

**SICK**  
SICK MLG10S-  
0290D10501  
Measuring  
Automation Light  
Grids



# SICK MLG10S-0290D10501 Measuring Automation Light Grids Owner's Manual

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# SICK

**SICK MLG10S-0290D10501 Measuring Automation Light Grids**



### **Specifications:**

- Device Version: Prime – Standard functionality
- Sensor Principle: Sender/receiver
- Minimum Detectable Object (MDO): 14 mm
- Beam Separation: 10 mm
- Type of Synchronization: Optical
- Number of Beams: 30
- Detection Height: 290 mm
- Operating Mode: Standard
- Function: Cross beam, Beam blanking
- Applications: Switching output, Object detection

### **Product Usage Instructions**

#### **Installation:**

1. Choose a suitable mounting location ensuring proper alignment and height.
2. Securely mount the automation light grids using appropriate fixtures.

#### **Configuration:**

1. Connect the device to a power source within the specified voltage range.
2. Adjust the beam separation and synchronization settings as needed for your application.

## Operation:

1. Power on the device and ensure proper functionality.
2. Monitor the detection area for any objects and observe the switching output for responses.

## FAQ:

1. **Q: What is the maximum range of the automation light grids?**

A: The maximum range is 7 meters, providing ample coverage for various applications.

2. **Q: Can the device be used in outdoor conditions?**

A: Operating in outdoor conditions is possible only with an external protection housing due to specific requirements.

## Ordering information

Type	Part no.
MLG10S-0290D10501	1213958

Other models and accessories [www.sick.com/MLG-2](http://www.sick.com/MLG-2)



Illustration may differ



## Detailed technical data

### Features

<b>Device version</b>	Prime – Standard functionality
<b>Sensor principle</b>	Sender/receiver
<b>Minimum detectable object (MDO)</b>	14 mm <sup>1)</sup>
<b>Beam separation</b>	10 mm
<b>Type of synchronization</b>	Optical
<b>Number of beams</b>	30
<b>Detection height</b>	290 mm
<b>Software features (default)</b>	
Q <sub>1</sub>	Auto-define height classification
Q2 / IN	Auto-define height classification
Q <sub>3</sub>	Auto-define height classification
inverted	—
Teach	—
key lock	off
<b>Operating mode</b>	
Standard	✓
<b>Function</b>	
Cross beam	✓
Beam blanking	✓
<b>Applications</b>	
Switching output	Object detection

1) Depending on beam separation without cross beam setting.

		Object recognition Height classification
	Data interface	Object detection Object height measurement
<b>Included with delivery</b>		1 × sender 1 × receiver 4/6 × QuickFix brackets (6 × QuickFix brackets for monitoring heights above 2 m) 1 × Quick Start Guide

1) Depending on beam separation without cross beam setting.

## **Mechanics/electronics**

<b>Light source</b>	LED, Infrared light
<b>Wave length</b>	850 nm
<b>Supply voltage <math>V_s</math></b>	DC 19.2 V... 28.8 V <sup>1)</sup>
<b>Power consumption sender</b>	56.5 mA <sup>2)</sup>
<b>Power consumption receiver</b>	126 mA <sup>2)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub>
<b>Output current <math>I_{max.}</math></b>	100 mA
<b>Output load, capacitive</b>	100 nF
<b>Output load, Inductive</b>	1 H
<b>Initialization time</b>	< 1 s
<b>Switching output</b>	Push-pull: PNP/NPN
<b>Connection type</b>	Male connector M12, 5-pin, 0.22 m
	Male connector M12, 5-pin, 0.22 m
<b>Housing material</b>	Aluminum
<b>Indication</b>	LED
<b>Enclosure rating</b>	IP65, IP67
	3)
<b>Circuit protection</b>	U <sub>V</sub> connections, reverse polarity protected
	Output Q short-circuit protected
	Interference pulse suppression
<b>Protection class</b>	III
<b>Weight</b>	0.849 kg
<b>Front screen</b>	PMMA
<b>Option</b>	None
<b>UL File No.</b>	NRKH.E181493

1. Without load.

2. Without load with 24 V.

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

## Performance

<b>Maximum range</b>	7 m 1)
<b>Maximum range</b>	≥ 0.2 m
<b>Operating range</b>	5 m
<b>Response time</b>	6.1 ms

