PRODUCT INFORMATION

Advanced Automation Light Grids

For demanding requirements

SICK
Sensor Intelligence.

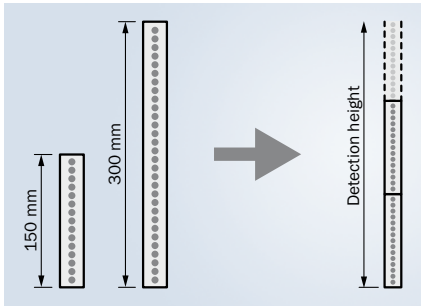
Modular multi talents – personalize your own light grid

Whether pre-configured or programmed by the customer, the range of possibilities is endless with advanced automation light grids. On request, SICK will fully customize your light grid – both hardware and software.

Modular construction – enables you to decide for yourself!

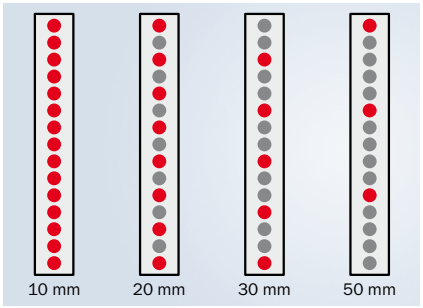
Advanced automation light grids are configured using a modular design principle. Detection height, resolution and range can be chosen to meet your requirements.

Detection height
Minimum = 100 mm
Maximum = 3,140 mm



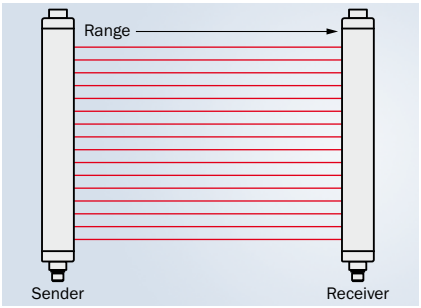
Simple interconnection of optics modules with lengths of 150 mm or 300 mm. Monitoring height determines how many modules to use.

Beam separation
Minimum = 10 mm
Maximum = 50 mm



Beam separation varies depending on how the optics modules are equipped with LEDs. The smaller the beam separation, the higher the resolution will be. There is also an MLG variant with a beam separation of 25 mm.

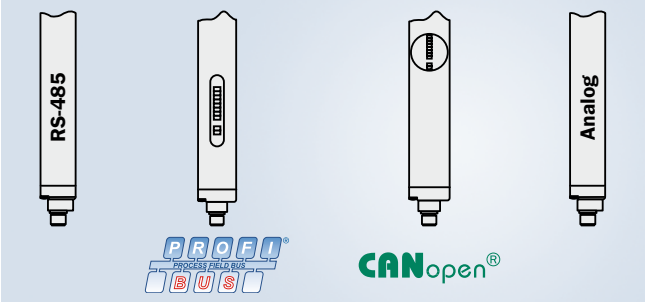
Range
Minimum = 0 m *)
Limiting scanning range = 12 m



A choice of ranges completes the modular hardware configuration.

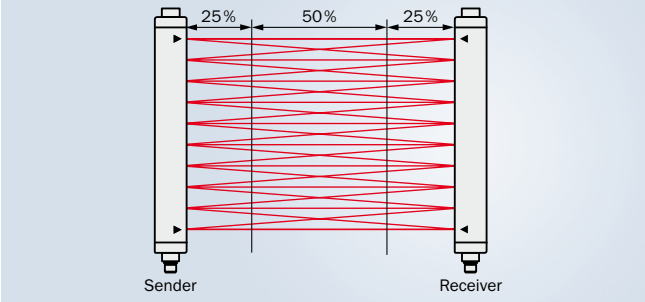
*) With parallel beam.

Interfaces/bus functionality



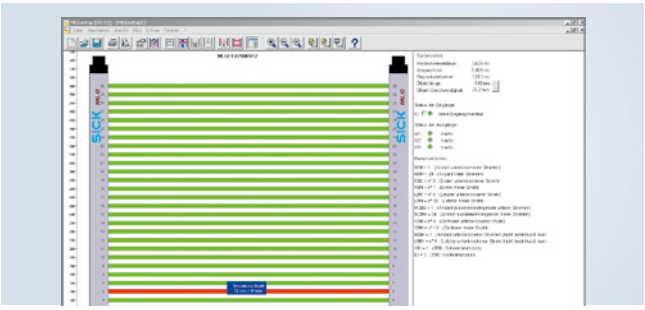
Interfaces integrated in each device mean there is no need for any additional hardware. Addressing of each bus-compatible MLG is via a separate address.

Cross beam function



Due to the cross beam function, the resolution of the light grids can be increased even further. The resolution in the central area between sender and receiver is twice as high. This enables even small objects to be reliably detected.

Basic software functions



MLG setup software comes with multitude of pre-programmed basic functions e.g., “Last Beam Blocked (LBB)” for measurement of heights.

Standard or programmable

The MLG Standard is used for **switching** applications, however, programmable variants are used for **measuring** applications.

XLG – anti-glare light grid with light protection factor

The XLG advanced automation light grid from SICK is outstanding for use in **outdoor areas**. It is one of the first **anti-glare light grids** on the market.
A special optic ensures each light beam arrives at the receiver and is detected.

Yet, that's not all:
As an optional accessory, SICK has developed a **protection housing**, which provides additional protection against dirt for the light grid.

MLG – Logistics

Modular light grids (**MLG**) are used in various logistics areas. Particularly in automatic warehousing systems, checking for projections with height measurement is essential. In mail distribution centers, they determine the position of parcels on the conveyor and transfer the data to a PLC via bus systems. With their integrated basic functions, they enable dynamic warehousing systems to optimize workflow and space.

MLG – Airports

MLG automation light grids are used at turnstiles in airports to ensure no unauthorized persons enter secure airport areas or exit the turnstiles in the wrong direction. They also make passing objects over the turnstiles virtually impossible.

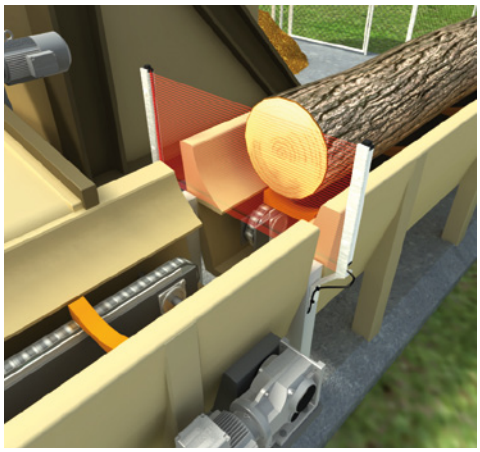
MLG – Warehousing

To attain optimal storage compression while enabling flexible warehousing strategies at the same time, it is essential that goods for automatic storage are checked for height and to ensure there is no overhang. That way they can be assigned to the correct storage space and ensure collision-free lift transportation. The **MLG** automation light grid combined with “tray overhang” software – specially developed by SICK – enable relevant object dimensions to be captured.

XLG – Wood

Log measurement
XLG advanced automation light grids are used to measure the length and diameter of logs. Using the acquired data, any large roots on the log are detected and the log is then fed via the bypass to a butt reducer.

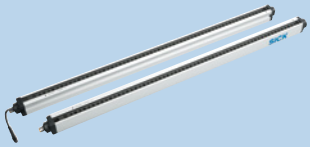
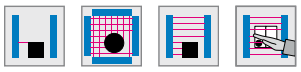
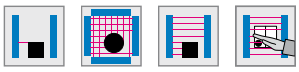
Diameter detection
The **XLG** advanced automation light grid detects log diameter so that the log is centered in the bark stripper.

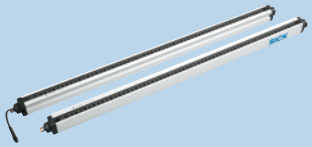
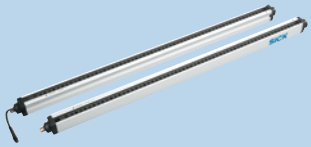
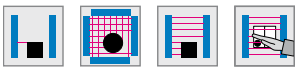
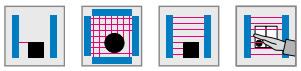


XLG – Traffic

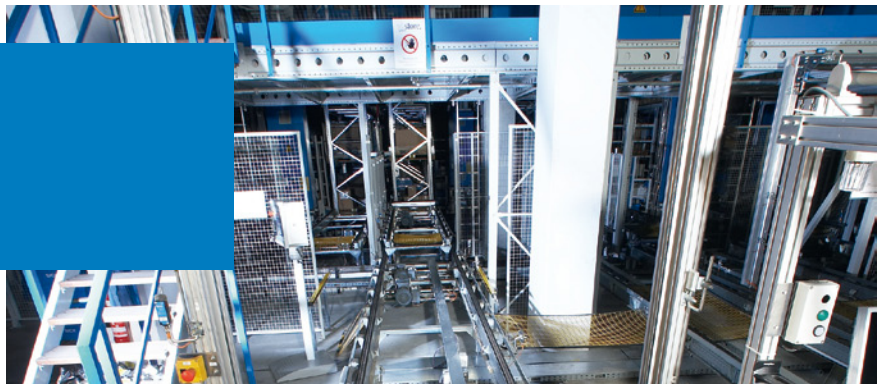
Key tasks for toll systems are the fast separation of vehicles and their unique classification. The **XLG's** absolute immunity to infrared light and sunlight, the optional heated protective housing and its scratch- and weather-resistant front screen ensure a high level of reliability over long periods of time, even in the most adverse outdoor conditions.

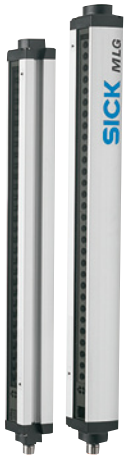
Product family overview

				
	MLG Standard	**MLG Programmable**	**MLG PROFIBUS**	
	For switching applications	For customized solutions	For easy integration	
Technical data overview				
Beam separation	10 mm 20 mm 30 mm 50 mm	10 mm 20 mm 30 mm 50 mm	10 mm 20 mm 30 mm 50 mm	
Detection height	100 mm ... 3,140 mm	100 mm ... 3,140 mm	100 mm ... 3,140 mm	
Working range	5 m 8.5 m	5 m 8.5 m	5 m 8.5 m	
Switching output	PNP NPN	PNP NPN RS-485	PNP PROFIBUS DP	
Connection type	Connector M12, 5-pin	Connector M12, 8-pin Connector M12, 12-pin Terminals	Connector M12, 5-pin Connector M12, 8-pin	
Response time	Parallel beam: 1.5 ms ... 37 ms Cross beam: depending on type	Parallel beam: 1.5 ms ... 37 ms Cross beam: depending on type	Parallel beam: 9 ms ... 57 ms Cross beam: depending on type	
Dimensions (W x H x D)	34 mm x 214 mm x 29 mm ... 34 mm x 3,335 mm x 29 mm	34 mm x 214 mm x 29 mm ... 34 mm x 3,335 mm x 29 mm	34 mm x 214 mm x 29 mm ... 34 mm x 3,335 mm x 29 mm	
At a glance				
	• Up to 3 x PNP or NPN switching outputs • Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions • Working range up to 8.5 m • Detection heights of over 3 m and up to 240 beams possible • Short response time < 3 ms • Automatic teach during power on	• Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions • Working range up to 8.5 m • Detection heights of over 3 m and up to 240 beams possible • Short response time < 3 ms • External teach-in for optimal sensitivity settings • Easy-to-use setup software for customized applications	• Integrated PROFIBUS interface • Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions • Working range up to 8.5 m • Detection heights of over 3 m and up to 240 beams possible • Short response time < 9 ms • External teach-in for optimal sensitivity settings	
Further information				
Applications				
Detailed information	➜8	➜20	➜32	

			
	MLG CANopen	**MLG Analog Output**	**XLG Programmable**
	For fast integration	Easy measuring with analog outputs	Reliable measurement even in sunlight
	10 mm 20 mm 30 mm 50 mm	10 mm 20 mm 30 mm 50 mm	10 mm 20 mm 30 mm 50 mm
	100 mm ... 3,140 mm	100 mm ... 3,140 mm	100 mm ... 1,990 mm
	5 m 8.5 m	5 m 8.5 m	5 m
	PNP CANopen	PNP NPN 2 x analog outputs	PNP NPN RS-485
	Connector M12, 8-pin	Connector M12, 8-pin Connector M12, 12-pin Terminals	Connector M12, 8-pin Terminals
	Parallel beam: 9 ms ... 57 ms Cross beam: depending on type	Parallel beam: 1.5 ms ... 37 ms Cross beam: depending on type	Parallel beam: 1.5 ms ... 24 ms Cross beam: depending on type
	34 mm x 214 mm x 29 mm ... 34 mm x 3,335 mm x 29 mm	34 mm x 214 mm x 29 mm ... 34 mm x 3,335 mm x 29 mm	34 mm x 214 mm x 29 mm ... 34 mm x 2,125 mm x 29 mm
	• Integrated CANopen interface • Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions • Working range up to 8.5 m • Detection heights of over 3 m and up to 240 beams possible • Short response time of < 9 ms • Teach algorithm for optimal sensitivity settings in difficult applications	• Two analog outputs: voltage to current • Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions • Working range up to 8.5 m • Detection heights of over 3 m and up to 240 beams possible • Short response time of < 3 ms possible • Teach algorithm for optimal sensitivity settings in difficult applications, such as measuring translucent objects • Easy-to-use setup software for customized applications with new features • Software tools, such as height measurement, zoning, hole detection, and presence control make implementation of complex solutions achievable	• Up to 6 x PNP or NPN switching outputs and two switching inputs • Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions • Working range up to 5 m • Detection heights of over 3 m and up to 150 beams possible • Short response time < 3 ms • External teach-in for optimal sensitivity settings • Highest immunity to sunlight • Scratch-resistant front lens
			
	→ 44	→ 54	→ 64

For switching applications





Product description

The MLG Standard offers a high level of switching flexibility in applications. The standard models perform like a typical through-beam photoelectric sensor and provide an output if any of the beams is interrupted. They offer fast response time and are highly modular. A range of different resolutions and detection heights are available. In addition, the MLG Standard automation light grid offers a wide spectrum of application options and excellent durability.

At a glance

- Up to 3 x PNP or NPN switching outputs
- Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions
- Working range up to 8.5 m
- Detection heights of over 3 m and up to 240 beams possible
- Short response time < 3 ms
- Automatic teach during power on

Your benefits

- Easy-to-see status information helps avoid interrupting operation, saves costs
- Different beam separation options, detection heights and output configurations ensure a reliable solution
- Integrated interfaces reduce cabling time and costs
- A fully modular system guarantees the optimal solution for the customer

Additional information

→ www.mysick.com/en/MLG_Standard

8014656/2011-09-01
Subject to change without notice

Detailed technical data

Features

Technology	Sender/receiver
Task	Measurement light grid
Minimum detectable object (MDO)	Parallel beam: 15 mm ... 60 mm Cross beam: 10 mm ... 35 mm
Number of beams	3 ... 240
Configuration	No configuration

Performance

Maximum range [1]	7 m 12 m
Minimum range	Parallel beam: ≥ 0 mm Cross beam: 200 mm (10 mm beam separation) Cross beam: 360 mm (20 mm beam separation) Cross beam: 520 mm (30 mm beam separation) Cross beam: 840 mm (50 mm beam separation)
Response time [2]	Parallel beam: 1.5 ms ... 37 ms Cross beam: depending on type

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

[2] With resistive load.

Interfaces

Inputs [1]	1 x PNP 1 x NPN

[1] 1 test input for sender.

Mechanics/electronics

Wave length	IR, 880 nm
Supply voltage V_S	DC 18 V ... 30 V
Power consumption sender [1]	< 140 mA + 2 mA per beam
Power consumption receiver [1]	< 100 mA + 3 mA per beam
Ripple	< 5 V_{SS}
Output current $I_{max.}$	100 mA
Output load capacitive	100 nF
Output load inductive	1 H
Initialization time	1 s
Dimensions (W x H x D)	34 mm x 214 mm x 29 mm ... 34 mm x 3,335 mm x 29 mm
Housing material	Aluminum
Indication	LED, 7-segment display
Synchronization	Cable
Enclosure rating	IP 65
Circuit protection	U_V connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Weight	0.73 kg ... 7.722 kg
Front screen	PMMA

[1] Without load with 24 V.

Ambient data

Protection class	III
EMC	EN 60947-5-2
Ambient temperature	Operation: –25 °C ... +55 °C Storage: –40 °C ... +70 °C
Ambient light safety [1]	Direct: 12,500 lx Indirect: 50,000 lx
Vibration resistance	5 g, 10 Hz ... 55 Hz (IEC 68-2-6)
Shock load	10 g / DIN EN 60068-2-29 / 16 ms

[1] Sunlight.

Specific data

Connection type	Evaluation beams	Switching output	Model name	Ordering information
Connector M12, 5-pin	Parallel beam	1 x PNP	MLGx-xxxxF5x1	10
		1 x NPN	MLGx-xxxxE5x1	11
	Cross beam	1 x PNP	MLGx-xxxxF5x3	11

Ordering information

The part numbers below show a selection of our common configurations and represent only a portion of the product portfolio. The type code on page 12 indicates all possible configurations that can be ordered.

Please note: Sender and receiver are only offered as a pair.

MLGx-xxxxF5x1

- **Connection type:** Connector M12, 5-pin
- **Evaluation beams:** Parallel beam
- **Switching output:** 1 x PNP

Beam separation	Working range	Detection height	Model name	Part no.
10 mm	5 m	140 mm	MLG1-0140F511	1024259
		590 mm	MLG1-0590F511	1025650
		1,040 mm	MLG1-1040F511	1046656
		1,490 mm	MLG1-1490F511	1041802
		1,940 mm	MLG1-1940F511	1041319
		2,090 mm	MLG1-2090F511	1044681
	8.5 m	140 mm	MLG1-0140F521	1026370
		290 mm	MLG1-0290F521	1024123
20 mm	5 m	140 mm	MLG2-0140F511	1024306
		280 mm	MLG2-0280F511	1023372
		440 mm	MLG2-0440F511	1023560
		580 mm	MLG2-0580F511	1053924
		880 mm	MLG2-0880F511	1041150
		1,180 mm	MLG2-1180F511	1040303
		1,480 mm	MLG2-1480F511	1048172
		2,080 mm	MLG2-2080F511	1044765
		2,380 mm	MLG2-2380F511	1023572

Beam separation	Working range	Detection height	Model name	Part no.
30 mm	5 m	270 mm	MLG3-0270F511	1023671
		420 mm	MLG3-0420F511	1022103
		570 mm	MLG3-0570F511	1049023
		1,470 mm	MLG3-1470F511	1022102
		1,920 mm	MLG3-1920F511	1052856
		2,070 mm	MLG3-2070F511	1053905
		2,370 mm	MLG3-2370F511	1052857
		2,670 mm	MLG3-2670F511	1047287
	8.5 m	120 mm	MLG3-0120F521	1023008
		870 mm	MLG3-0870F521	1023003
50 mm	5 m	250 mm	MLG5-0250F511	1025852
		400 mm	MLG5-0400F511	1023440
		700 mm	MLG5-0700F511	1022867
		1,000 mm	MLG5-1000F511	1023538
		1,450 mm	MLG5-1450F511	1023738
		1,900 mm	MLG5-1900F511	1029193
		2,050 mm	MLG5-2050F511	1040125
		2,350 mm	MLG5-2350F511	1040304
		2,650 mm	MLG5-2650F511	1046670
	8.5 m	700 mm	MLG5-0700F521	1025854
		1,000 mm	MLG5-1000F521	1048022

MLGx-xxxxE5x1

- **Connection type:** Connector M12, 5-pin
- **Evaluation beams:** Parallel beam
- **Switching output:** 1 x NPN

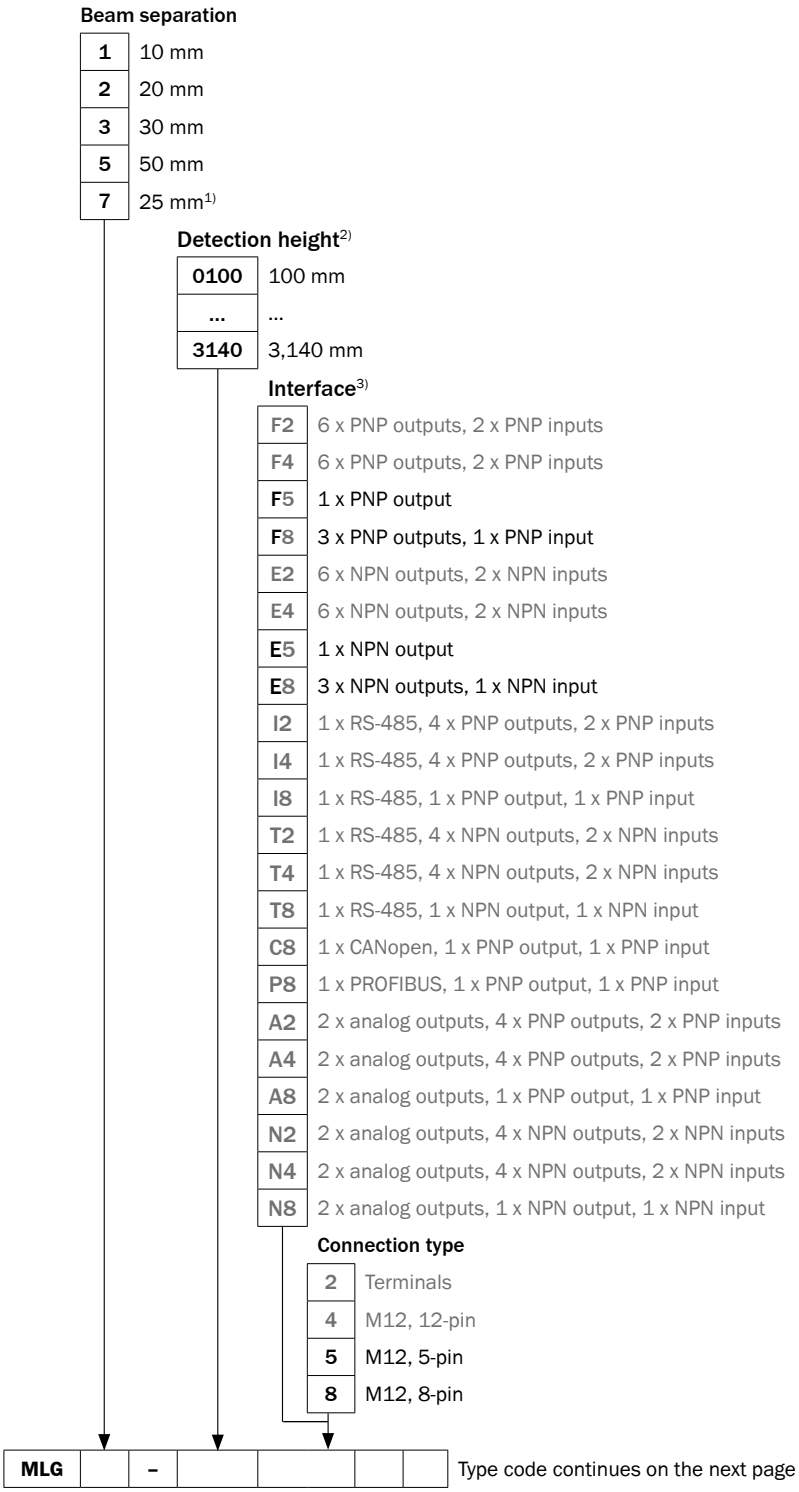
Beam separation	Working range	Detection height	Model name	Part no.
20 mm	5 m	140 mm	MLG2-0140E511	1028564
50 mm	5 m	400 mm	MLG5-0400E511	1023766
		1,450 mm	MLG5-1450E511	1042392

MLGx-xxxxF5x3

- **Connection type:** Connector M12, 5-pin
- **Evaluation beams:** Cross beam
- **Switching output:** 1 x PNP

Beam separation	Working range	Detection height	Model name	Part no.
10 mm	5 m	1,340 mm	MLG1-1340F513	1054844
20 mm	5 m	740 mm	MLG2-0740F513	1022164
30 mm	5 m	2,220 mm	MLG3-2220F513	1022060
50 mm	5 m	1,000 mm	MLG5-1000F513	1022649
	8.5 m	550 mm	MLG5-0550F523	1044284

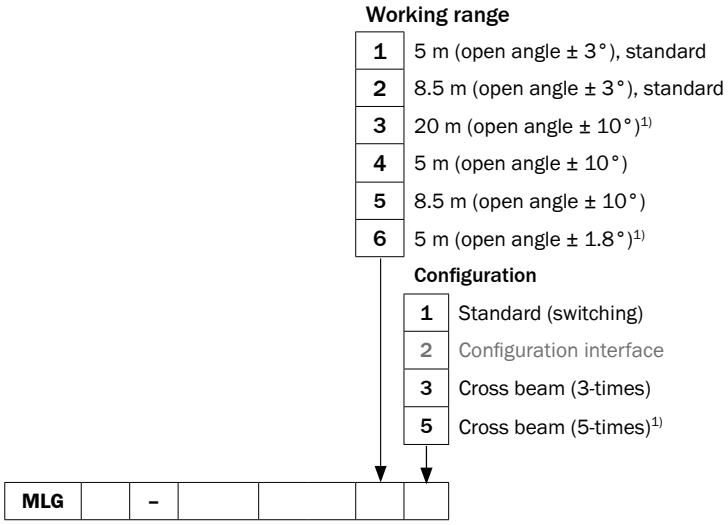
Type code



1) On demand.

