



MLG-2 Prime, MLG-2 Pro, MLG-2 ProNet

DETECTS ANY OBJECT. EVEN THE INVISIBLE.

Measuring automation light grids

SICK
Sensor Intelligence.

MLG-2: NO MORE COMPROMISES, SIMPLY MORE DETECTION

THE MEASURING AUTOMATION LIGHT GRIDS MLG-2 PRIME, MLG-2 PRO AND MLG-2 PRONET FROM SICK PROVIDE OPTIMAL PERFORMANCE — AND ALSO PERFORMANCE THAT IS OPTIMIZED FOR YOUR NEEDS.

Whatever device you choose, you can be sure that the MLG-2 will fully meet your requirements thanks to its impressive durability, functionality, and quality.

Even the most demanding tasks are no problem for the MLG-2 — because it can detect anything, even when it's practically invisible. With optimized speed, resolution, and optics, the MLG-2 renders even transparent, small, and fast objects visible, and all with the reliability you know you can expect from SICK.

It is no longer a case of “all or nothing” when it comes to detection. From now on you can be sure of both.

NOW ALSO WITH NEW FUNCTIONS.





SICK MLG-2 Pro

SICK MLG-2 Pro

SIRIC®
optical ASIC
invented by SICK

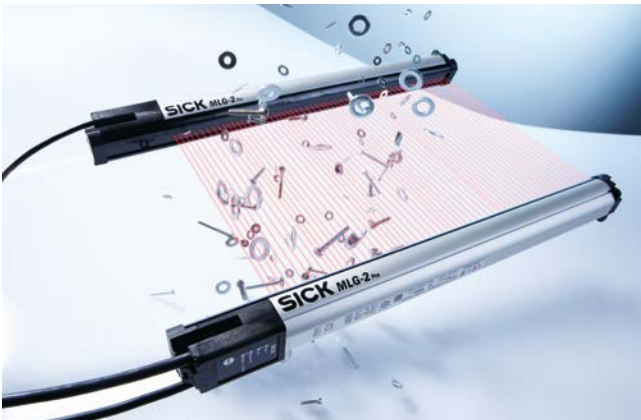
PROFI® PROFIBUS® EtherCAT® EtherNet/IP™ CANopen® IO-Link



Speed

MLG-2: not just faster, but three times faster

It's not just fast, it's high-speed. Even in its standard version, the MLG-2 is one of the fastest light grids on the market. The "High-speed scan" function reduced the minimum session time and even response time by up to three times. As a result, the MLG-2 can detect and measure small and extremely fast objects. Benefit from fast and reliable detection.



Resolution

MLG-2: nothing is too small, when possibilities are this big

The 2.5 mm beam separation makes detection of small objects possible even under difficult conditions. The "High measurement accuracy" function significantly increases the resolution without reducing the beam separation. This guarantees detection of any object size with extremely high measurement accuracy – intelligent and cost-efficient.



Detection of transparent objects

MLG-2: nothing is too transparent, when you can see through anything

Whether working with semitransparent or transparent objects, such as the plastic film around a cigarette packet, the MLG-2 leaves nothing undetected. The sensitivity of the "Transparent mode" function can be adapted perfectly to suit your application to guarantee a perfect ratio between detection and the functional durability of the system. The "AutoAdapt" continuous threshold adaptation function also ensures that the light grid ignores slow-changing ambient influences, such as the buildup of dust, and only reacts to the object being detected. This means high availability even under tough conditions.

Commissioning

MLG-2: nothing could be simpler

The MLG-2 not only makes detection faster, it makes you faster, too. A clever assembly design makes installation fast and easy. Even configuration is easy to get to grips with, whether you're using the intuitive display or SOPAS, our user-friendly software tool. The cloning function allows for easy device replacement without having to reconfigure. It couldn't be easier or quicker.



Reliability

MLG-2: nothing can stop it, even when things get tough

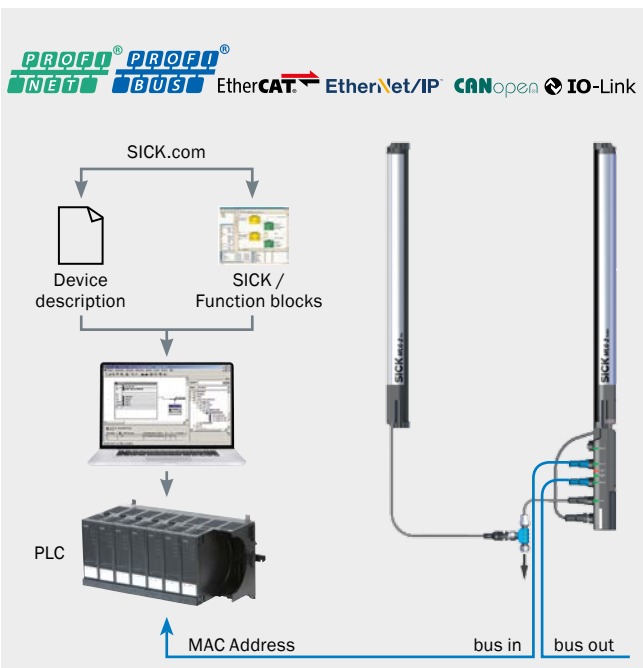
The MLG-2 measures small, fast, and transparent objects with extremely high accuracy, even under tough conditions, with individual beam alignment and continuous threshold adaptation. High glare stability and ambient light immunity ensure outstanding optical properties with high power reserves. All of this is packaged in sturdy aluminum housing – a well-established safety technology – with enclosure rating IP65/IP67 and high electromagnetic compatibility. So you can rest easy and rely on significantly reduced downtimes and enhanced system throughput.



MLG-2 ProNet

Easy integration. Nothing beats flexibility

The MLG-2 ProNet measuring automation light grid offers not only all the benefits of the MLG-2, but also the best facilities for connecting to boot. As all relevant data interfaces are available, the amount of cabling work involved is kept to a minimum, which saves time during the planning and installation phases while also boosting performance. What's more, the bus module can be rotated 180° or even positioned externally. The fieldbus allows you to make format or product changes at the touch of a button, making expansion or modifications a piece of cake. And with functions such as "Highspeed Scan" for tripling the scanning speed and "Transparent Mode" for detecting transparent materials such as films, adapting to more challenging applications couldn't be easier. The acyclical data communication provides access to diagnostic functions, providing information in good time so that maintenance work can take place during idle periods.



MLG-2: NO JOB IS TOO GREAT. AND NO JOB TOO SMALL.

To provide exactly the right device for your requirements, the MLG-2 is available in three performance levels: Prime, Pro and ProNet.

MLG-2 Prime

Protrusion monitoring, height classification, pattern recognition, and height measurement made easy: The clever bracket design and intuitive display increase your efficiency during commissioning. Dual optical synchronization also provides reliable measurement while at the same time reducing the cabling time and effort.

Very good performance, small beam separation, and high anti-reflection, together with a high functional reserve thanks to significantly improved optics make your application even more reliable and powerful. That's why the MLG-2 Prime is perfect for applications where high system throughput is important.

The MLG-2 Prime with IO-Link 1.1 is the optimal combination of price and performance. Improved data transmission, the cloning function, or device status monitoring are just a few of the many benefits of the new IO-Link interface. Alternatively, the MLG-2 Prime is also available with analog interface and digital switching outputs.



MLG-2 with QuickFix bracket



MLG-2 Prime display

MLG-2 Pro

The MLG-2 Pro features exceptional performance for the most demanding of applications. With new functions such as “Transparent mode,” “High-speed scan,” or “High measurement accuracy,” the MLG-2 Pro performs measurement tasks with the utmost precision.

With object detection, object measurement, and individual beam analysis, all bases are covered. The MLG-2 Pro can be perfectly adapted to suit your application thanks to its comprehensive range of functions. High ambient light immunity, wired synchronization, and continuous threshold adaptation for the “Transparent mode” function provide excellent operational safety for the MLG-2.

The MLG-2 Pro also exhibits remarkable intelligence when transferring process data. The run-length encoding function greatly reduces the data volume while increasing the efficiency of your communication. The process data can also be provided without encoding if necessary.

The MLG-2 Pro can be configured perfectly to suit your application using SOPAS. This user-friendly configuration tool, developed by SICK, can now be used with the MLG-2 Pro. All settings can be configured here according to the device’s intended application. So special knowledge of it’s operation is no longer necessary. You can easily tailor the MLG-2 Pro to suit the application in question in next to no time.

 **IO-Link** COM 3



MLG-2 with FlexFix bracket



MLG-2 Pro housing

MLG-2 ProNet

The MLG-2 ProNet embodies all the top features of the MLG product family and even comes complete with the ability to network. With its high level of ruggedness, object and color independence, and ambient light immunity, it offers detection and application safety to ensure smooth operation.

And with real-time data transmission, the MLG-2 ProNet can be relied on for tasks such as format changes at any time. It can even make use of diagnostic data for maintenance purposes. Integrating into the control couldn't be easier thanks to the convenient function blocks.

The MLG-2 ProNet knows when there's something to detect – and even when there isn't – and can communicate this information intelligently. It can always be counted on for its detection of even tiny and transparent objects at the highest possible speed, its ease of installation, and comprehensive integration options.



