



# MLG20N-1780C10594

MLG-2

**AUTOMATION LIGHT GRIDS**

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
MLG20N-1780C10594	1138896

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>	ProNet – extended functionality including fieldbus	
<b>Sensor principle</b>	Sender/receiver	
<b>Minimum detectable object (MDO)</b>	20 mm <sup>1)</sup> 24 mm <sup>2)</sup> <sup>3)</sup>	
<b>Beam separation</b>	20 mm	
<b>Type of synchronization</b>	Cable	
<b>Number of beams</b>	90	
<b>Detection height</b>	1,780 mm	
<b>Operating mode</b>	Standard	✓
	Transparent	✓
	Dust- and sunlight-resistant	✓
<b>Function</b>	Cross beam	✓
	Beam blanking	✓
	High-speed scan	✓
	High measurement accuracy	✓
<b>Applications</b>	Switching output	Object detection/object width Object recognition Height classification Hole detection/hole size- Outside/inside dimension Object position Hole position Zone definition

<sup>1)</sup> MDO min. detectable object at high measurement accuracy.

<sup>2)</sup> MDO min. detectable object for standard measurement accuracy.

<sup>3)</sup> Depending on beam separation without cross beam setting.

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 × Fieldbus module 4/6 × QuickFix brackets (6 × QuickFix brackets for monitoring heights above 2 m) 1 × Quick Start Guide

<sup>1)</sup> MDO min. detectable object at high measurement accuracy.

<sup>2)</sup> MDO min. detectable object for standard measurement accuracy.

<sup>3)</sup> 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 <sup>1)</sup>
Power consumption sender	60.45 mA <sup>2)</sup>
Power consumption receiver	138.8 mA <sup>2)</sup>
Fieldbus module current consumption	115 mA
Ripple	< 5 V <sub>pp</sub>
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 <sup>3)</sup>
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
UL File No.	NRKH.E181493

<sup>1)</sup> Without load.

<sup>2)</sup> Without load with 24 V.

<sup>3)</sup> Operating in outdoor condition only with a external protection housing.

## Performance

Maximum range	7 m <sup>1)</sup>
Minimum range	≥ 0 m

<sup>1)</sup> No reserve for environmental issue and deterioration of the diode.

<sup>2)</sup> Without high speed.

<b>Operating range</b>	5 m
<b>Response time</b>	3.6 ms <sup>2)</sup>

<sup>1)</sup> No reserve for environmental issue and deterioration of the diode.

<sup>2)</sup> Without high speed.

### Interfaces

<b>CANopen</b>	✓
Data transmission rate	10 kbit/s ... 1 Mbit/s
<b>Digital output</b>	Q <sub>1</sub>
Number	1

### Ambient data

<b>Shock resistance</b>	Continuous shocks 10 g, 16 ms, 1000 shocks Single shocks 15 g, 11 ms 3 per axle
<b>Vibration resistance</b>	Sinusoidal oscillation 10-150 Hz 5 g
<b>EMC</b>	EN 60947-5-2
<b>Ambient light immunity</b>	Direct: 150,000 lx <sup>1)</sup> Indirect: 200,000 lx <sup>2)</sup>
<b>Ambient operating temperature</b>	-30 °C ... +55 °C
<b>Ambient temperature, storage</b>	-40 °C ... +70 °C

<sup>1)</sup> Outdoor mode.

<sup>2)</sup> Light resistance indirect.