2) Max. 240 beams possible.

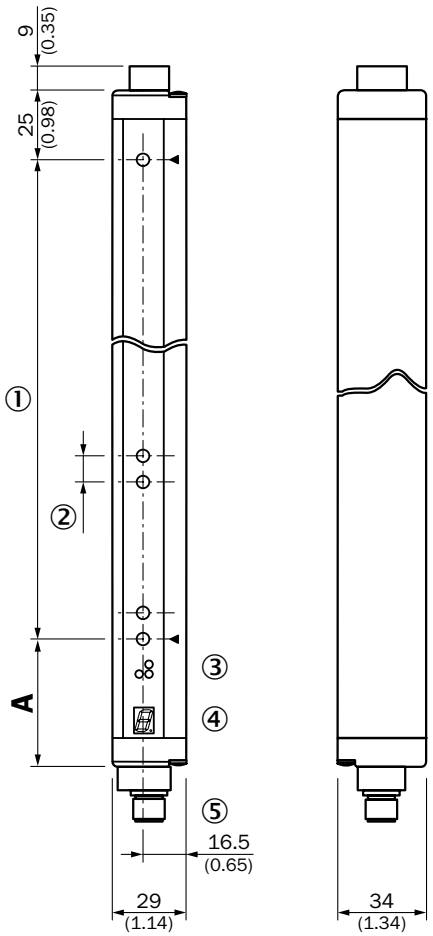
3) Number refers to possible connection type.


Working range
1
5 m (open angle ± 3°), standard
2
8.5 m (open angle ± 3°), standard
3
20 m (open angle ± 10°)1)
4
5 m (open angle ± 10°)
5
8.5 m (open angle ± 10°)
6
5 m (open angle ± 1.8°)1)
Configuration
1
Standard (switching)
2
Configuration interface
3
Cross beam (3-times)
5
Cross beam (5-times)1)
MLG
–

1) On demand.

Dimensional drawing

MLGx-xxxxE5x1
MLGx-xxxxF5x1



All dimensions in mm (inch)

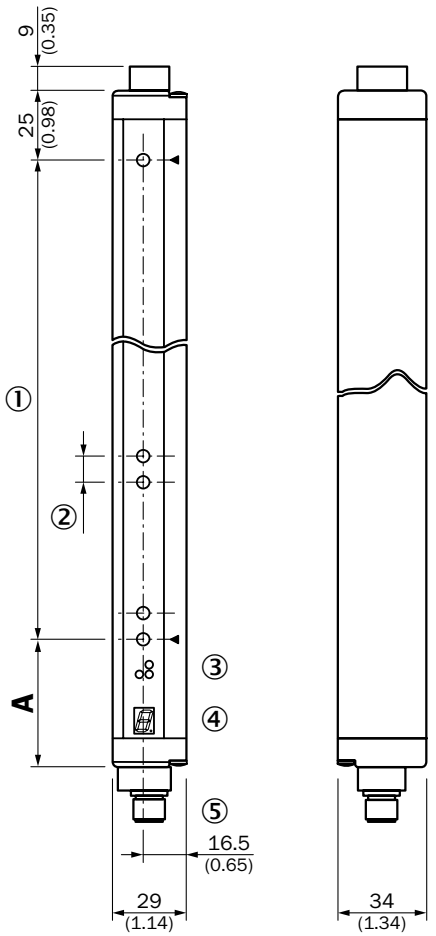
① Detection height (see optical performance)
② Beam separation (10, 20, 30, 50 mm)
③ Status indicator: LEDs green, yellow, red
④ Indicator panel, 7-segment display
⑤ Connector M12, 5-pin

Dimensions in mm (inch)

	A Distance: MLG edge – first beam
Beam separation 10 mm	49 (1.93)
Beam separation 20 mm	49 (1.93) [1] / 59 (2.32) [2]
Beam separation 30 mm	69 (2.72)
Beam separation 50 mm	89 (3.50)

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

MLGx-xxxxE5x3
MLGx-xxxxF5x3

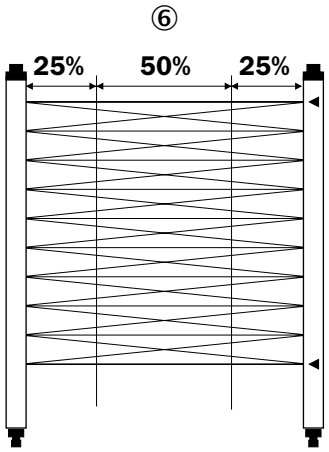


All dimensions in mm (inch)

Dimensions in mm (inch)

	A Distance: MLG edge – first beam
Beam separation 10 mm	49 (1.93)
Beam separation 20 mm	49 (1.93) [1] / 59 (2.32) [2]
Beam separation 30 mm	69 (2.72)
Beam separation 50 mm	89 (3.50)

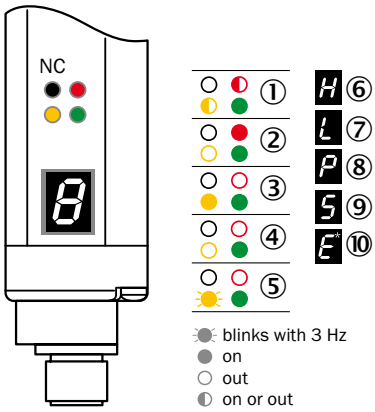
[1] With even number of beams.
[2] With odd number of beams.



① Detection height (see optical performance)
② Beam separation (10, 20, 30, 50 mm)
③ Status indicator: LEDs green, yellow, red
④ Indicator panel, 7-segment display
⑤ Connector M12, 5-pin
⑥ Cross beam function

Adjustments

Receiver, LED indication

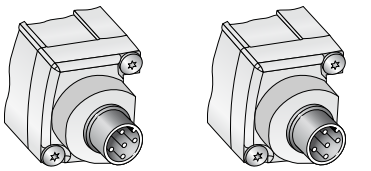


① Supply voltage
② Device error
③ No object in the light path
④ Object in the light path
⑤ Pollution indication or alignment aid
⑥ Blocked Beams Hold (BBH)
⑦ Activated teach-in procedure
⑧ ParamMode is active
⑨ Standby
⑩ Error: E1 = sync. error; E2 = less receiver signal; E9 = defect

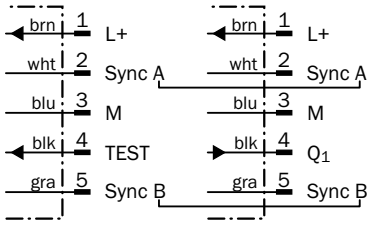
Connection type and diagram

Sender
Connector
M12, 5-pin

Receiver
Connector
M12, 5-pin



Sender **Receiver**



Recommended accessories

Complete accessories for the MLG Standard include: 1 female connector cable, 1 bracket, 1 t-junction and 1 connection cable.

Please take note of the number of pins on the connector when choosing connection cables.

Adapters/distributors (without cable)

	Brief description	Model name	Part no.
	T-junction, 1x plug M12, 5-pin and 2x socket M12, 5-pin	SBO-02G12-SM	6029305

Mounting brackets/plates

	Brief description	Model name	Part no.
	Mounting kit 1, adjustable, swivel mount, for all detection heights in small housings, plastic, without mounting material, 4 pcs	BEF-2SMKEAKU4	2019649
	Mounting kit, side bracket including four sliding nuts for MLG/ELG/HLG, 4 pcs	BEF-NUT-MLG	2023696
	Mounting bracket, steel, zinc coated, without mounting material, 4 pcs	BEF-WK-XLG	2029100

Plug connectors and cables

	Brief description	Model name	Part no.
 Illustration may differ	Female connector, M12, 5-pin, straight, 2 m, PVC	DOL-1205-G02M	6008899
	Female connector, M12, 5-pin, straight, 5 m, PVC	DOL-1205-G05M	6009868
	Female connector, M12, 5-pin, straight, 10 m, PVC	DOL-1205-G10M	6010544
	Female connector, M12, 5-pin, straight, 15 m, PVC	DOL-1205-G15M	6029215
 Illustration may differ	Female connector, M12, 5-pin, angled, 2 m, PVC	DOL-1205-W02M	6008900
	Female connector, M12, 5-pin, angled, 5 m, PVC	DOL-1205-W05M	6009869
	Female connector, M12, 5-pin, angled, 10 m, PVC	DOL-1205-W10M	6010542
	Connection cable, M12, 5-pin, plug straight/socket straight, 5 m, PUR halogen free	DSL-1205-G05MC	6029282
	Connection cable, M12, 5-pin, plug straight/socket straight, 10 m, PUR halogen free	DSL-1205-G10MC	6038954

For additional accessories including dimensional drawings, please see page 72.

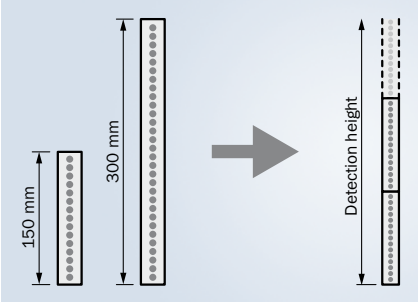
Special functions

Modular construction

The advanced automation light grids are using a modular design principle. Every optics module has 15 beams. If you want to calculate the detection height, you have to subtract the single beam separation of the overall height of the optics modules.

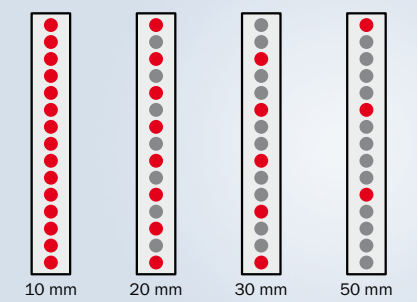
E.g. 3 x 150 mm = 450 mm (overall height)
450 mm – 10 mm (beam separation) = 440 mm (detection height)

Detection height
Minimum = 100 mm
Maximum = 3,140 mm



Simple interconnection of optics modules with lengths of 150 mm or 300 mm. Monitoring height determines how many modules to use.

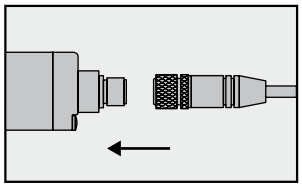
Beam separation
Minimum = 10 mm
Maximum = 50 mm



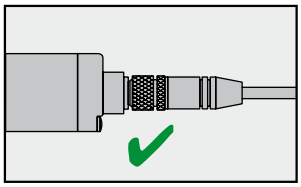
Beam separation varies depending on how the optics modules are equipped with LEDs. The smaller the beam separation, the higher the resolution will be. There is also an MLG variant with a beam separation of 25 mm.

Plug & Play

1. Plug in and tighten the ring of the connector



2. Device is ready for use



For customized solutions

Additional information

Product description

The programmable version of the MLG automation light grid is ideal for measurement applications, such as variable height measurement or for classifying objects. The programmable models include easy-to-use software, which enables extreme flexibility. The software quickly and easily turns a standard sensor into a custom problem solver, reducing the number of sensors, PLCs and programming required.The MLG offers many different configuration options and interfaces. It provides a choice of different detection heights and beam separation. The MLG can be supplied pre-programmed by SICK. For optimum installation, the customer can choose between different mounting brackets.

At a glance

- Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions
- Working range up to 8.5 m
- Detection heights of over 3 m and up to 240 beams possible
- Short response time < 3 ms
- External teach-in for optimal sensitivity settings
- Easy-to-use setup software for customized application

Your benefits

- Intelligent evaluation software saves costs by quickly and easily turning a standard sensor into a custom problem solver, reducing the number of sensors, PLCs and programming required
- Easy-to-see status information helps avoid interrupting operation
- Different beam separation options, detection heights and output configurations ensure a reliable solution
- 6 discrete outputs for custom solutions
- Robust metal housing stands up to tough environments and reduces downtime

→ www.mysick.com/en/MLG_Programmable

Detailed technical data

Features

Technology	Sender/receiver
Task	Measurement light grid
Minimum detectable object (MDO)	Parallel beam: 15 mm ... 60 mm
Number of beams	3 ... 240
Configuration	Configuration interface (measuring)

Performance

Maximum range [1]	7 m 12 m
Minimum range	Parallel beam: ≥ 0 mm
Response time [2]	Parallel beam: 1.5 ms ... 37 ms Cross beam: depending on type

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

[2] With resistive load.

Interfaces

Inputs	2 x PNP 2 x NPN

Mechanics/electronics

Wave length	IR, 880 nm
Supply voltage V_S	DC 18 V ... 30 V
Power consumption sender [1]	< 140 mA + 2 mA per beam
Power consumption receiver [1]	< 100 mA + 3 mA per beam
Ripple	< 5 V_{SS}
Output current $I_{max.}$	100 mA
Output load capacitive	100 nF
Output load inductive	1 H
Initialization time	1 s
Dimensions (W x H x D)	34 mm x 214 mm x 29 mm ... 34 mm x 3,335 mm x 29 mm
Housing material	Aluminum
Indication	LED, 7-segment display
Synchronization	Cable
Enclosure rating	IP 65
Circuit protection	V_S connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Weight	0.73 kg ... 7.722 kg
Front screen	PMMA

[1] Without load with 24 V.

Ambient data

Protection class	III
EMC	EN 60947-5-2
Ambient temperature	Operation: –25 °C ... +55 °C Storage: –40 °C ... +70 °C
Ambient light safety [1]	Direct: 12,500 lx Indirect: 50,000 lx
Vibration resistance	5 g, 10 Hz ... 55 Hz (IEC 68-2-6)
Shock load	10 g / DIN EN 60068-2-29 / 16 ms

[1] Sunlight.

Specific data

Connection type	Switching output	Model name	Ordering information
Terminals	4 x PNP (RS-485)	MLGx-xxxxI2x2	22
Connector M12, 8-pin	1 x PNP (RS-485)	MLGx-xxxxI8x2	23
	3 x PNP	MLGx-xxxxF8x2	24
	1 x NPN (RS-485)	MLGx-xxxxT8x2	24
Connector M12, 12-pin	1 x PNP (RS-485)	MLGx-xxxxI4x2	24

Ordering information

The part numbers below show a selection of our common configurations and represent only a portion of the product portfolio. The type code on page 25 indicates all possible configurations that can be ordered.

Please note: Sender and receiver are only offered as a pair.

MLGx-xxxxI2x2

- **Connection type:** Terminals
- **Switching output:** 4 x PNP (RS-485)

Beam separation	Working range	Detection height	Model name	Part no.
10 mm	5 m	140 mm	MLG1-0140I212	1026223
		290 mm	MLG1-0290I212	1027041
		440 mm	MLG1-0440I212	1040662
		590 mm	MLG1-0590I212	1023979
		1,640 mm	MLG1-1640I212	1043588
		2,390 mm	MLG1-2390I212	1025980
20 mm	5 m	440 mm	MLG2-0440I212	1023595
		740 mm	MLG2-0740I212	1023596
		1,180 mm	MLG2-1180I212	1047867
		2,680 mm	MLG2-2680I212	1043589
		3,140 mm	MLG2-3140I212	1022096
50 mm	5 m	1,000 mm	MLG5-1000I212	1023614
		1,450 mm	MLG5-1450I212	1023615

MLGx-xxxxI8x2

- **Connection type:** Connector M12, 8-pin
- **Switching output:** 1 x PNP (RS-485)

Beam separation	Working range	Detection height	Model name	Part no.
10 mm	5 m	140 mm	MLG1-0140I812	1022573
		290 mm	MLG1-0290I812	1025943
		440 mm	MLG1-0440I812	1024038
		590 mm	MLG1-0590I812	1022167
		740 mm	MLG1-0740I812	1023558
		1,040 mm	MLG1-1040I812	1045148
		1,190 mm	MLG1-1190I812	1042916
		1,340 mm	MLG1-1340I812	1022712
		1,640 mm	MLG1-1640I812	1024294
		2,090 mm	MLG1-2090I812	1048009
		2,240 mm	MLG1-2240I812	1052384
		2,390 mm	MLG1-2390I812	1023839
	8.5 m	290 mm	MLG1-0290I822	1022572
		590 mm	MLG1-0590I822	1023872
		740 mm	MLG1-0740I822	1048755
		2,390 mm	MLG1-2390I822	1025817
20 mm	5 m	280 mm	MLG2-0280I812	1023589
		440 mm	MLG2-0440I812	1051735
		740 mm	MLG2-0740I812	1022855
		1,340 mm	MLG2-1340I812	1029182
		1,640 mm	MLG2-1640I812	1042917
		1,780 mm	MLG2-1780I812	1041246
		1,940 mm	MLG2-1940I812	1023559
		2,080 mm	MLG2-2080I812	1026495
		2,540 mm	MLG2-2540I812	1024248
30 mm	5 m	720 mm	MLG3-0720I812	1025635
		1,020 mm	MLG3-1020I812	1054091
		1,470 mm	MLG3-1470I812	1023642
		1,620 mm	MLG3-1620I812	1029481
		1,920 mm	MLG3-1920I812	1023392
		2,070 mm	MLG3-2070I812	1026548
		2,820 mm	MLG3-2820I812	1048056
		3,120 mm	MLG3-3120I812	1024071
	8.5 m	2,820 mm	MLG3-2820I822	1052252

Beam separation	Working range	Detection height	Model name	Part no.
50 mm	5 m	250 mm	MLG5-0250I812	1023607
		700 mm	MLG5-0700I812	1041254
		850 mm	MLG5-0850I812	1024058
		1,000 mm	MLG5-1000I812	1044580
		1,450 mm	MLG5-1450I812	1023608
		1,600 mm	MLG5-1600I812	1026294
		2,050 mm	MLG5-2050I812	1048925
		2,200 mm	MLG5-2200I812	1042783
		2,500 mm	MLG5-2500I812	1042785
		2,650 mm	MLG5-2650I812	1043992
		3,100 mm	MLG5-3100I812	1040305

MLGx-xxxxF8x2

- **Connection type:** Connector M12, 8-pin
- **Switching output:** 3 x PNP

Beam separation	Working range	Detection height	Model name	Part no.
10 mm	8.5 m	440 mm	MLG1-0440F822	1052400
		590 mm	MLG1-0590F822	1028441
20 mm	8.5 m	280 mm	MLG2-0280F822	1054391
		1,180 mm	MLG2-1180F822	1041768
		3,140 mm	MLG2-3140F822	1048438
30 mm	8.5 m	270 mm	MLG3-0270F822	1044511
		570 mm	MLG3-0570F822	1044643
		2,220 mm	MLG3-2220F822	1041610
		3,120 mm	MLG3-3120F822	1025597
50 mm	8.5 m	2,350 mm	MLG5-2350F822	1025461

MLGx-xxxxT8x2

- **Connection type:** Connector M12, 8-pin
- **Switching output:** 1 x NPN (RS-485)

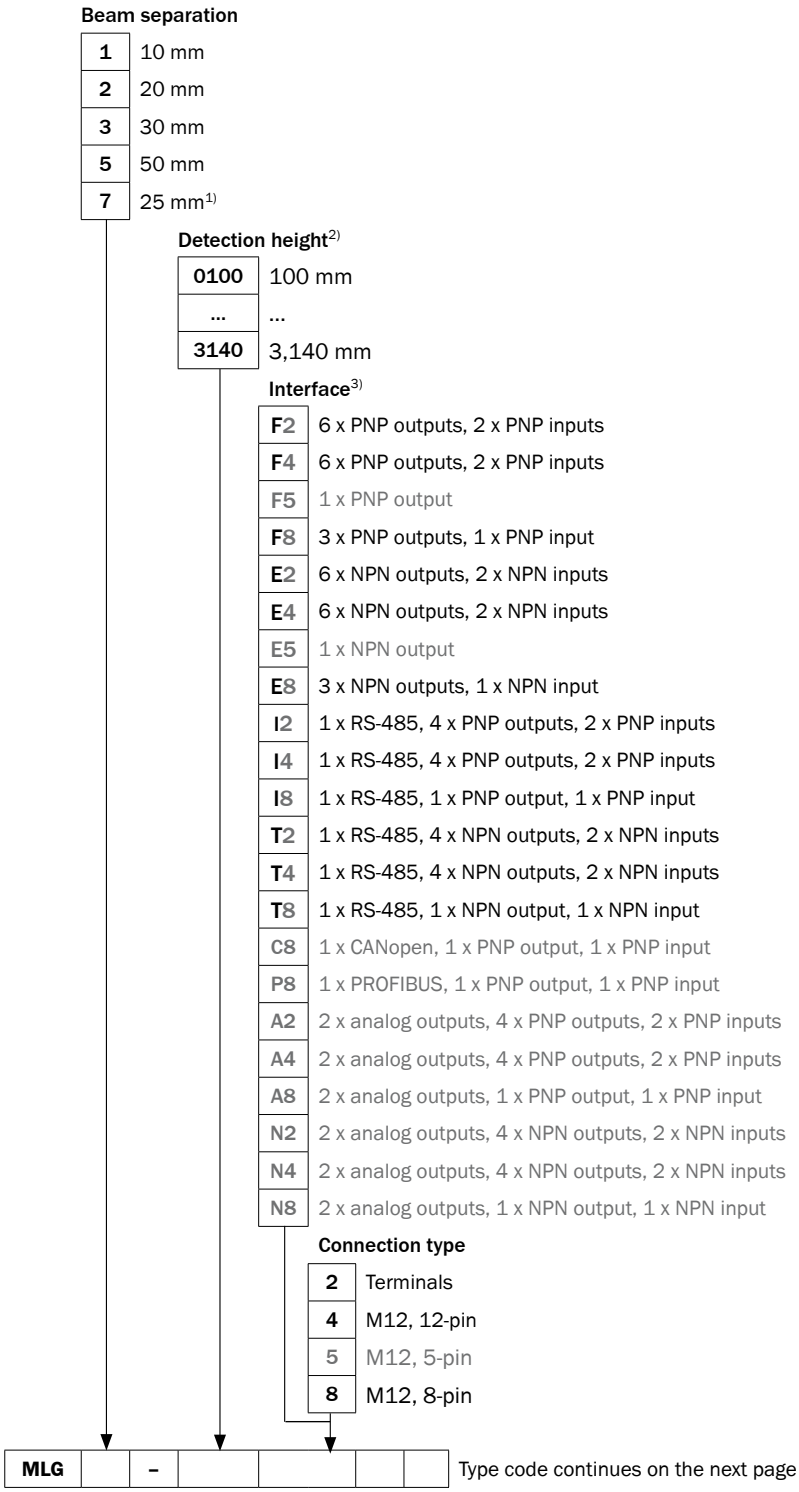
Beam separation	Working range	Detection height	Model name	Part no.
10 mm	5 m	2,090 mm	MLG1-2090T812	1026417

MLGx-xxxxI4x2

- **Connection type:** Connector M12, 12-pin
- **Switching output:** 1 x PNP (RS-485)

Beam separation	Working range	Detection height	Model name	Part no.
20 mm	8.5 m	280 mm	MLG2-0280I422	1055277

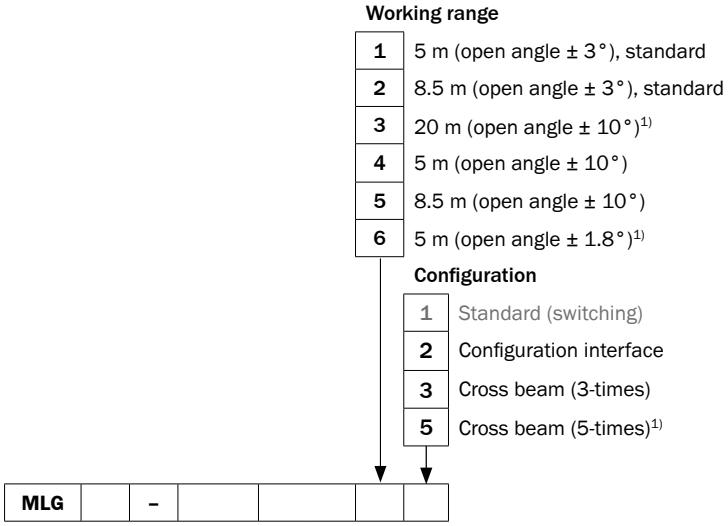
Type code



1) On demand.

