA2M2D24 | 6034422 |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 4-pin, straight, D-coded • Connection type head B: Male connector, RJ45, 4-pin, straight • Signal type: Ethernet, PROFINET • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Ethernet, PROFINET, shielded • Application: Drag chain operation, Zones with oils and lubricants | YM2D24-050PN1MRJA4 | 2106184 |
| Terminal and alignment brackets | | | |
|  | Mounting bracket for external mounting of the fieldbus module, 1 × mounting bracket and 1 × M5 × 6 screw, Stainless steel V2A (1.4301) | BEF-WN-FBM-SET1 | 2082322 |

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