MLG-2 ProNet with QuickFix bracket



MLG-2 ProNet housing

MLG-2: EVERYTHING MEANS EVERYTHING

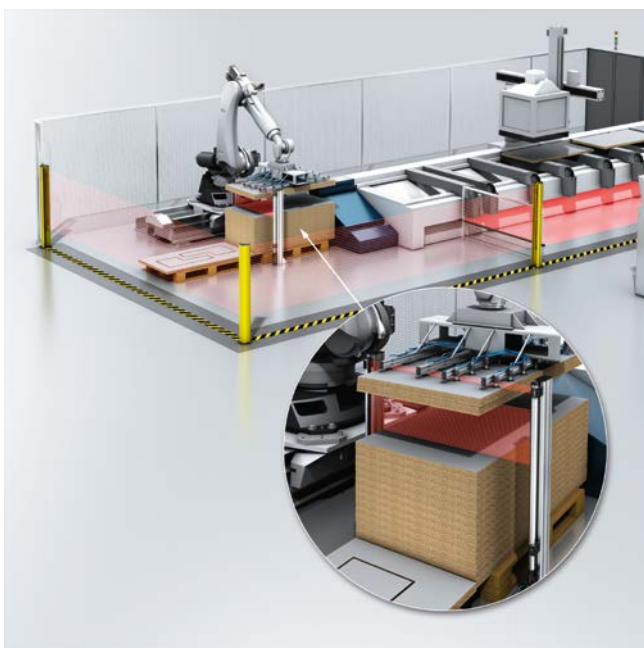
The application areas of the MLG-2 are as multifaceted as its functionality.



Wood industry: Double-layer detection with height measurement

A feeding-machine robot is used to transport wooden panels from a pallet onto a conveyor belt. This process can result in the panels sticking together and not being positioned individually, which can have a significant impact on downstream manufacturing processes. When installed upright next to the pile of wood, however, the reliable MLG-2 ProNet can detect not only the height of the remaining woodpile to ensure accurate guidance of the robot arm, but also the thickness of the raised panel. In doing so, the MLG-2 ProNet is able to prevent the wooden panels from being fed in on top of each other, which isn't ideal at all. The sensor data is communicated directly to the control via integrated interfaces such as PROFINET, EtherCat, EtherNet/IP/TM, CANopen, and PROFIBUS.

And with beam separation of 2.5 mm, even the thinnest panels can be kept apart.



Packaging machine: Measuring the length, width, and height of multiple boxes

A packaging machine combines boxes into bundles – of 20 boxes each, for example – and wraps them in transparent film. To ensure that no boxes are missing, two MLG-2 ProNet devices are installed in both a horizontal and vertical position to check the length, width, and height of the bundle. If all of the beams are interrupted, the bundle is complete. With its beam separation of 5 mm, the MLG-2 ProNet prevents incomplete bundles from advancing for further processing. The integrated Ethernet interfaces reduce the amount of work required during commissioning and when changing format to another bundle.



Height classification/pattern recognition

Quick installation, simple teach-in of different object heights and object patterns, and reliable measurement are just a few of the outstanding qualities of the MLG-2 Prime. Tracked processes in logistics applications are able to keep record of which pallets contain goods and which heights the goods have been assigned. A different switching output is activated depending on the object height or object pattern.

This approach allows for unique identification and assignment of different objects. The teach-in process is easy to run simply by pressing a button on the MLG-2 Prime or clicking the mouse for the MLG-2 Pro. This means significantly less implementation time because time-intensive PLC programming is no longer required – which also means less computing time for your PLC. If transparent objects need to be classified, the MLG-2 Pro is exactly the right choice.



Height measurement/protrusion monitoring

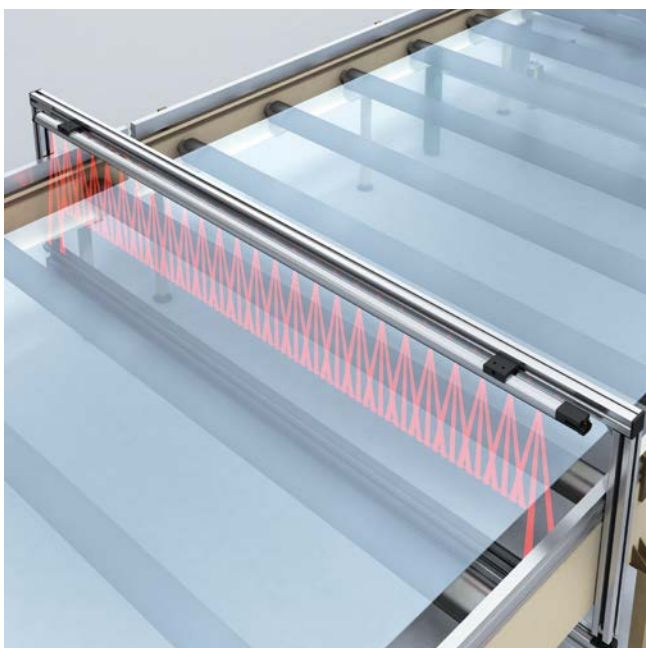
You may want to analyze the number of beams, or the last or first interrupted beam. Because height measurement is required in a variety of applications, the MLG-2 can be configured for all types of height measurement with minimal effort. The MLG-2 Prime provides simple and reliable height measurement with a beam separation of up to 2.5 mm.

The “High measurement accuracy” function of the MLG-2 Pro can be used to increase the resolution even more. The “Transparent mode” function makes it possible to measure even transparent objects, and the “High-speed scan” function increases accuracy and allows for reliable measurement of narrow and fast-moving objects.



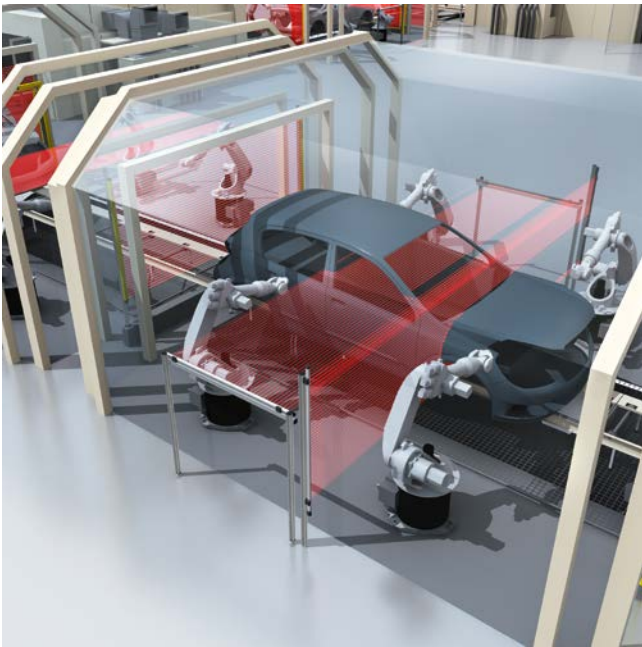
Volume measurement

The high measurement accuracy, detection of transparent objects, and very fast response time of the MLG-2 Pro form the optimal basis for accurate and reliable box volume measurements of various objects, optimizing your warehouse systems. Existing space can be better utilized. The fast response time makes higher track speeds possible, and various objects can be measured with a measurement system. With light grids, track speed measurement, and an evaluation unit, SICK provides a complete all-in-one and stress-free solution.



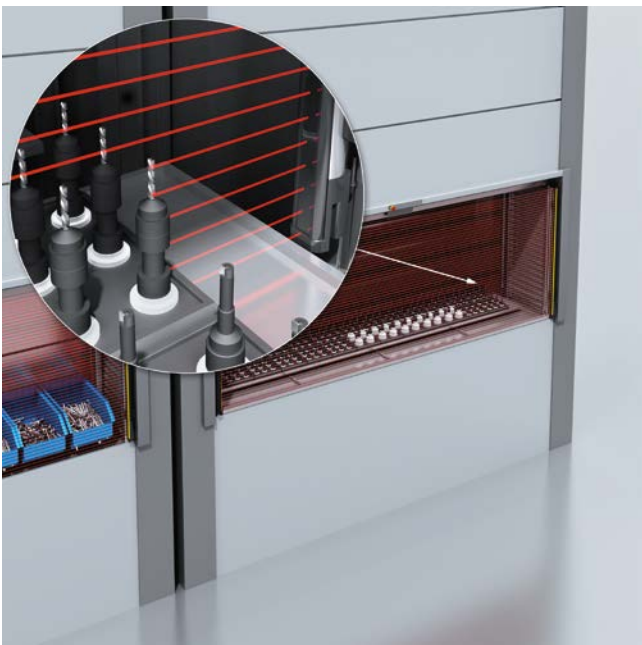
Width measurement

In the production of sacks or tracks made of various materials, the track width must be measured to monitor and control the process. The materials may be opaque or transparent. Thanks to narrow beam separation and the “Transparent mode” and “High measurement accuracy” functions, the MLG-2 Pro is perfect for track width measurement. Additional beam cross-over and energetic evaluation allow the MLG-2 Pro to provide accurate measurements at ± 1 mm – with 2.5 mm beam separation. The result: high cost savings without compromising on measurement accuracy.



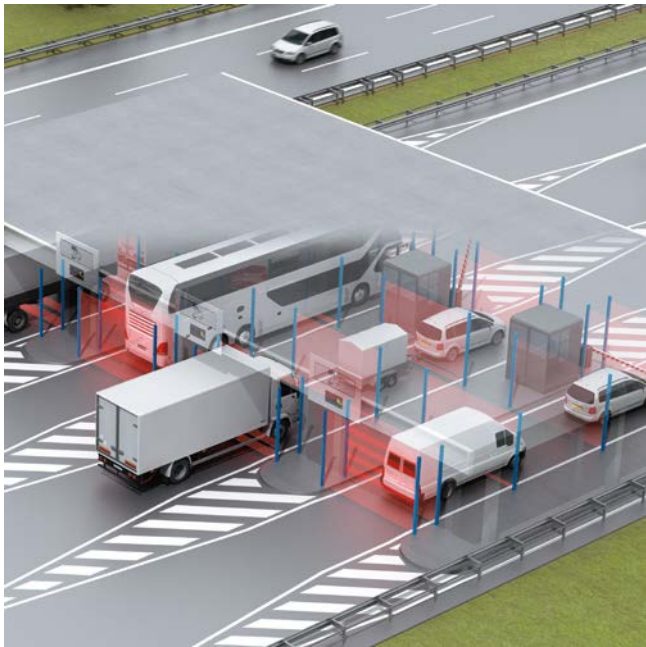
Contour measurement

Contour measurement at the highest level is possible, in the automotive industry for example, thanks to the high resolution and fast response times of the MLG-2 Pro. Car bodies can be accurately measured for precise robot control in automated painting processes, so that paint is only applied to body parts. In assembly processes, robots are precisely controlled, in order to install a vehicle seat, for example. The MLG-2 presents a clear advantage both economically and ecologically.