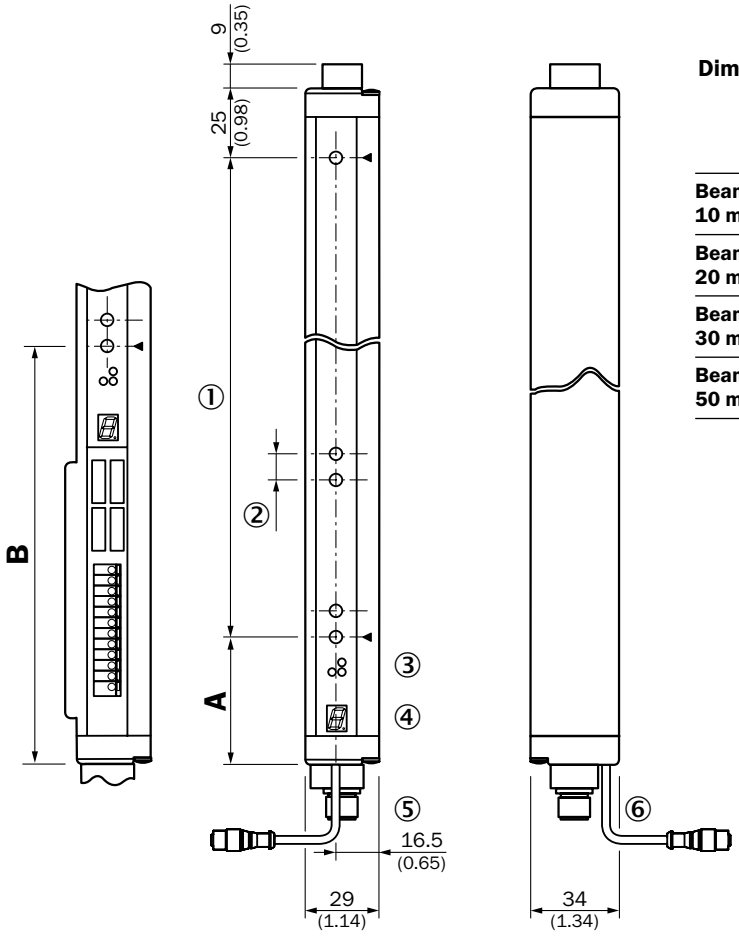
2) Max. 240 beams possible.

3) Number refers to possible connection type.


Working range
1 5 m (open angle ± 3°), standard
2 8.5 m (open angle ± 3°), standard
3 20 m (open angle ± 10°)1)
4 5 m (open angle ± 10°)
5 8.5 m (open angle ± 10°)
6 5 m (open angle ± 1.8°)1)
Configuration
1 Standard (switching)
2 Configuration interface
3 Cross beam (3-times)
5 Cross beam (5-times)1)
MLG
–

1) On demand.

Dimensional drawing



Dimensions in mm (inch)

	A Distance: MLG edge – first beam	B
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)

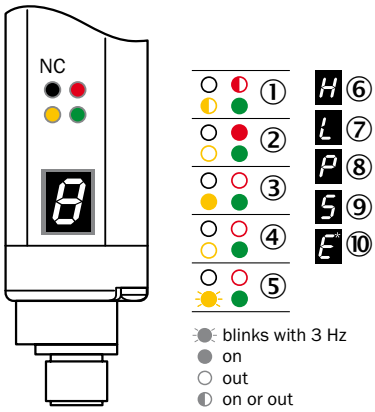
[1] With even number of beams.
[2] With odd number of beams.

All dimensions in mm (inch)

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

Adjustments

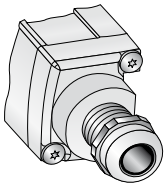
Receiver, LED indication



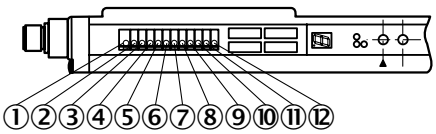
① Supply voltage
② Device error
③ No object in the light path
④ Object in the light path
⑤ Pollution indication or alignment aid
⑥ Blocked Beams Hold (BBH)
⑦ Activated teach-in procedure
⑧ ParamMode is active
⑨ Standby
⑩ Error: E1 = sync. error; E2 = less receiver signal; E9 = defect

Connection type and diagram

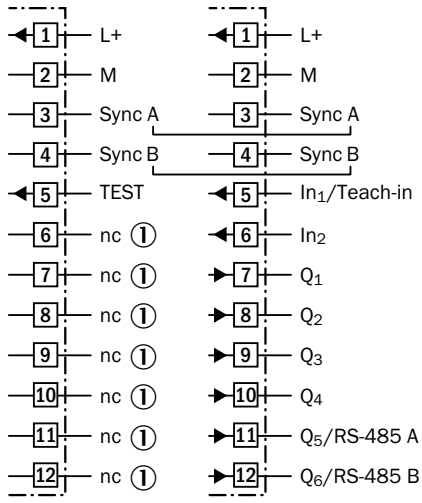
MLGx-xxxxx2xx
Sender
Terminals



MLGx-xxxxx2xx
Receiver
Terminals



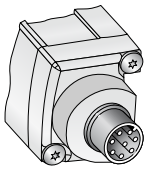
Sender



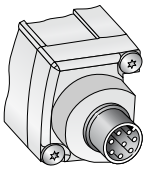
Receiver

① Not connected

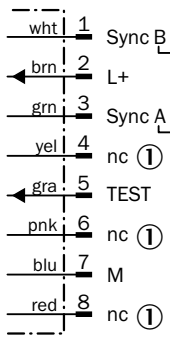
MLGx-xxxxx8xx
Sender
Connector
M12, 8-pin



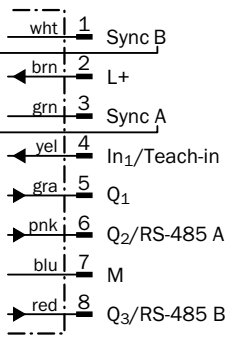
MLGx-xxxxx8xx
Receiver
Connector
M12, 8-pin



Sender

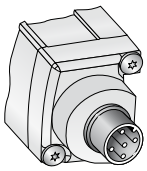


Receiver

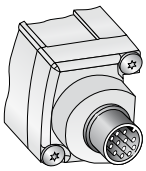


① Not connected

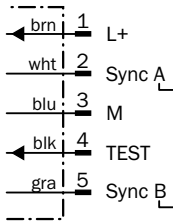
MLGx-xxxxx4xx
Sender
Connector
M12, 5-pin



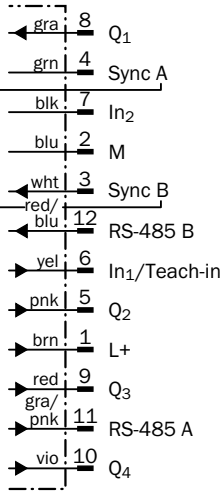
MLGx-xxxxx4xx
Receiver
Connector
M12, 12-pin



Sender



Receiver



Recommended accessories

Complete accessories for the MLG Programmable include: 1 female connector, 1 bracket, 1 t-junction, 1 connection cable and 1 configuration cable.

Please take note of the number of pins on the connector when choosing connection cables.

Adapters/distributors (without cable)

	Brief description	Model name	Part no.
	T-junction, 1x plug M12, 8-pin and 2x socket M12, 8-pin	SBO-02F12-SM	6029306

Mounting brackets/plates

	Brief description	Model name	Part no.
	Mounting kit 1, adjustable, swivel mount, for all detection heights in small housings, plastic, without mounting material, 4 pcs	BEF-2SMKEAKU4	2019649
	Mounting kit, side bracket including four sliding nuts for MLG/ELG/HLG, 4 pcs	BEF-NUT-MLG	2023696
	Mounting bracket, steel, zinc coated, without mounting material, 4 pcs	BEF-WK-XLG	2029100

Plug connectors and cables

	Brief description	Model name	Part no.
 Illustration may differ	Female connector, M12, 5-pin, straight, 2 m, PVC	DOL-1205-G02M	6008899
	Female connector, M12, 5-pin, straight, 5 m, PVC	DOL-1205-G05M	6009868
	Female connector, M12, 5-pin, straight, 10 m, PVC	DOL-1205-G10M	6010544
	Female connector, M12, 5-pin, straight, 15 m, PVC	DOL-1205-G15M	6029215
 Illustration may differ	Female connector, M12, 5-pin, angled, 2 m, PVC	DOL-1205-W02M	6008900
	Female connector, M12, 5-pin, angled, 5 m, PVC	DOL-1205-W05M	6009869
	Female connector, M12, 5-pin, angled, 10 m, PVC	DOL-1205-W10M	6010542
 Illustration may differ	Female connector, M12, 8-pin, straight, 2 m, PVC, shielded	DOL-1208-G02MA	6020633
	Female connector, M12, 8-pin, straight, 5 m, PVC, shielded	DOL-1208-G05MA	6020993
	Female connector, M12, 8-pin, straight, 10 m, PVC, shielded	DOL-1208-G10MA	6022152
 Illustration may differ	Female connector, M12, 8-pin, angled, 2 m, PVC, shielded	DOL-1208-W02MA	6020992
	Female connector, M12, 8-pin, angled, 5 m, PVC, shielded	DOL-1208-W05MA	6021033
 Illustration may differ	Female connector, M12, 12-pin, straight, 2 m, PVC, shielded	DOL-1212-G02MA	6034604
	Female connector, M12, 12-pin, straight, 5 m, PVC, shielded	DOL-1212-G05MA	6034605
	Female connector, M12, 12-pin, straight, 10 m, PVC, shielded	DOL-1212-G10MAS01	6037356
 Illustration may differ	Configuration cable, 2 m, PVC	DSL-8D04-G02M	2023695
	Connection cable, M12, 8-pin, plug straight/socket straight, 2 m, PUR halogen free, shielded	DSL-1208-G02MAC	6030121
	Connection cable, M12, 8-pin, plug straight/socket straight, 5 m, PUR halogen free, shielded	DSL-1208-G05MAC	6032325
	Connection cable, M12, 8-pin, plug straight/socket straight, 10 m, PUR halogen free, shielded	DSL-1208-G10MAC	6034901

For additional accessories including dimensional drawings, please see page 72.

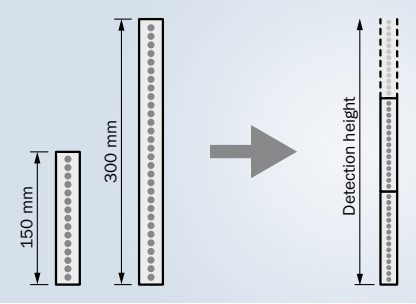
Special functions

Modular construction

The advanced automation light grids are using a modular design principle. Every optics module has 15 beams. If you want tc calculate the detection height, you have to subtract the single beam separation of the overall height of the optics modules.

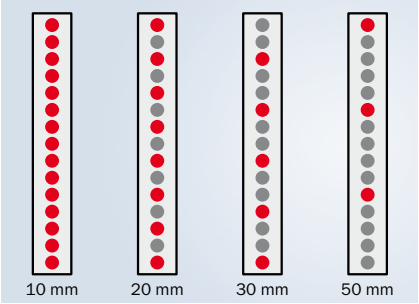
E.g. 3 x 150 mm = 450 mm (overall height)
450 mm – 10 mm (beam separation) = 440 mm (detection height)

Detection height
Minimum = 100 mm
Maximum = 3,140 mm



Simple interconnection of optics modules with lengths of 150 mm or 300 mm. Monitoring height determines how many modules to use.

Beam separation
Minimum = 10 mm
Maximum = 50 mm



Beam separation varies depending on how the optics modules are equipped with LEDs. The smaller the beam separation, the higher the resolution will be. There is also an MLG variant with a beam separation of 25 mm.

For easy integration

Product description

The MLG PROFIBUS version is used for measurement applications and has an integrated PROFIBUS interface. It is ideal for applications, such as variable height measurement or for classifying objects. It includes easy-to-use software, which enables extreme flexibility. The software quickly and easily turns a standard sensor into a custom problem solver, reducing the number of sensors, PLCs and programming required. The MLG PROFIBUS offers many different configuration options and interfaces. It provides a choice of different detection heights and beam separation. It can be supplied pre-programmed by SICK. It has its own PROFIBUS User Organization (PNO) number and the corresponding GSD file that makes it possible for the PLC to interpret the data output of the sensor. For optimum installation, the customer can choose between different mounting brackets.

At a glance

- Integrated PROFIBUS interface
- Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions
- Working range up to 8.5 m
- Detection heights of over 3 m and up to 240 beams possible
- Short response time < 9 ms
- External teach-in for optimal sensitivity settings

Your benefits

- Integrated PROFIBUS User Organization (PNO) number and GSD file for easy connection to a PLC
- Low cabling requirement reduces installation costs
- Easy-to-see light grid status information via the bus system helps avoid interrupting operation
- Different beam separation options, detection heights and output configurations ensure a reliable solution

→ www.mysick.com/en/MLG_PROFIBUS

Additional information

8014656/2011-09-01
Subject to change without notice

Detailed technical data

Features

Technology	Sender/receiver
Task	Measurement light grid
Minimum detectable object (MDO)	Parallel beam: 15 mm ... 60 mm
Number of beams	3 ... 240
Configuration	GSD file

Performance

Maximum range [1]	7 m 12 m
Minimum range	Parallel beam: ≥ 0 mm
Response time [2]	Parallel beam: 9 ms ... 57 ms Cross beam: depending on type

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

[2] With resistive load.

Interfaces

Inputs [1]	1 x PNP

[1] 1 x test input for sender.

Mechanics/electronics

Wave length	IR, 880 nm
Supply voltage V_S	DC 18 V ... 30 V
Power consumption sender [1]	< 140 mA + 2 mA per beam
Power consumption receiver [1]	< 100 mA + 3 mA per beam
Ripple	< 5 V_{SS}
Output current $I_{max.}$	100 mA
Output load capacitive	100 nF
Output load inductive	1 H
Initialization time	1 s
Dimensions (W x H x D)	34 mm x 214 mm x 29 mm ... 34 mm x 3,335 mm x 29 mm
Housing material	Aluminum
Indication	LED, 7-segment display
Synchronization	Cable
Enclosure rating	IP 65
Circuit protection	V_S connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Weight	0.73 kg ... 7.722 kg
Front screen	PMMA

[1] Without load with 24 V.

Ambient data

Protection class	III
EMC	EN 60947-5-2
Ambient temperature	Operation: –25 °C ... +55 °C Storage: –40 °C ... +70 °C
Ambient light safety [1]	Direct: 12,500 lx Indirect: 50,000 lx
Vibration resistance	5 g, 10 Hz ... 55 Hz (IEC 68-2-6)
Shock load	10 g / DIN EN 60068-2-29 / 16 ms

[1] Sunlight.

Specific data

Working range	Switching output [1]	Connection type [2]	Beam separation	Model name	Ordering information
5 m	1 x PNP	Connector M12, 8-pin	10 mm	MLG1-xxxxP811	34
			20 mm	MLG2-xxxxP811	35
			30 mm	MLG3-xxxxP811	35
			50 mm	MLG5-xxxxP811	36

[1] Switching output with adapter not usable.

[2] With adapter M12, 5-pin.

Ordering information

The part numbers below show a selection of our common configurations and represent only a portion of the product portfolio. The type code on page 37 indicates all possible configurations that can be ordered.

Please note: Sender and receiver are only offered as a pair.

MLG1-xxxxP811

- **Working range:** 5 m
- **Switching output:** 1 x PNP (switching output with adapter not usable)
- **Connection type:** Connector M12, 8-pin (with adapter M12, 5-pin)
- **Beam separation:** 10 mm

Detection height	Model name	Part no.
140 mm	MLG1-0140P811	1027723
290 mm	MLG1-0290P811	1028533
440 mm	MLG1-0440P811	1040414
740 mm	MLG1-0740P811	1028847
890 mm	MLG1-0890P811	1042360
1,040 mm	MLG1-1040P811	1040606
1,340 mm	MLG1-1340P811	1029194
1,790 mm	MLG1-1790P811	1029195
2,090 mm	MLG1-2090P811	1029629
2,240 mm	MLG1-2240P811	1028536
2,390 mm	MLG1-2390P811	1028534

MLG2-xxxxP811

- **Working range:** 5 m
- **Switching output:** 1 x PNP (switching output with adapter not usable)
- **Connection type:** Connector M12, 8-pin (with adapter M12, 5-pin)
- **Beam separation:** 20 mm

Detection height	Model name	Part no.
280 mm	MLG2-0280P811	1029525
580 mm	MLG2-0580P811	1028848
740 mm	MLG2-0740P811	1029958
1,040 mm	MLG2-1040P811	1029526
1,180 mm	MLG2-1180P811	1041526
1,480 mm	MLG2-1480P811	1042647
1,940 mm	MLG2-1940P811	1040090
2,080 mm	MLG2-2080P811	1054574
2,380 mm	MLG2-2380P811	1029971
3,140 mm	MLG2-3140P811	1040605

MLG3-xxxxP811

- **Working range:** 5 m
- **Switching output:** 1 x PNP (switching output with adapter not usable)
- **Connection type:** Connector M12, 8-pin (with adapter M12, 5-pin)
- **Beam separation:** 30 mm

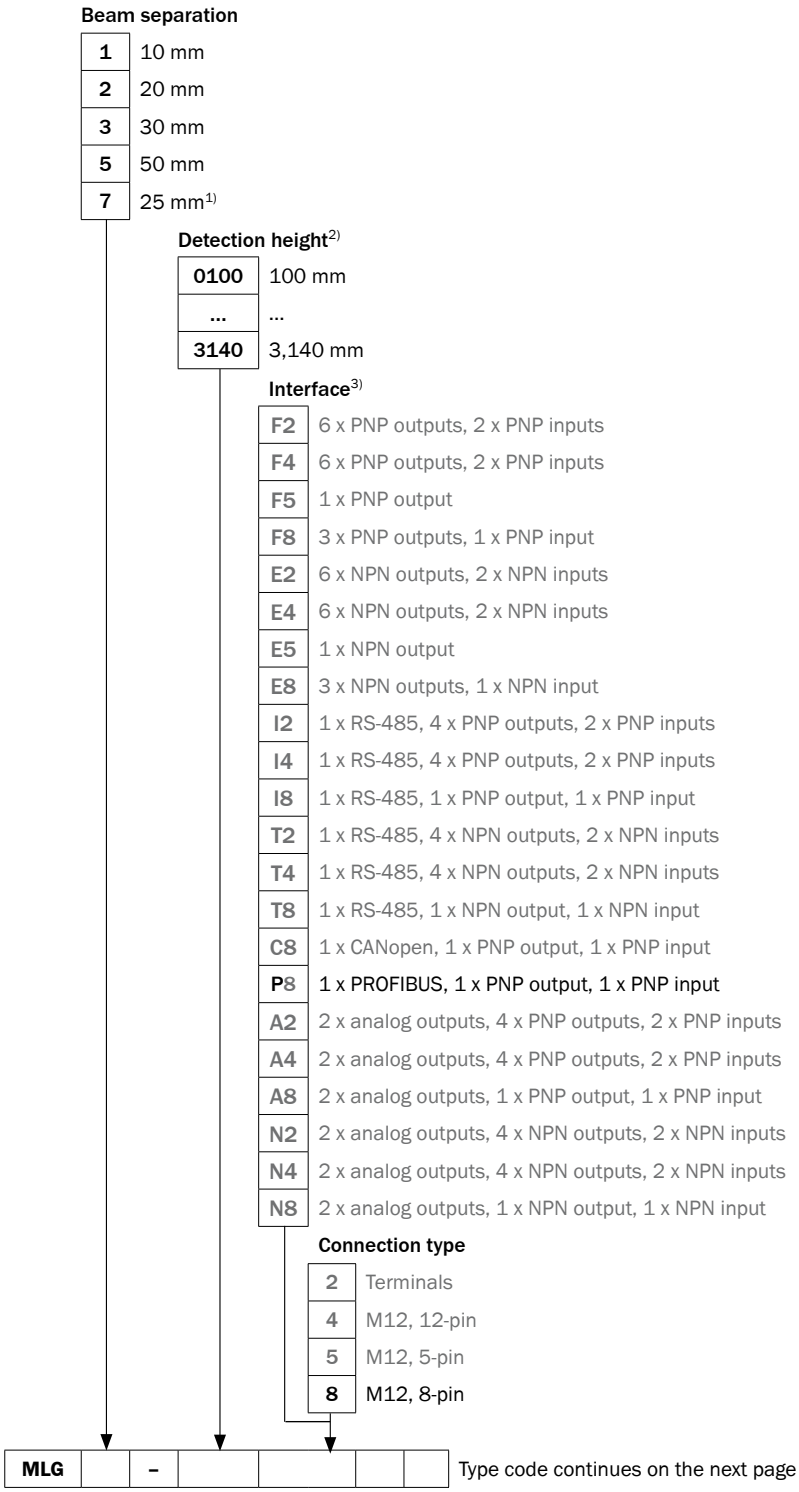
Detection height	Model name	Part no.
570 mm	MLG3-0570P811	1046625
720 mm	MLG3-0720P811	1040611
1,020 mm	MLG3-1020P811	1029059
1,170 mm	MLG3-1170P811	1029986
1,470 mm	MLG3-1470P811	1042974
1,620 mm	MLG3-1620P811	1029554
2,070 mm	MLG3-2070P811	1029168
2,220 mm	MLG3-2220P811	1040666
3,120 mm	MLG3-3120P811	1045245

MLG5-xxxxP811

- **Working range:** 5 m
- **Switching output:** 1 x PNP (switching output with adapter not usable)
- **Connection type:** Connector M12, 8-pin (with adapter M12, 5-pin)
- **Beam separation:** 50 mm

Detection height	Model name	Part no.
250 mm	MLG5-0250P811	1054398
400 mm	MLG5-0400P811	1029867
700 mm	MLG5-0700P811	1028535
850 mm	MLG5-0850P811	1028478
1,150 mm	MLG5-1150P811	1028845
1,300 mm	MLG5-1300P811	1029473
1,750 mm	MLG5-1750P811	1044972
1,900 mm	MLG5-1900P811	1029456
2,050 mm	MLG5-2050P811	1028739
2,200 mm	MLG5-2200P811	1043531
2,500 mm	MLG5-2500P811	1047117
2,800 mm	MLG5-2800P811	1028844

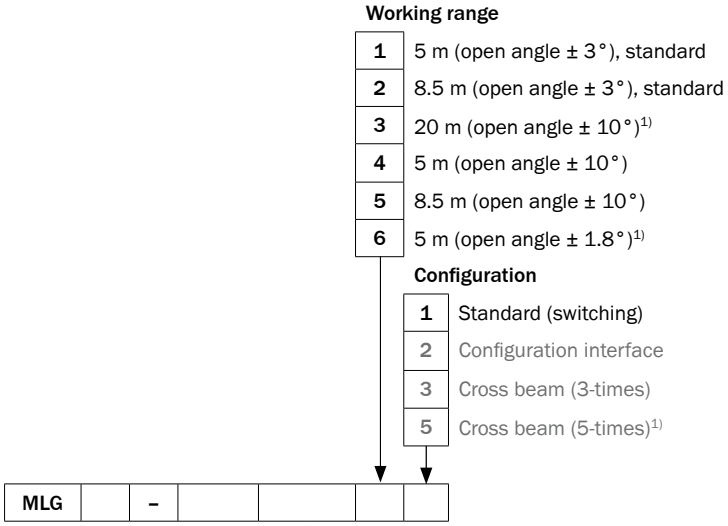
Type code



1) On demand.

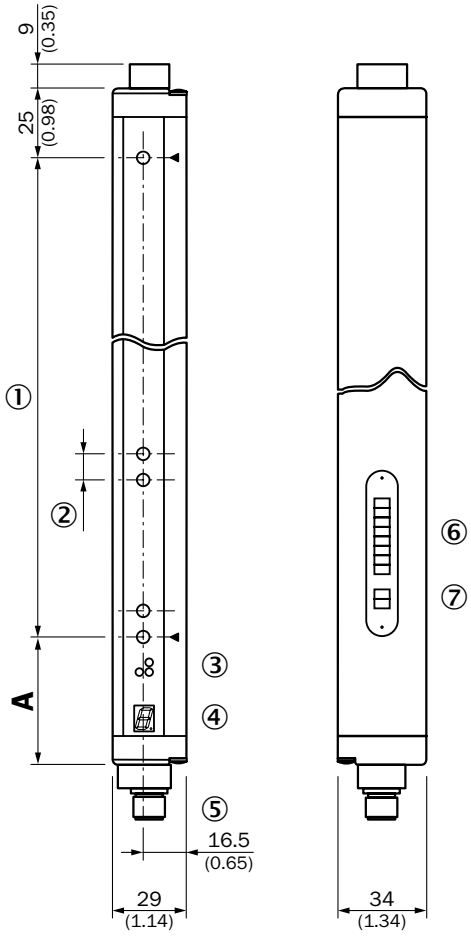
2) Max. 240 beams possible.

3) Number refers to possible connection type.


Working range
1
5 m (open angle ± 3°), standard
2
8.5 m (open angle ± 3°), standard
3
20 m (open angle ± 10°)1)
4
5 m (open angle ± 10°)
5
8.5 m (open angle ± 10°)
6
5 m (open angle ± 1.8°)1)
Configuration
1
Standard (switching)
2
Configuration interface
3
Cross beam (3-times)
5
Cross beam (5-times)1)
MLG
–

1) On demand.

Dimensional drawing



Dimensions in mm (inch)

	A Distance: MLG edge – first beam
Beam separation 10 mm	49 (1.93)
Beam separation 20 mm	49 (1.93) [1] / 59 (2.32) [2]
Beam separation 30 mm	69 (2.72)
Beam separation 50 mm	89 (3.50)

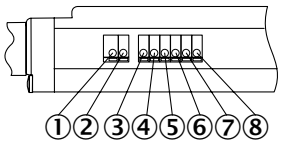
[1] With even number of beams.
[2] With odd number of beams.