### Certificates

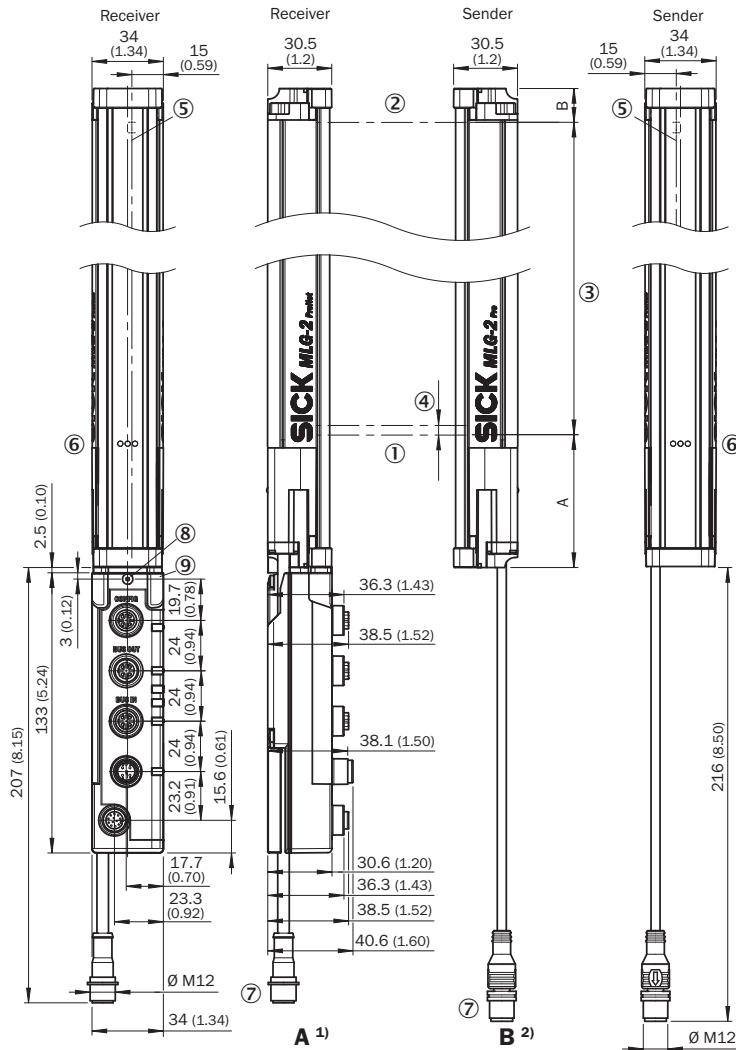
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Photobiological safety (IEC EN 62471)</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓

### Classifications

<b>ECLASS 5.0</b>	27270910
<b>ECLASS 5.1.4</b>	27270910
<b>ECLASS 6.0</b>	27270910
<b>ECLASS 6.2</b>	27270910
<b>ECLASS 7.0</b>	27270910
<b>ECLASS 8.0</b>	27270910
<b>ECLASS 8.1</b>	27270910
<b>ECLASS 9.0</b>	27270910
<b>ECLASS 10.0</b>	27270910
<b>ECLASS 11.0</b>	27270910

<b>ECLASS 12.0</b>	27270910
<b>ETIM 5.0</b>	EC002549
<b>ETIM 6.0</b>	EC002549
<b>ETIM 7.0</b>	EC002549
<b>ETIM 8.0</b>	EC002549
<b>UNSPSC 16.0901</b>	39121528