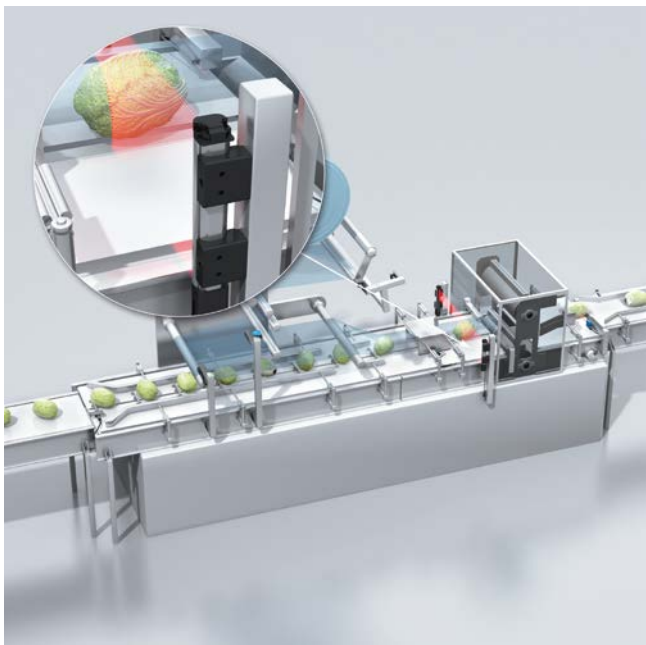
Height measurement in vertical lift systems

Engine blocks, drills, or bottles – the objects and therefore the requirements for height measurement in vertical lift systems could not be more different. The MLG-2 provides a variety of advantages in this case: It has very good optical properties, allowing for high anti-reflection and thus high system throughput even in confined spaces and when handling reflective materials. The “High-speed scan” function guarantees reliable height measurement even of narrow objects, such as a 4 mm drill. The MLG-2 Pro can also measure transparent objects thanks to the “Transparent mode” function. A single light grid can therefore meet all requirements for height measurement in your warehouse system.



Vehicle measurement at toll stations

Accurate vehicle measurement is a necessity for vehicle-specific calculations at toll stations. Various vehicles with trailers and drawbars, strong sunlight, and other outdoor environmental conditions present great challenges. The MLG-2 Pro meets these requirements thanks to its stable aluminum housing with enclosure rating IP 67, individual beam separation, various installation heights, and a very high ambient light immunity up to 200,000 lx. It provides a measurement system that is ideally tailored to your requirements, which is also more rugged thanks to additional protective housing.



Object start and end check

In industrial packaging processes, goods are packed automatically. Food items such as vegetables or meat vary in size, however. Without accurate start and end checks, in many cases either the food would be ruined or too much packaging material would be used. The “High transmitting power” function of the MLG-2 Pro allows the device to simply ignore the packaging material and focus solely on detecting the start and end of the goods. This prevents the food from being destroyed and reduces the amount of packaging materials used.

MLG-2: PUT SIMPLY, EVERYTHING COVERED

To make such a wide range of functions, such as “Transparent mode,” “High-speed scan,” and “High measurement accuracy,” and many more possible, SICK has specially developed an application-specific integrated circuit (ASIC) for the MLG-2. This new SIRIC ASIC technology makes it possible to select over 100 different parameters.

With SIRIC ASIC technology, every single one of the 500 sender and receiver LEDs are perfectly synchronized with one another, and you will only find this feature in the MLG-2. Adjustments are made to counteract disturbances such as small component deviations, increasing the sensitivity of object detection while significantly reducing sensitivity to environmental influences at the same time.

Managing up to 500 beams, individual beam analysis, and fast measurement cycles is no easy task for a PLC. We lighten the load for your PLC by compressing our measurement data. Analysis is particularly quick and easy thanks to run length encoding.



SIRIC[®]
optical ASIC
invented by SICK

PROFI[®] **PROFI**[®]
NET **BUS** Ether**CAT**[®] **EtherNet/IP**[™] **CANopen**[®] **IO-Link**

EVEN MORE INSIDE FOR YOUR INDIVIDUAL REQUIREMENTS



The MLG-2 is a light grid designed to be a modular hardware and software system. That's why we can further improve your MLG-2 by customizing the device to suit your individual requirements. Just let us know what you want to detect!

OPTIMIZED AUTOMATION FOR MACHINES AND SYSTEMS



Condition monitoring / diagnostics

Implementing diagnostics and self-test options enables features such as contamination evaluation for sensors. Thanks to the monitoring capabilities of the sensors, preventive maintenance can be carried out using a precise maintenance plan. This ability to predict machine status even extends across area boundaries. The advantages of this are reduced maintenance and repair times, minimal risk of failure, as well as accurate fault localization and diagnostics.



E-parts list / E-inventory

IO-Link enables the electronic documentation for all sensors in the machine or system's as-delivered state to be created quickly and using an automated method. The advantages of this are increased transparency in the electronic documentation for installed sensors, cables, and male connectors. This prevents time-consuming troubleshooting processes that result from different versions of documentation. What is more, the machine or system's as-delivered state can be documented easily and accurately in this way.



Sensor visualization

Sensor data such as the device ID, serial number, teach-in values, hysteresis or switching behavior can be displayed and modified using visualization software and the SiLink Box on a PC. All parameters can be optimized and transferred to multiple sensors.

The advantages of this are:

- Comprehensive diagnostics options
- Availability values can be checked and parameters can be optimized
- Simplified range of function and performance options available for selection
- Quick and safe sensor pre-configuration
- Easy identification of optimized application parameters
- Simple commissioning



Flexible sensor adjustment

An IO-Link sensor receives optimized, application-specific parameters (such as the scanning distance, hysteresis or threshold) from the automation system according to the production process or the product that is to be produced. The advantages of this are reduced machine downtimes and changeover times when switching products, more machine flexibility, and the prevention of incorrect settings.






Easy device replacement


Sensors with IO-Link can be replaced quickly and easily, as they are able to adopt the set function parameters without any alterations. The parameters are stored in the IO-Link master or in the control system. The advantages of this are minimal downtimes, guaranteed machine availability, as well as recorded and documented replacement processes.



CONFIGURE MEASUREMENT TASKS WITH EASE VIA THE DISPLAY





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Product description

The continued systematic development in the field of measuring automation light grid: With the MLG-2 product family, SICK always offers the perfect solution for a variety of applications in the logistics automation and machine building industries. Simple configuration and diagnostics via a clearly arranged display: The MLG-2 Prime is suitable for all standard applications, including protrusion monitoring as well as object height and width measuring. Optical synchronization eliminates the need

for wiring between the sender and receiver. The connection to the controls is established via push-pull switching outputs or analog outputs. Data can be output directly via the IO-Link interface with accompanying functional modules. The MLG-2 Prime is particularly suitable for measuring the height and width of objects. The new “object re-detection” function saves time and resources. The MLG-2 Prime can be ordered in a pre-configured version.

At a glance

- High-resolution light grid: with beam separation of 5 mm, 10 mm, 20 mm, 25 mm, 30 mm und 50 mm
- Available with three push-pull switching outputs or two analog outputs
- Display configuration with selected, pre-programmed measuring functions
- Monitoring height up to 3.2 m
- Operating range up to 8.5 m
- Optical synchronization of sender and receiver
- Cloning function via IO-Link
- Temperature range from -30 °C to +55 °C

Your benefits

- Easy concept: Time and cost savings due to simple configuration and quick commissioning
- Modular concept offers the perfect solution every time from a single source
- Two optical synchronization beams increase operational safety
- Simple maintenance without the need for specialist staff thanks to the cloning function with IO-Link
- Direct configuration on the device display for quick commissioning
- IO-Link as an interface for configuration, measured data transfer and diagnostics
- Minimal specialist knowledge required by the user thanks to the intuitive arrangement of the most essential functions
- Extremely high operational safety due to rugged aluminum housing

→ www.sick.com/MLG-2_Prime

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Detailed technical data

Features

Version	Prime
Technology	Sender/receiver
Minimum detectable object (MDO)¹⁾	9 mm 14 mm 24 mm 29 mm 34 mm 54 mm (depending on type)

¹⁾ Depending on beam separation without cross beam setting.

Performance

Maximum range	12 m ¹⁾ (depending on type)
Minimum range	≥ 0 mm
Response time	6 ms ... 50.6 ms ^{2) 3)} (depending on type)

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

²⁾ Without high speed.

³⁾ With resistive load.

Interfaces

Connection type	Male connector M12, 5-pin
IO-Link	✓
Fieldbus, industrial network	IO-Link
Type of fieldbus integration	Integrated in the device

Mechanics/electronics

Wave length	850 nm
Supply voltage V_s¹⁾	DC 18 V ... 30 V
Power consumption sender	55.3 mA ... 79 mA ²⁾ (depending on type)
Power consumption receiver	121.2 mA ... 216 mA ²⁾ (depending on type)
Ripple	< 5 V _{pp}
Output current I_{max}	≤ 100 mA
Output load capacitive	100 nF
Output load inductive	1 H
Initialization time	< 1 s
Housing material	Aluminum
Indication	LED
Enclosure rating	IP 65, IP 67
Circuit protection	U _v connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Weight	0.547 kg ... 6.547 kg (depending on type)
Front screen	PMMA
Option	Nonexistent

¹⁾ Without load.