All dimensions in mm (inch)

① Detection height (see optical performance)
② Beam spacing (10, 20, 30, 50 mm)
③ Status indicator: LEDs green, yellow, red
④ Indicator panel, 7-segment display
⑤ Connector M12, 8-pin
⑥ Address setting
⑦ Bus termination

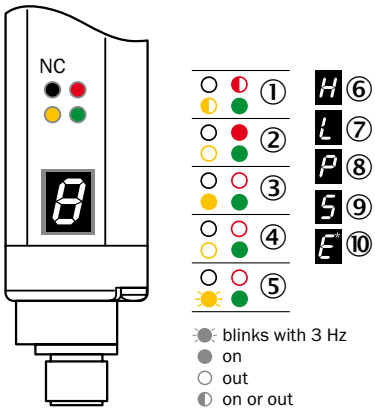
Adjustments

DIP switches



① Bus termination
② Bus termination
③ Address setting
④ Address setting
⑤ Address setting
⑥ Address setting
⑦ Address setting
⑧ Address setting

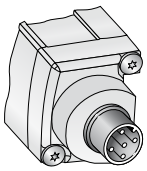
Receiver, LED indication



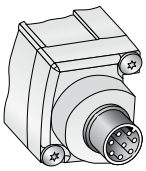
① Supply voltage
② Device error
③ No object in the light path
④ Object in the light path
⑤ Pollution indication or alignment aid
⑥ Blocked Beams Hold (BBH)
⑦ Activated teach-in procedure
⑧ ParamMode is active
⑨ Standby
⑩ Error: E1 = sync. error; E2 = less receiver signal; E9 = defect

Connection type and diagram

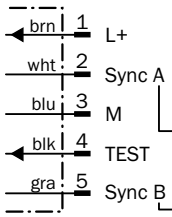
Sender
Connector
M12, 5-pin



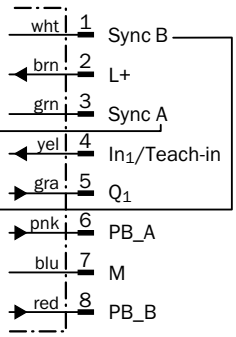
Receiver
Connector
M12, 8-pin



Sender



Receiver



Recommended accessories

Complete accessories for the MLG PROFIBUS include: 1 female connector, 1 PROFIBUS cable, 1 bracket, 1 t-junction, 1 connection cable and 1 adapter.

Please take note of the number of pins on the connector when choosing connection cables.

Adapters/distributors (without cable)

	Brief description	Model name	Part no.
	PROFIBUS adapter, straight	ADAPT-PB-GE-MLG	1027921
	PROFIBUS adapter, angled	ADAPT-PB-WI-MLG	1027901
	T-junction, 1x plug M12, 5-pin and 2x socket M12, 5-pin	SBO-02G12-SM	6029305

Mounting brackets/plates

	Brief description	Model name	Part no.
	Mounting kit 1, adjustable, swivel mount, for all detection heights in small housings, plastic, without mounting material, 4 pcs	BEF-2SMKEAKU4	2019649
	Mounting kit, side bracket including four sliding nuts for MLG/ELG/HLG, 4 pcs	BEF-NUT-MLG	2023696

Plug connectors and cables

	Brief description	Model name	Part no.
 Illustration may differ	Female connector, M12, 5-pin, straight, 2 m, PVC	DOL-1205-G02M	6008899
	Female connector, M12, 5-pin, straight, 5 m, PVC	DOL-1205-G05M	6009868
	Female connector, M12, 5-pin, straight, 10 m, PVC	DOL-1205-G10M	6010544
	Female connector, M12, 5-pin, straight, 15 m, PVC	DOL-1205-G15M	6029215
	Female connector, M12, 5-pin, straight, 5 m, PROFIBUS	DOL-1205-G05MQ	6026006
	Female connector, M12, 5-pin, straight, 10 m, PROFIBUS	DOL-1205-G10MQ	6026008
 Illustration may differ	Female connector, M12, 5-pin, angled, 2 m, PVC	DOL-1205-W02M	6008900
	Female connector, M12, 5-pin, angled, 5 m, PVC	DOL-1205-W05M	6009869
	Female connector, M12, 5-pin, angled, 10 m, PVC	DOL-1205-W10M	6010542
	Connection cable, M12, 5-pin, plug straight/socket straight, 5 m, PUR halogen free	DSL-1205-G05MC	6029282
	Connection cable, M12, 5-pin, plug straight/socket straight, 10 m, PUR halogen free	DSL-1205-G10MC	6038954
	Male connector, M12, 5-pin, straight, 5 m, PROFIBUS	STL-1205-G05MQ	6026005
	Male connector, M12, 5-pin, straight, 10 m, PROFIBUS	STL-1205-G10MQ	6026007

For additional accessories including dimensional drawings, please see page 72.

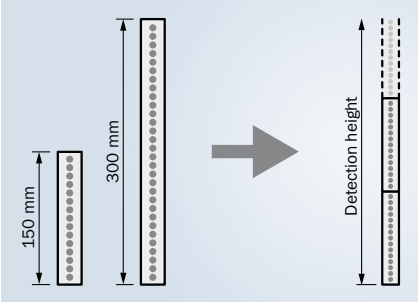
Special functions

Modular construction

The advanced automation light grids are using a modular design principle. Every optics module has 15 beams. If you want to calculate the detection height, you have to subtract the single beam separation of the overall height of the optics modules.

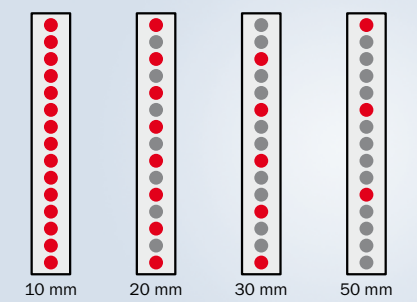
E.g. 3 x 150 mm = 450 mm (overall height)
450 mm – 10 mm (beam separation) = 440 mm (detection height)

Detection height
Minimum = 100 mm
Maximum = 3,140 mm



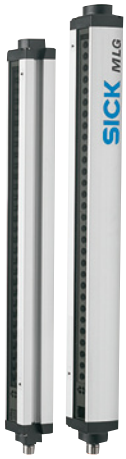
Simple interconnection of optics modules with lengths of 150 mm or 300 mm. Monitoring height determines how many modules to use.

Beam separation
Minimum = 10 mm
Maximum = 50 mm



Beam separation varies depending on how the optics modules are equipped with LEDs. The smaller the beam separation, the higher the resolution will be. There is also an MLG variant with a beam separation of 25 mm.

For fast integration



Product description

The MLG CANopen has an integrated CANopen interface and is applied in measuring applications. Customers can choose the MLG for variable height measurement or for object classification. The MLG CANopen enables a lot of different configuration possibilities. The MLG is modular and can be ordered in different detection heights and beam separation options. The software is related to CANopen 2.0 CIA/DS-301 version 4.1. This software specification provides easy integration using EDS data sets. The customer can choose between different mounting options for optimal installation.

At a glance

- Integrated CANopen interface
- Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions
- Working range up to 8.5 m
- Detection heights of over 3 m and up to 240 beams possible
- Short response time of < 9 ms
- Teach algorithm for optimal sensitivity settings in difficult applications

Your benefits

- The CANopen software is 2.0 CIA/DS-301 for easy integration in the control system
- Low cabling requirement reduces installation costs
- East-to-see light grid status information via the bus system helps avoid interrupting operation
- Different beam separation options, detection heights and output configurations ensure a reliable solution
- Robust metal housing stands up to tough environments and reduces downtime

Additional information

→ www.mysick.com/en/MLG_CANopen

Detailed technical data

Features

Technology	Sender/receiver
Task	Measurement light grid
Minimum detectable object (MDO)	Parallel beam: 15 mm ... 60 mm
Number of beams	3 ... 240
Configuration	EDS file

Performance

Maximum range [1]	7 m 12 m
Minimum range	Parallel beam: ≥ 0 mm
Response time [2]	Parallel beam: 9 ms ... 57 ms Cross beam: depending on type

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

[2] With resistive load.

Interfaces

Inputs [1]	1 x PNP

[1] 1 x test input for sender.

Mechanics/electronics

Wave length	IR, 880 nm
Supply voltage V_S	DC 18 V ... 30 V
Power consumption sender [1]	< 140 mA + 2 mA per beam
Power consumption receiver [1]	< 100 mA + 3 mA per beam
Ripple	< 5 V_{SS}
Output current $I_{max.}$	100 mA
Output load capacitive	100 nF
Output load inductive	1 H
Initialization time	1 s
Dimensions (W x H x D)	34 mm x 214 mm x 29 mm ... 34 mm x 3,335 mm x 29 mm
Housing material	Aluminum
Indication	LED, 7-segment display
Synchronization	Cable
Enclosure rating	IP 65
Circuit protection	V_S connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Weight	0.73 kg ... 7.722 kg
Front screen	PMMA

[1] Without load with load 24 V.

Ambient data

Protection class	III
EMC	EN 60947-5-2
Ambient temperature	Operation: –25 °C ... +55 °C Storage: –25 °C ... +70 °C
Ambient light safety [1]	Direct: 12,500 lx Indirect: 50,000 lx
Vibration resistance	5 g, 10 Hz ... 55 Hz (IEC 68-2-6)
Shock load	10 g / DIN EN 60068-2-29 / 16 ms

[1] Sunlight.

Ordering information

The part numbers below show a selection of our common configurations and represent only a portion of the product portfolio. The type code on page 47 indicates all possible configurations that can be ordered.

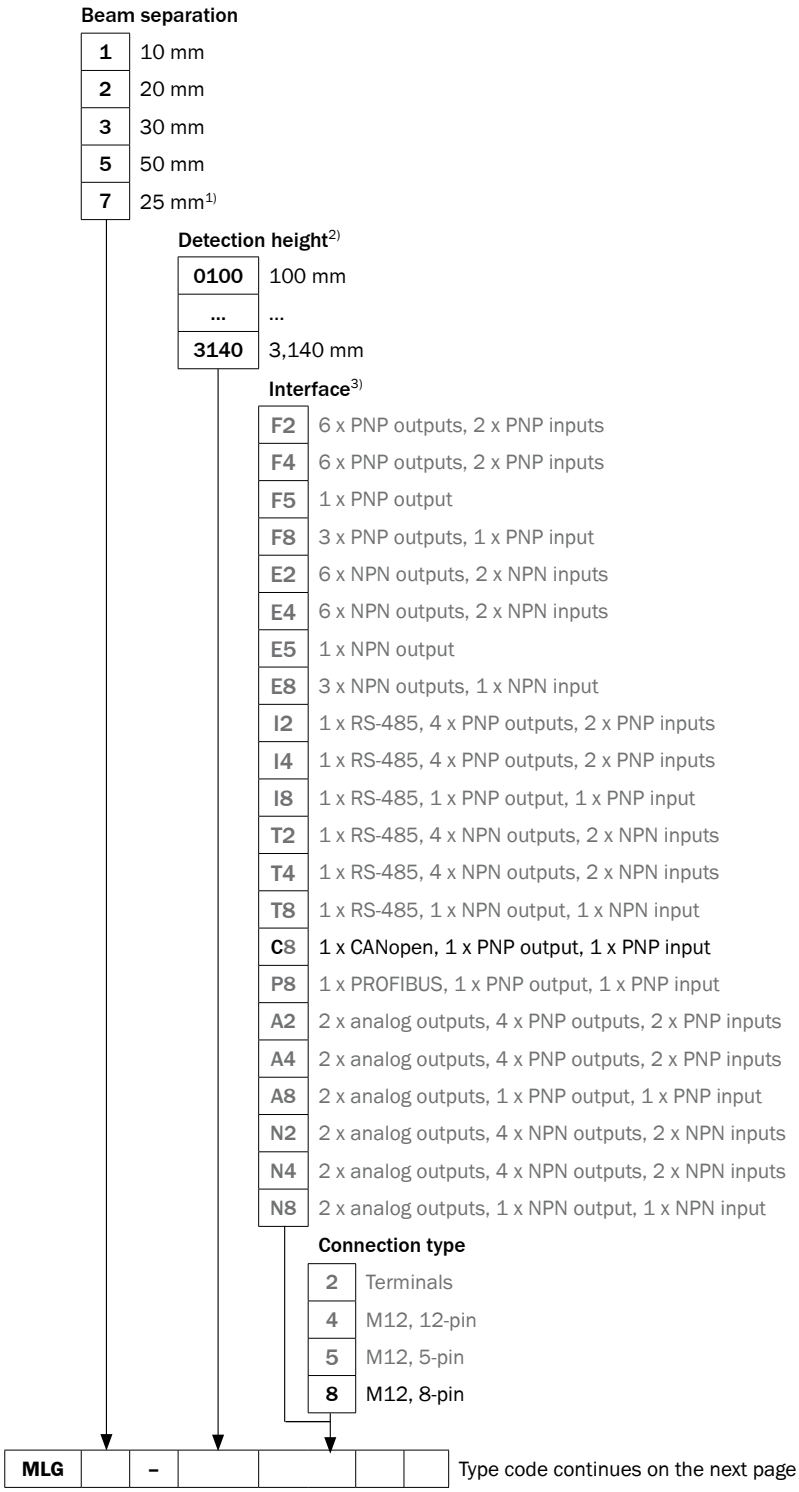
Please note: Sender and receiver are only offered as a pair.

Connection type [1]	Switching output [2]	Beam separation	Working range	Detection height	Model name	Part no.
Connector M12, 8-pin	1 x PNP	10 mm	5 m	290 mm	MLG1-0290C811	1053512
				2,390 mm	MLG1-2390C811	1055026
			8.5 m	2,390 mm	MLG1-2390C821	1055171
		20 mm	5 m	580 mm	MLG2-0580C811	1055172
		30 mm	5 m	1,470 mm	MLG3-1470C811	1055173
		50 mm	5 m	100 mm	MLG5-0100C811	1055174
				2,050 mm	MLG5-2050C811	1055175
			8.5 m	100 mm	MLG5-0100C821	1055176

[1] With adapter M12, 5-pin.

[2] Switching output with adapter not usable.

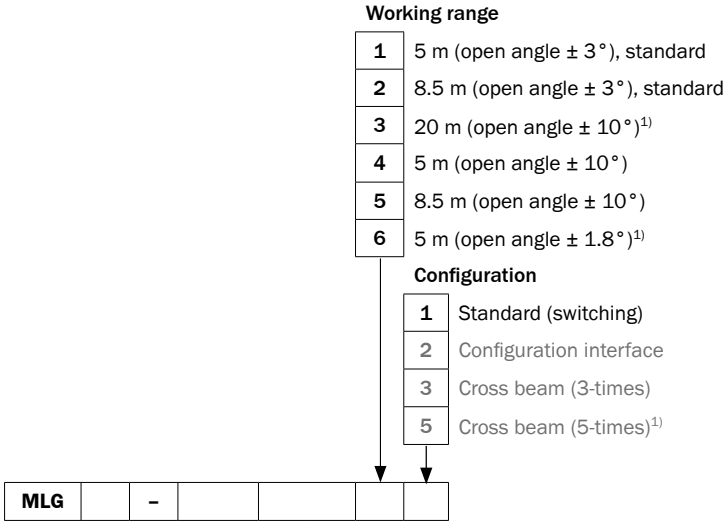
Type code



1) On demand.

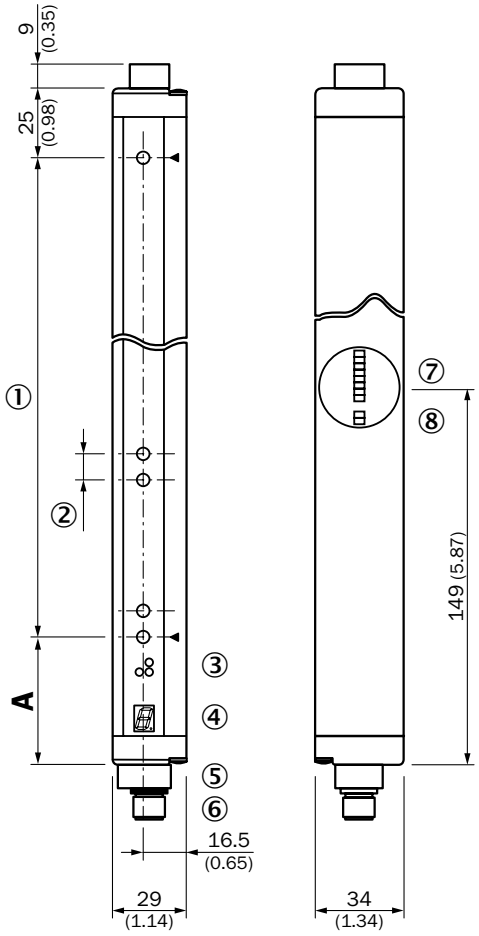
2) Max. 240 beams possible.

3) Number refers to possible connection type.


Working range
1
5 m (open angle ± 3°), standard
2
8.5 m (open angle ± 3°), standard
3
20 m (open angle ± 10°)1)
4
5 m (open angle ± 10°)
5
8.5 m (open angle ± 10°)
6
5 m (open angle ± 1.8°)1)
Configuration
1
Standard (switching)
2
Configuration interface
3
Cross beam (3-times)
5
Cross beam (5-times)1)
MLG
–

1) On demand.

Dimensional drawing



All dimensions in mm (inch)

① Detection height (see optical performance)
② Beam separation (10, 20, 30, 50 mm)
③ Status indicator: LEDs green, yellow, red
④ Indicator panel, 7-segment display
⑤ Ground
⑥ Connector M12, 8-pin (for CANopen adapter)
⑦ Address setting
⑧ Sensitivity baud rate

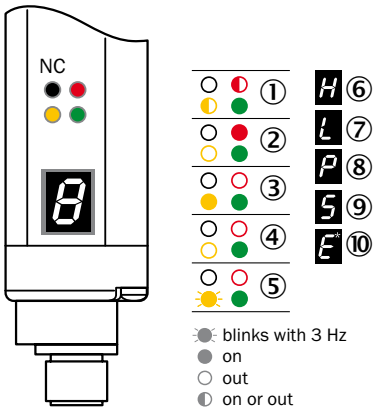
Dimensions in mm (inch)

	A Distance: MLG edge – first beam
Beam separation 10 mm	49 (1.93)
Beam separation 20 mm	49 (1.93) [1] / 59 (2.32) [2]
Beam separation 30 mm	69 (2.72)
Beam separation 50 mm	89 (3.50)

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

Adjustments

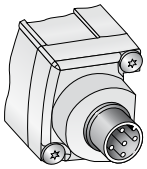
Receiver, LED indication



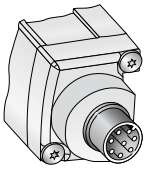
① Supply voltage
② Device error
③ No object in the light path
④ Object in the light path
⑤ Pollution indication or alignment aid
⑥ Blocked Beams Hold (BBH)
⑦ Activated teach-in procedure
⑧ ParamMode is active
⑨ Standby
⑩ Error: E1 = sync. error; E2 = less receiver signal; E9 = defect

Connection type and diagram

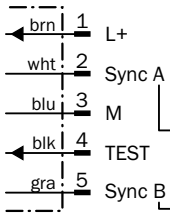
Sender
Connector
M12, 5-pin



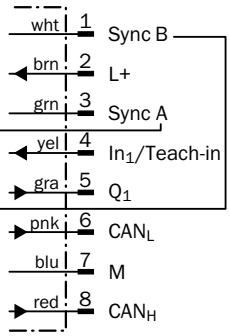
Receiver
Connector
M12, 8-pin



Sender



Receiver



Recommended accessories

Complete accessories for the MLG CANopen include: 1 female connector, 1 bracket, 1 t-junction, 1 connection cable, 1 adapter and 1 termination resistor.

Please take note of the number of pins on the connector when choosing connection cables.

Adapters/distributors (without cable)

	Brief description	Model name	Part no.
	CAN adapter, straight	ADPT-CAN-GE-MLG	1052957
	T-junction, 1x plug M12, 5-pin and 2x socket M12, 5-pin	SBO-02G12-SM	6029305

Mounting brackets/plates

	Brief description	Model name	Part no.
	Mounting kit 1, adjustable, swivel mount, for all detection heights in small housings, plastic, without mounting material, 4 pcs	BEF-2SMKEAKU4	2019649
	Mounting kit, side bracket including four sliding nuts for MLG/ELG/HLG, 4 pcs	BEF-NUT-MLG	2023696
	Mounting bracket, steel, zinc coated, without mounting material, 4 pcs	BEF-WK-XLG	2029100

Plug connectors and cables

	Brief description	Model name	Part no.
	Female connector, M12, 5-pin, straight, 5 m, CAN	CAN cable 5 m (socket-open end)	6021166
 Illustration may differ	Female connector, M12, 5-pin, straight, 2 m, PVC	DOL-1205-G02M	6008899
	Female connector, M12, 5-pin, straight, 5 m, PVC	DOL-1205-G05M	6009868
	Female connector, M12, 5-pin, straight, 10 m, PVC	DOL-1205-G10M	6010544
	Female connector, M12, 5-pin, straight, 15 m, PVC	DOL-1205-G15M	6029215
 Illustration may differ	Female connector, M12, 5-pin, angled, 2 m, PVC	DOL-1205-W02M	6008900
	Female connector, M12, 5-pin, angled, 5 m, PVC	DOL-1205-W05M	6009869
	Female connector, M12, 5-pin, angled, 10 m, PVC	DOL-1205-W10M	6010542
 Illustration may differ	Female connector, M12, 5-pin, 5 m, PVC	DeviceNet cable	6030741
	Connection cable, M12, 5-pin, plug straight/socket straight, 5 m, PUR halogen free	DSL-1205-G05MC	6029282
	Connection cable, M12, 5-pin, plug straight/socket straight, 10 m, PUR halogen free	DSL-1205-G10MC	6038954
	Male connector, M12, 5-pin, straight, terminal resistor	STE-1205-GKEND	6037193

For additional accessories including dimensional drawings, please see page 72.

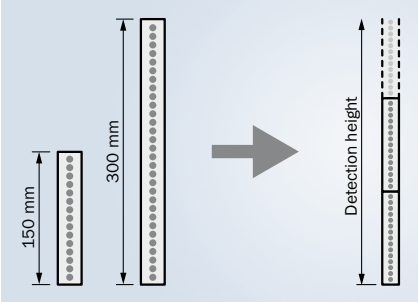
Special functions

Modular construction

The advanced automation light grids are using a modular design principle. Every optics module has 15 beams. If you want to calculate the detection height, you have to subtract the single beam separation of the overall height of the optics modules.

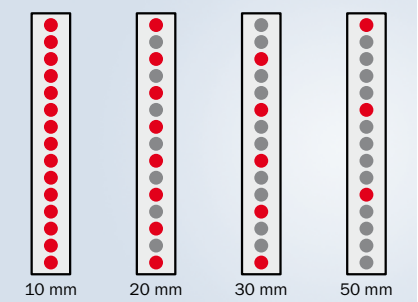
E.g. 3 x 150 mm = 450 mm (overall height)
450 mm – 10 mm (beam separation) = 440 mm (detection height)

Detection height
Minimum = 100 mm
Maximum = 3,140 mm



Simple interconnection of optics modules with lengths of 150 mm or 300 mm. Monitoring height determines how many modules to use.

Beam separation
Minimum = 10 mm
Maximum = 50 mm



Beam separation varies depending on how the optics modules are equipped with LEDs. The smaller the beam separation, the higher the resolution will be. There is also an MLG variant with a beam separation of 25 mm.

Easy measuring with analog outputs

Additional information

Product description

The modular light grid MLG with analog output and internal software features can be used for intelligent height measurement and positioning. The MLG has two analog outputs: 4 to 20 mA or 0 to 10 V. Two analog outputs allow size and position measurement directly to an analog controller. A new teaching function (range setup) helps eliminate errors from reflective surfaces or semi-transparent objects.

At a glance

- Two analog outputs: voltage to current
- Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions
- Working range up to 8.5 m
- Detection heights of over 3 m and up to 240 beams possible
- Short response time of < 3 ms possible
- Teach algorithm for optimal sensitivity settings in difficult applications, such as measuring trans-lucent objects
- Easy-to-use setup software for customized applications with new features
- Software tools, such as height measurement, zoning, hole detection, and presence control make implementation of complex solutions achievable

Your benefits

- Intelligent evaluation software saves costs by quickly and easily turning a standard sensor into a custom problem solver, reducing the number of sensors, PLCs and programming required
- Easy-to-see status information helps avoid interrupting operation
- Different beam separation options, detection heights and output configurations ensure a reliable solution
- Integrated analog outputs reduce integration costs for measuring applications, because no additional software is necessary
- Discrete outputs for custom solutions without a PLC
- Tough metal housing stands up to harsh environments and reduces downtime

→ www.mysick.com/en/MLG_Analog_Output

Detailed technical data

Features

Technology	Sender/receiver
Task	Measurement light grid
Minimum detectable object (MDO)	Parallel beam: 15 mm ... 60 mm
Number of beams	3 ... 240
Configuration	Configuration interface (measuring)

Performance

Maximum range [1]	7 m 12 m
Minimum range	Parallel beam: ≥ 0 mm
Response time [2]	Parallel beam: 1.5 ms ... 37 ms Cross beam: depending on type

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

[2] With resistive load.

Interfaces

Inputs	2 x PNP 2 x NPN

Mechanics/electronics

Wave length	IR, 880 nm
Supply voltage V_S	DC 18 V ... 30 V
Power consumption sender [1]	< 140 mA + 2 mA per beam
Power consumption receiver [1]	< 100 mA + 3 mA per beam
Ripple	< 5 V_{SS}
Output current $I_{max.}$	100 mA
Output load capacitive	100 nF
Output load inductive	1 H
Initialization time	1 s
Dimensions (W x H x D)	34 mm x 214 mm x 29 mm ... 34 mm x 3,335 mm x 29 mm
Housing material	Aluminum
Indication	LED, 7-segment display
Synchronization	Cable
Enclosure rating	IP 65
Circuit protection	V_S connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Weight	0.73 kg ... 7.722 kg
Front screen	PMMA

[1] Without load with 24 V.

