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DATA SHEET

MLG10S-2390A10501

MLG-2
Automation light grids

SICK Sensor Intelligence

Illustration may differ

AUTOMATION LIGHT GRIDS

MLG10S-2390A10501

ORDERING INFORMATION

Type	part no.
MLG10S-2390A10501	1117491

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

DETAILED TECHNICAL DATA

FEATURES

Device version	Prime - Standard functionality
Sensor principle	Sender/receiver
Minimum detectable object (MDO)	14 mm [1]
Beam separation	10 mm
Type of synchronization	Optical
Number of beams	240
Detection height	2,390 mm
Software features (default)	
Q_{A1}	Height measurement (first beam)/FBB
Q_{A2}	Height measurement (last beam)/LBB
Q_t	Presence detection
inverted	–
Teach	–
Operating mode	
Standard	✓
Function	
Cross beam	✓
Beam blanking	✓
Applications	
Switching output	Object detection Object recognition Height classification
Data interface	Object detection Object height measurement
Included with delivery	1 × sender 1 × receiver
Part number of individual components	2121214 MLGR10S-2390A10201, 2083445 MLGT10S-2390F10101

[1] 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	67 mA [2]
Power consumption receiver	168 mA [2]
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
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
Protection class	III
Weight	5.049 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	7 m [1]
Minimum range	≥ 0.2 m
Operating range	5 m
Response time	26.4 ms

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

INTERFACES

IO-Link		✓, 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]
-		✓, Current

[1] 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)).

Inputs/outputs		2 x analog + 1 x Q (IO-Link)
Analog output		Q_{A1}, Q_{A2}
	Number	2
	Type	Current output
	Current	4 mA ... 20 mA
Digital output		Q_1
	Number	1

[1] 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: 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.

