



DATA SHEET

MLG50N-0250C50501

MLG-2
Automation light grids

SICK

Sensor Intelligence

AUTOMATION LIGHT GRIDS

ML- G50N-0250C50501

ORDERING INFORMATION

Type	part no.
MLG50N-0250C50501	1138531

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



Illustration may differ



DETAILED TECHNICAL DATA

FEATURES

Device version	ProNet – extended functionality including fieldbus	
Sensor principle	Sender/receiver	
Minimum detectable object (MDO)	50 mm ¹⁾	54 mm 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	✓

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.

	Dust- and sunlight-resistant	✓
Function	Cross beam	✓
	Beam blanking	✓
	High measurement accuracy	✓
Applications	Switching output	Object detection/object width Object recognition Height classification Hole detection/hole size Outside/inside dimension Object position Hole position Zone definition
	Data interface	Object detection Hole detection Object height measurement Measurement of the outside dimension Measurement of the inside dimension Measurement of the object position Measurement of the hole position
Included with delivery		1 × sender (in IP69K protective pipes) 1 × receiver (in IP69K protective pipes) 1 × Fieldbus module 1 × 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	Plug, 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)
Display	LED
Enclosure rating	IP69K

¹⁾ Without load.

²⁾ Without load with 24 V.

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

	³⁾
Circuit protection	U _v connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Protection class	III
Weight	1.16 kg
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.

INTERFACES

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.

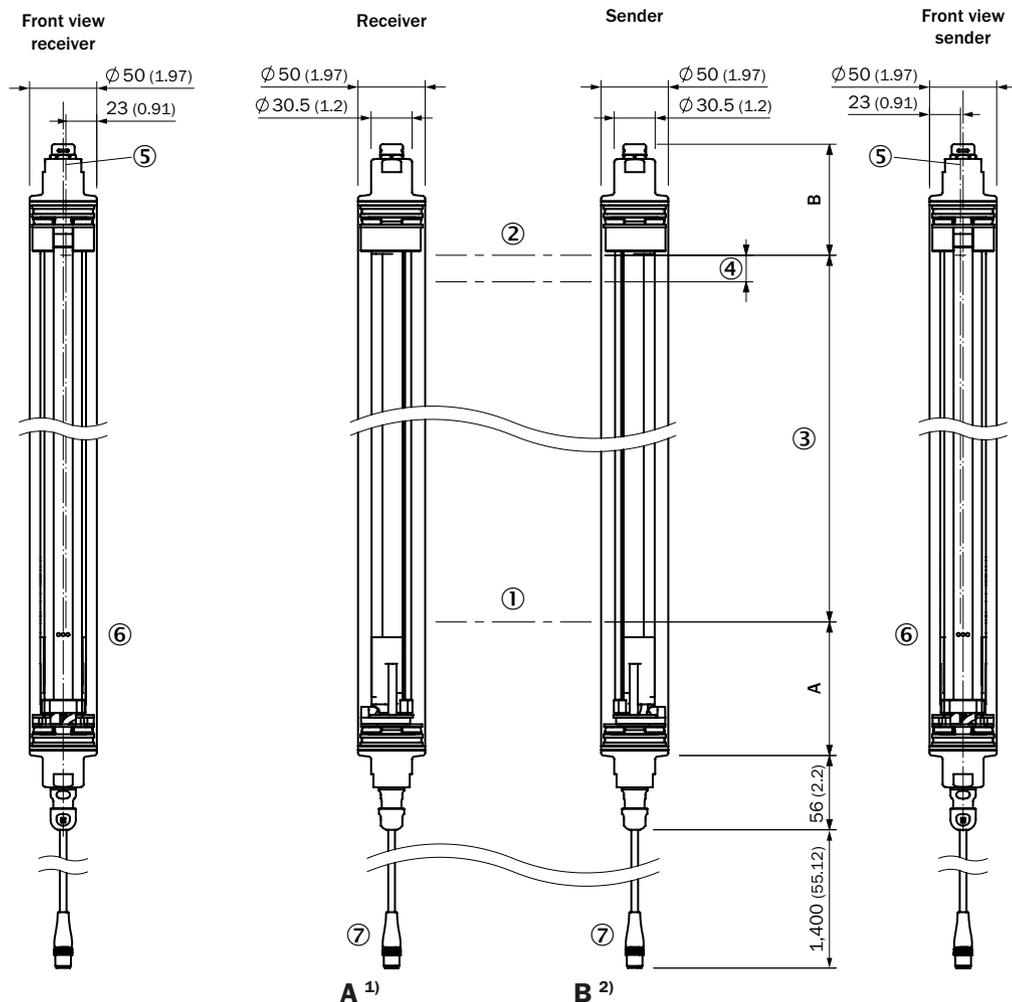
²⁾ Light resistance indirect.