Dimensional drawing



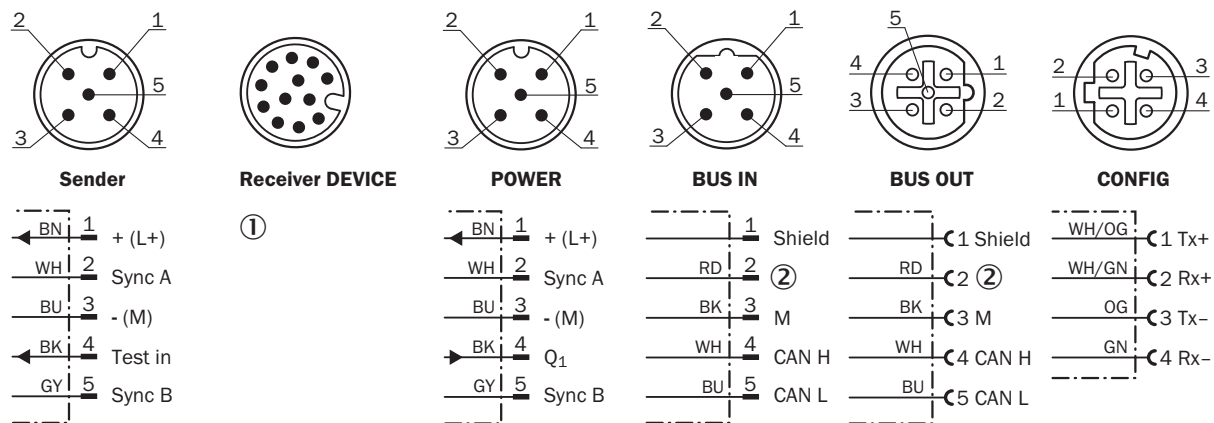
<b>Beam separation 2.5 mm</b>	62.25 (2.45)	17.15 (0.68)
<b>Beam separation 5 mm</b>	63.3 (2.49)	16.1 (0.63)
<b>Beam separation 10 mm</b>	68.3 (2.69)	16.1 (0.63)
<b>Beam separation 20 mm</b>	68.3 (2.69)/78.3 (3.08) <sup>3)</sup>	16.1 (0.63)
<b>Beam separation 25 mm</b>	83.3 (3.28)	16.1 (0.63)
<b>Beam separation 30 mm</b>	88.3 (2.69)	16.1 (0.63)
<b>Beam separation 50 mm</b>	108.3 (4.26)	16.1 (0.63)

<sup>1)</sup> Distance: MLG-2 edge - first beam  
<sup>2)</sup> Distance: MLG-2 edge - last beam  
<sup>3)</sup> MLG20x-xx40: 68.3 mm  
 MLG20x-xx80: 78.3 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
- ⑧ safty screw M4; turning moment 0,5 Nm
- ⑨ for thread bold M4; turning moment 0,5 Nm

### Connection type and diagram CANopen



- ① Connection to fieldbus module
- ② Not connected

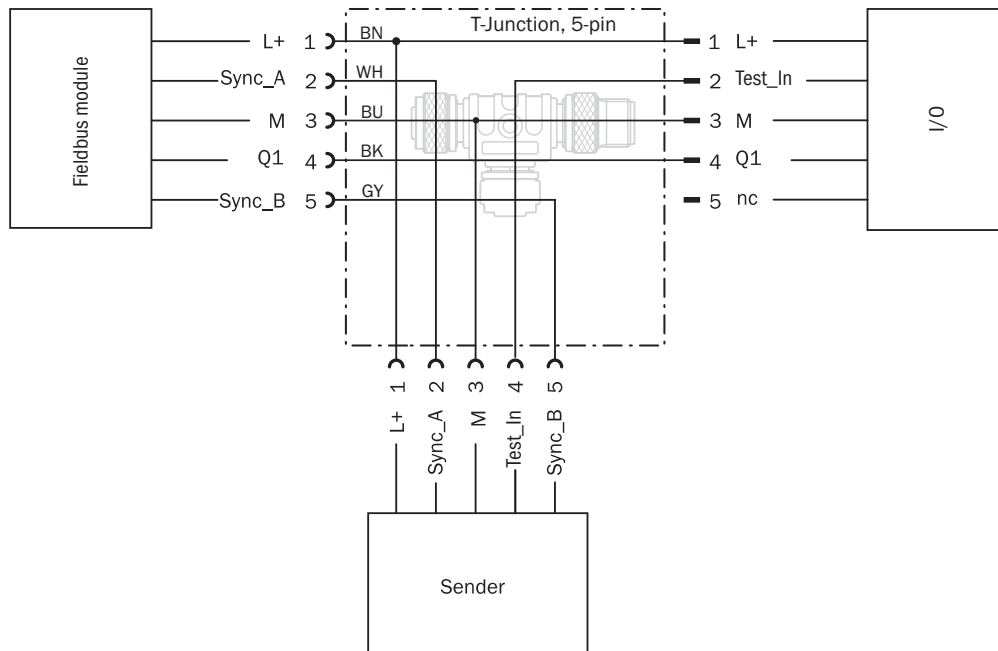


### Adjustments



① status indicator: green, yellow, red LEDs

### Connection diagram T-piece



## 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)