



MLG50N-0250C50501

MLG-2

MEASURING AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
MLG50N-0250C50501	1138531

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)	50 mm, 54 mm ^{1) 2) 3)}	
Beam separation	50 mm	
Type of synchronization	Cable	
Number of beams	6	
Detection height	250 mm	
Software features (default)	Q ₁	Presence detection
	Address	6 (LSS)
	Baud rate RS-485	125 kbit/s
Operating mode	Standard	✓
	Transparent	✓
	Dust- and sunlight-resistant	✓
Function	Cross beam	✓
	Beam blanking	✓
	High measurement accuracy	✓
Applications	Switching output	Object recognition/object width Object recognition Height classification Hole detection/hole size Outside dimension/inside dimension

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.

	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 (in IP69K protective pipes) 1 × receiver (in IP69K protective pipes) 1 x Fieldbus module 1 x IP69K mounting instructions 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	56.25 mA ²⁾
Power consumption receiver	122 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, 1.4 m Connector M12, 12-pin, 1.4 m
Housing material	Aluminum (light grid) PMMA Plexiglas XT Food Contact DoC (protective pipe) Polypropylene, stainless steel 1.4404 (cable) VA 1.4305 (pressure compensation element) Stainless steel 1.4404 (end caps) Stainless steel V4A 1.4404 DIN EN 1672-2 (cable gland)
Indication	LED
Enclosure rating	IP69K ³⁾
Circuit protection	U _V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Protection class	III
Weight	1.16 kg

¹⁾ Without load.

²⁾ , Without load with 24 V.

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

Option	Protective housing IP69K
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	5.25 m ¹⁾
Minimum range	≥ 0 m
Operating range	3.75 m
Response time	3.5 ms ²⁾

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

Communication interface

CANopen	✓
Data transmission rate	10 kbit/s ... 1 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	-20 °C ... +55 °C
Ambient temperature, storage	-40 °C ... +70 °C

- 1) Outdoor mode.
- 2) Light resistance indirect.