[2] Typical value.

Ambient data

Protection class	III
EMC	EN 60947-5-2
Ambient temperature	Operation: –25 °C ... +55 °C Storage: –40 °C ... +70 °C
Ambient light safety [1]	Direct: 12,500 lx Indirect: 50,000 lx
Vibration resistance	5 g, 10 Hz ... 55 Hz (IEC 68-2-6)
Shock load	10 g / DIN EN 60068-2-29 / 16 ms

[1] Sunlight.

Specific data

Connection type	Switching output	Model name	Ordering information
Connector M12, 8-pin	2 x analog, 1 x PNP	MLGx-xxxxA8xx	56
	2 x analog, 1 x NPN	MLGx-xxxxN8xx	56

Ordering information

The part numbers below show a selection of our common configurations and represent only a portion of the product portfolio. The type code on page 57 indicates all possible configurations that can be ordered.

Please note: Sender and receiver are only offered as a pair.

MLGx-xxxxA8xx

- **Connection type:** Connector M12, 8-pin
- **Switching output:** 2 x analog, 1 x PNP

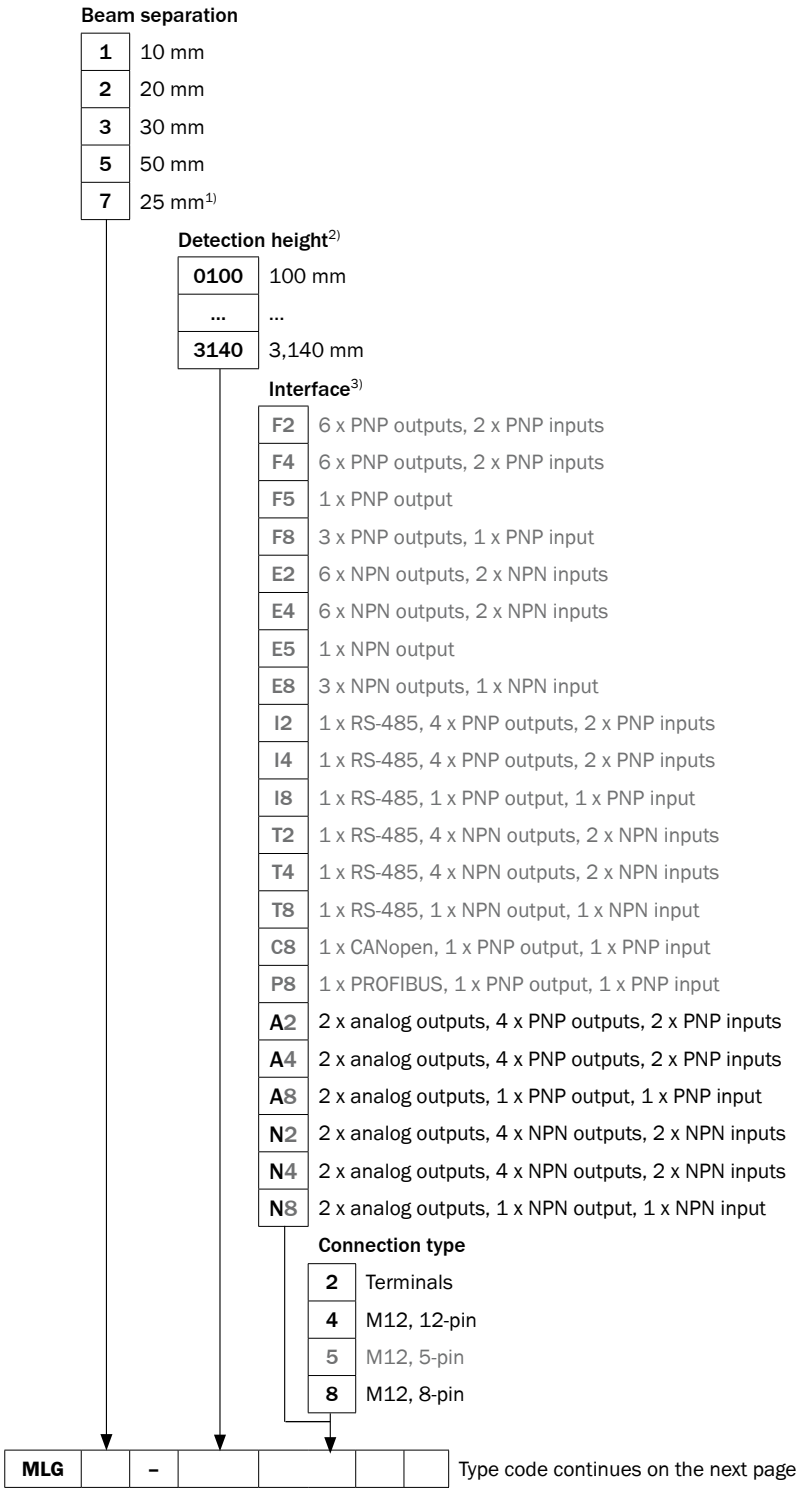
Beam separation	Working range	Detection height	Model name	Part no.
10 mm	5 m	290 mm	MLG1-0290A812	1053489
		590 mm	MLG1-0990A812	1054673
		2,240 mm	MLG1-2240A812	1055177
	8.5 m	2,240 mm	MLG1-2240A822	1055178
20 mm	5 m	580 mm	MLG2-0580A812	1055179
30 mm	5 m	1,470 mm	MLG3-1470A812	1055180
50 mm	5 m	100 mm	MLG5-0100A812	1055181
		2,050 mm	MLG5-2050A812	1055182
	8.5 m	100 mm	MLG5-0100A822	1055183

MLGx-xxxxN8xx

- **Connection type:** Connector M12, 8-pin
- **Switching output:** 2 x analog, 1 x NPN

Beam separation	Working range	Detection height	Model name	Part no.
10 mm	5 m	2,240 mm	MLG1-2240N812	1055185
	8.5 m	2,240 mm	MLG1-2240N822	1055186
50 mm	5 m	100 mm	MLG5-0100N812	1055187
	8.5 m	100 mm	MLG5-0100N822	1055188

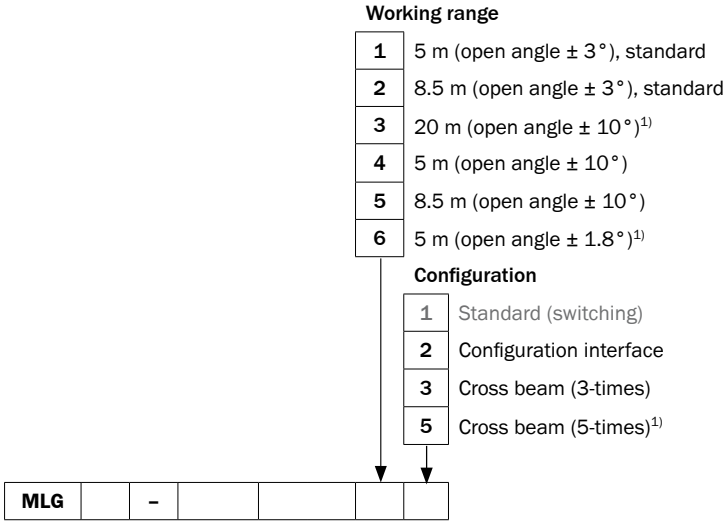
Type code



1) On demand.

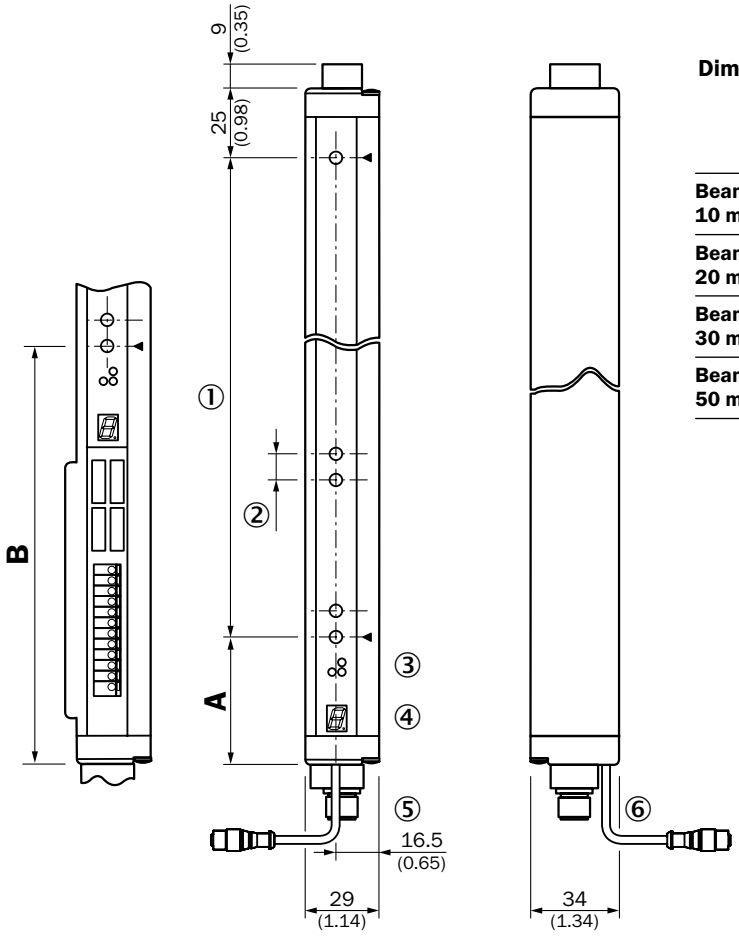
2) Max. 240 beams possible.

3) Number refers to possible connection type.


Working range
1
5 m (open angle ± 3°), standard
2
8.5 m (open angle ± 3°), standard
3
20 m (open angle ± 10°)1)
4
5 m (open angle ± 10°)
5
8.5 m (open angle ± 10°)
6
5 m (open angle ± 1.8°)1)
Configuration
1
Standard (switching)
2
Configuration interface
3
Cross beam (3-times)
5
Cross beam (5-times)1)
MLG
–

1) On demand.

Dimensional drawing



Dimensions in mm (inch)

	A Distance: MLG edge – first beam	B
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)

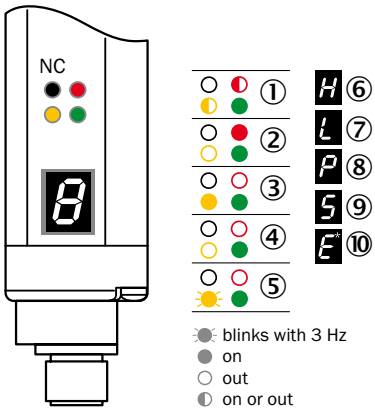
[1] With even number of beams.
[2] With odd number of beams.

All dimensions in mm (inch)

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

Adjustments

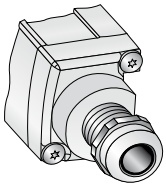
Receiver, LED indication



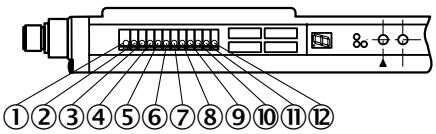
① Supply voltage
② Device error
③ No object in the light path
④ Object in the light path
⑤ Pollution indication or alignment aid
⑥ Blocked Beams Hold (BBH)
⑦ Activated teach-in procedure
⑧ ParamMode is active
⑨ Standby
⑩ Error: E1 = sync. error; E2 = less receiver signal; E9 = defect

Connection type and diagram

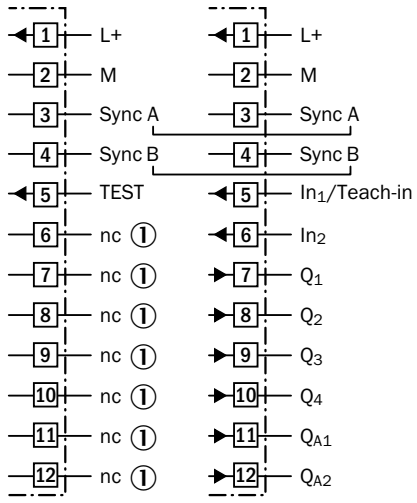
MLGx-xxxxx2xx
Sender
Terminals



MLGx-xxxxx2xx
Receiver
Terminals



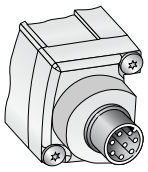
Sender



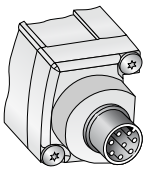
Receiver

① Not connected

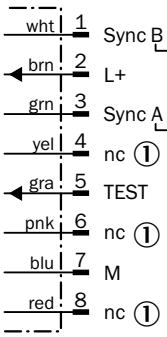
MLGx-xxxxx8xx
Sender
Connector
M12, 8-pin



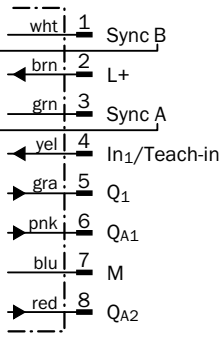
MLGx-xxxxx8xx
Receiver
Connector
M12, 8-pin



Sender

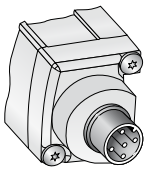


Receiver

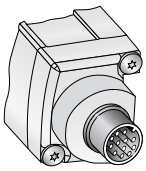


① Not connected

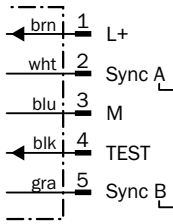
MLGx-xxxxx4xx
Sender
Connector
M12, 5-pin



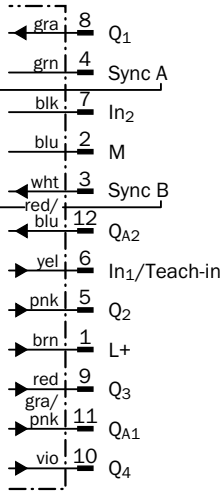
MLGx-xxxxx4xx
Receiver
Connector
M12, 12-pin



Sender



Receiver



Recommended accessories

Complete accessories for the MLG Analog Output include: 1 female connector, 1 bracket, 1 t-junction and 1 connection cable.

Please take note of the number of pins on the connector when choosing connection cables.

Adapters/distributors (without cable)

	Brief description	Model name	Part no.
	T-junction, 1x plug M12, 8-pin and 2x socket M12, 8-pin	SBO-02F12-SM	6029306

Mounting brackets/plates

	Brief description	Model name	Part no.
	Mounting kit 1, adjustable, swivel mount, for all detection heights in small housings, plastic, without mounting material, 4 pcs	BEF-2SMKEAKU4	2019649
	Mounting kit, side bracket including four sliding nuts for MLG/ELG/HLG, 4 pcs	BEF-NUT-MLG	2023696
	Mounting bracket, steel, zinc coated, without mounting material, 4 pcs	BEF-WK-XLG	2029100

Plug connectors and cables

	Brief description	Model name	Part no.
 Illustration may differ	Female connector, M12, 8-pin, straight, 2 m, PVC, shielded	DOL-1208-G02MA	6020633
	Female connector, M12, 8-pin, straight, 5 m, PVC, shielded	DOL-1208-G05MA	6020993
	Female connector, M12, 8-pin, straight, 10 m, PVC, shielded	DOL-1208-G10MA	6022152
 Illustration may differ	Female connector, M12, 8-pin, angled, 2 m, PVC, shielded	DOL-1208-W02MA	6020992
	Female connector, M12, 8-pin, angled, 5 m, PVC, shielded	DOL-1208-W05MA	6021033
 Illustration may differ	Configuration cable, 2 m, PVC	DSL-8D04-G02M	2023695
	Connection cable, M12, 8-pin, plug straight/socket straight, 2 m, PUR halogen free, shielded	DSL-1208-G02MAC	6030121
	Connection cable, M12, 8-pin, plug straight/socket straight, 5 m, PUR halogen free, shielded	DSL-1208-G05MAC	6032325
	Connection cable, M12, 8-pin, plug straight/socket straight, 10 m, PUR halogen free, shielded	DSL-1208-G10MAC	6034901

For additional accessories including dimensional drawings, please see page 72.

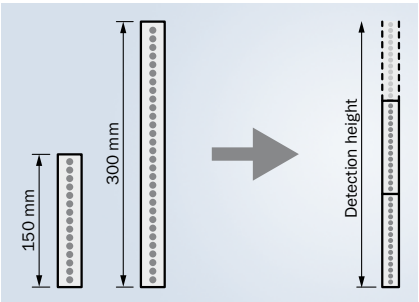
Special functions

Modular construction

The advanced automation light grids are using a modular design principle. Every optics module has 15 beams. If you want tc calculate the detection height, you have to subtract the single beam separation of the overall height of the optics modules.

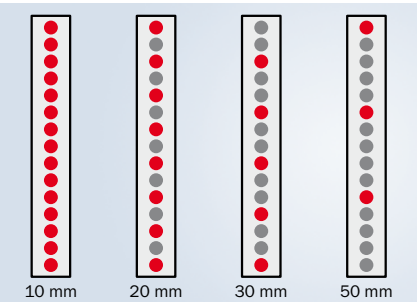
E.g. 3 x 150 mm = 450 mm (overall height)
450 mm – 10 mm (beam separation) = 440 mm (detection height)

Detection height
Minimum = 100 mm
Maximum = 3,140 mm



Simple interconnection of optics modules with lengths of 150 mm or 300 mm. Monitoring height determines how many modules to use.

Beam separation
Minimum = 10 mm
Maximum = 50 mm



Beam separation varies depending on how the optics modules are equipped with LEDs. The smaller the beam separation, the higher the resolution will be. There is also an MLG variant with a beam separation of 25 mm.

Reliable measurement even in sunlight

Product description

The programmable version of the XLG automation light grid offers reliability, speed and flexibility. It has additional features compared to the MLG. The XLG's high immunity to infrared light and sunlight, the optional heated protective housing, and the scratch- and weather-resistant front lens ensure a high level of reliability over long periods of time, even in the most adverse external conditions. Response times of only a few milliseconds and fast data output interfaces, such as RS-485, ensure it can operate in a wide range of outdoor applications.

At a glance

- Up to 6 x PNP or NPN switching outputs and two switching inputs
- Resolutions of 10 / 20 / 30 / 50 mm and customer-specific resolutions
- Working range up to 5 m
- Detection heights of over 3 m and up to 150 beams possible
- Short response time < 3 ms
- External teach-in for optimal sensitivity settings
- Highest immunity to sunlight
- Scratch-resistant front lens

Your benefits

- Highest immunity to sunlight for trouble-free operation
- Intelligent evaluation software saves costs
- Easy-to-see status information helps avoid interrupting operation
- Different beam separation options, detection heights and output configurations ensure a reliable solution

Additional information

→ www.mysick.com/en/XLG_Programmable

Detailed technical data

Features

Technology	Sender/receiver
Task	Measurement light grid
Minimum detectable object (MDO)	Parallel beam: 15 mm ... 60 mm
Number of beams	3 ... 150
Configuration	Configuration interface (measuring)

Performance

Maximum range [1]	7 m 12 m
Minimum range	Parallel beam: ≥ 0 mm
Response time [2]	Parallel beam: 1.5 ms ... 24 ms Cross beam: depending on type

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

[2] With resistive load.

Interfaces

Inputs	2 x PNP

Mechanics/electronics

Wave length	IR, 880 nm
Supply voltage V_S	DC 18 V ... 30 V
Power consumption sender [1]	< 140 mA + 2 mA per beam
Power consumption receiver [1]	< 100 mA + 3 mA per beam
Ripple	< 5 V_{SS}
Output current $I_{max.}$	100 mA
Output load capacitive	100 nF
Output load inductive	1 H
Initialization time	1 s
Dimensions (W x H x D)	34 mm x 214 mm x 29 mm ... 34 mm x 2,125 mm x 29 mm
Housing material	Aluminum
Indication	LED, 7-segment display
Synchronization	Cable
Enclosure rating	IP 65
Circuit protection	V_S connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Weight	0.73 kg ... 6 kg
Front screen	PMMA

[1] Without load with 24 V.

Ambient data

Protection class	III
EMC	EN 60947-5-2
Ambient temperature	Operation: –25 °C ... +55 °C Storage: –40 °C ... +70 °C
Ambient light safety [1]	Direct: 150,000 lx Indirect: 200,000 lx
Vibration resistance	5 g, 10 Hz ... 55 Hz (IEC 68-2-6)
Shock load	10 g / DIN EN 60068-2-29 / 16 ms

[1] Sunlight.

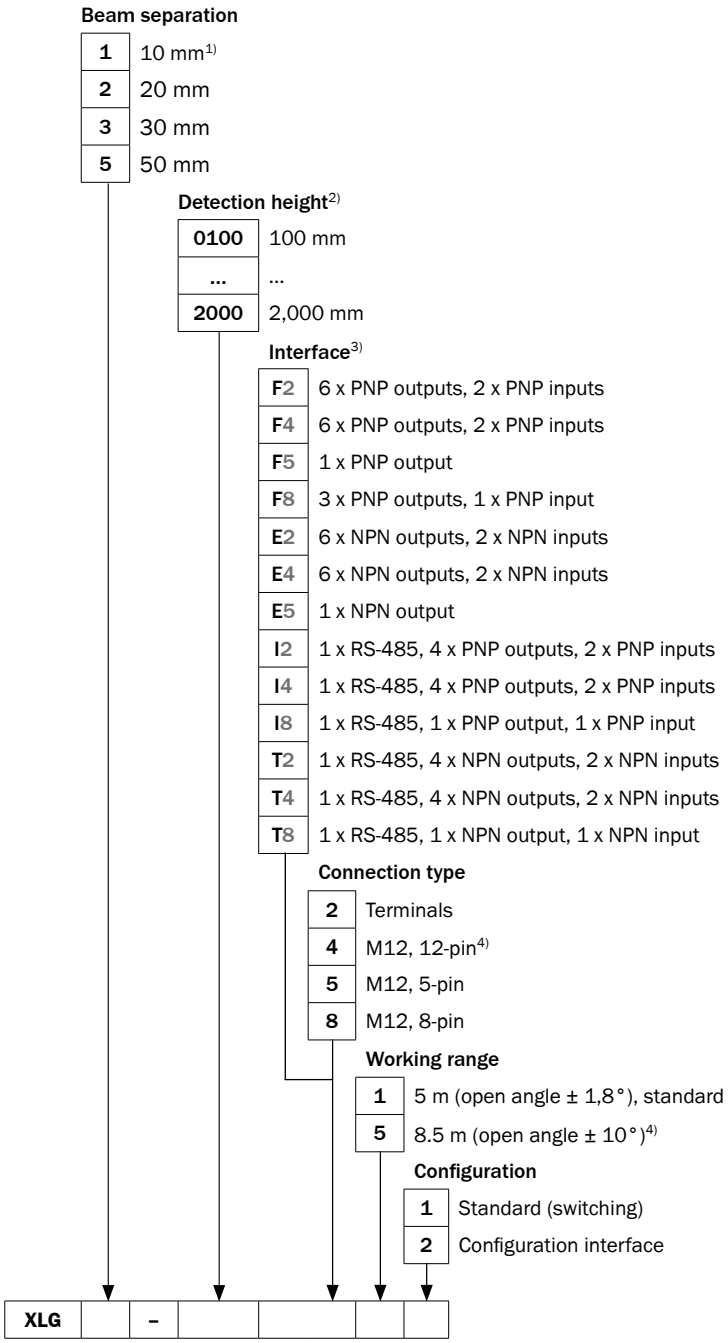
Ordering information

The part numbers below show a selection of our common configurations and represent only a portion of the product portfolio. The type code on page 67 indicates all possible configurations that can be ordered.

Please note: Sender and receiver are only offered as a pair.

Beam separation	Working range	Detection height	Switching output	Connection type	Model name	Part no.
20 mm	5 m	1,180 mm	4 x PNP	Terminals	XLG2-1180I212	1048203
30 mm	5 m	1,020 mm	3 x PNP	Connector M12, 8-pin	XLG3-1020F812	1046353
		1,470 mm	3 x PNP	Connector M12, 8-pin	XLG3-1470F812	1047926
50 mm	5 m	1,900 mm	4 x PNP	Terminals	XLG5-1900I212	1048351

Type code



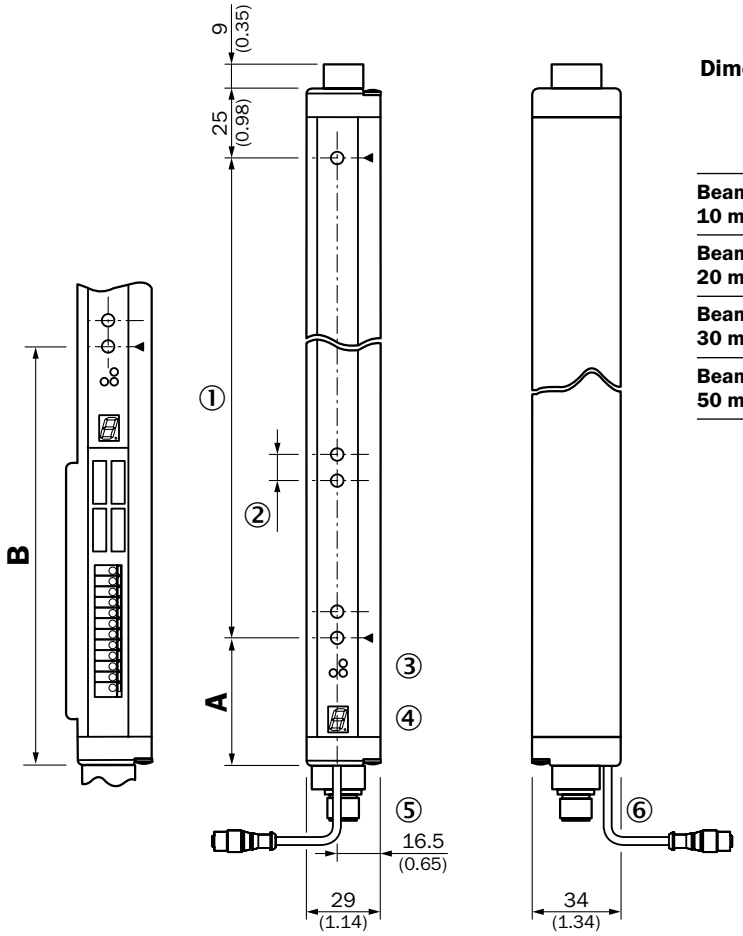
[1)] Only for PNP outputs.

