

SICK.COM



DATA SHEET

**MLG05A-0445B50801**

MLG-2  
Automation light grids

**SICK** Sensor Intelligence

**AUTOMATION LIGHT GRIDS**

# ML- G05A-0445B50801

**ORDERING INFORMATION**

Type	part no.
MLG05A-0445B50801	<a href="#">1126072</a>

Further device versions and accessories at [www.sick.com/MLG-2](http://www.sick.com/MLG-2)



Illustration may differ



**DETAILED TECHNICAL DATA**

**FEATURES**

Device version	Pro - Extended functionality
Sensor principle	Sender/receiver
Minimum detectable object (MDO)	5 mm <sup>1)</sup> 9 mm <sup>2)</sup> <sup>3)</sup>
Beam separation	5 mm
Type of synchronization	Cable
Number of beams	90
Detection height	445 mm
Software features (default)	<ul style="list-style-type: none"> <li>Q<sub>A1</sub> Number of broken beams/NBB</li> <li>Q<sub>A2</sub> Height measurement (last beam)/LBB</li> <li>Q<sub>1</sub> Presence detection</li> <li>Q2 / IN Teach input</li> <li>Teach Standard mode</li> </ul>
Operating mode	<ul style="list-style-type: none"> <li>Standard ✓</li> <li>Transparent ✓</li> </ul>

<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.

	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 (in IP69K protective pipes) 1 × receiver (in IP69K protective pipes) 1 × IP69K mounting instructions 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	59.5 mA <sup>2)</sup>
Power consumption receiver	138 mA <sup>2)</sup>
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, 0.39 m Male connector M12, 8-pin, 0.39 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 <sup>3)</sup>

<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.

Circuit protection	U <sub>v</sub> connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Protection class	III
Weight	1.46 kg
Option	Protective housing IP69K
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	8.8 m <sup>1)</sup>
Minimum range	≥ 0 m
Operating range	6.3 m
Response time	8.2 ms <sup>2)</sup>

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

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

## INTERFACES

IO-Link	✓, IO-Link V1.1 Data transmission rate 230,4 kbit/s (COM3) Maximum cable length 20 m Cycle time 2.3 ms VendorID 26 DeviceID HEX 800068 DeviceID DEC 8388712 Process data length 32 Byte (TYPE_2_V) <sup>1)</sup>
-	✓, Current
Inputs/outputs	2 x analog + 2 x Q (IO-Link)
Analog output	Q <sub>A1</sub> , Q <sub>A2</sub> Number 2 Type Current output Current 4 mA ... 20 mA
Digital output	Q <sub>1</sub> , Q <sub>2</sub> Number 2
Digital input	In <sub>1</sub> Number 1

<sup>1)</sup> For an IO-Link master with V1.0, reverts 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: 150,000 lx <sup>1)</sup> Indirect: 200,000 lx <sup>2)</sup>
Ambient operating temperature	-20 °C ... +55 °C

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

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

Ambient temperature, storage	-40 °C ... +70 °C
------------------------------	-------------------

