



MLG50N-3100U10801

MLG-2

AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
MLG50N-3100U10801	1137610

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

Detailed technical data

Features

Device version	ProNet - Replacement product (for MLG-1 with terminals)
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	63
Detection height	3,100 mm
Software features (default)	
Interface RS-485	Beam status
Baud rate RS-485	9.6 kbit/s
Q ₁	Presence detection
Q ₂	Presence detection inverted
Q ₃	Contamination warning
Q ₄	Presence detection
Q ₅	off
Q ₆	off
In ₁	Teach input
In ₂	off
Operating mode	

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.

	Standard	✓
	Transparent	✓
	Dust- and sunlight-resistant	✓
Function	Cross beam	✓
	Beam blanking	✓
	High-speed scan	✓
	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 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	59.1 mA ²⁾
Power consumption receiver	133.4 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, 0.22 m Connector M12, 12-pin, 0.21 m
Housing material	Aluminum
Display	LED
Enclosure rating	IP65, IP67 ³⁾
Circuit protection	U _v connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression

¹⁾ Without load.

²⁾ Without load with 24 V.

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

Protection class	III
Weight	6.549 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	12 m ¹⁾
Minimum range	≥ 0 m
Operating range	8.5 m
Response time	3.5 ms ²⁾

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

²⁾ Without high speed.

Interfaces

Serial	✓ , RS-485
Data transmission rate	1.2 kbit/s ...921.6 kbit/s
Inputs/outputs	RS-485 + 6 x Q + 2 x I/O
Digital output	Q ₁ ... Q ₆
Number	6
Digital input	In ₁ , In ₂
Number	2

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.

Certificates

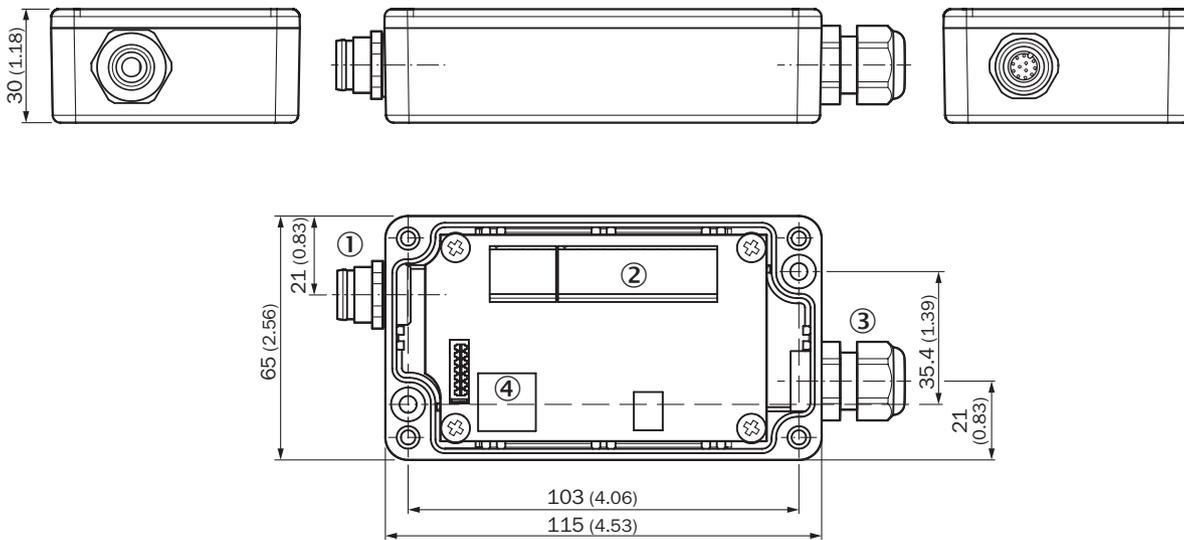
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓

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

Classifications

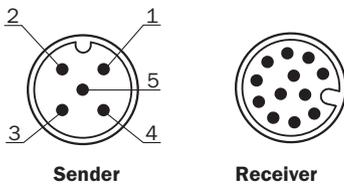
ECLASS 5.0	27270910
ECLASS 5.1.4	27270910
ECLASS 6.0	27270910
ECLASS 6.2	27270910
ECLASS 7.0	27270910
ECLASS 8.0	27270910
ECLASS 8.1	27270910
ECLASS 9.0	27270910
ECLASS 10.0	27270910
ECLASS 11.0	27270910
ECLASS 12.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
UNSPSC 16.0901	39121528