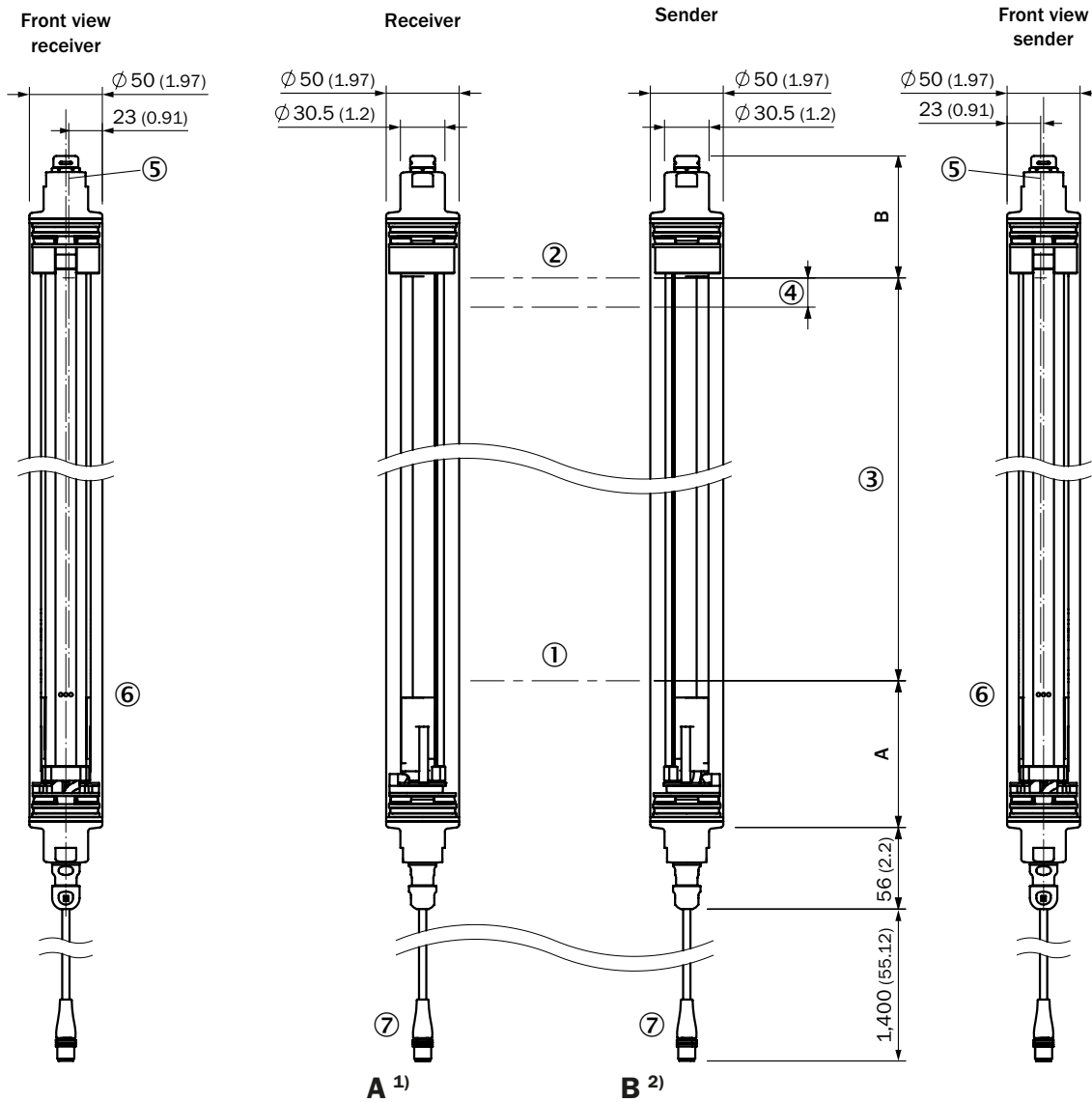
Classifications

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	94.25 (3.71)	84.7 (3.33)
Beam separation 5 mm	95.5 (3.76)	83.6 (3.29)
Beam separation 10 mm	100.5 (3.96)	83.6 (3.29)
Beam separation 20 mm	100.5 (3.96)/110.5 (4.35) ³⁾	83.6 (3.29)
Beam separation 25 mm	115.5 (4.55)	83.6 (3.29)
Beam separation 30 mm	120.5 (4.74)	83.6 (3.29)
Beam separation 50 mm	140.5 (5.53)	83.6 (3.29)