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

### Communication interface

<b>IO-Link</b>		✓, IO-Link V1.1
	Data transmission rate	38,4 kbit/s (COM2)
	Maximum cable length	20 m
	Cycle time	6 ms
	VendorID	26
	DeviceID HEX	800067
	DeviceID DEC	8388711
	Process data length	6 Byte (TYPE_2_V) 1)
<b>Inputs/outputs</b>		3 x Q (IO-Link)
<b>Digital output</b>		Q <sub>1</sub> ... Q <sub>3</sub>
	Number	3
<b>Digital input</b>		In <sub>1</sub>
	Number	1

1) With an IO-Link master with V1.0, fall back 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 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: 12,000 lx 1) Indirect: 50,000 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

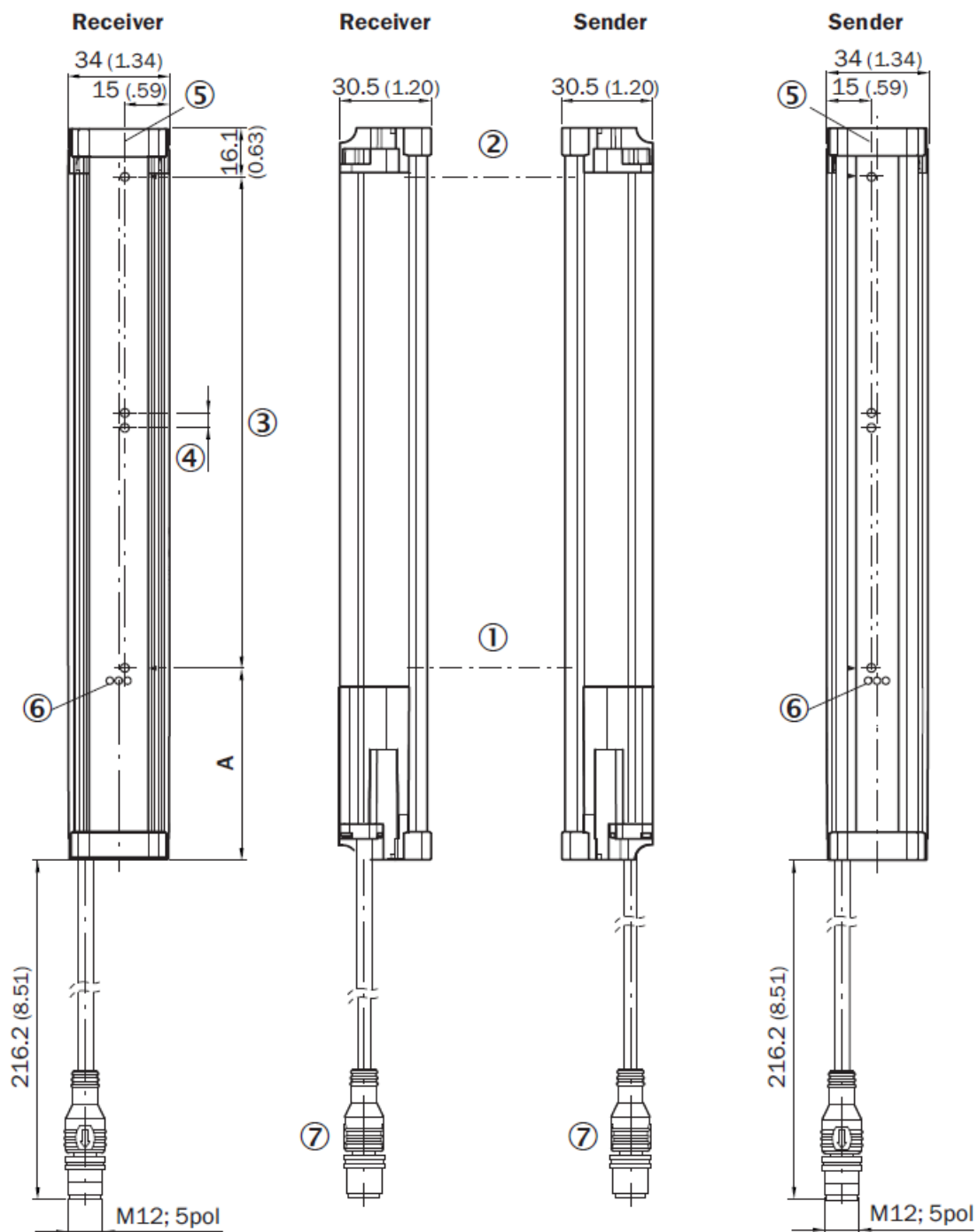
## Classifications

- 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





**A<sup>1)</sup>**

<b>Beam separation 5 mm</b>	63.3 (2.49)
<b>Beam separation 10 mm</b>	68.3 (2.69)
<b>Beam separation 20 mm</b>	68.3 (2.69)/78.3 (3.08) <sup>(2)</sup>
<b>Beam separation 25 mm</b>	83.3 (3.28)
<b>Beam separation 30 mm</b>	88.3 (3.48)
<b>Beam separation 50 mm</b>	108.3 (4.26)