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

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

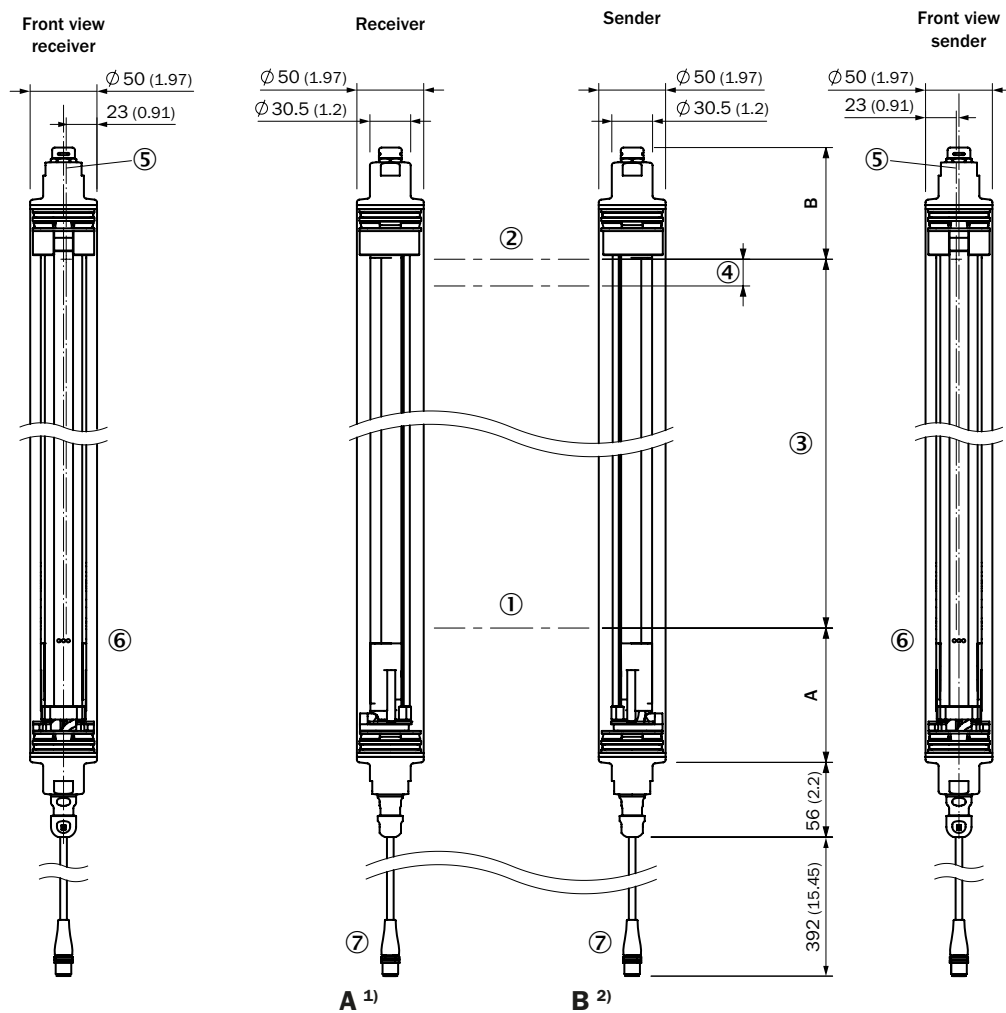
## SMART TASK

Smart Task name	Base logics
-----------------	-------------

## CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
cULus certificate	✓
IO-Link certificate	✓
Photobiological safety (IEC EN 62471)	✓

**DIMENSIONAL DRAWING**



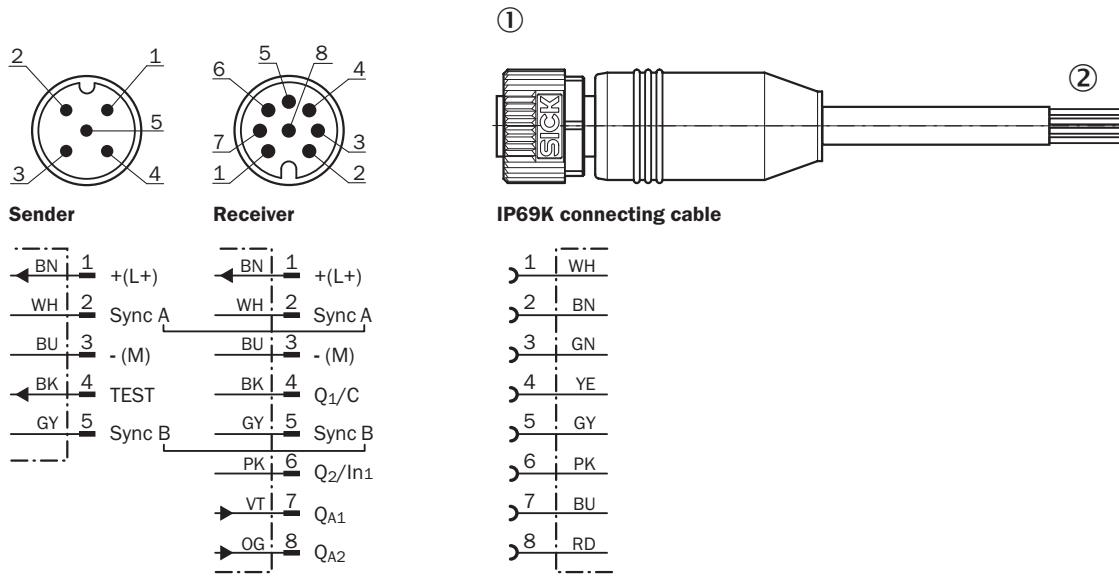
	A <sup>1)</sup>	B <sup>2)</sup>
<b>Beam separation 2.5 mm</b>	94.25 (3.71)	84.7 (3.33)
<b>Beam separation 5 mm</b>	95.5 (3.76)	83.6 (3.29)
<b>Beam separation 10 mm</b>	100.5 (3.96)	83.6 (3.29)
<b>Beam separation 20 mm</b>	100.5 (3.96)/110.5 (4.35) <sup>3)</sup>	83.6 (3.29)
<b>Beam separation 25 mm</b>	115.5 (4.55)	83.6 (3.29)
<b>Beam separation 30 mm</b>	120.5 (4.74)	83.6 (3.29)
<b>Beam separation 50 mm</b>	140.5 (5.53)	83.6 (3.29)