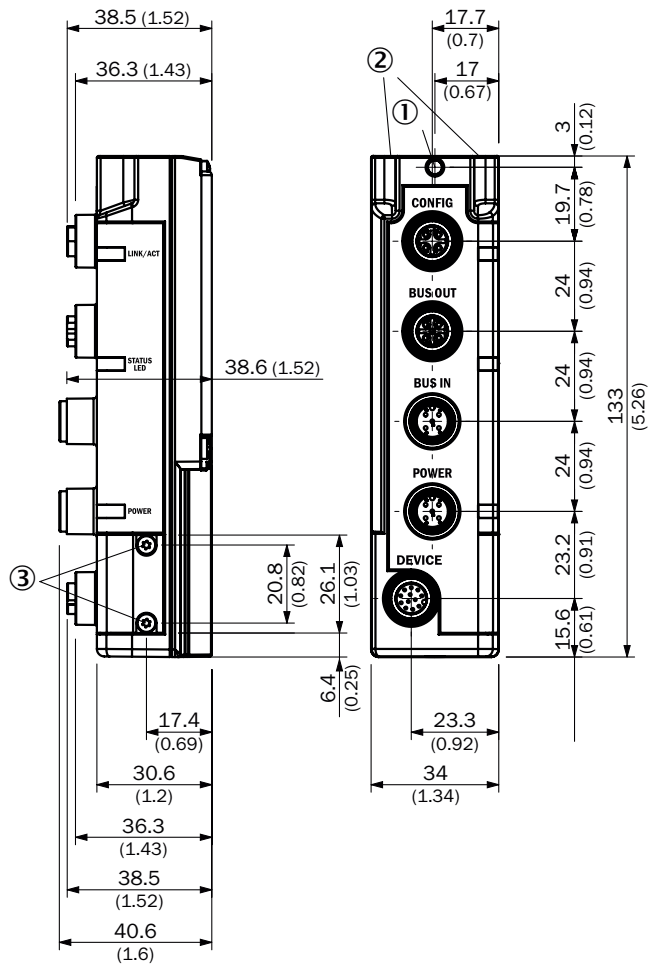
¹⁾ Distance: MLG-2 edge - first beam

²⁾ Distance: MLG-2 edge - last beam

³⁾ MLG20x-xx**40**: 100.5 mm
MLG20x-xx**80**: 110.5 mm

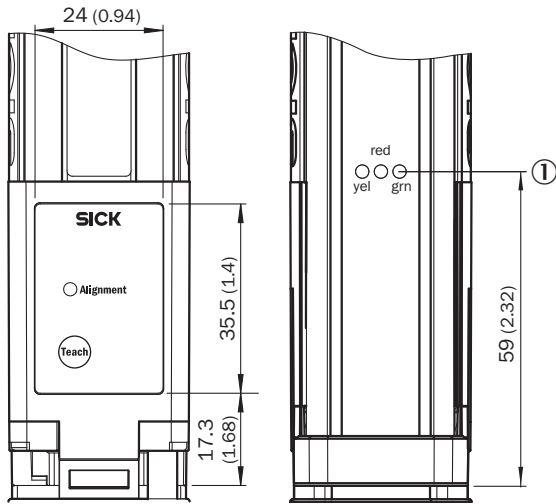
- ① First beam
- ② Last beam
- ③ Detection height (see technical data)
- ④ Beam separation
- ⑤ Optical axis
- ⑥ Status indicator: green, yellow, red LEDs
- ⑦ Connection

PROFIBUS, CANopen®



- ① Safty screw M4; turning moment 0,5 Nm
- ② For thread bold M4; turning moment 0,5 Nm
- ③ Lock screw, flap DIP-switch M2.5; turning moment 0.5 Nm