1) Distance: MLG edge – first beam

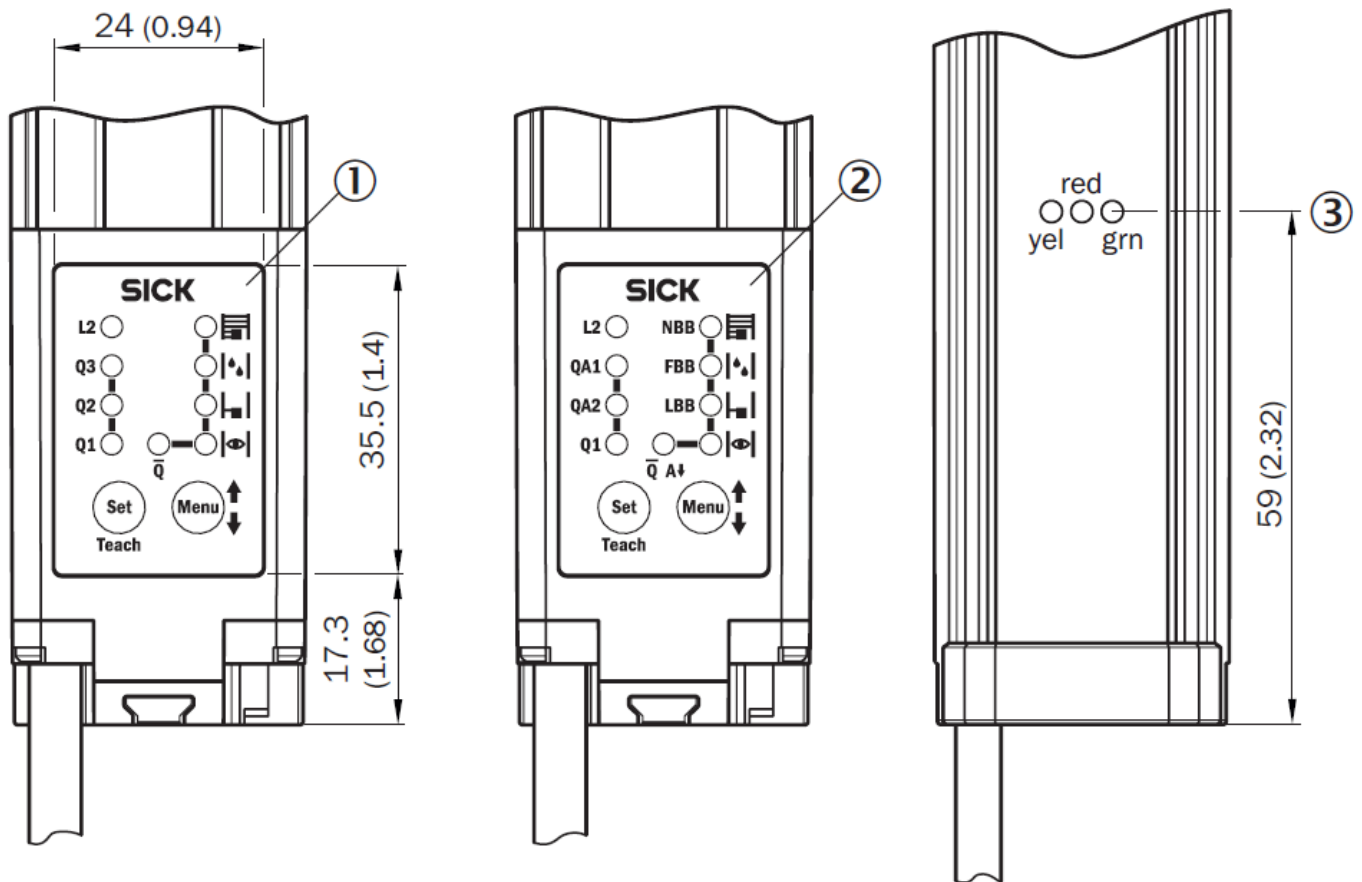
2) MLG20x-xx40: 68.3 mm

MLG20x-xx80: 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

## Adjustments

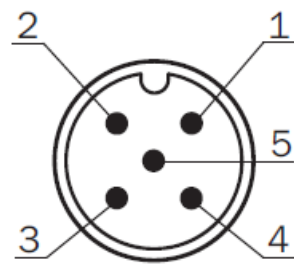
Adjustments



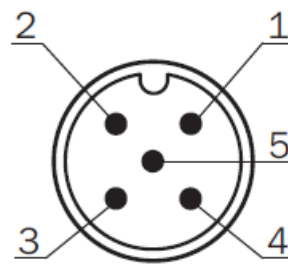
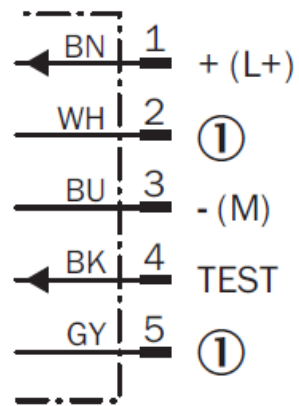
1. MLG-2 with switching outputs Q
2. MLG-2 with analog outputs QA
3. Status indicator: green, yellow, red LEDs

## Connection type and diagram

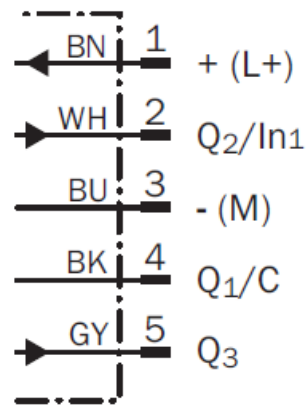
Connector M12, 5-pin, switching outputs Q



**Sender**



**Receiver**



1. Not assigned

### Recommended accessories

Other models and accessories [www.sick.com/MLG-2](http://www.sick.com/MLG-2)

Brief description		Type	Part no.
Plug connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	<a href="#">YF2A15- 050V B5XLEAX</a>	<a href="#">2096240</a>
Sensor Integration Gateway			
	<ul style="list-style-type: none"> <li>• <b>Further functions:</b> Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions</li> <li>• <b>Connection CONFIG:</b> 1 x M8, 4-pin female connector, USB 2.0 (USB-A)</li> <li>• <b>Logic editor:</b> yes</li> <li>• <b>Communication interface:</b> IO-Link, USB, Ethernet, PROFINET, REST API</li> <li>• <b>Product category:</b> IO-Link Master</li> </ul>	<a href="#">SIG200-0A0412200</a>	<a href="#">1089794</a>
	<ul style="list-style-type: none"> <li>• <b>Further functions:</b> Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions</li> <li>• <b>Connection CONFIG:</b> 1 x M8, 4-pin female connector, USB 2.0 (USB-A)</li> <li>• <b>Logic editor:</b> yes</li> <li>• <b>Communication interface:</b> IO-Link, USB, Ethernet, REST API</li> <li>• <b>Product category:</b> IO-Link Master</li> </ul>	<a href="#">SIG200-0A0G12200</a>	<a href="#">1102605</a>

## 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](http://www.sick.com)

SICK AG | Waldkirch | Germany | [www.sick.com](http://www.sick.com)

## Documents / Resources

	<p><a href="#">SICK MLG10S-0290D10501 Measuring Automation Light Grids</a> [pdf] Owner's Manual MLG10S-0290D10501 Measuring Automation Light Grids, MLG10S-0290D10501, Measuring Automation Light Grids, Automation Light Grids, Light Grids, Grids</p>
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## References

- [S SICK | Sensor Intelligence](#)
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- [User Manual](#)

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