[2)] Max. 150 beams possible.

[3)] Number refers to possible connection type.

[4)] On demand.

Dimensional drawing



Dimensions in mm (inch)

	A Distance: XLG edge – first beam	B
Beam separation XLG1 **10 mm**	49 (1.93)	160 (6.30)
Beam separation XLG2 **20 mm**	49 (1.93) [1] 59 (2.32) [2]	170 (6.69)
Beam separation XLG3 **30 mm**	69 (2.72)	180 (7.09)
Beam separation XLG5 **50 mm**	89 (3.50)	200 (7.87)

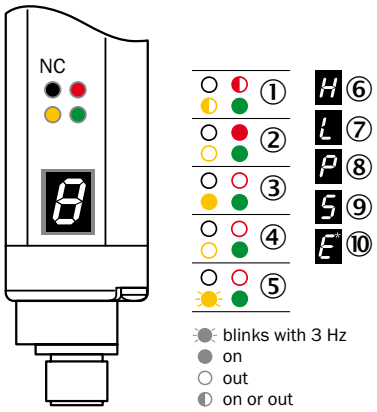
[1] With even number of beams.
[2] With odd number of beams.

All dimensions in mm (inch)

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

Adjustments

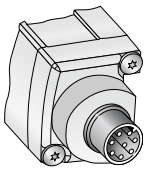
Receiver, LED indication



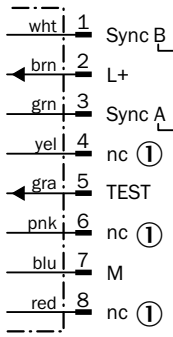
① Supply voltage
② Device error
③ No object in the light path
④ Object in the light path
⑤ Pollution indication or alignment aid
⑥ Blocked Beams Hold (BBH)
⑦ Activated teach-in procedure
⑧ ParamMode is active
⑨ Standby
⑩ Error: E1 = sync. error; E2 = less receiver signal; E9 = defect

Connection type and diagram

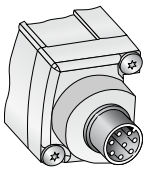
XLGx-xxxxx8xx
Sender
Connector
M12, 8-pin



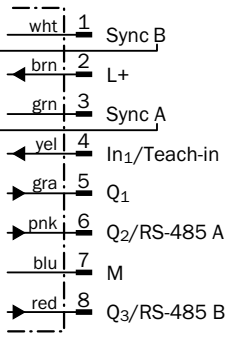
Sender



XLGx-xxxxx8xx
Receiver
Connector
M12, 8-pin

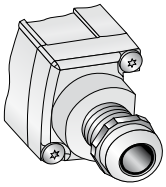


Receiver

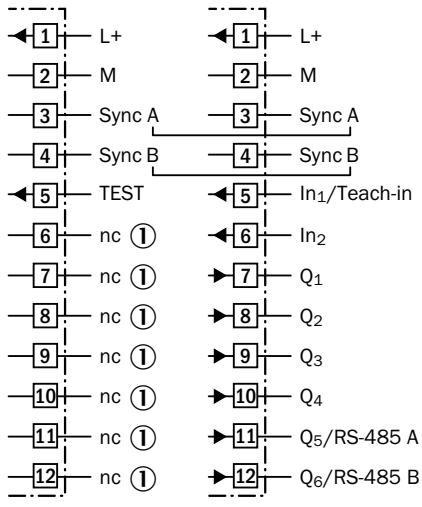


① Not connected

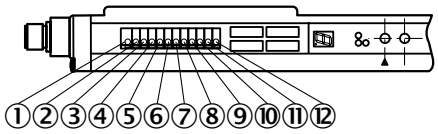
XLGx-xxxxx2xx
Sender
Terminals



Sender



XLGx-xxxxx2xx
Receiver
Terminals



Receiver

① Not connected

Recommended accessories

Complete accessories for the XLG Programmable include: 1 female connector, 1 bracket, 1 t-junction and 1 connection cable.

Please take note of the number of pins on the connector when choosing connection cables.

Adapters/distributors (without cable)

	Brief description	Model name	Part no.
	T-junction, 1x plug M12, 8-pin and 2x socket M12, 8-pin	SBO-02F12-SM	6029306

Mounting brackets/plates

	Brief description	Model name	Part no.
	Mounting kit 1, adjustable, swivel mount, for all detection heights in small housings, plastic, without mounting material, 4 pcs	BEF-2SMKEAKU4	2019649
	Mounting kit, side bracket including four sliding nuts for MLG/ELG/HLG, 4 pcs	BEF-NUT-MLG	2023696
	Mounting bracket, steel, zinc coated, without mounting material, 4 pcs	BEF-WK-XLG	2029100

Others

	Brief description	Model name	Part no.
	Acrylic glass tube as protective housing with screwable aluminum end cap	ALG IP housing	On demand
	Housing column for automation light grids, protection for outdoor applications	ALG protection housing	On demand

Plug connectors and cables

	Brief description	Model name	Part no.
 Illustration may differ	Female connector, M12, 8-pin, straight, 2 m, PVC, shielded	DOL-1208-G02MA	6020633
	Female connector, M12, 8-pin, straight, 5 m, PVC, shielded	DOL-1208-G05MA	6020993
	Female connector, M12, 8-pin, straight, 10 m, PVC, shielded	DOL-1208-G10MA	6022152
 Illustration may differ	Female connector, M12, 8-pin, angled, 2 m, PVC, shielded	DOL-1208-W02MA	6020992
	Female connector, M12, 8-pin, angled, 5 m, PVC, shielded	DOL-1208-W05MA	6021033
 Illustration may differ	Configuration cable, 2 m, PVC	DSL-8D04-G02M	2023695
	Connection cable, M12, 8-pin, plug straight/socket straight, 2 m, PUR halogen free, shielded	DSL-1208-G02MAC	6030121
	Connection cable, M12, 8-pin, plug straight/socket straight, 5 m, PUR halogen free, shielded	DSL-1208-G05MAC	6032325
	Connection cable, M12, 8-pin, plug straight/socket straight, 10 m, PUR halogen free, shielded	DSL-1208-G10MAC	6034901

For additional accessories including dimensional drawings, please see page 72

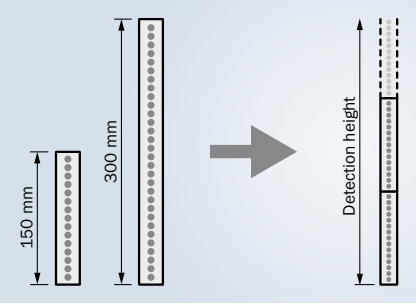
Special functions

Modular construction

The advanced automation light grids are using a modular design principle. Every optics module has 15 beams. If you want tc calculate the detection height, you have to subtract the single beam separation of the overall height of the optics modules.

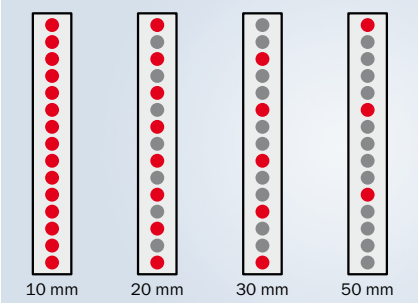
E.g. 3 x 150 mm = 450 mm (overall height)
450 mm – 10 mm (beam separation) = 440 mm (detection height)

Detection height
Minimum = 100 mm
Maximum = 3,140 mm



Simple interconnection of optics modules with lengths of 150 mm or 300 mm. Monitoring height determines how many modules to use.

Beam separation
Minimum = 10 mm
Maximum = 50 mm



Beam separation varies depending on how the optics modules are equipped with LEDs. The smaller the beam separation, the higher the resolution will be. There is also an MLG variant with a beam separation of 25 mm.

Accessories

Adapters/distributors (without cable)

	Brief description	Model name	Part no.	MLG Standard	MLG Progr.	MLG Progr. 12-pin	MLG PROFIBUS	MLG CANopen	MLG Analog Output	XLG Progr.
	PROFIBUS adapter, straight	ADAPT-PB-GE-MLG	1027921	–	–	–	●	–	–	–
	PROFIBUS adapter, angled	ADAPT-PB-WI-MLG	1027901	–	–	–	●	–	–	–
	CAN adapter, straight	ADPT-CAN-GE-MLG	1052957	–	–	–	–	●	–	–
	T-junction, 1x plug M12, 8-pin and 2x socket M12, 8-pin	SBO-02F12-SM	6029306	–	●	–	–	–	●	●
	T-junction, 1x plug M12, 5-pin and 2x socket M12, 5-pin	SBO-02G12-SM	6029305	●	–	–	●	●	–	–
	Connection cable, socket RS-232, USB, 0.35 m	Converter RS-232 to USB	6035396	–	●	●	–	–	●	●

Cleaning agent

	Brief description	Model name	Part no.	MLG Standard	MLG Progr.	MLG Progr. 12-pin	MLG PROFIBUS	MLG CANopen	MLG Analog Output	XLG Progr.
	Plastic cleaner and care product, anti-static	Plastic cleaner	5600006	●	●	●	●	●	●	●

Lens cloths

	Brief description	Model name	Part no.	MLG Standard	MLG Progr.	MLG Progr. 12-pin	MLG PROFIBUS	MLG CANopen	MLG Analog Output	XLG Progr.
	–	Optical cleaning cloth	4003353	●	●	●	●	●	●	●

Mounting brackets/plates

	Brief description	Model name	Part no.	MLG Standard	MLG Progr.	MLG Progr. 12-pin	MLG PROFIBUS	MLG CANopen	MLG Analog Output	XLG Progr.
	Mounting kit, mounting bracket, adjustable, 1 set = 4 pcs	BEF-1SHABAAL4	2017751	●	●	●	●	●	●	●
	Omega bracket (24 mm), mounting position: front side, aluminum, 2 pcs	BEF-2SMKEAAL2	2045884	●	●	●	●	●	●	●
	Omega bracket (24 mm), mounting position: front side, aluminum, 4 pcs	BEF-2SMKEAAL4	2044848	●	●	●	●	●	●	●
	Mounting bracket, adjustable, stainless steel, for all detection heights, 4 pcs	BEF-2SMKEAES4	2030288	●	●	●	●	●	●	●
	Mounting kit 1, adjustable, swivel mount, for all detection heights in small housings, plastic, without mounting material, 4 pcs	BEF-2SMKEAKU4	2019649	●	●	●	●	●	●	●
	Mounting kit, mounting bracket, rigid, L-shaped, for all detection heights, 4 pcs	BEF-3WNGBAST4	7021352	●	●	●	●	●	●	●
	Mounting kit, side bracket including four sliding nuts for MLG/ELG/HLG, 4 pcs	BEF-NUT-MLG	2023696	●	●	●	●	●	●	●
	Sliding nuts, M5, 4 pcs	Sliding nuts	2017550	●	●	●	●	●	●	●
	Mounting bracket, steel, zinc coated, without mounting material, 4 pcs	BEF-WK-XLG	2029100	●	●	●	●	●	●	●

Others

	Brief description	Model name	Part no.	MLG Standard	MLG Progr.	MLG Progr. 12-pin	MLG PROFIBUS	MLG CANopen	MLG Analog Output	XLG Progr.
	Adapter for alignment aid AR60	Adapter for AR60, for small housing profile	4032462	●	●	●	●	●	●	●
	Alignment aid for various sensors, 60 m sensing range, laser class 2	Laser alignment aid AR60	1015741	●	●	●	●	●	●	●
	Acrylic glass tube as protective housing with screwable aluminum end cap	ALG IP housing	On demand	●	●	●	●	●	●	●
	Housing column for automation light grids, protection for outdoor applications	ALG protection housing	On demand	●	●	●	●	●	●	●

Plug connectors and cables

	Brief description	Model name	Part no.	MLG Standard	MLG Progr.	MLG Progr. 12-pin	MLG PROFIBUS	MLG CANopen	MLG Analog Output	XLG Progr.
	Female connector, M12, 5-pin, straight, 5 m, CAN	CAN cable 5 m (socket-open end)	6021166	–	–	–	–	●	–	–
	Connection cable, M12, 5-pin, plug straight/socket straight, 1 m, CAN	CAN cable (plug-socket)	6021164	–	–	–	–	●	–	–
 Illustration may differ	Female connector, M12, 5-pin, straight, 2 m, PVC	DOL-1205-G02M	6008899	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, straight, 5 m, PVC	DOL-1205-G05M	6009868	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, straight, 10 m, PVC	DOL-1205-G10M	6010544	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, straight, 15 m, PVC	DOL-1205-G15M	6029215	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, straight, 2 m, PUR halogen free	DOL-1205-G02MC	6025906	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, straight, 5 m, PUR halogen free	DOL-1205-G05MC	6025907	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, straight, 10 m, PUR halogen free	DOL-1205-G10MC	6025908	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, straight, 10 m, PUR halogen free, shielded	DOL-1205-G10MAC	6036385	–	–	–	–	●	–	–
 Illustration may differ	Female connector, M12, 5-pin, straight, 2 m, PVC, food specification	DOL-1205-G02MN	6028140	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, straight, 5 m, PVC, food specification	DOL-1205-G05MN	6028141	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, straight, 10 m, PVC, food specification	DOL-1205-G10MN	6028142	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, straight, 5 m, PROFIBUS	DOL-1205-G05MQ	6026006	–	–	–	●	–	–	–
	Female connector, M12, 5-pin, straight, 10 m, PROFIBUS	DOL-1205-G10MQ	6026008	–	–	–	●	–	–	–
	Female connector, M12, 5-pin, straight, 12 m, PROFIBUS	DOL-1205-G12MQ	6032636	–	–	–	●	–	–	–
 Illustration may differ	Female connector, M12, 5-pin, straight, 6 m, CANopen	DOL-1205-G06MK	6028326	–	–	–	–	●	–	–
 Illustration may differ	Female connector, M12, 5-pin, angled, 2 m, PVC	DOL-1205-W02M	6008900	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, angled, 5 m, PVC	DOL-1205-W05M	6009869	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, angled, 10 m, PVC	DOL-1205-W10M	6010542	●	–	●	●	●	–	–
 Illustration may differ	Female connector, M12, 8-pin, straight, 2 m, PVC, shielded	DOL-1208-G02MA	6020633	–	●	–	–	–	●	●
	Female connector, M12, 8-pin, straight, 5 m, PVC, shielded	DOL-1208-G05MA	6020993	–	●	–	–	–	●	●
	Female connector, M12, 8-pin, straight, 10 m, PVC, shielded	DOL-1208-G10MA	6022152	–	●	–	–	–	●	●
	Female connector, M12, 8-pin, straight, 15 m, PVC, shielded	DOL-1208-G15MA	6022153	–	●	–	–	–	●	●
	Female connector, M12, 8-pin, straight, 5 m, PUR halogen free, shielded	DOL-1208-G05MACR	6037517	–	●	–	–	–	●	●
	Female connector, M12, 8-pin, straight, 10 m, PUR halogen free, shielded	DOL-1208-G10MAC	6038832	–	●	–	–	–	●	●
 Illustration may differ	Female connector, M12, 8-pin, angled, 2 m, PVC, shielded	DOL-1208-W02MA	6020992	–	●	–	–	–	●	●
	Female connector, M12, 8-pin, angled, 5 m, PVC, shielded	DOL-1208-W05MA	6021033	–	●	–	–	–	●	●
	Female connector, M12, 8-pin, angled, 10 m, PUR halogen free, shielded	DOL-1208-W10MAC	6037726	–	●	–	–	–	●	●

	Brief description	Model name	Part no.	MLG Standard	MLG Progr.	MLG Progr. 12-pin	MLG PROFIBUS	MLG CANopen	MLG Analog Output	XLG Progr.
 Illustration may differ	Female connector, M12, 12-pin, straight, 2 m, PVC, shielded	DOL-1212-G02MA	6034604	–	–	●	–	–	●	–
	Female connector, M12, 12-pin, straight, 5 m, PVC, shielded	DOL-1212-G05MA	6034605	–	–	●	–	–	●	–
	Female connector, M12, 12-pin, straight, 10 m, PVC, shielded	DOL-1212-G10MAS01	6037356	–	–	●	–	–	●	–
	Female connector, M12, 5-pin, straight	DOS-1205-G	6009719	●	–	●	●	●	–	–
	Female connector, M12, 5-pin, angled	DOS-1205-W	6009720	●	–	●	●	●	–	–
	Female connector, M12, 8-pin, straight, shielded	DOS-1208-GA	6028369	–	●	–	–	–	●	●
	Female connector, M12, 8-pin, angled, shielded	DOS-1208-WA	6043358	–	●	–	–	–	●	●
 Illustration may differ	Female connector, M12, 5-pin, 5 m, PVC	DeviceNet cable	6030741	–	–	–	–	●	–	–
 Illustration may differ	Configuration cable, 2 m, PVC	DSL-8D04-G02M	2023695	–	●	–	–	–	●	●
	Connection cable, M12, 5-pin, plug straight/socket straight, 1 m, PUR halogen free	DSL-1205-G01MC	6029280	●	–	●	●	●	–	–
	Connection cable, M12, 5-pin, plug straight/socket straight, 1.5 m, PUR halogen free	DSL-1205-G1M5C	6029281	●	–	●	●	●		
	Connection cable, M12, 5-pin, plug straight/socket straight, 2 m, PUR halogen free	DSL-1205-G02MC	6025931	●	–	●	●	●	–	–
	Connection cable, M12, 5-pin, plug straight/socket straight, 5 m, PUR halogen free	DSL-1205-G05MC	6029282	●	–	●	●	●	–	–
	Connection cable, M12, 5-pin, plug straight/socket straight, 10 m, PUR halogen free	DSL-1205-G10MC	6038954	●	–	●	●	●	–	–
	Connection cable, M12, 5-pin, plug straight/socket straight, 10 m, PROFIBUS	DSL-1205-G10MQ	6032640	–	–	–	●	–	–	–
	Connection cable, M12, 5-pin, plug straight/socket straight, 1 m, CAN	DSL-1205-G01MK	6021164	–	–	–	–	●	–	–
	Connection cable, M12, 5-pin, plug straight/socket straight, 6 m, CAN	DSL-1205-G06MK	6028327	–	–	–	–	●	–	–
	Connection cable, M12, 8-pin, plug straight/socket straight, 1 m, PUR halogen free, shielded	DSL-1208-G01MAC	6026625	–	●	–	–	–	●	●
	Connection cable, M12, 8-pin, plug straight/socket straight, 2 m, PUR halogen free, shielded	DSL-1208-G02MAC	6030121	–	●	–	–	–	●	●
	Connection cable, M12, 8-pin, plug straight/socket straight, 5 m, PUR halogen free, shielded	DSL-1208-G05MAC	6032325	–	●	–	–	–	●	●
	Connection cable, M12, 8-pin, plug straight/socket straight, 10 m, PUR halogen free, shielded	DSL-1208-G10MAC	6034901	–	●	–	–	–	●	●
	Cable, by the meter, PROFIBUS	LTG-2102-MW	6021355	–	–	–	●	–	–	–

	Brief description	Model name	Part no.	MLG Standard	MLG Progr.	MLG Progr. 12-pin	MLG PROFIBUS	MLG CANopen	MLG Analog Output	XLG Progr.
	Male connector, M12, 5-pin, straight, 5 m, PROFIBUS	STL-1205-G05MQ	6026005	–	–	–	●	–	–	–
	Male connector, M12, 5-pin, straight, 10 m, PROFIBUS	STL-1205-G10MQ	6026007	–	–	–	●	–	–	–
	Male connector, M12, 5-pin, straight, 12 m, PROFIBUS	STL-1205-G12MQ	6032635	–	–	–	●	–	–	–
	Male connector, M12, 5-pin, straight, 15 m, PROFIBUS	STL-1205-G15MQ	6036898	–	–	–	●	–	–	–
	Female connector, M12, 5-pin, straight, shielded, PROFIBUS	PR-DOS-1205-G	6021353	–	–	–	●	–	–	–
	Male connector, M12, 5-pin, straight, shielded, PROFIBUS	PR-STE-1205-G	6021354	–	–	–	●	–	–	–
	T-junction, 1x plug M12, 8-pin, and 2x socket M12, 8-pin	SBO-02F12-SM	6029306	–	●	–	–	–	●	●
	T-junction, 1x plug M12, 5-pin, and 2x socket M12, 5-pin	SBO-02G12-SM	6029305	●	–	–	●	●	–	–
	Male connector, M12, 5-pin, straight	STE-1205-G	6022083	●	–	●	●	●	–	–
	Male connector, M12, 5-pin, straight, terminal resistor	STE-1205-GKEND	6037193	–	–	–	–	●	–	–

Terminal and alignment brackets

	Brief description	Model name	Part no.	MLG Standard	MLG Progr.	MLG Progr. 12-pin	MLG PROFIBUS	MLG CANopen	MLG Analog Output	XLG Progr.
	Plate G for universal bar clamp, steel, zinc coated, incl. universal bar clamp and mounting material	BEF-KHS-G01	2022464	●	●	●	●	●	●	●
	Universal bar clamp, zinc, die-cast	BEF-KHS-KH1	2022726	●	●	●	●	●	●	●
	Mounting rod, straight, 300 mm, steel, zinc coated, without mounting material	BEF-MS12G-B	4056055	●	●	●	●	●	●	●
	Mounting rod, straight, 200 mm, stainless steel, without mounting material	BEF-MS12G-NA	4058914	●	●	●	●	●	●	●
	Mounting rod, straight, 300 mm, stainless steel, without mounting material	BEF-MS12G-NB	4058915	●	●	●	●	●	●	●
	Mounting rod, L-shaped, 150 mm x 150 mm, steel, zinc coated, without mounting material	BEF-MS12L-A	4056052	●	●	●	●	●	●	●
	Mounting rod, L-shaped, 250 mm x 250 mm, steel, zinc coated, without mounting material	BEF-MS12L-B	4056053	●	●	●	●	●	●	●
	Mounting rod, L-shaped, 150 mm x 150 mm, stainless steel, without mounting material	BEF-MS12L-NA	4058912	●	●	●	●	●	●	●
	Mounting rod, L-shaped, 250 mm x 250 mm, stainless steel, without mounting material	BEF-MS12L-NB	4058913	●	●	●	●	●	●	●

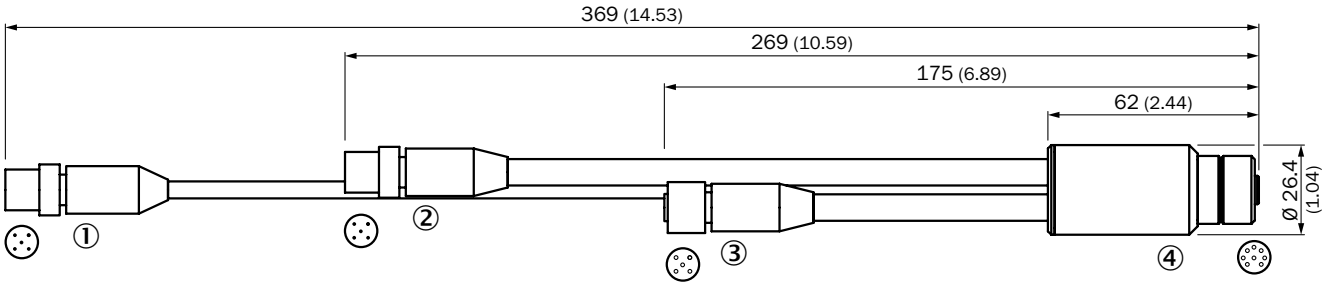
	Brief description	Model name	Part no.	MLG Standard	MLG Progr.	MLG Progr. 12-pin	MLG PROFIBUS	MLG CANopen	MLG Analog Output	XLG Progr.
	Mounting rod, L-shaped, 150 mm x 70 mm x 150 mm, steel, zinc coated, without mounting material	BEF-MS12Z-A	4056056	●	●	●	●	●	●	●
	Mounting rod, L-shaped, 150 mm x 70 mm x 250 mm, steel, zinc coated, without mounting material	BEF-MS12Z-B	4056057	●	●	●	●	●	●	●
	Mounting rod, L-shaped, 100 mm x 150 mm x 200 mm, steel, zinc coated, without mounting material	BEF-MS12Z-C	4064563	●	●	●	●	●	●	●
	Mounting rod, L-shaped, 150 mm x 70 mm x 150 mm, stainless steel, without mounting material	BEF-MS12Z-NA	4058916	●	●	●	●	●	●	●
	Mounting rod, L-shaped, 150 mm x 70 mm x 250 mm, stainless steel, without mounting material	BEF-MS12Z-NB	4058917	●	●	●	●	●	●	●
	Rod bar clamp for rod diameter of 12 mm, aluminum, 2 screws M6 x 30, 2 spring discs	BEF-RMC-D12	5321878	●	●	●	●	●	●	●