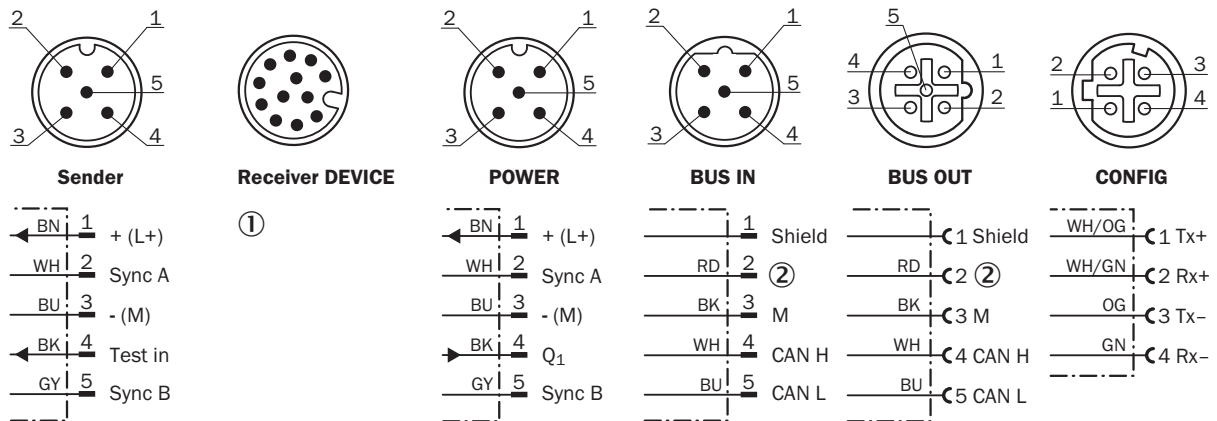
Adjustments



① Status indicator: green, yellow, red LEDs

Connection type and diagram

CANopen

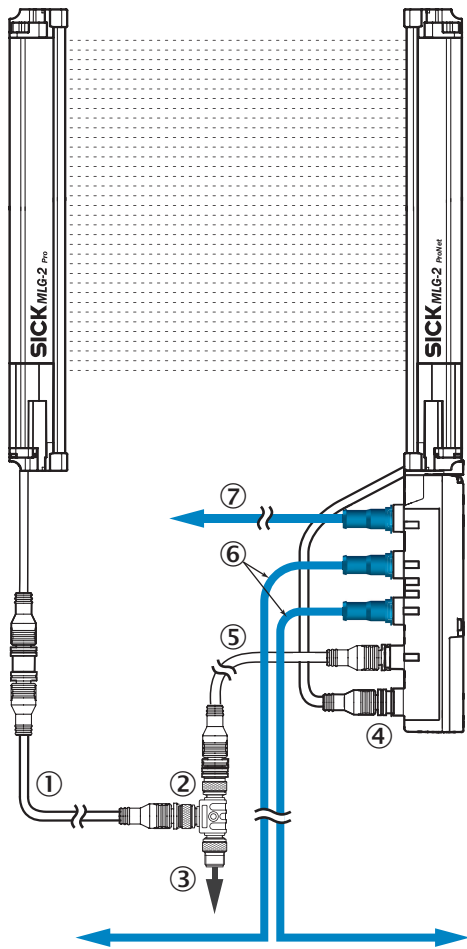


① Connection to fieldbus module

② Not connected

Pin assignment

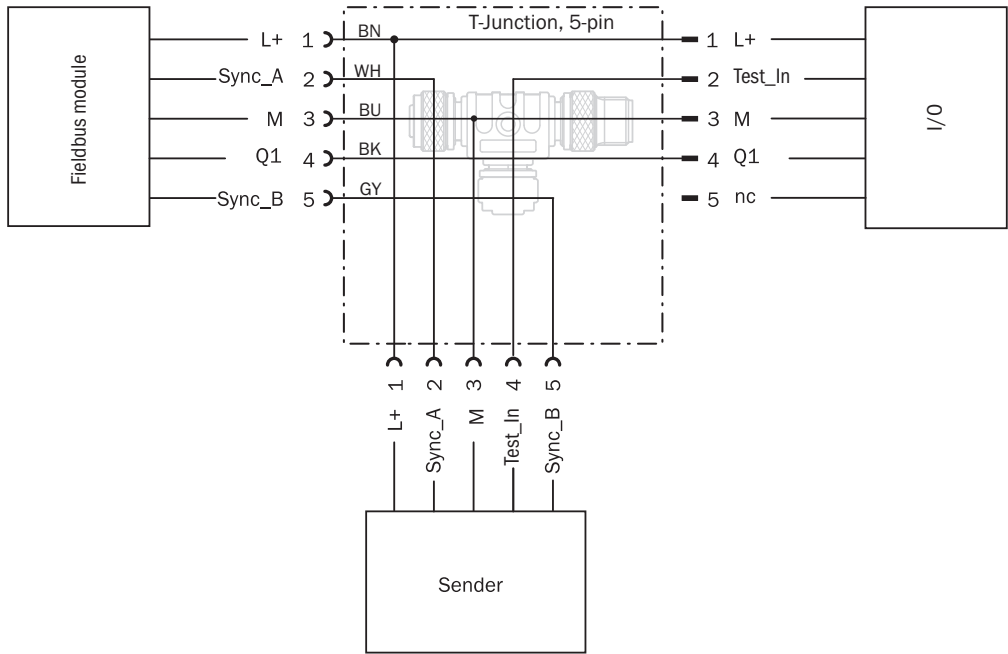
Ethernet



- 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 	SB0-02G12-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: $\geq 0.25 \text{ mm}^2$ • 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			
	4 pieces, Stainless steel bracket, rotatable, stainless steel 1.4350, stainless steel 1.4301	BEF-2SMMEAES4	2023708
	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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