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Profinet certificate	✓

Photobiological safety (IEC EN 62471)	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING



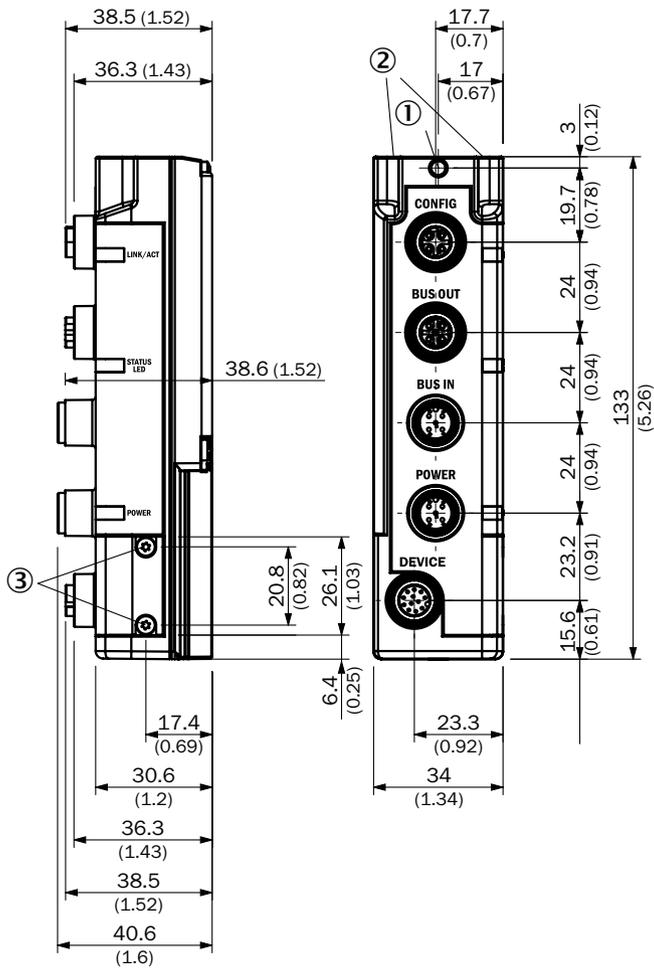
Beam separation 2.5 mm	94.25 (3.71)	84.7 (3.33)
Beam separation 5 mm	95.5 (3.76)	83.6 (3.29)
Beam separation 10 mm	100.5 (3.96)	83.6 (3.29)
Beam separation 20 mm	100.5 (3.96)/110.5 (4.35) ³⁾	83.6 (3.29)
Beam separation 25 mm	115.5 (4.55)	83.6 (3.29)
Beam separation 30 mm	120.5 (4.74)	83.6 (3.29)
Beam 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-xx40: 100.5 mm
 MLG20x-xx80: 110.5 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

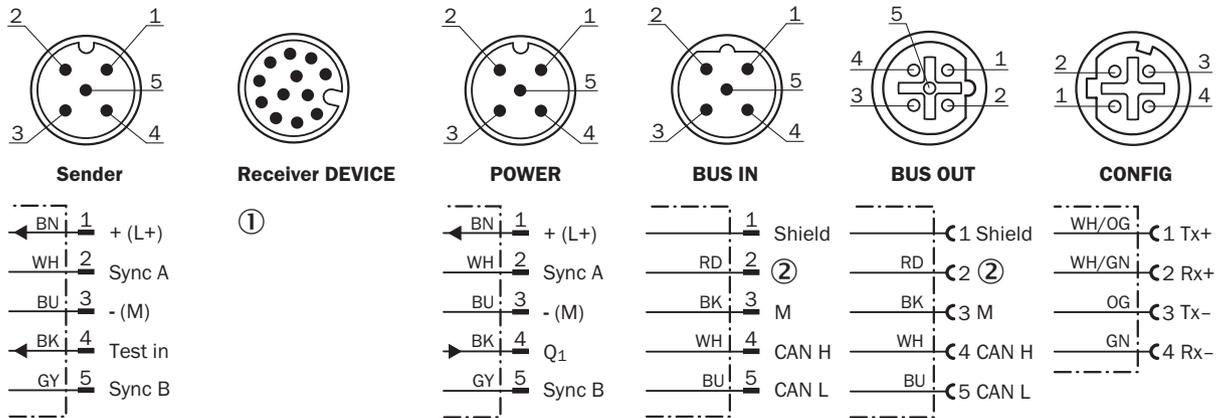
DIMENSIONAL DRAWING PROFIBUS, CANOPEN®



Dimensions in mm (inch)