²⁾ Without load with 24 V.

Ambient data

Protection class	III
EMC	EN 60947-5-2
Ambient operating temperature	-30 °C +55 °C
Ambient storage temperature	-40 °C +70 °C
Ambient light immunity	Direct: 12,000 lx Indirect: 50,000 lx
Vibration resistance	Sinusoidal oscillation 10-150 Hz 5 g
Shock load	Continuous shocks 10 g, 16 ms, 1000 shocks, Single shocks 15 g, 11 ms 3 per axle

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 20 indicates all possible configurations that can be ordered.

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

Other models → www.sick.com/MLG-2_Prime

MLGxxS-xxxxAx

- **Data interface:** 2 x analog + 1 x Q (IO-Link)

Beam separation	Operating range	Detection height	Type	Part no.
5 mm	5 m	145 mm	MLG05S-0145A10501	1213504
		295 mm	MLG05S-0295A10501	1213707
		445 mm	MLG05S-0445A10501	1214141
		745 mm	MLG05S-0745A10501	1213709
		1,195 mm	MLG05S-1195A10501	1215618
		2,095 mm	MLG05S-2095A10501	1217559
	8.5 m	2,395 mm	MLG05S-2395A10501	1215105
		445 mm	MLG05S-0445A10801	1215903
		895 mm	MLG05S-0895A10802	1214002
		1,045 mm	MLG05S-1045A10819	1215219
10 mm	5 m	140 mm	MLG10S-0140A10501	1217487
		290 mm	MLG10S-0290A10501	1213541
		590 mm	MLG10S-0590A10501	1216802
		740 mm	MLG10S-0740A10501	1213710
		1,190 mm	MLG10S-1190A10501	1215014
		1,490 mm	MLG10S-1490A10501	1217112
	5 m	2,090 mm	MLG10S-2090A10501	1217546
		2,540 mm	MLG10S-2540A10501	1214510
		3,140 mm	MLG10S-3140A10501	1215985
		20 mm	5 m	140 mm
280 mm	MLG20S-0280A10501			1217849
580 mm	MLG20S-0580A10501			1217851
1,180 mm	MLG20S-1180A10501			1217853
2,080 mm	MLG20S-2080A10501			1217855

Beam separation	Operating range	Detection height	Type	Part no.
25 mm	5 m	275 mm	MLG25S-0275A10501	1214030
		425 mm	MLG25S-0425A10501	1216178
		575 mm	MLG25S-0575A10501	1213542
		875 mm	MLG25S-0875A10501	1215502
		1,175 mm	MLG25S-1175A10501	1217113
		1,325 mm	MLG25S-1325A10501	1214519
		1,625 mm	MLG25S-1625A10501	1215139
		2,225 mm	MLG25S-2225A10501	1214371
30 mm	5 m	270 mm	MLG30S-0270A10501	1217857
		570 mm	MLG30S-0570A10501	1217859
50 mm	5 m	550 mm	MLG50S-0550A10501	1215350
		850 mm	MLG50S-0850A10501	1213976
		1,150 mm	MLG50S-1150A10501	1213479
		1,450 mm	MLG50S-1450A10501	1214419
		1,750 mm	MLG50S-1750A10501	1216406
		2,050 mm	MLG50S-2050A10501	1217079
		2,350 mm	MLG50S-2350A10501	1216018
		2,500 mm	MLG50S-2500A10501	1217363
	8.5 m	1,000 mm	MLG50S-1000A10801	1216094
		2,200 mm	MLG50S-2200A10801	1214456

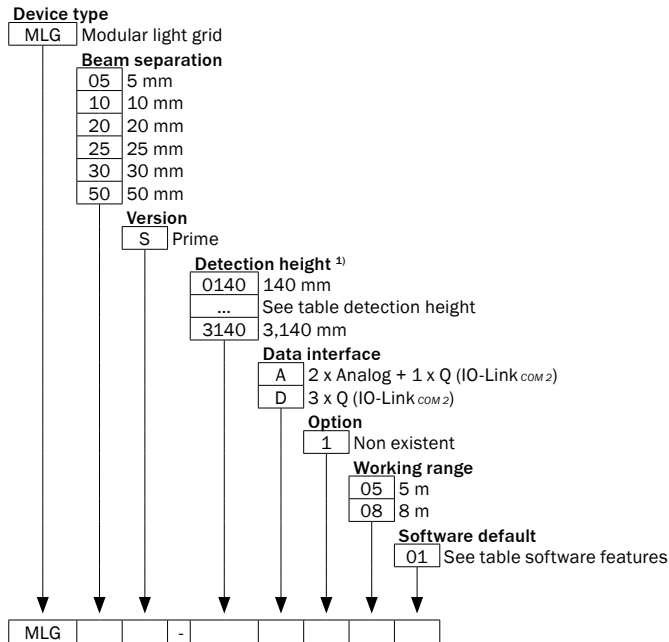
MLGxxS-xxxxDx

- **Data interface:** 3 x Q (IO-Link)

Beam separation	Operating range	Detection height	Type	Part no.
5 mm	5 m	145 mm	MLG05S-0145D10501	1213494
		295 mm	MLG05S-0295D10501	1214505
		445 mm	MLG05S-0445D10501	1214841
		595 mm	MLG05S-0595D10501	1214821
		745 mm	MLG05S-0745D10501	1213960
		1,195 mm	MLG05S-1195D10501	1216388
		1,795 mm	MLG05S-1795D10501	1216390
		1,945 mm	MLG05S-1945D10501	1214578
		2,245 mm	MLG05S-2245D10501	1217610
10 mm	5 m	140 mm	MLG10S-0140D10501	1213750
		290 mm	MLG10S-0290D10501	1213958
		440 mm	MLG10S-0440D10501	1214840
		590 mm	MLG10S-0590D10501	1214635
		740 mm	MLG10S-0740D10501	1213539
		1,040 mm	MLG10S-1040D10501	1215257
		1,340 mm	MLG10S-1340D10501	1215227
		1,490 mm	MLG10S-1490D10501	1214340
		1,790 mm	MLG10S-1790D10501	1216389
		1,940 mm	MLG10S-1940D10501	1217267
		2,240 mm	MLG10S-2240D10501	1214987
		2,390 mm	MLG10S-2390D10501	1216394
		8.5 m	140 mm	MLG10S-0140D10801
	290 mm		MLG10S-0290D10801	1216301

Beam separation	Operating range	Detection height	Type	Part no.	
20 mm	5 m	140 mm	MLG20S-0140D10501	1217848	
		280 mm	MLG20S-0280D10501	1217850	
		580 mm	MLG20S-0580D10501	1217852	
		1,180 mm	MLG20S-1180D10501	1217854	
		2,080 mm	MLG20S-2080D10501	1217856	
25 mm	5 m	275 mm	MLG25S-0275D10501	1213513	
		425 mm	MLG25S-0425D10501	1217966	
		575 mm	MLG25S-0575D10501	1216395	
		725 mm	MLG25S-0725D10501	1213503	
		1,175 mm	MLG25S-1175D10501	1215082	
		1,325 mm	MLG25S-1325D10501	1217118	
		1,625 mm	MLG25S-1625D10501	1214983	
		1,925 mm	MLG25S-1925D10501	1217117	
		2,075 mm	MLG25S-2075D10501	1214594	
		2,225 mm	MLG25S-2225D10501	1214368	
		2,375 mm	MLG25S-2375D10501	1216393	
		3,125 mm	MLG25S-3125D10501	1213979	
		8.5 m	875 mm	MLG25S-0875D10801	1217757
	30 mm	5 m	270 mm	MLG30S-0270D10501	1217858
			570 mm	MLG30S-0570D10501	1217860
50 mm	5 m	250 mm	MLG50S-0250D10501	1213711	
		400 mm	MLG50S-0400D10501	1214752	
		550 mm	MLG50S-0550D10501	1213998	
		700 mm	MLG50S-0700D10501	1214599	
		850 mm	MLG50S-0850D10501	1214600	
		1,000 mm	MLG50S-1000D10501	1216418	
		1,300 mm	MLG50S-1300D10501	1217280	
		1,450 mm	MLG50S-1450D10501	1216246	
		1,600 mm	MLG50S-1600D10501	1216560	
		1,900 mm	MLG50S-1900D10501	1214707	
		2,200 mm	MLG50S-2200D10501	1214268	
		2,350 mm	MLG50S-2350D10501	1217298	
		2,650 mm	MLG50S-2650D10501	1215022	
	3,100 mm	MLG50S-3100D10501	1213510		
	8.5 m	2,050 mm	MLG50S-2050D10801	1214523	
	2,200 mm	MLG50S-2200D10801	1214457		
	3,100 mm	MLG50S-3100D10801	1214045		

Type code



¹⁾ Max. 500 beams.