Dimensional drawing: terminal connection box (AFB)



- Dimensions in mm (inch)
- ① female connector M12, 12-pin
 - ② Cable gland
 - ③ PG gland
 - ④ RJ45 (Ethernet)

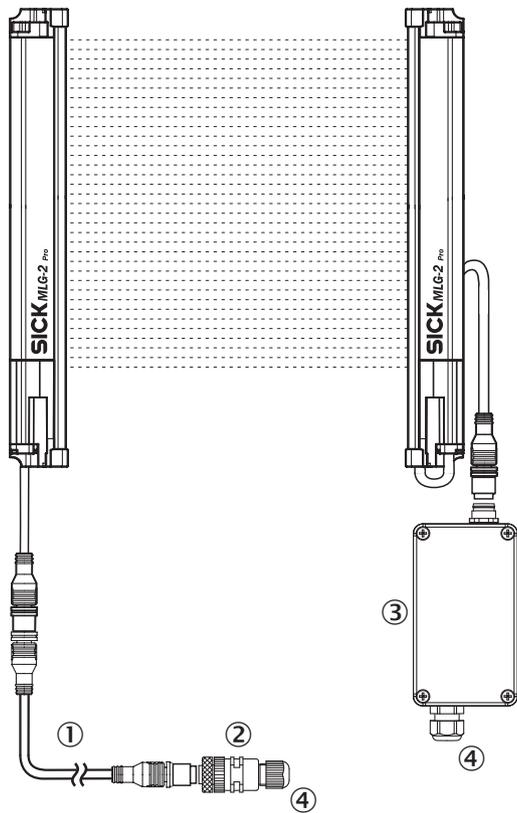
Connection type and diagram



- | | | |
|-------|---|---------|
| ← brn | 1 | +(L+) |
| — wht | 2 | Sync A |
| — blu | 3 | -(M) |
| ← blk | 4 | Test in |
| — gra | 5 | Sync B |

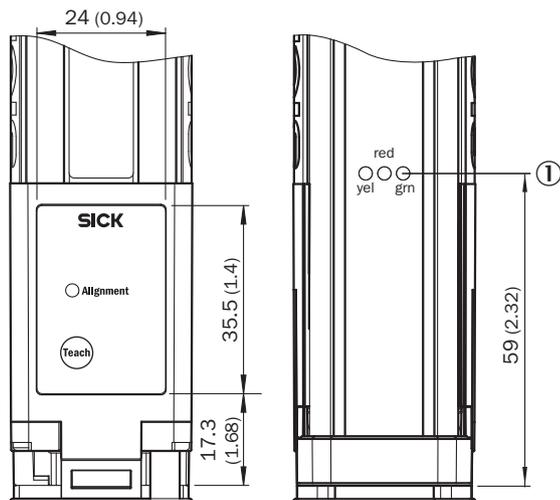
① Connection to terminal connection box (AFB)

Pinouts Terminal connection box (AFB)



- ① Connection cable (6057015)
- ② female connector M12, 5-pin (6009719)
- ③ terminal connection box (AFB)
- ④ For connection to PLC / PIN assignment, see technical information (MLG-2 as upgrade product for MLG-1 and XLG)

Adjustments



- ① status indicator: green, yellow, red LEDs

Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: Male connector, RJ45, 4-pin, straight • Connection type head B: Male connector, RJ45, 4-pin, straight • Signal type: Ethernet • Cable: 3 m, crossover, PVC • Description: Ethernet, unshielded 	Ethernet crossover cable	6026084
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² 	DOS-1205-G	6009719
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight • Connection type head B: Male connector, M12, 8-pin, straight • Signal type: Sensor/actuator cable • Cable: 0.1 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation 	DSL-1258-G0M1C	6057015
Mounting systems			
	<ul style="list-style-type: none"> • Description: Mounting bracket for external mounting of the fieldbus module, 1 × mounting bracket and 1 × M5 × 6 screw • Material: Stainless steel • Details: Stainless steel V2A (1.4301) 	BEF-WN-FBM-SET1	2082322

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com