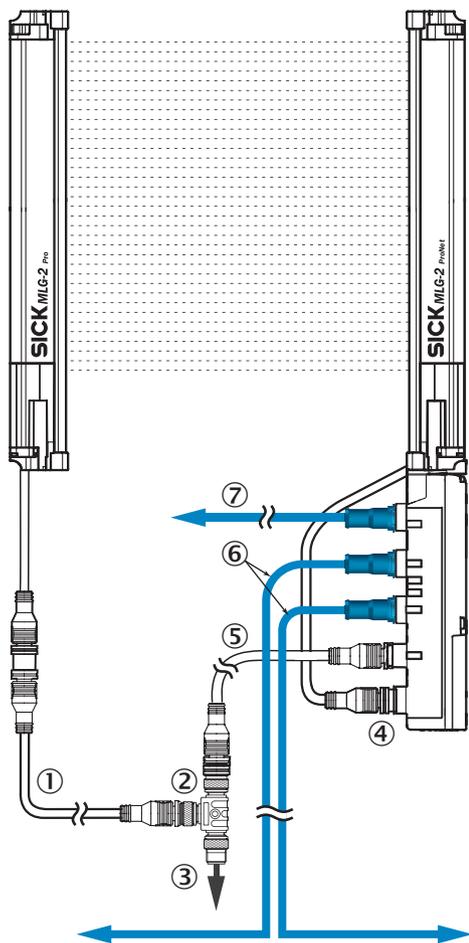
- ① safety screw M4; turning moment 0,5 Nm
- ② for thread bold M4; turning moment 0,5 Nm
- ③ Lock screw, flap DIP-switch M2.5; turning moment 0.5 Nm

CONNECTION TYPE AND DIAGRAM CANOPEN



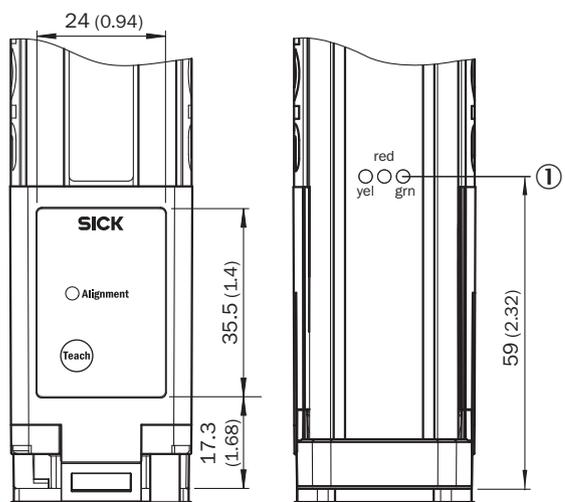
- ① Connection to fieldbus module
- ② Not connected

PINOUPS ETHERNET



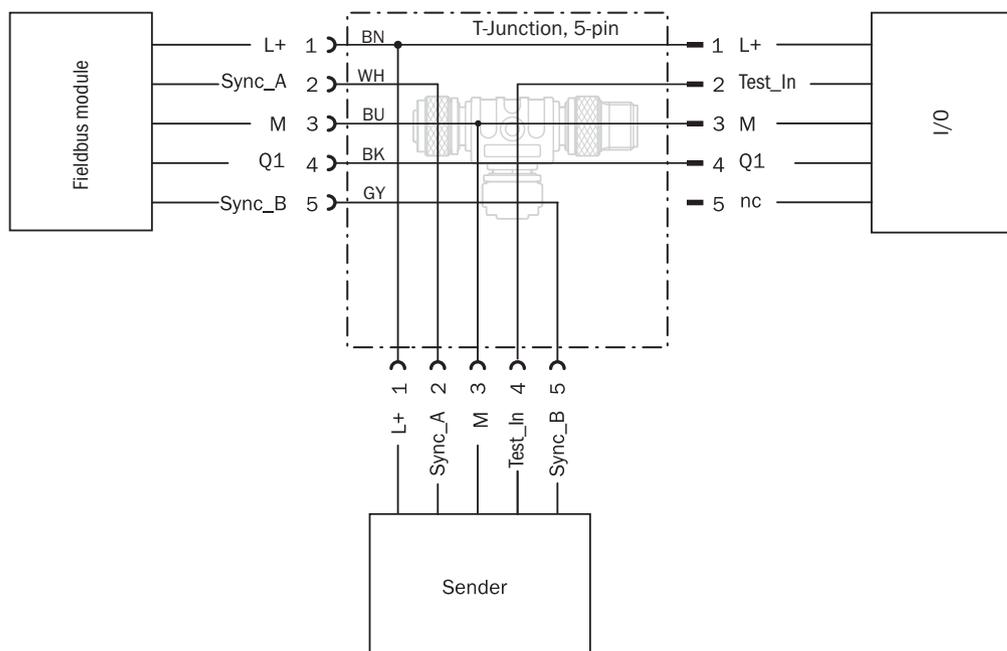
- ① Connection cable receiver (2096010)
- ② T-piece
- ③ Connection cable (2096240)
- ④ connection receiver "DEVICE"
- ⑤ Connection cable "POWER" (2096010)
- ⑥ Ethernet Connection cable "BUS IN, BUS OUT"
- ⑦ Ethernet connection cable "CONFIG"

ADJUSTMENTS



① status indicator: green, yellow, red LEDs

CONNECTION DIAGRAM T-PIECE



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/1138531



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

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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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