Detection height (mm)

MLG05	MLG10	MLG20	MLG25	MLG30	MLG50
145	140	140	-	-	-
295	290	280	275	270	250
445	440	440	425	420	400
595	590	580	575	570	550
745	740	740	725	720	700
895	890	880	875	870	850
1045	1040	1040	1025	1020	1000
1195	1190	1180	1175	1170	1150
1345	1340	1340	1325	1320	1300
1495	1490	1480	1475	1470	1450
1645	1640	1640	1625	1620	1600
1795	1790	1780	1775	1770	1750
1945	1940	1940	1925	1920	1900
2095	2090	2080	2075	2070	2050
2245	2240	2240	2225	2220	2200
2395	2390	2380	2375	2370	2350
2545	2540	2540	2525	2520	2500
-	2690	2680	2675	2670	2650
-	2840	2840	2825	2820	2800
-	2990	2980	2975	2970	2950
-	3140	3140	3125	3120	3100

Software features

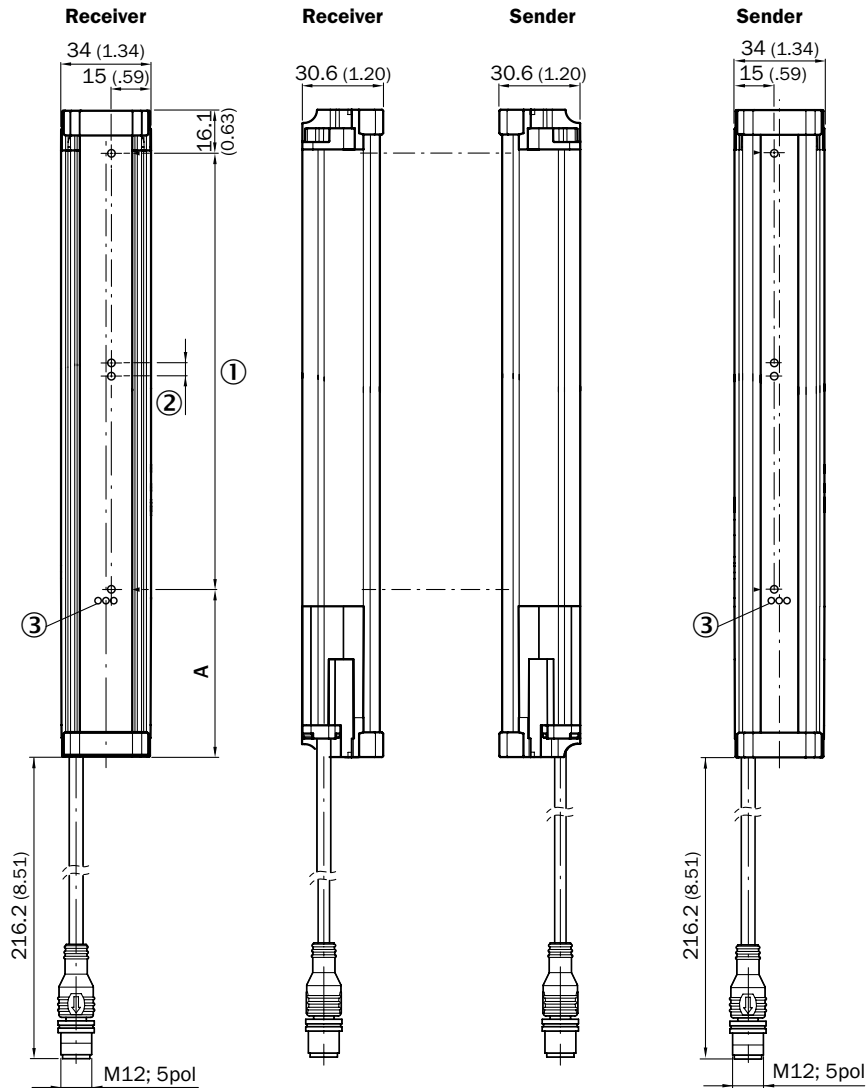
Data interface: A = 2 x Analog + 1 x Q (IO-Link)

Dez	Qa1	Qa2	Q1	Inverted	Teach
01	Height control (first beam)/FBB	Height control (last beam)/LBB	Presence detection	-	-
02	Height control (first beam)/FBB	Height control (last beam)/LBB	Presence detection	-	Cross beam
03	Height control (first beam)/FBB	Height control (last beam)/LBB	Pollution warning	-	-
04	Height control (first beam)/FBB	Height control (last beam)/LBB	Presence detection	Q1	-
13	Number of broken beams	Height control (first beam)/FBB	Presence detection	Q1	-
17	Number of broken beams	Height control (first beam)/FBB	Presence detection	Q1	Cross beam
19	Number of broken beams	Height control (first beam)/FBB	Presence detection	-	Automatic teach

Data interface: D = 3 x Q (IO-Link)

Dez	Q1	Q2 / IN	Q3	Inverted	Teach
01	Auto-define height classification	Auto-define height classification	Auto-define height classification	-	-
02	Auto-define object detection	Auto-define object detection	Auto-define object detection	-	-
03	Presence detection	Pollution warning	Auto-define height classification	-	-
04	Presence detection	Pollution warning	Auto-define height classification	-	Cross beam
13	Presence detection	Auto-define height classification	Auto-define height classification	Q1	-
17	Presence detection	Auto-define height classification	Auto-define height classification	Q1	Cross beam
19	Presence detection	Auto-define height classification	Auto-define height classification	-	Automatic teach
31	Presence detection	Teach input	Auto-define height classification	Q1	-

Dimensional drawings (Dimensions in mm (inch))



A ¹⁾

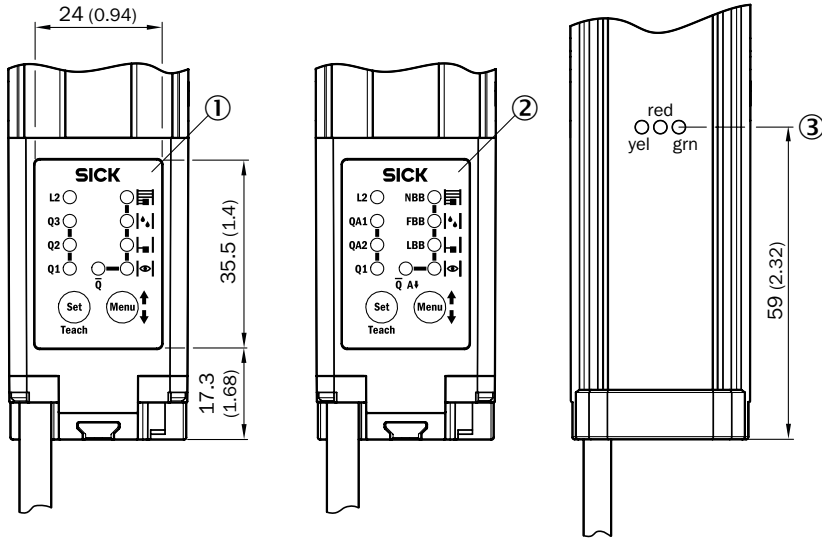
Beam separation 5 mm	63.3 (2.49)
Beam separation 10 mm	68.3 (2.69)
Beam separation 20 mm	68.3 (2.69)/78.3 (3.08) ⁽²⁾
Beam separation 25 mm	83.3 (3.28)
Beam separation 30 mm	88.3 (3.48)
Beam separation 50 mm	108.3 (4.26)

¹⁾ Distance: MLG edge - first beam

²⁾ MLG20x-xx**40**: 68.3 mm
MLG20x-xx**80**: 78.3 mm

- ① Detection height (see optical performance)
- ② Beam separation (RM)
- ③ Status indicator: green, yellow, red LEDs

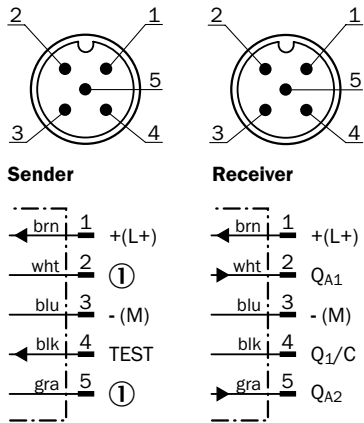
Adjustments



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

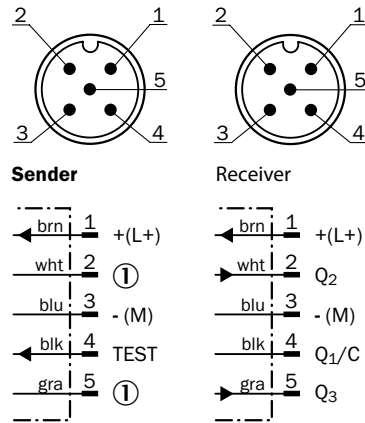
Connection type and diagram

Connector M12, 5-pin, analog outputs Q_A



① Not assigned

Connector M12, 5-pin, switching outputs Q



① Not assigned

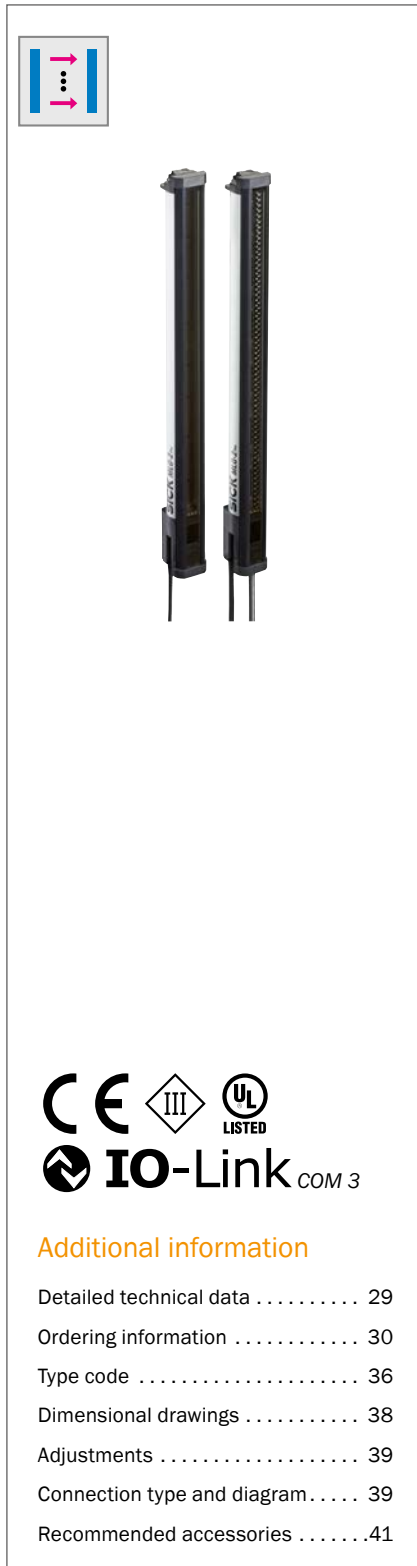
Recommended set accessories

A complete connection for the MLG-2 Prime include: 2 female connection cable.