Dimensional drawings accessories

Adapters/distributors (without cable)

ADAPT-PB-GE-MLG

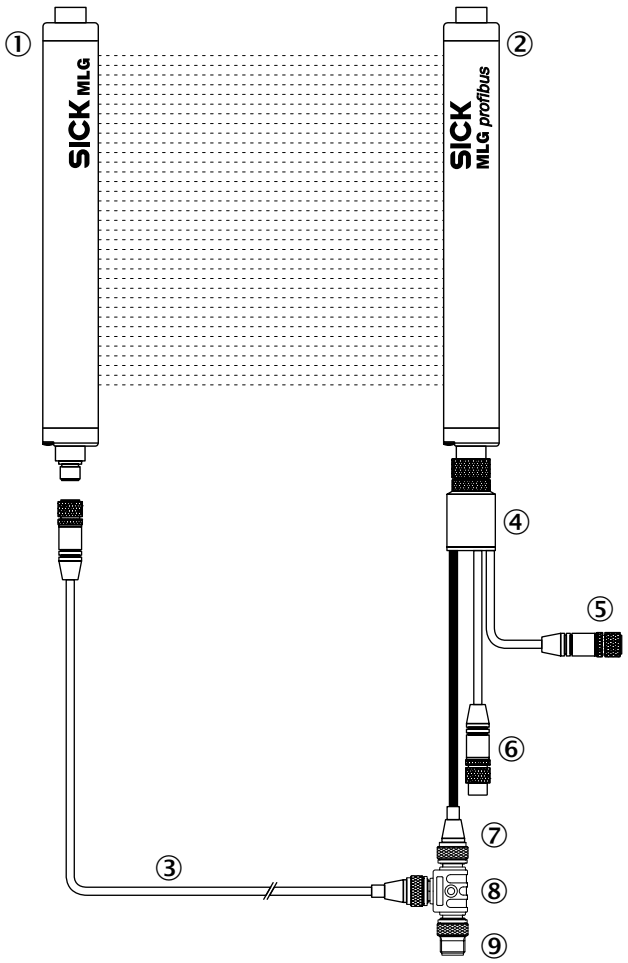
Dimensional drawing



All dimensions in mm (inch)

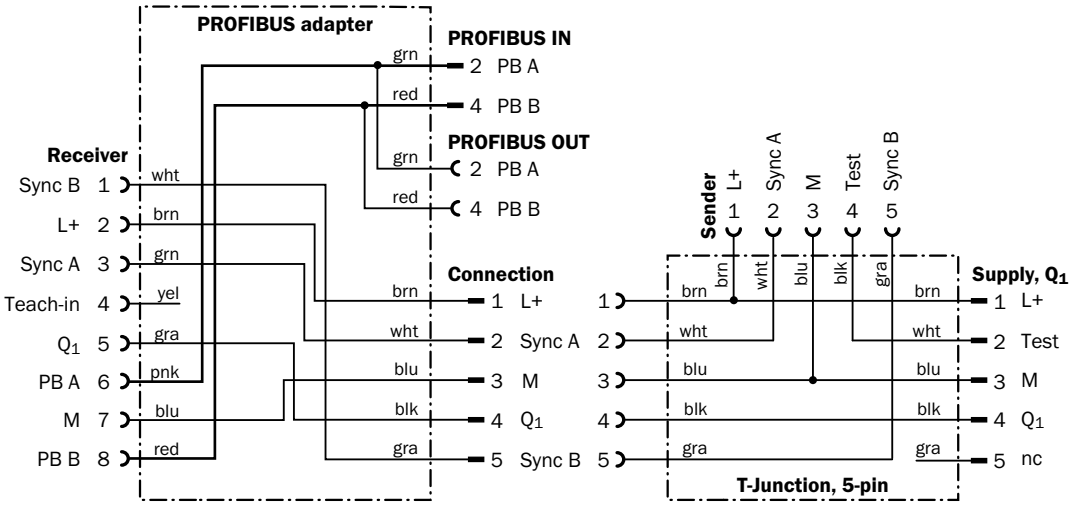
① MLG connection
② PROFIBUS OUT M12, 5-pin
③ PROFIBUS IN M12, 5-pin
④ MLG receiver

Connection type



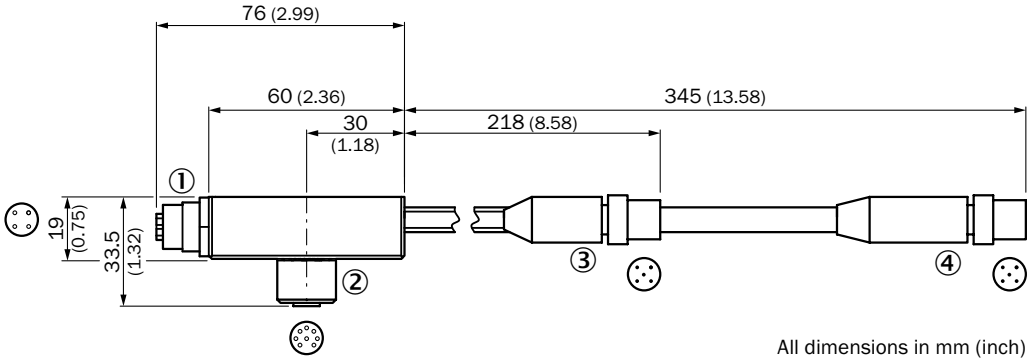
① MLG sender
② MLG receiver
③ Connection cable
④ PROFIBUS adapter straight
⑤ PROFIBUS IN M12, 5-pin
⑥ PROFIBUS OUT M12, 5-pin
⑦ MLG connection
⑧ Supply Q1

Connection diagram



ADAPT-PB-WI-MLG

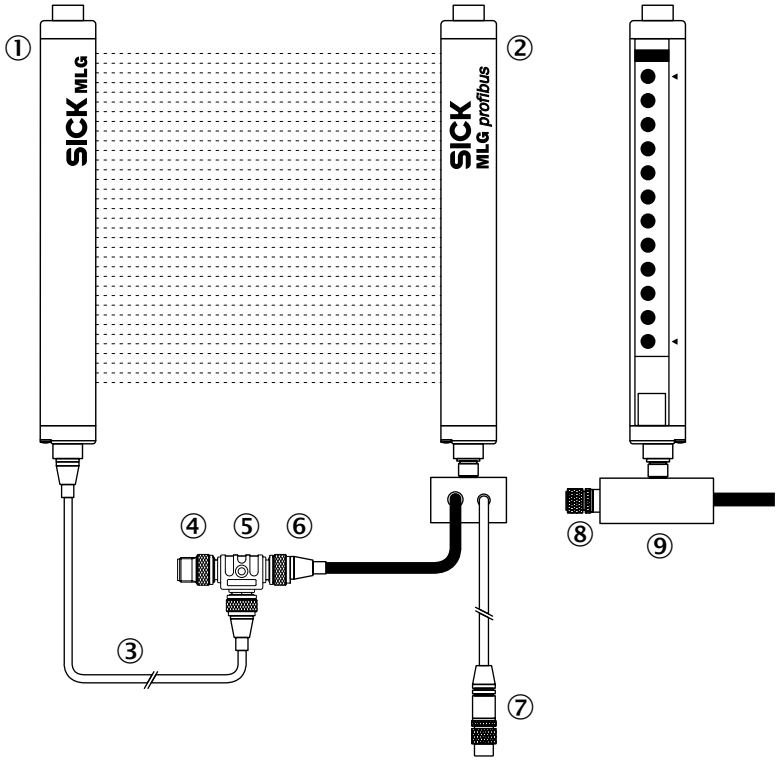
Dimensional drawing



All dimensions in mm (inch)

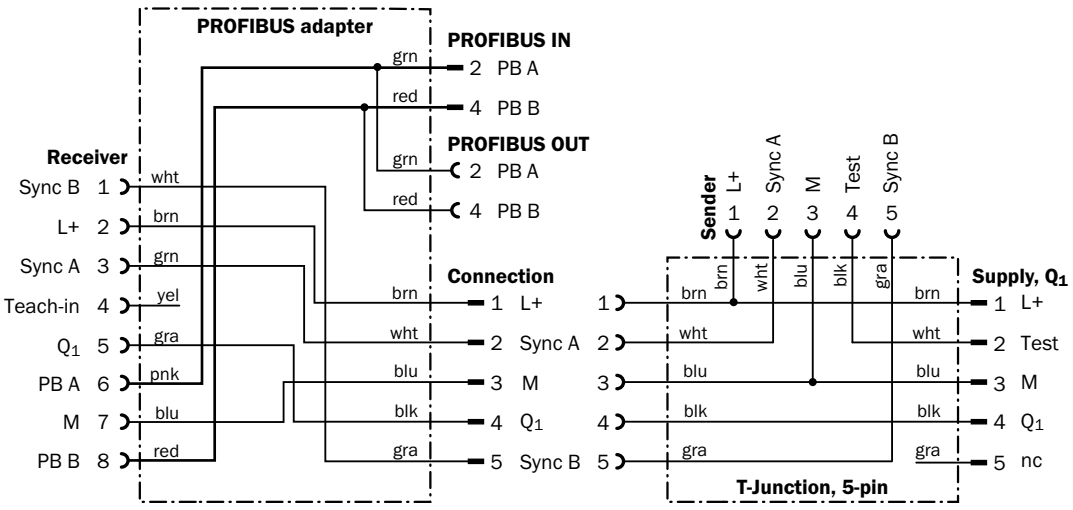
① PROFIBUS OUT M12, 5-pin
② MLG receiver
③ MLG connection
④ PROFIBUS IN M12, 5-pin

Connection type



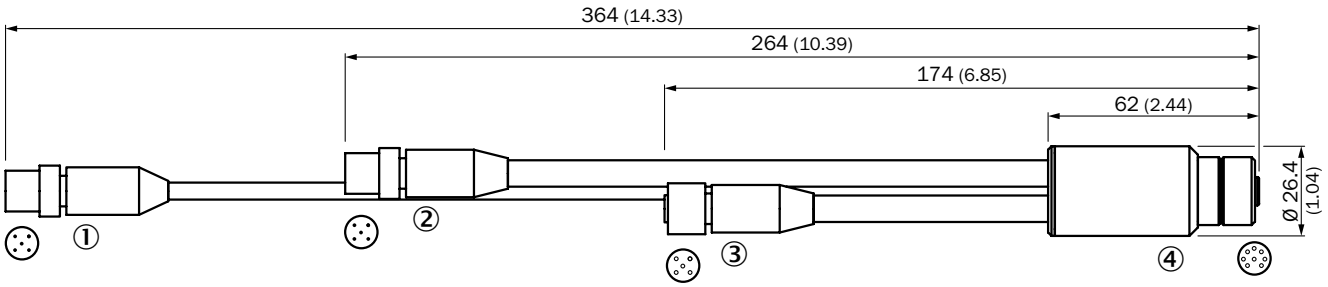
① MLG sender
② MLG receiver
③ Connection cable
④ Supply Q1
⑤ T-piece
⑥ MLG connection
⑦ PROFIBUS IN
⑧ PROFIBUS OUT
⑨ PROFIBUS adapter angled

Connection diagram



ADPT-CAN-GE-MLG

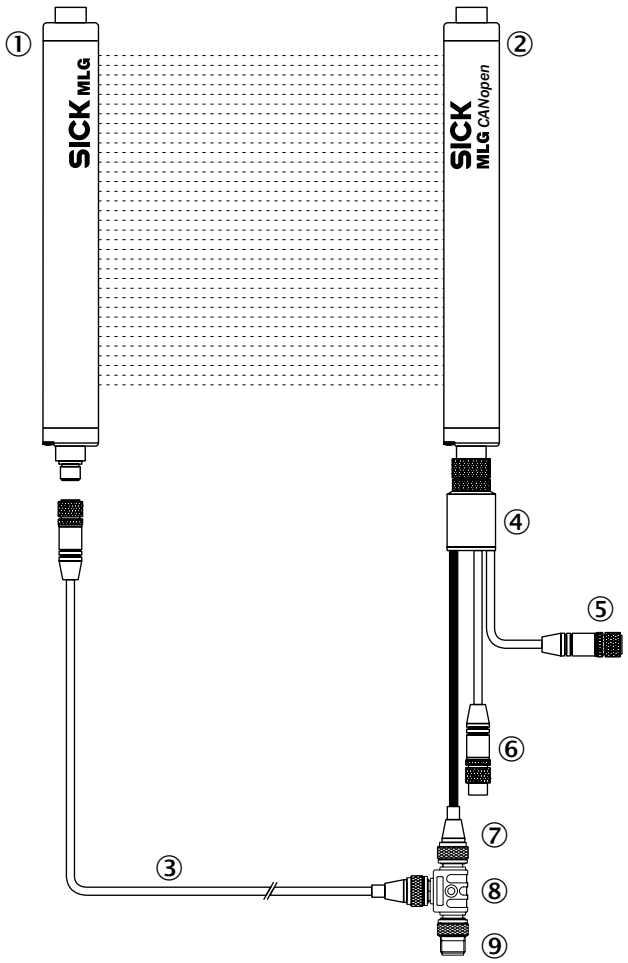
Dimensional drawing



All dimensions in mm (inch)

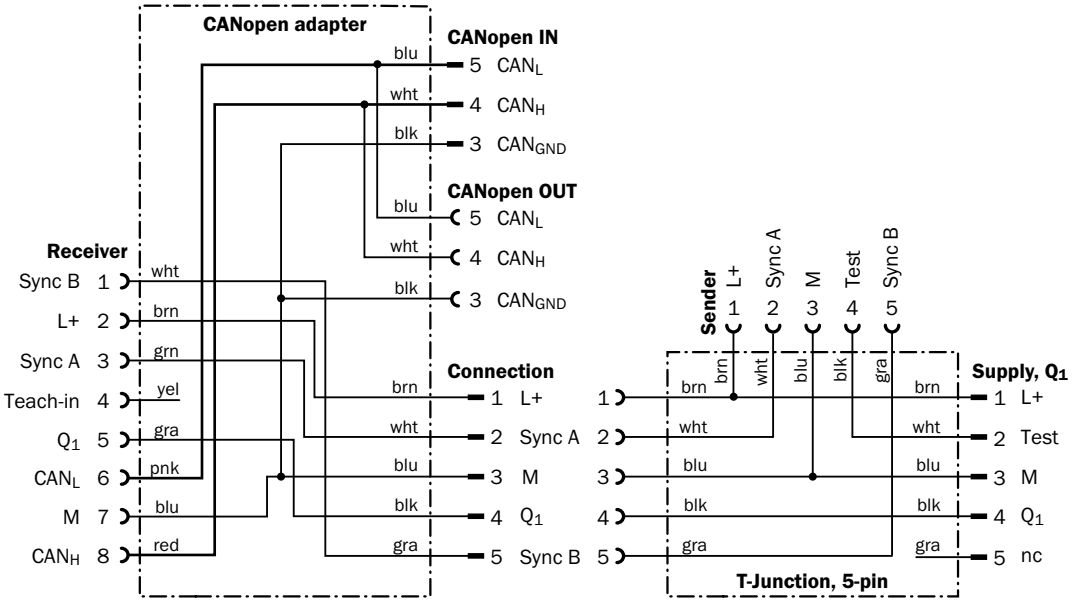
① MLG connection M12, 8-pin
② CANopen IN M12, 5-pin
③ CANopen OUT M12, 5-pin
④ MLG receiver

Connection type



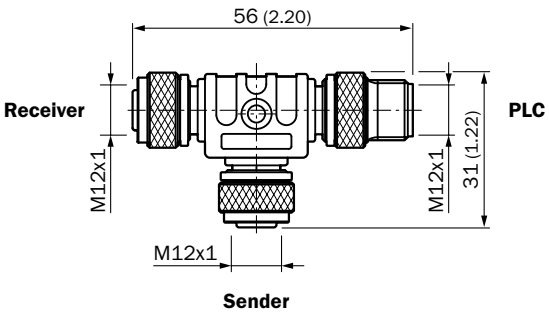
① MLG sender
② MLG receiver
③ Connection cable
④ CANopen adapter straight
⑤ CANopen OUT M12, 5-pin
⑥ CANopen IN M12, 5-pin
⑦ MLG connection
⑧ T-piece
⑨ Supply Q1

Connection diagram



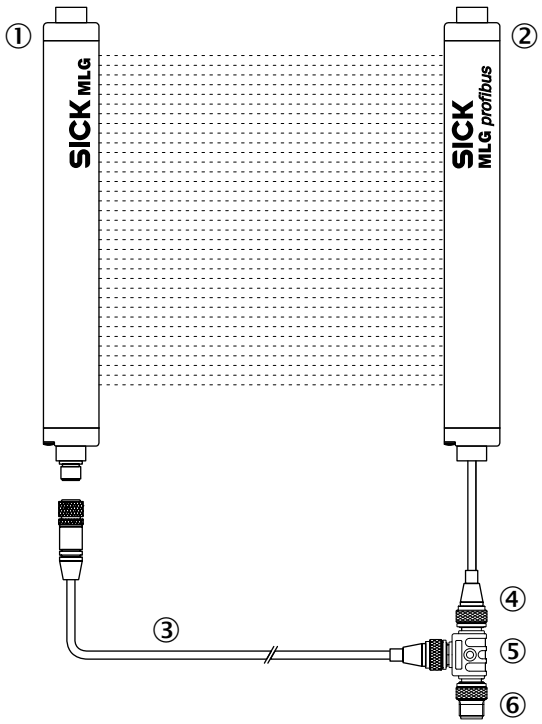
SBO-02F12-SM

Dimensional drawing



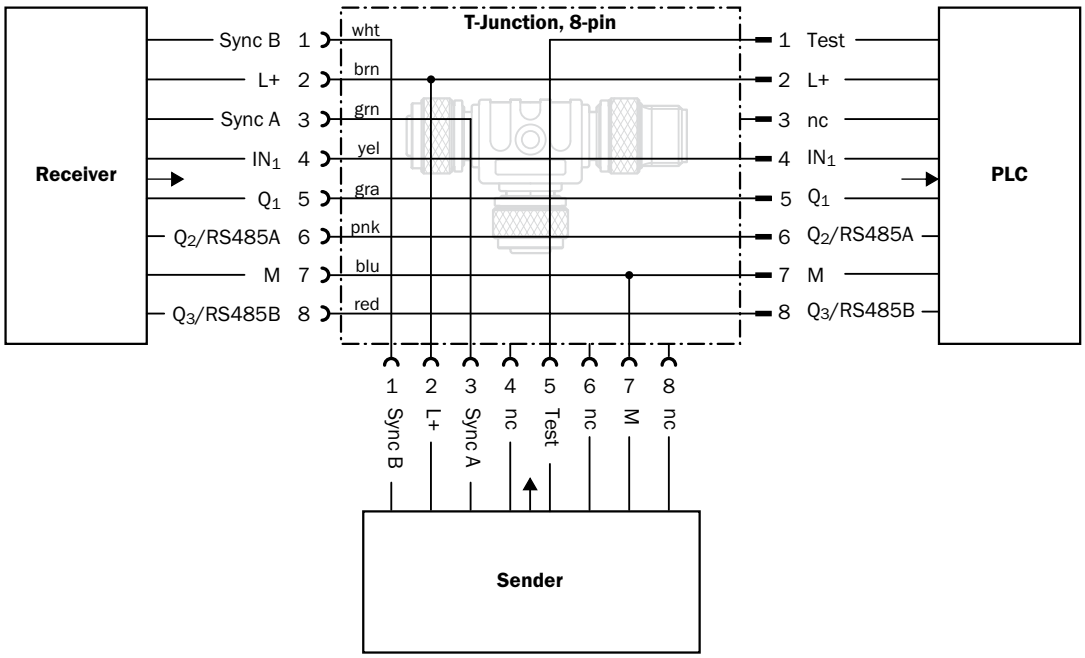
All dimensions in mm (inch)

Connection type



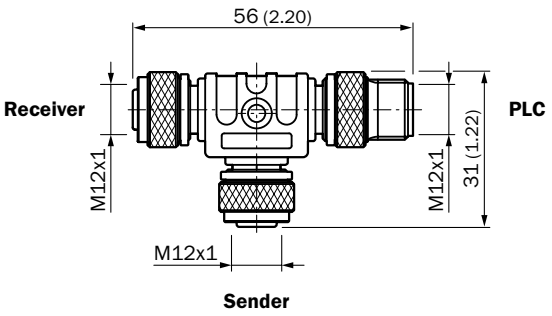
① MLG sender
② MLG receiver
③ Connection cable
④ MLG connection
⑤ T-piece
⑥ Supply Q1

Connection diagram



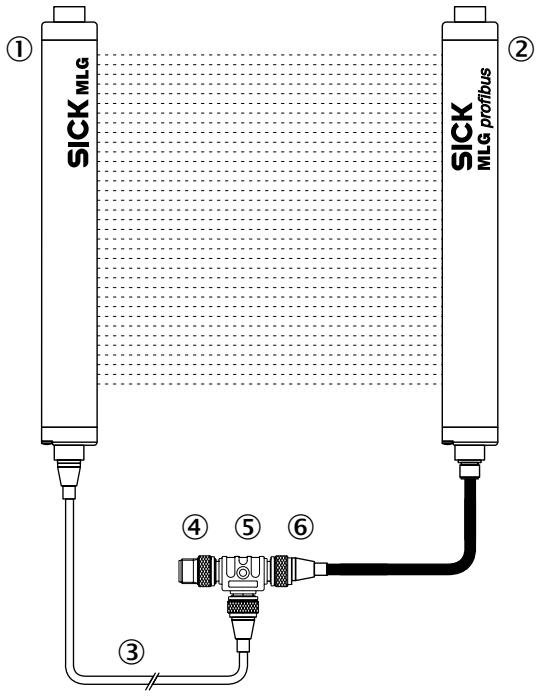
SBO-02G12-SM

Dimensional drawing



All dimensions in mm (inch)

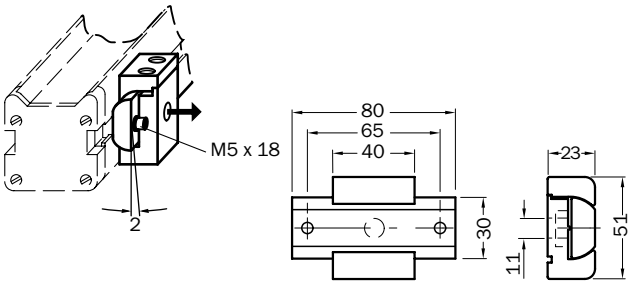
Connection diagram



① MLG sender
② MLG receiver
③ Connection cable
④ Supply Q1
⑤ T-piece
⑥ MLG connection

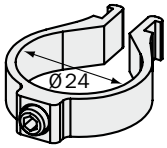
Mounting brackets/plates

BEF-1SHABAAL4



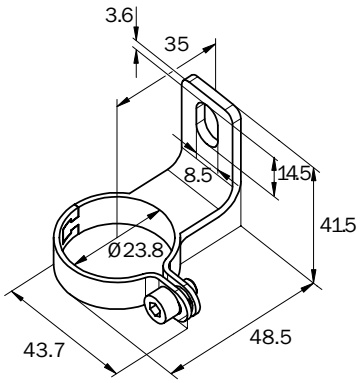
All dimensions in mm

BEF-2SMKEAAL2
BEF-2SMKEAAL4



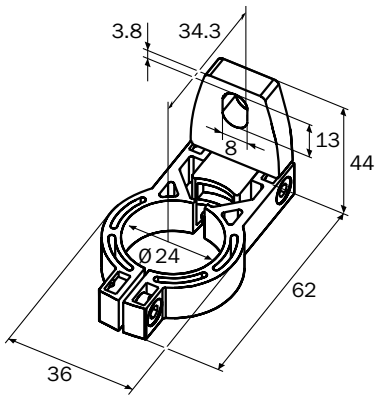
All dimensions in mm

BEF-2SMKEAES4



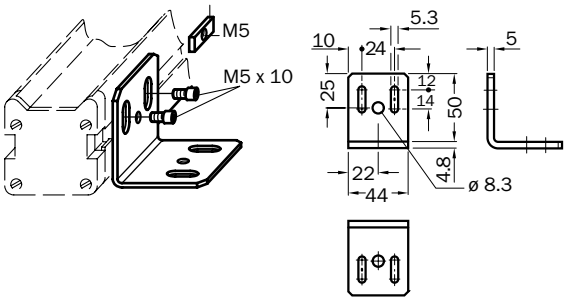
All dimensions in mm

BEF-2SMKEAKU4



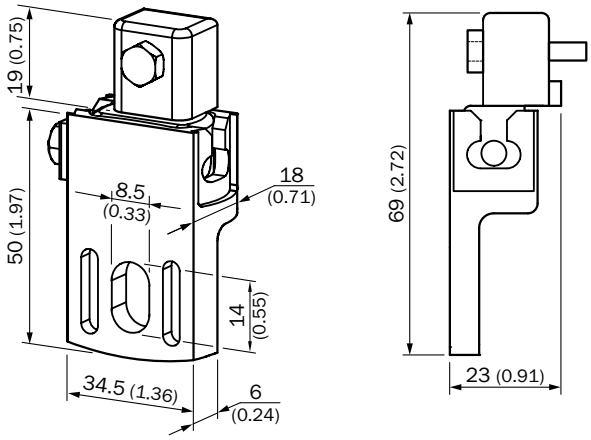
All dimensions in mm

BEF-3WNGBAST4



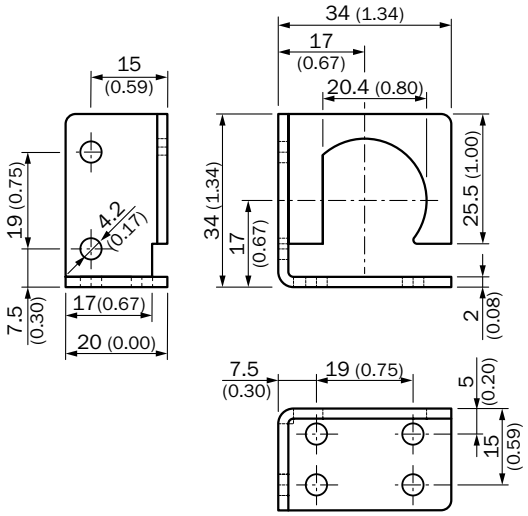
All dimensions in mm

BEF-NUT-MLG



All dimensions in mm (inch)