<sup>1)</sup> Distance: MLG-2 edge - first beam  
<sup>2)</sup> Distance: MLG-2 edge - last beam  
<sup>3)</sup> 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

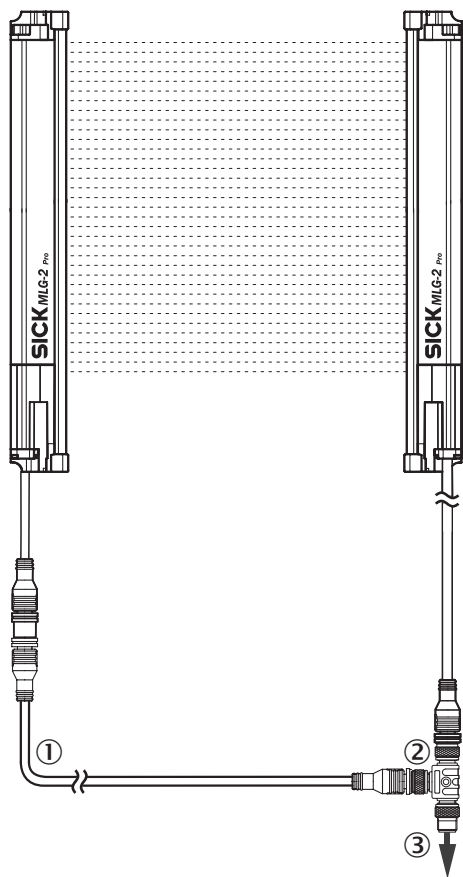
**CONNECTION TYPE AND DIAGRAM M12 MALE CONNECTOR, 5/8-PIN, ANALOG OUTPUTS Q<SUB>A</SUB> | YF2AP8-XXXPA4XLEAX (IP69K CONNECTING CABLE)**



① Valid for: YF2AP8-250PA4XLEAX (2116447), YF2AP8-020PA4XLEAX (2111888)

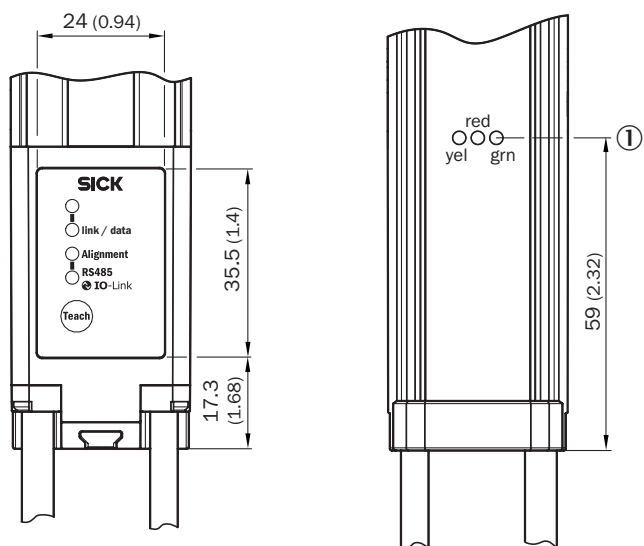
② For 8-pin sensor-actuator cables, the wire colors are not standardized. Therefore, please observe the pin assignment of the sensor and the cable in the respective data sheet.