Figure	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PVC, unshielded, 5 m	DOL-1205-G05M	6009868

For more accessories, see → [X-0](#)

MAXIMUM PERFORMANCE IN TERMS OF RESPONSE TIME, RESOLUTION, AND OBJECT DETECTION



Product description

The continued systematic development in the field of measuring automation light grids: With the MLG-2 product family, SICK always offers the perfect solution for a variety of applications in the logistics automation and machine building industries. The MLG-2 Pro variant is used in challenging applications involving transparent objects and high detection speeds. With new functions such as “Transparent mode,” “High-

speed scan,” or “High measurement accuracy,” the MLG-2 Pro performs new measurement tasks with the utmost precision. The pre-installed solutions in the SOPAS configuration software allow complex applications, such as object width measurement, to be configured with ease. The MLG-2 Pro uses conventional industrial interfaces so that individual solutions can be programmed via the controls.

At a glance

- High-resolution light grid: With beam separation of 2.5 mm, 5 mm, 10 mm, 20 mm, 25 mm, 30 mm und 50 mm
- “High-speed scan” function with triple scanning speed
- “Transparent mode” function for detecting transparent materials
- Measuring cross-beam, measuring 4 x zones, 2 x holding functions
- Can be switched to high-resolution evaluation with accuracy levels of up to 2 mm
- Data compression: Run length coding

Your benefits

- “High-speed scan” function offers short response times for safely detecting objects traveling at high speeds
- Modular concept offers the perfect solution every time from a single source
- “High measurement accuracy” function for detecting small objects reliably
- “Transparent mode” function for reliably detecting and measuring transparent objects
- Integrated bus interfaces and accompanying functional modules reduce the time and effort involved in the commissioning process
- SOPAS configuration software with menu-driven wizard saves time during the configuration process
- Simple maintenance without the need for specialist staff thanks to the cloning function with IO-Link
- High reliability due to ambient light immunity

Additional information

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Type code	36
Dimensional drawings	38
Adjustments	39
Connection type and diagram	39
Recommended accessories	41

→ www.sick.com/MLG-2_Pro

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Detailed technical data

Features

Version	Pro
Technology	Sender/receiver
Minimum detectable object (MDO)¹⁾	2.5 mm ²⁾ , 3.5 mm ³⁾ 5 mm ²⁾ , 9 mm ³⁾ 10 mm ²⁾ , 14 mm ³⁾ 20 mm ²⁾ , 24 mm ³⁾ 25 mm ²⁾ , 29 mm ³⁾ 30 mm ²⁾ , 34 mm ³⁾ 50 mm ²⁾ , 54 mm ³⁾ (depending on type)

¹⁾ Depending on beam separation without cross beam setting.

²⁾ MDO min. detectable object at high measurement accuracy.

³⁾ MDO min. detectable object for standard measurement accuracy.

Performance

Maximum range	12 m ¹⁾ (depending on type)
Minimum range	≥ 0 mm
Response time	3.5 ms ... 40.6 ms ^{2) 3)} (depending on type)

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

²⁾ Without high speed.

³⁾ With resistive load.

Interfaces

Connection type	Male connector M12, 8-pin
IO-Link	✓
Fieldbus, industrial network	IO-Link
Type of fieldbus integration	Integrated in the device

Mechanics/electronics

Wave length	850 nm
Supply voltage V_s¹⁾	DC 18 V ... 30 V
Power consumption sender	55.3 mA ... 80.5 mA ²⁾ (depending on type)
Power consumption receiver	121.2 mA ... 222 mA ²⁾ (depending on type)
Ripple	< 5 V _{pp}
Output current I_{max.}	≤ 100 mA
Output load capacitive	100 nF
Output load inductive	1 H
Initialization time	< 1 s
Housing material	Aluminum
Indication	LED
Enclosure rating	IP 65, IP 67
Circuit protection	U _v connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Weight	0.545 kg ... 6.547 kg (depending on type)
Front screen	PMMA
Option	Nonexistent

¹⁾ Without load.

²⁾ Without load with 24 V.

Ambient data

Protection class	III
EMC	EN 60947-5-2
Ambient operating temperature	-30 °C +55 °C
Ambient storage temperature	-40 °C +70 °C
Ambient light immunity	Direct: 150,000 lx ¹⁾ Indirect: 200,000 lx ²⁾ (depending on type)
Vibration resistance	Sinusoidal oscillation 10-150 Hz 5 g
Shock load	Continuous shocks 10 g, 16 ms, 1000 shocks, Single shocks 15 g, 11 ms 3 per axle

¹⁾ Outdoor mode.

²⁾ Light resistance indirect.

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 28 indicates all possible configurations that can be ordered.

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

Other models → www.sick.com/MLG-2_Pro

MLGxxA-xxxxBx

- **Data interface:** 2 x analog + 2 x I/O (IO-Link)

Beam separation	Operating range	Detection height	Type	Part no.
2.5 mm	2 m	145 mm	MLG02A-0145B13201	1215595
		295 mm	MLG02A-0295B13201	1215594
		445 mm	MLG02A-0445B13201	1215370
		595 mm	MLG02A-0595B13201	1215371
		745 mm	MLG02A-0745B13201	1215892
		1,045 mm	MLG02A-1045B13201	1215893
		1,195 mm	MLG02A-1195B13201	1215894
5 mm	5 m	145 mm	MLG05A-0145B10501	1213492
		295 mm	MLG05A-0295B10501	1213905
		595 mm	MLG05A-0595B10501	1216091
		745 mm	MLG05A-0745B10501	1213438
		895 mm	MLG05A-0895B10501	1214044
		1,045 mm	MLG05A-1045B10501	1216608
		1,495 mm	MLG05A-1495B10501	1213906
		1,795 mm	MLG05A-1795B10501	1215964
		2,095 mm	MLG05A-2095B10501	1217101
		2,395 mm	MLG05A-2395B10501	1215631
	8.5 m	145 mm	MLG05A-0145B10801	1215561
		295 mm	MLG05A-0295B10801	1215272
		445 mm	MLG05A-0445B10801	1215273
		595 mm	MLG05A-0595B10801	1213480
		895 mm	MLG05A-0895B10801	1213633
		1,045 mm	MLG05A-1045B10801	1214072
		1,945 mm	MLG05A-1945B10801	1216987
		2,395 mm	MLG05A-2395B10801	1214819
		2,545 mm	MLG05A-2545B10801	1216989

Beam separation	Operating range	Detection height	Type	Part no.	
10 mm	5 m	440 mm	MLG10A-0440B10501	1214330	
		740 mm	MLG10A-0740B10501	1214937	
		1,040 mm	MLG10A-1040B10501	1214383	
		1,190 mm	MLG10A-1190B10501	1215041	
		1,490 mm	MLG10A-1490B10501	1215587	
		1,640 mm	MLG10A-1640B10501	1215641	
		1,940 mm	MLG10A-1940B10501	1214264	
		2,390 mm	MLG10A-2390B10501	1214662	
		2,690 mm	MLG10A-2690B10501	1214369	
		3,140 mm	MLG10A-3140B10501	1214352	
	8.5 m	440 mm	MLG10A-0440B10801	1213909	
		590 mm	MLG10A-0590B10802	1213784	
	20 mm	5 m	140 mm	MLG20A-0140B10501	1217865
			280 mm	MLG20A-0280B10501	1217868
			580 mm	MLG20A-0580B10501	1217871
			2,080 mm	MLG20A-2080B10501	1217876
25 mm	5 m	425 mm	MLG25A-0425B10501	1214329	
		575 mm	MLG25A-0575B10501	1214043	
		1,175 mm	MLG25A-1175B10501	1216081	
		1,475 mm	MLG25A-1475B10501	1216784	
		1,775 mm	MLG25A-1775B10501	1217446	
		1,925 mm	MLG25A-1925B10501	1214328	
		2,825 mm	MLG25A-2825B10501	1214729	
30 mm	5 m	270 mm	MLG30A-0270B10501	1217879	
		570 mm	MLG30A-0570B10501	1217882	
50 mm	5 m	550 mm	MLG50A-0550B10501	1216417	
		700 mm	MLG50A-0700B10501	1217368	
		850 mm	MLG50A-0850B10501	1213974	
		1,450 mm	MLG50A-1450B10501	1214418	
		2,500 mm	MLG50A-2500B10501	1216409	
		2,800 mm	MLG50A-2800B10501	1217367	
	8.5 m	550 mm	MLG50A-0550B10801	1216576	
		1,900 mm	MLG50A-1900B10801	1217269	

MLGxxA-xxxxlx

- **Data interface:** RS-485 + 2 x I/O (IO-Link)

Beam separation	Operating range	Detection height	Type	Part no.
2.5 mm	2 m	145 mm	MLG02A-0145I13201	1215334
		295 mm	MLG02A-0295I13201	1215876
		445 mm	MLG02A-0445I13201	1215888
		595 mm	MLG02A-0595I13201	1215887
		895 mm	MLG02A-0895I13201	1216135
		1,045 mm	MLG02A-1045I13201	1215890
		1,195 mm	MLG02A-1195I13201	1215891