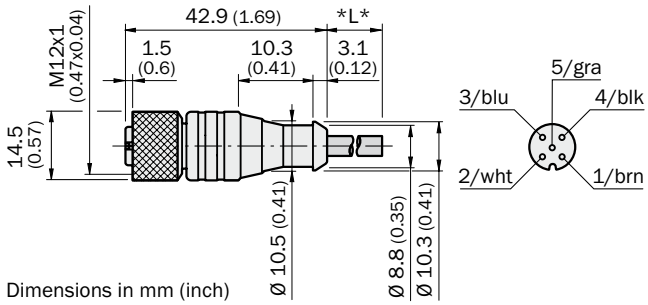
BEF-WK-XLG



All dimensions in mm (inch)

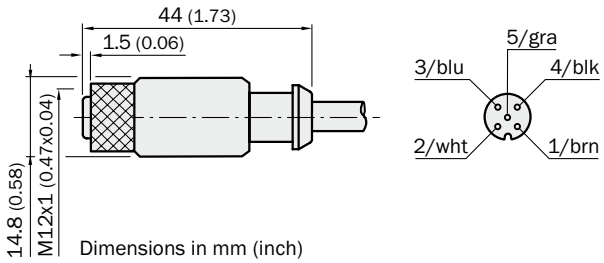
Plug connectors and cables

DOL-1205-G02M/DOL-1205-G05M
DOL-1205-G10M/DOL-1205-G15M



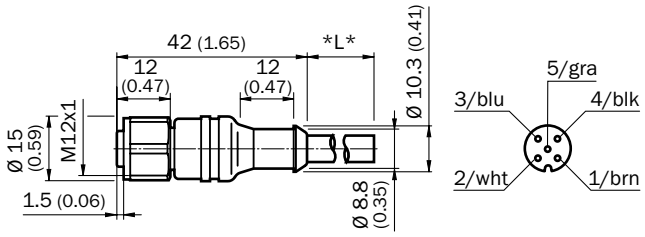
Dimensions in mm (inch)

DOL-1205-G02MC
DOL-1205-G05MC
DOL-1205-G10MC



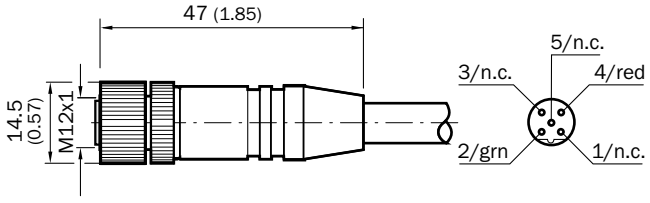
Dimensions in mm (inch)

DOL-1205-G02MN
DOL-1205-G05MN
DOL-1205-G10MN



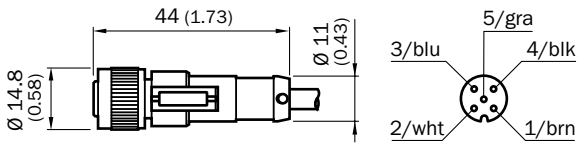
Dimensions in mm (inch)

DOL-1205-G05MQ
DOL-1205-G10MQ
DOL-1205-G12MQ



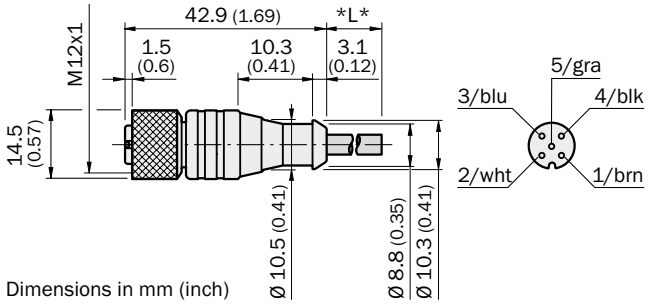
All dimensions in mm (inch)

DOL-1205-G10MAC



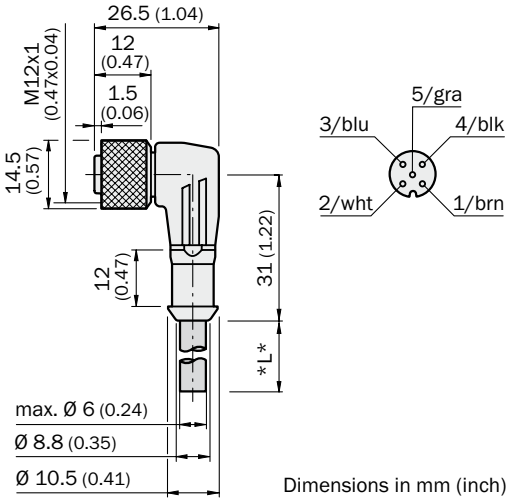
All dimensions in mm (inch)

DOL-1205-G06MK



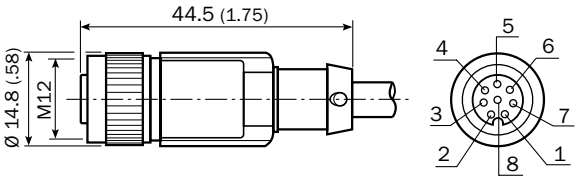
Dimensions in mm (inch)

DOL-1205-W02M
DOL-1205-W05M
DOL-1205-W10M



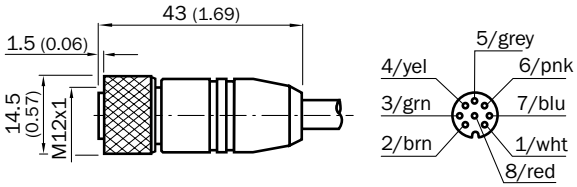
Dimensions in mm (inch)

DOL-1208-G02MA/DOL-1208-G05MA
DOL-1208-G10MA/DOL-1208-G10MAC
DOL-1208-G15MA



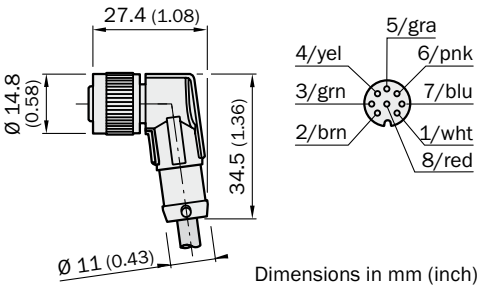
All dimensions in mm

DOL-1208-G05MACR



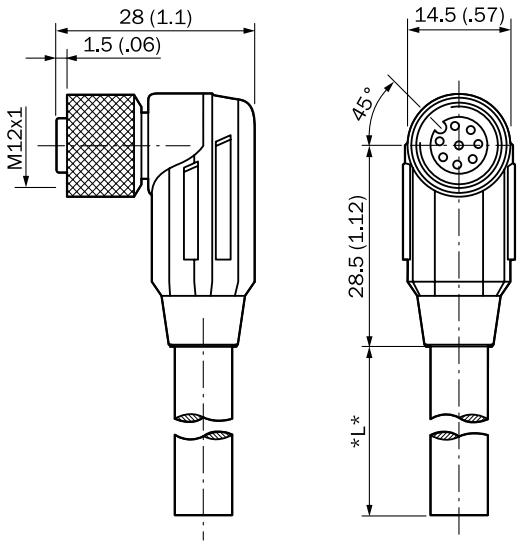
Dimensions in mm (inch)

DOL-1208-W02MA
DOL-1208-W05MA



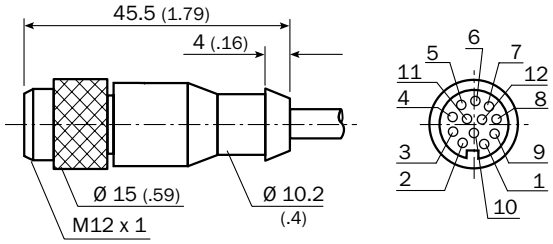
Dimensions in mm (inch)

DOL-1208-W10MAC



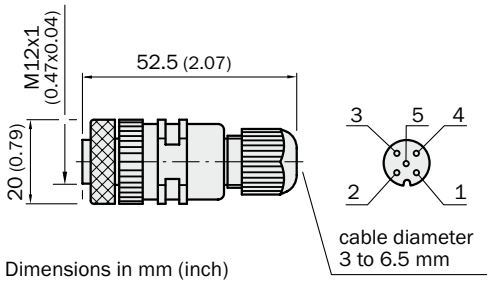
All dimensions in mm (inch)

DOL-1212-G02MA
DOL-1212-G05MA



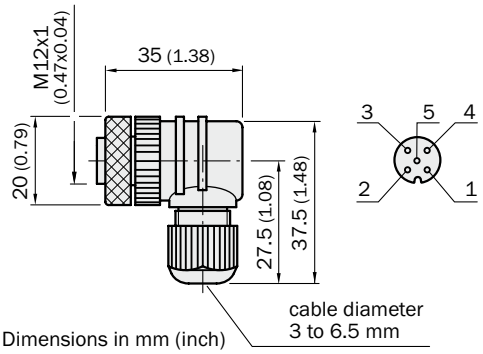
All dimensions in mm (inch)

DOS-1205-G



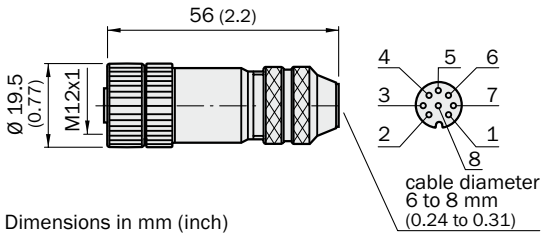
Dimensions in mm (inch)

DOS-1205-W



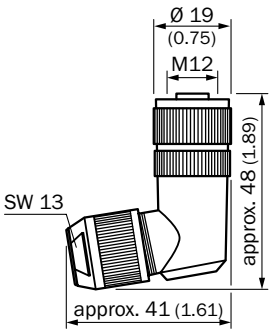
Dimensions in mm (inch)

DOS-1208-GA



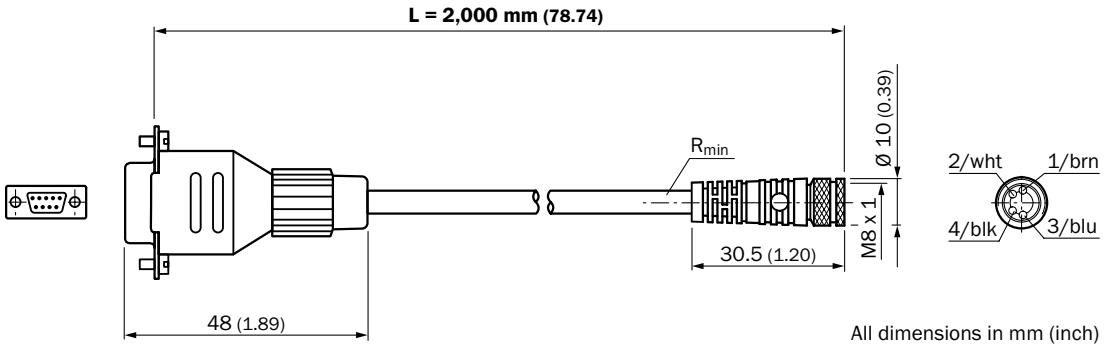
Dimensions in mm (inch)

DOS-1208-WA



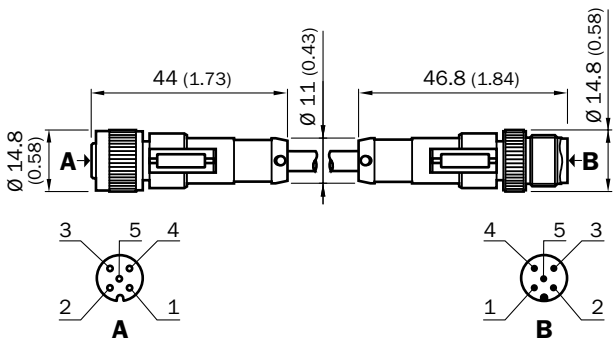
All dimensions in mm (inch)

DSL-8D04-G02M



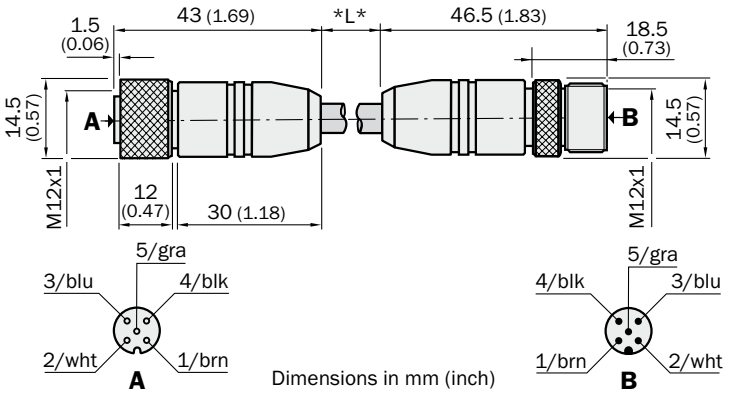
All dimensions in mm (inch)

DSL-1205-G01MC/DSL-1205-G1M5C
DSL-1205-G02MC/DSL-1205-G05MC
DSL-1205-G10MC



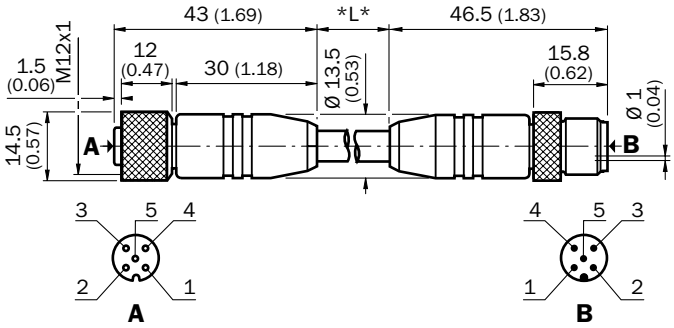
Dimensions in mm (inch)

DSL-1205-G01MK
DSL-1205-G06MK



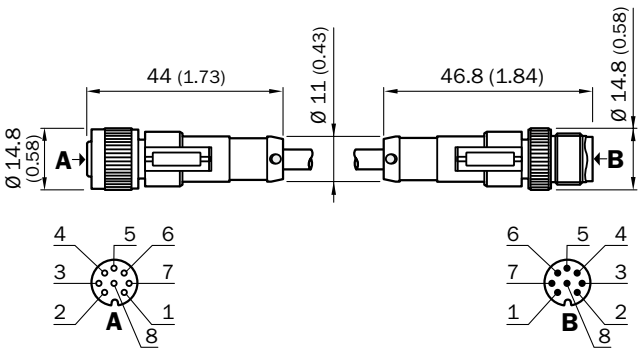
Dimensions in mm (inch)

DSL-1205-G10MQ



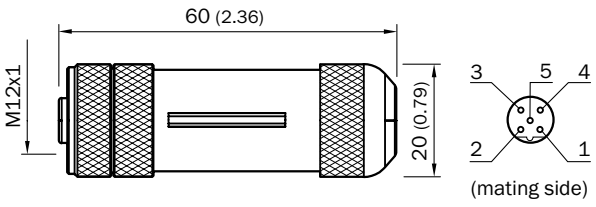
Dimensions in mm (inch)

DSL-1208-G01MAC/DSL-1208-G02MAC
DSL-1208-G05MAC/DSL-1208-G10MAC



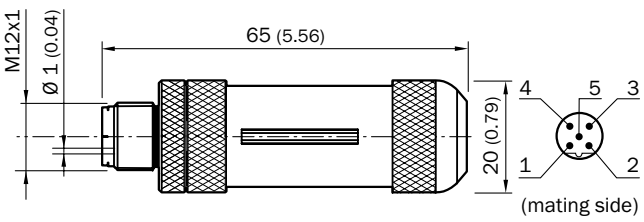
Dimensions in mm (inch)

PR-DOS-1205-G



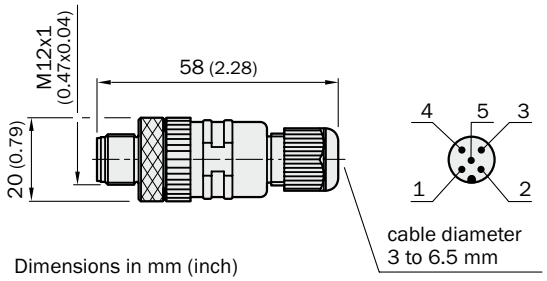
All dimensions in mm (inch)

PR-STE-1205-G



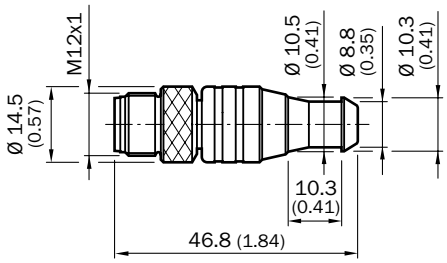
All dimensions in mm (inch)

STE-1205-G



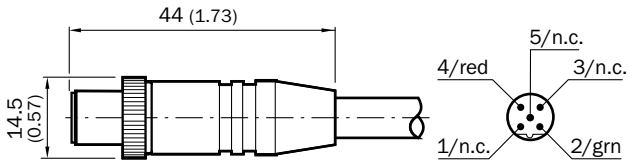
Dimensions in mm (inch)

STE-1205-GKEND



Dimensions in mm (inch)

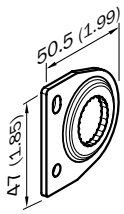
STL-1205-G05MQ/STL-1205-G10MQ
STL-1205-G12MQ/STL-1205-G15MQ



All dimensions in mm (inch)

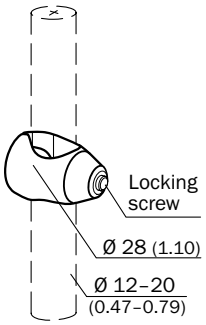
Terminal and alignment brackets

BEF-KHS-G01



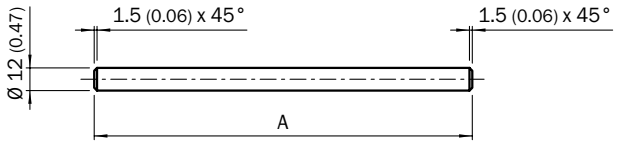
All dimensions in mm (inch)

BEF-KHS-KH1



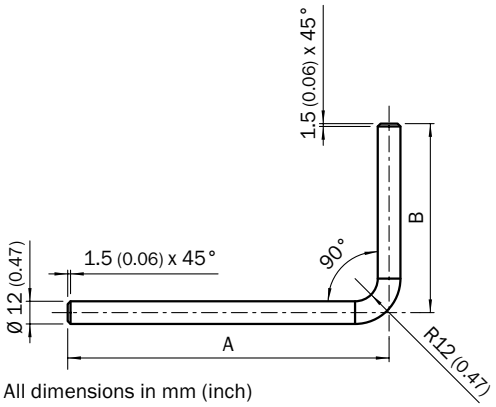
All dimensions in mm (inch)

BEF-MS12G-B (size A = 300 mm)
BEF-MS12G-NA (size A = 200 mm
BEF-MS12G-NB (size A = 300 mm



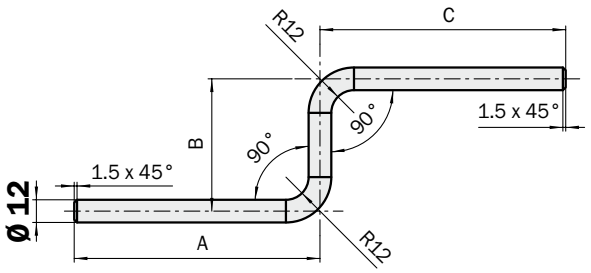
All dimensions in mm (inch)

BEF-MS12L-A (size A/B = 150 mm)
BEF-MS12L-B (size A/B = 250 mm)
BEF-MS12L-NA (size A/B = 150 mm)
BEF-MS12L-NB (size A/B = 250 mm)



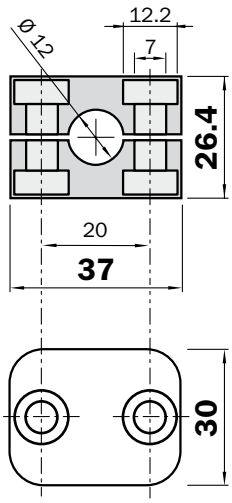
All dimensions in mm (inch)

BEF-MS12Z-A (size A/C = 150 mm, B = 70 mm)
BEF-MS12Z-B (size A = 150 mm, B = 70 mm, C = 250 mm)
BEF-MS12Z-C (size A = 100 mm, B = 150 mm, C = 200 mm)
BEF-MS12Z-NA (size A/C = 150 mm, B = 70 mm)
BEF-MS12Z-NB (size A = 150 mm, B = 70 mm, C = 250 mm)



All dimensions in mm

BEF-RMC-D12



All dimensions in mm

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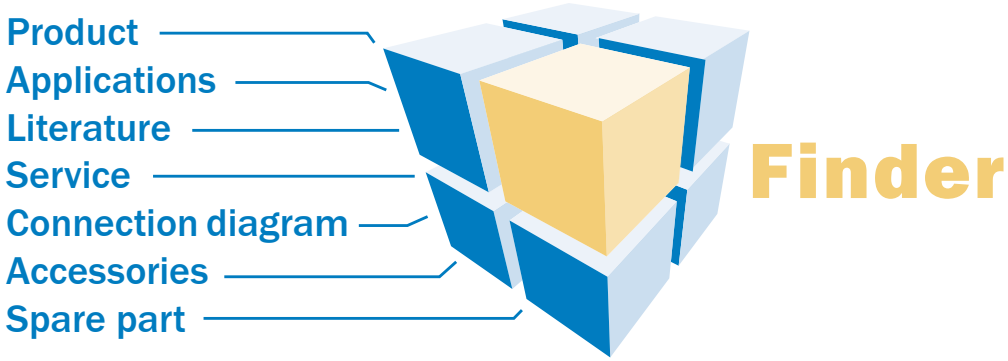

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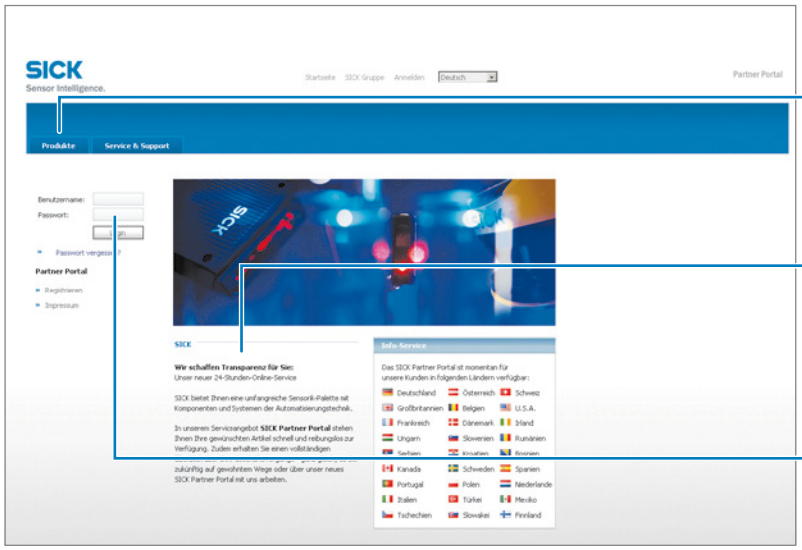

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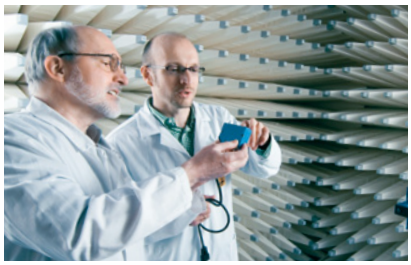
SICK at a glance



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