MLG1-0290F812

MLG

AUTOMATION LIGHT GRIDS

SICK
Sensor Intelligence.
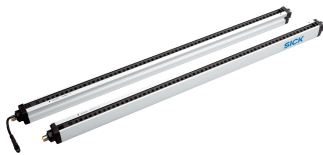
MLG1-0290F812 | MLG
AUTOMATION LIGHT GRIDS

Illustration may differ

Ordering information

Type	part no.
MLG1-0290F812	1022166

Other models and accessories ➜ www.sick.com/MLG

Detailed technical data

Features

Minimum detectable object (MDO)	Parallel beam, 15 mm [1]
Beam separation	10 mm
Number of beams	30
Detection height	290 mm
Configuration	Parameterization interface (measuring)

[1] MDO min. detectable object.

Mechanics/electronics

Light source	Infrared light
Wave length	880 nm
Supply voltage V_s	DC 18 V ... 30 V [1]
Power consumption sender	200 mA [2]
Power consumption receiver	190 mA [2]
Ripple	< 5 V_{pp}
Output current $I_{max.}$	≤ 100 mA [3]
Output load, capacitive	100 nF
Output load, Inductive	1 H
Initialization time	1 s
Switching output	3 x PNP
Inputs	1 x PNP
Dimensions (W x H x D)	34 mm x 364 mm x 29 mm
Connection type	Male connector M12, 8-pin
Housing material	Aluminum
Indication	7-segment display, 7-segment display
Synchronization	Cable
Enclosure rating	IP65 [4]
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] Typical value.

[4] Operating in outdoor condition only with a external protection housing.

Protection class	III
Weight	1.167 kg
Front screen	PMMA

[1] Without load.

[2] , Without load with 24 V.

[3] Typical value.

[4] Operating in outdoor condition only with a external protection housing.

Performance

Maximum range	7 m [1]
Minimum range	Parallel beam: ≥ 0 mm
Operating range	5 m
Response time	Parallel beam, 5.5 ms [2]

[1] No reserve for environmental issue and deterioration of the diode.
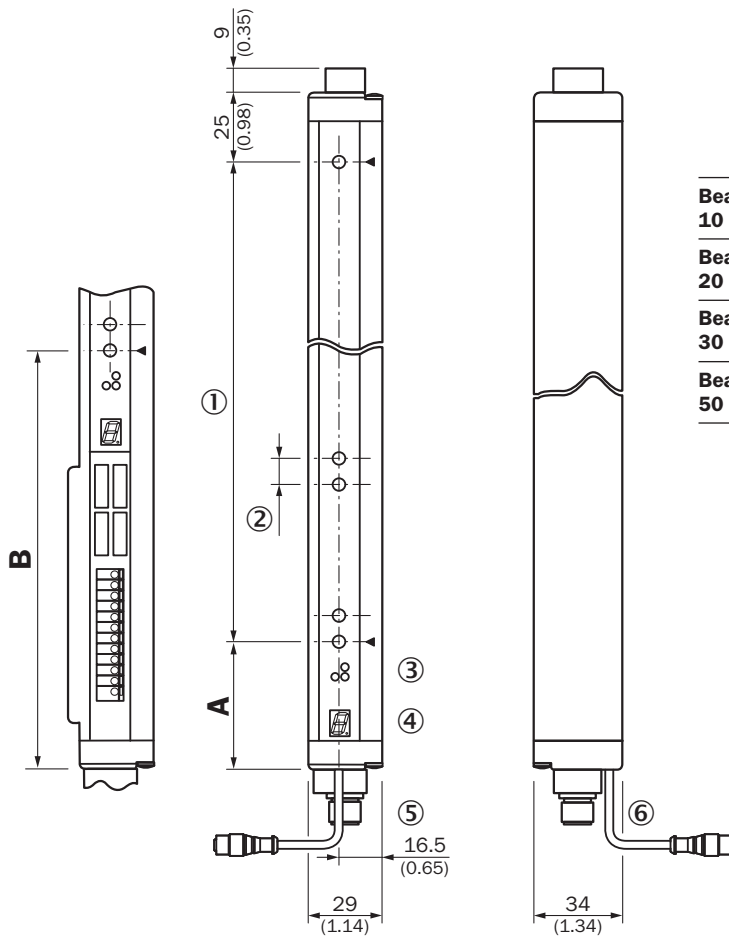
[2] With resistive load.

Ambient data

Shock resistance	10 g / IEC 68-2-29 / 16 ms
Vibration resistance	5 g, 10 Hz … 55 Hz (IEC 68-2-6)
EMC	EN 60947-5-2
Ambient light immunity	Direct: 12,500 lx [1] Indirect: 50,000 lx [1]
Ambient operating temperature	–25 °C … +55 °C
Ambient temperature, storage	–40 °C … +70 °C

[1] Sunlight.

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

	A	B
	Distance: MLG edge – first beam	
Beam separation MLG1 **10 mm**	49 (1.93)	160 (6.30)
Beam separation MLG2 **20 mm**	49 (1.93) [1] 59 (2.32) [2]	170 (6.69)
Beam separation MLG3 **30 mm**	69 (2.72)	180 (7.09)
Beam separation MLG5 **50 mm**	89 (3.50)	200 (7.87)

[1] With even number of beams.
[2] With odd number of beams.