Beam separation	Operating range	Detection height	Type	Part no.		
5 mm	5 m	145 mm	MLG05A-0145I10501	1213791		
		295 mm	MLG05A-0295I10501	1213793		
		445 mm	MLG05A-0445I10501	1213797		
		595 mm	MLG05A-0595I10501	1213799		
		745 mm	MLG05A-0745I10501	1213801		
		895 mm	MLG05A-0895I10501	1213803		
		1,045 mm	MLG05A-1045I10501	1213805		
		1,495 mm	MLG05A-1495I10501	1214293		
		1,795 mm	MLG05A-1795I10501	1215220		
		1,945 mm	MLG05A-1945I10501	1216234		
	2,395 mm	MLG05A-2395I10501	1213502			
	2,545 mm	MLG05A-2545I10501	1214803			
	8.5 m	145 mm	MLG05A-0145I10801	1215372		
		295 mm	MLG05A-0295I10801	1215416		
		445 mm	MLG05A-0445I10801	1213908		
		595 mm	MLG05A-0595I10801	1216036		
		745 mm	MLG05A-0745I10801	1215632		
		1,045 mm	MLG05A-1045I10801	1217254		
		1,495 mm	MLG05A-1495I10801	1215044		
		1,795 mm	MLG05A-1795I10801	1215045		
2,095 mm		MLG05A-2095I10801	1215046			
10 mm		5 m	140 mm	MLG10A-0140I10501	1213501	
	290 mm		MLG10A-0290I10501	1213811		
	440 mm		MLG10A-0440I10501	1213813		
	740 mm		MLG10A-0740I10501	1213815		
	890 mm		MLG10A-0890I10501	1217345		
	1,040 mm		MLG10A-1040I10501	1213817		
	1,340 mm		MLG10A-1340I10501	1213819		
	1,640 mm		MLG10A-1640I10501	1213821		
	1,940 mm		MLG10A-1940I10501	1213823		
	2,240 mm		MLG10A-2240I10501	1215626		
	3,140 mm	MLG10A-3140I10501	1213514			
	8.5 m	440 mm	MLG10A-0440I10801	1217466		
		590 mm	MLG10A-0590I10801	1216172		
		1,490 mm	MLG10A-1490I10801	1216173		
		2,090 mm	MLG10A-2090I10801	1216483		
		2,240 mm	MLG10A-2240I10801	1217333		
		20 mm	5 m	140 mm	MLG20A-0140I10501	1217867
				280 mm	MLG20A-0280I10501	1217870
580 mm				MLG20A-0580I10501	1217873	
1,040 mm	MLG20A-1040I10501			1119999		
2,080 mm	MLG20A-2080I10501			1217878		
8.5 m	1,180 mm		MLG20A-1180I10801	1217981		

Beam separation	Operating range	Detection height	Type	Part no.	
25 mm	5 m	275 mm	MLG25A-0275I10501	1214183	
		575 mm	MLG25A-0575I10501	1213723	
		875 mm	MLG25A-0875I10501	1216532	
		1,025 mm	MLG25A-1025I10501	1215172	
		1,475 mm	MLG25A-1475I10501	1214954	
		1,925 mm	MLG25A-1925I10501	1213827	
		2,075 mm	MLG25A-2075I10501	1214337	
		2,525 mm	MLG25A-2525I10501	1213829	
		2,825 mm	MLG25A-2825I10501	1213831	
	8.5 m	3,125 mm	MLG25A-3125I10501	1216330	
		425 mm	MLG25A-0425I10801	1216526	
		1,475 mm	MLG25A-1475I10801	1216664	
		1,775 mm	MLG25A-1775I10801	1217570	
		1,925 mm	MLG25A-1925I10801	1214385	
	30 mm	5 m	270 mm	MLG30A-0270I10501	1217881
			570 mm	MLG30A-0570I10501	1218070
50 mm	5 m	550 mm	MLG50A-0550I10501	1217471	
		1,000 mm	MLG50A-1000I10501	1217080	
		1,150 mm	MLG50A-1150I10501	1217065	
		1,900 mm	MLG50A-1900I10501	1214175	
		2,350 mm	MLG50A-2350I10501	1217078	
		2,500 mm	MLG50A-2500I10501	1216688	
	8.5 m	1,150 mm	MLG50A-1150I10801	1216046	
		1,450 mm	MLG50A-1450I10801	1216527	
		1,750 mm	MLG50A-1750I10801	1217250	
		1,900 mm	MLG50A-1900I10801	1215377	

MLGxxA-xxxxRx

- **Data interface:** 4 x Q (IO-Link)

Beam separation	Operating range	Detection height	Type	Part no.
2.5 mm	2 m	145 mm	MLG02A-0145R13201	1215875
		295 mm	MLG02A-0295R13201	1215335
		445 mm	MLG02A-0445R13201	1215650
		595 mm	MLG02A-0595R13201	1215623
		745 mm	MLG02A-0745R13201	1215582
		895 mm	MLG02A-0895R13201	1215622
		1,195 mm	MLG02A-1195R13201	1217231

Beam separation	Operating range	Detection height	Type	Part no.
5 mm	5 m	145 mm	MLG05A-0145R10501	1213792
		295 mm	MLG05A-0295R10501	1213718
			MLG05A-0295R10504	1213708
		445 mm	MLG05A-0445R10501	1213798
		595 mm	MLG05A-0595R10501	1213800
		745 mm	MLG05A-0745R10501	1213802
		895 mm	MLG05A-0895R10501	1213804
		1,045 mm	MLG05A-1045R10501	1213806
		1,345 mm	MLG05A-1345R10501	1213808
		1,795 mm	MLG05A-1795R10501	1216434
		2,095 mm	MLG05A-2095R10501	1214109
	2,395 mm	MLG05A-2395R10501	1214117	
	2,545 mm	MLG05A-2545R10501	1214026	
	8.5 m	145 mm	MLG05A-0145R10801	1214479
445 mm		MLG05A-0445R10801	1214046	
10 mm	5 m	140 mm	MLG10A-0140R10501	1213809
		290 mm	MLG10A-0290R10501	1213812
		440 mm	MLG10A-0440R10501	1213814
		590 mm	MLG10A-0590R10501	1216430
		890 mm	MLG10A-0890R10501	1214116
		1,040 mm	MLG10A-1040R10501	1213818
		1,340 mm	MLG10A-1340R10501	1213820
		1,490 mm	MLG10A-1490R10501	1214399
		1,640 mm	MLG10A-1640R10501	1213822
		1,940 mm	MLG10A-1940R10501	1213824
		2,090 mm	MLG10A-2090R10501	1216435
	2,390 mm	MLG10A-2390R10501	1214398	
	2,540 mm	MLG10A-2540R10501	1213920	
	8.5 m	290 mm	MLG10A-0290R10801	1214016
1,490 mm		MLG10A-1490R10801	1215396	
20 mm	5 m	140 mm	MLG20A-0140R10501	1217866
		280 mm	MLG20A-0280R10501	1217869
		580 mm	MLG20A-0580R10501	1217872
		1,180 mm	MLG20A-1180R10501	1217874
		2,080 mm	MLG20A-2080R10501	1217877
	8.5 m	580 mm	MLG20A-0580R10801	1217777
		1,180 mm	MLG20A-1180R10801	1999123

Beam separation	Operating range	Detection height	Type	Part no.	
25 mm	5 m	275 mm	MLG25A-0275R10501	1214176	
		425 mm	MLG25A-0425R10501	1215202	
		575 mm	MLG25A-0575R10501	1213537	
		725 mm	MLG25A-0725R10501	1214106	
		1,025 mm	MLG25A-1025R10501	1214378	
		1,175 mm	MLG25A-1175R10501	1217202	
		1,475 mm	MLG25A-1475R10501	1216607	
		1,625 mm	MLG25A-1625R10501	1217561	
		1,775 mm	MLG25A-1775R10501	1214377	
		2,075 mm	MLG25A-2075R10501	1214595	
		2,225 mm	MLG25A-2225R10501	1214985	
		2,375 mm	MLG25A-2375R10501	1216436	
		2,525 mm	MLG25A-2525R10501	1213830	
		2,825 mm	MLG25A-2825R10501	1213832	
	8.5 m	725 mm	MLG25A-0725R10801	1214105	
		1,025 mm	MLG25A-1025R10801	1213511	
		1,175 mm	MLG25A-1175R10801	1213538	
		2,975 mm	MLG25A-2975R10801	1217404	
	30 mm	5 m	270 mm	MLG30A-0270R10501	1217880
	50 mm	5 m	250 mm	MLG50A-0250R10501	1213512
400 mm			MLG50A-0400R10501	1216743	
550 mm			MLG50A-0550R10501	1216426	
700 mm			MLG50A-0700R10501	1214407	
850 mm			MLG50A-0850R10501	1216402	
1,000 mm			MLG50A-1000R10501	1215620	
1,150 mm			MLG50A-1150R10501	1214341	
1,450 mm			MLG50A-1450R10501	1216427	
1,750 mm			MLG50A-1750R10501	1216428	
1,900 mm			MLG50A-1900R10501	1215984	
2,200 mm			MLG50A-2200R10501	1214275	
2,500 mm			MLG50A-2500R10501	1215422	
2,650 mm			MLG50A-2650R10501	1216484	
			MLG50A-2650R10503	1217469	
3,100 mm		MLG50A-3100R10501	1217668		
8.5 m		1,150 mm	MLG50A-1150R10801	1215895	
		1,300 mm	MLG50A-1300R10801	1213969	
		1,450 mm	MLG50A-1450R10801	1213970	
		1,750 mm	MLG50A-1750R10801	1214032	
		1,900 mm	MLG50A-1900R10801	1214018	
	2,200 mm	MLG50A-2200R10801	1214019		
	2,350 mm	MLG50A-2350R10801	1214020		