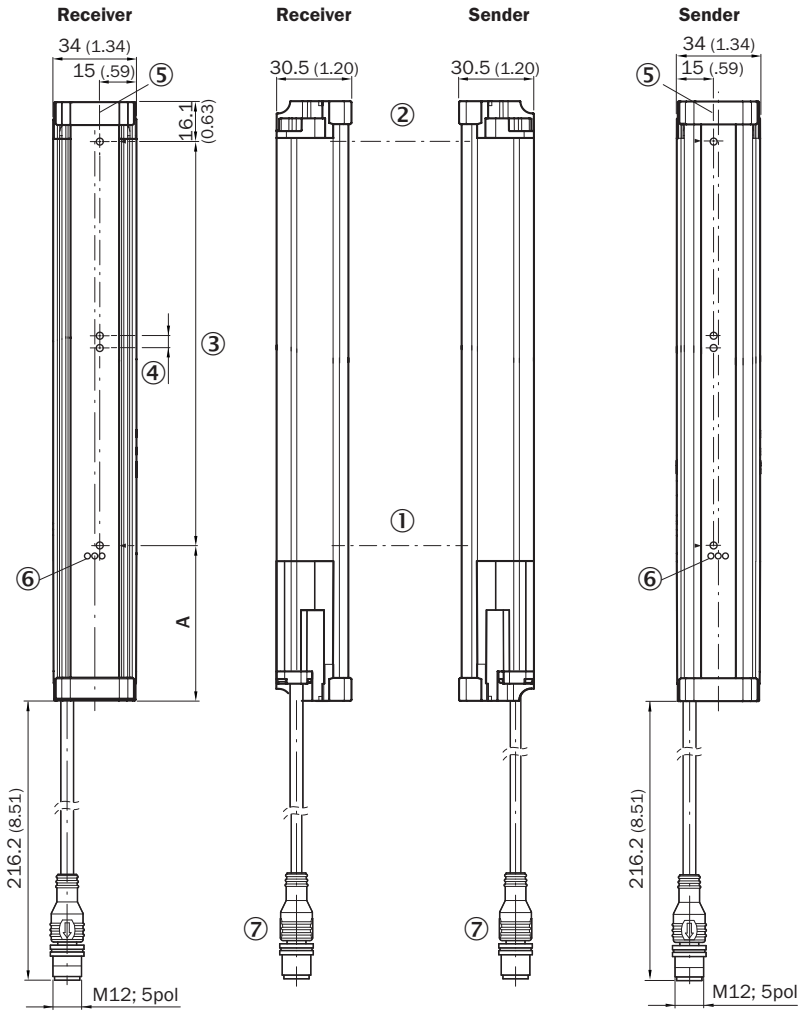
SMART TASK

Smart Task name	Base logics

CERTIFICATES

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

DIMENSIONAL DRAWING

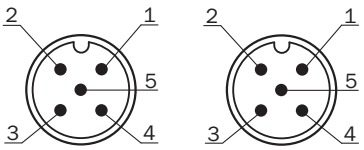


	A [1]
Beam separation 5 mm	63.3 (2.49)
Beam separation 10 mm	68.3 (2.69)
Beam separation 20 mm	68.3 (2.69)/78.3 (3.08) [2]
Beam separation 25 mm	83.3 (3.28)
Beam separation 30 mm	88.3 (3.48)
Beam separation 50 mm	108.3 (4.26)

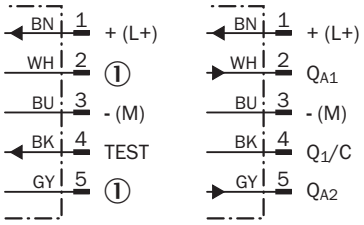
[1] Distance: MLG edge - first beam
[2] MLG20x-xx**40**: 68.3 mm
MLG20x-xx**80**: 78.3 mm

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

CONNECTION TYPE AND DIAGRAM CONNECTOR M12, 5-PIN, ANALOG OUTPUTS Q_A

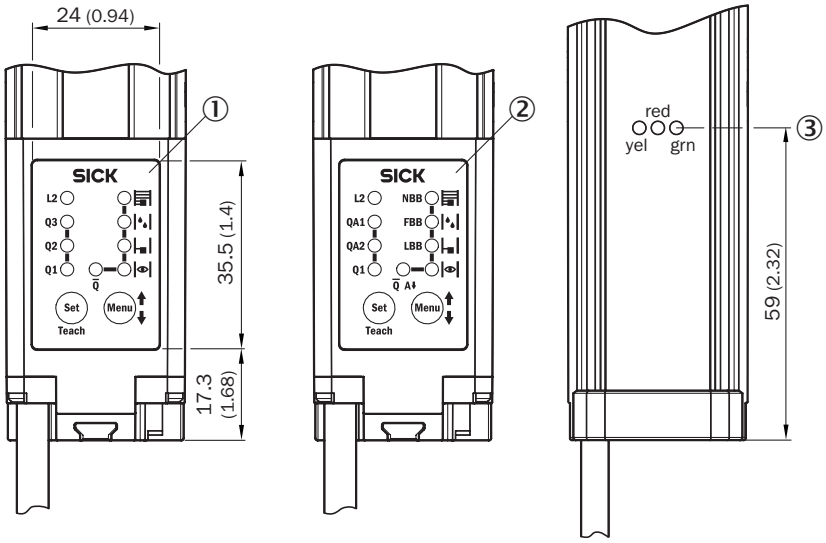


Sender **Receiver**



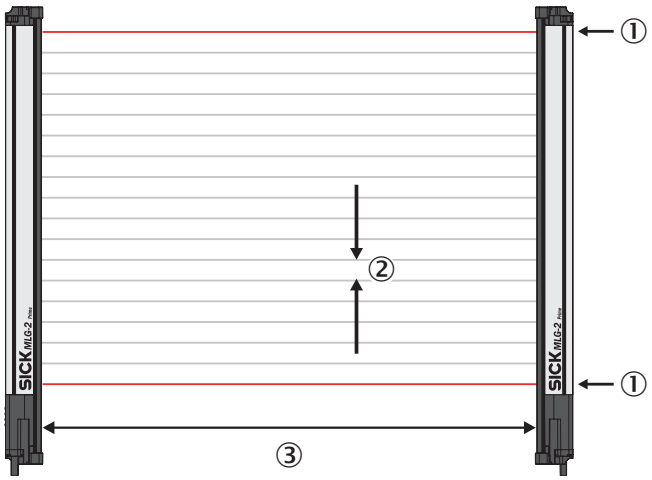
① Not assigned

ADJUSTMENTS



① MLG-2 with switching outputs Q
② MLG-2 with analog outputs Q_A
③ status indicator: green, yellow, red LEDs

FUNCTIONAL PRINCIPLE OPTICAL SYNCHRONIZATION



The sender and receiver synchronize with each other optically, so no electrical connection is necessary.
For this reason, either the first or the last beam of the automation light grid must remain clear.
If both beams are interrupted, no measurements can be taken.
① Optical synchronization
② Beam separation
③ scanning range

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/1117491

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