**PINOUTS**



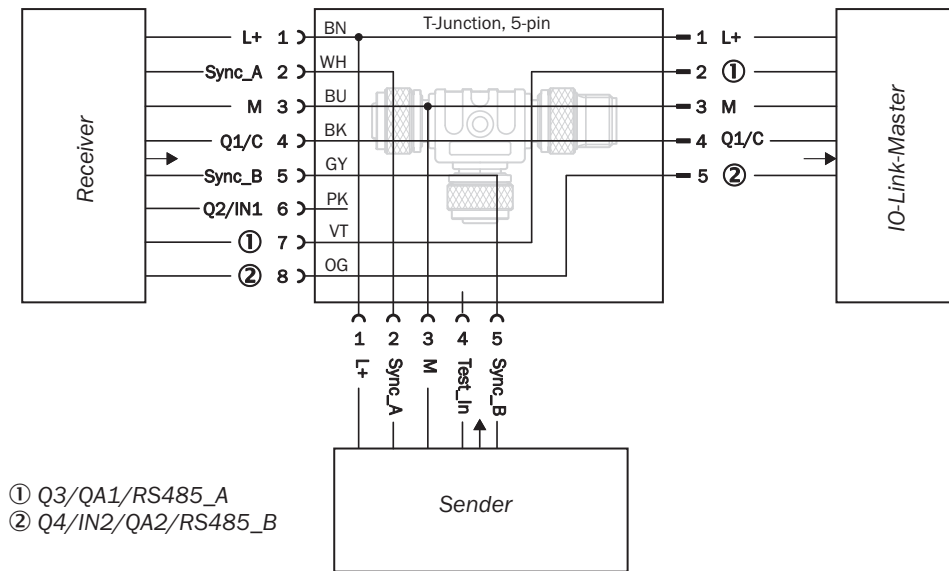
- ① Connection cable receiver (2096010)
- ② T-junctions
- ③ Connection cable (6020664)

**ADJUSTMENTS**

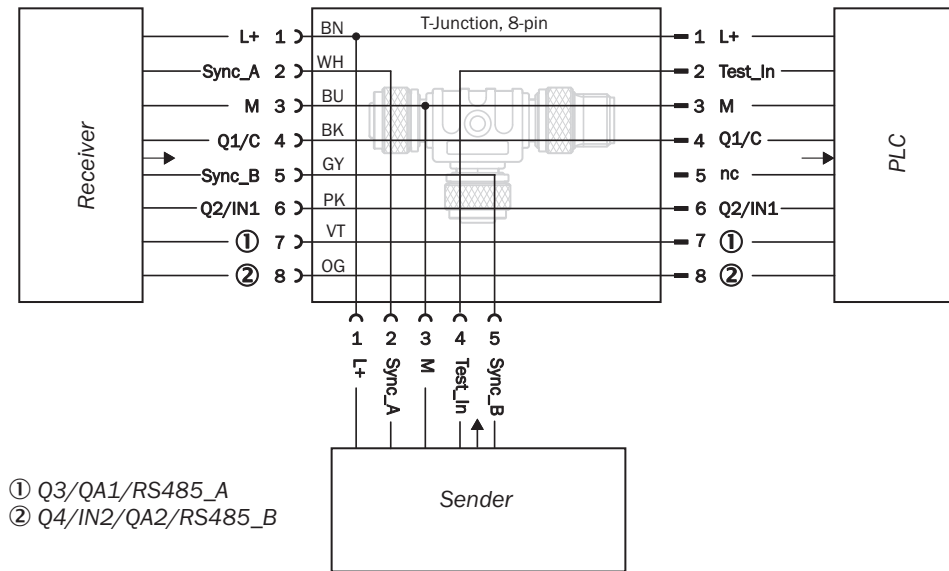


- ① status indicator: green, yellow, red LEDs

**CONNECTION DIAGRAM T-SPLITTER, IO-LINK MASTER**



**CONNECTION DIAGRAM T-SPLITTER, PLC**



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/1126072](http://www.sick.com/1126072)



SICK AG  
WALDKIRCH  
GERMANY  
SICK.COM

# 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.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

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

**SICK**  
Sensor Intelligence