Dimensions in mm (inch)
① Detection height (see optical performance)
② Beam separation (10, 20, 30, 50 mm)
③ status indicator: green, yellow, red LEDs
④ Indicator panel, 7-segment display
⑤ Terminals: M16 cable entry/connector M12, 12-pin
⑥ Configuration connector M8, 4-pin

Connection type and diagram

Sender

wht	1	Sync B
brn	2	L+
grn	3	Sync A
yel	4	nc ①
gra	5	TEST
pnk	6	nc ①
blu	7	M
red	8	nc ①

Receiver

wht	1	Sync B
brn	2	L+
grn	3	Sync A
yel	4	In_1/Teach-in
gra	5	Q_1
pnk	6	Q_2/RS-485 A
blu	7	M
red	8	Q_3/RS-485 B

① Not assigned
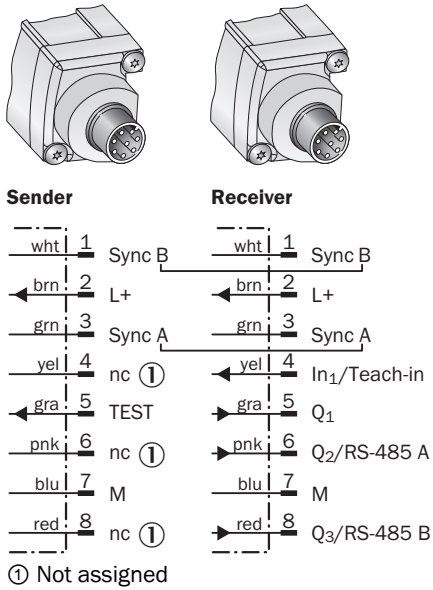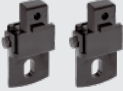
Setting options, receiver

◐ ●	①	H	⑤
◐ ○			
● ●	②	L	⑥
○ ○			
○ ●	③	P	⑦
● ○			
○ ●	④	S	⑧
○ ○			
		E	⑨

☀ blinks with 3 Hz
● on
○ out
◐ on or out
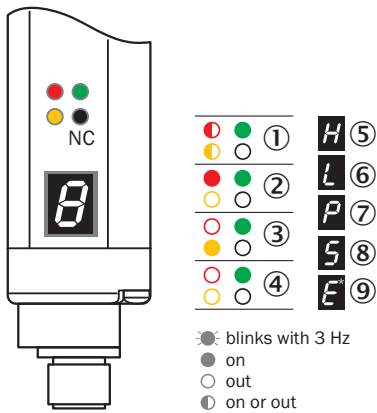
① Supply voltage
② Device error
③ No object in the light path
④ Contamination control
⑤ Blocked Beams Hold (BBH)
⑥ Activated teach-in procedure
⑦ ParamMode is active
⑧ standby
⑨ Error: E1 = sync. error; E2 = less receiver signal; E9 = defect

Recommended accessories

Other models and accessories ➜ www.sick.com/MLG

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Side mounting with T-nuts • **Items supplied:** 4 pieces, mounting hardware included	BEF-NUT-MLG	2023696
	• **Description:** Metal mounting bracket, compact • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Set, consisting of 4 pieces, without mounting hardware	BEF-WK-XLG	2029100
	• **Description:** Mounting kit 1, rotatable, swivel mount • **Material:** Plastic • **Details:** Plastic • **Packing unit:** 4 pieces • **Suitable for:** All protective field heights in small housing	BEF-2SMKEAKU4	2019649

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Female connector, M8, 4-pin, straight • **Connection type head B:** Female connector, D-Sub, 9-pin, straight • **Signal type:** Sensor/actuator cable • **Cable:** 2 m • **Description:** Sensor/actuator cable, unshielded • **Note:** Rectangular plug-in system, parameterization cable • **Application:** Zones with chemicals, Uncontaminated zones	YF8U14-020VA3FDSA9	2023695
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 8-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, shielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A28-020UA6M2A28	2096105
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 8-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, shielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A28-050UA6M2A28	2096106
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 8-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 10 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, shielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A28-100UA6M2A28	2096109
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A28-020VA6XLEAX	2096243
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A28-050VA6XLEAX	2096244
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 10 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A28-100VA6XLEAX	2096245
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A28-020VA6XLEAX	2096218
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A28-050VA6XLEAX	2096219
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 0.5 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A28-C50VA6XLEAX	2145694
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 3 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded	YF2A28-030VA6XLEAX	2145695

	Brief description	Type	part no.
	• **Application:** Zones with chemicals, Uncontaminated zones • **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 0.6 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A28-C60VA6XLEAX	2145388
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 1 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A28-010VA6XLEAX	2145389
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 10 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A28-100VA6XLEAX	2145391
	• **Connection type head A:** Female connector, M12, 8-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 3 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A28-030VA6XLEAX	2145390
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 0.6 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A28-C60VA6XLEAX	2145385
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 1 m, 8-wire, PVC • **Description:** Sensor/actuator cable, shielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A28-010VA6XLEAX	2145386

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."

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