Softwarefeatures

Data interface: B = 2 x Analog + 2 x I/O (IO-Link)

Dez	Qa1	Qa2	Q1	Q2 / IN1	Teach
01	Number of broken beams	Height control (last beam)/ LBB	Presence detection	Teach input	Standard mode
02	Number of broken beams	Height control (last beam)/ LBB	Presence detection	Presence detection inverted	Standard mode
03	Number of broken beams	Height control (last beam)/ LBB	Presence detection	Presence detection inverted	Standard mode & cross beam
04	Number of broken beams	Height control (first beam)/ FBB	Presence detection	Teach input	Standard mode
05	Number of broken beams	Height control (first beam)/ FBB	Presence detection	Presence detection inverted	Standard mode
06	Number of broken beams	Height control (first beam)/ FBB	Presence detection	Presence detection inverted	Standard mode & cross beam

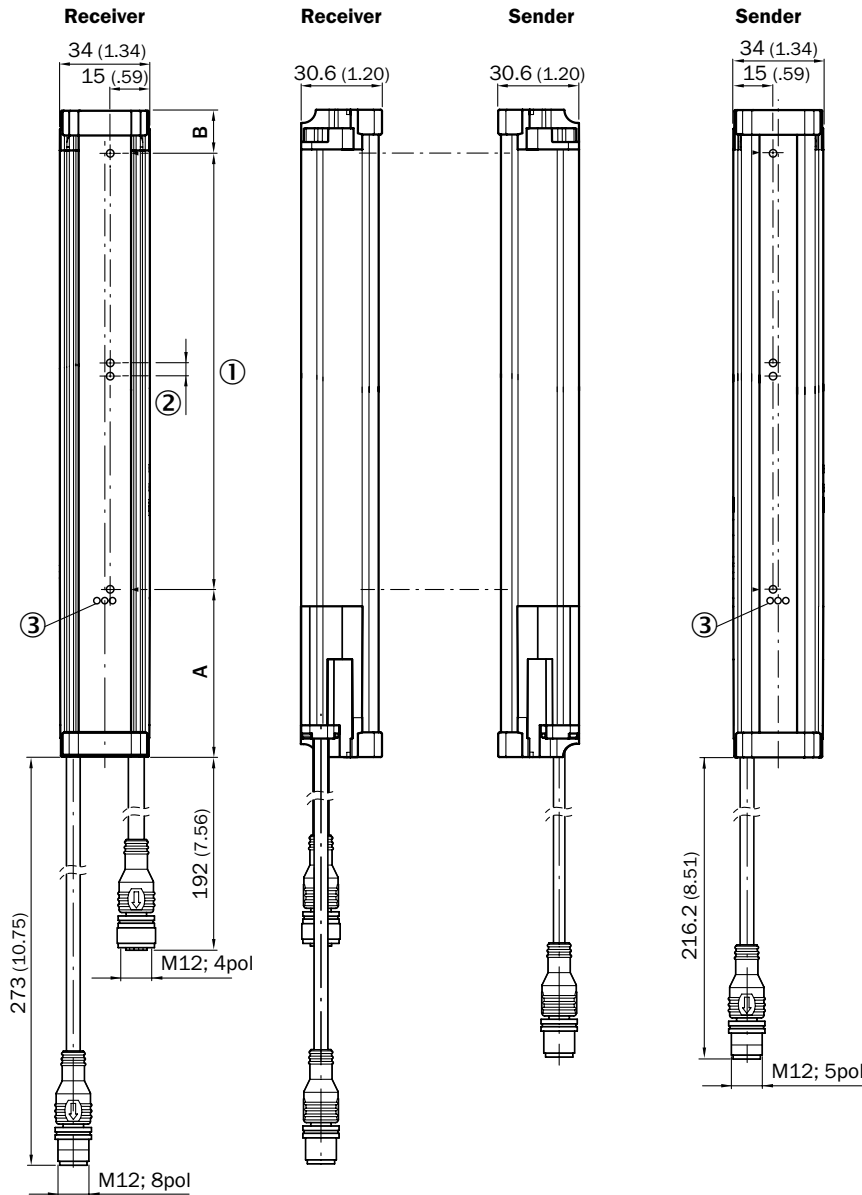
Data interface: I = RS-485 + 2 x I/O (IO-Link)

Dez	Interface RS485	Baud rate RS485	Q1	Q2 / IN1	Teach
01	System status Virtual outputs Number of broken beams Height control (last beam)/LBB Height control (first beam)/FBB Oudside dimension Inside dimension	9,6 KBit/s	Presence detection	Teach input	Standard mode
02	System status Virtual outputs Beam status	9,6 KBit/s	Presence detection	Teach input	Standard mode
03	System status Virtual outputs Beam status	9,6 KBit/s	Presence detection	Presence detection inverted	Standard mode
04	System status Virtual outputs RLC1 ... RLC16	9,6 KBit/s	Presence detection	Teach input	Standard mode
05	System status Virtual outputs RLC1 ... RLC16	9,6 KBit/s	Presence detection	Presence detection inverted	Standard mode

Data interface: R = 4 x Q (IO-Link)

Dez	Q1	Q2 / IN	Q3	Q4 / IN2	Teach
01	Presence detection	Teach input	Presence detection	Presence detection	Standard mode
02	Presence detection	Teach input	Presence detection inverted	Presence detection	Standard mode
03	Presence detection	Teach input	Presence detection	Presence detection	Standard mode & cross beam
04	Presence detection	Presence detection	Presence detection	Presence detection	Standard mode
05	Presence detection	Presence detection	Presence detection inverted	Presence detection inverted	Standard mode
06	Presence detection	Presence detection	Presence detection	Presence detection inverted	Standard mode & cross beam

Dimensional drawings (Dimensions in mm (inch))



	A ¹⁾	B ²⁾
Beam separation 2.5 mm	62.25 (2.45)	17.15 (0.68)
Beam separation 5 mm	63.3 (2.49)	16.1 (0.63)
Beam separation 10 mm	68.3 (2.69)	16.1 (0.63)
Beam separation 20 mm	68.3 (2.69)/78.3 (3.08) ³⁾	16.1 (0.63)
Beam separation 25 mm	83.3 (3.28)	16.1 (0.63)
Beam separation 30 mm	88.3 (2.69)	16.1 (0.63)
Beam separation 50 mm	108.3 (4.26)	16.1 (0.63)

¹⁾ Distance: MLG-2 edge - first beam

²⁾ Distance: MLG-2 edge - last beam

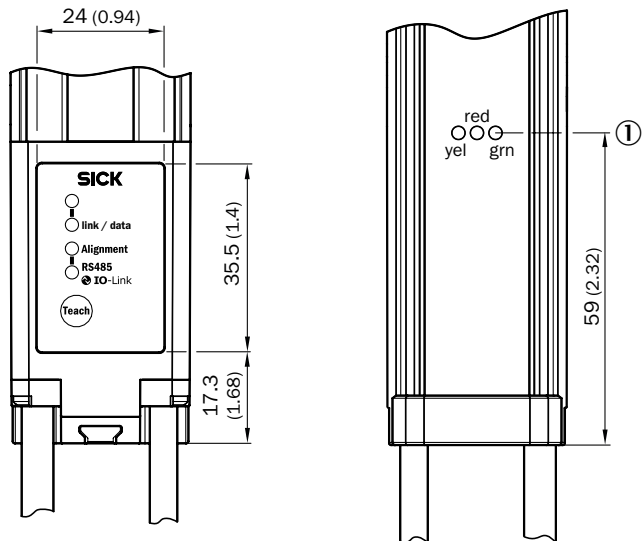
³⁾ MLG20x-xx**40**: 68.3 mm
MLG20x-xx**80**: 78.3 mm

① Detection height (see optical performance)

② Beam separation (RM)

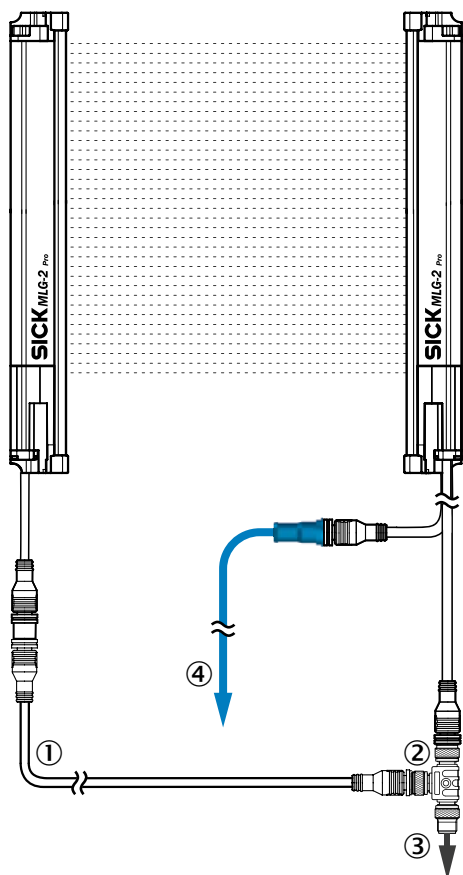
③ Status indicator: green, yellow, red LEDs

Adjustments



① Status indicator: green, yellow, red LEDs

Connection type and diagram








- ① Connection cable receiver (DSL-1205-GxxMC)
- ② T-piece
- ③ Connection cable (DOL-1205-GxxM/DOL-1208-GxxM)
- ④ Ethernet Connection cable

Recommended accessories

A complete connection for the MLG-2 Pro include:

1 T-junction, 1 connecting cable (DOL), 2 connection cable (DSL) and 1 connection cable Ethernet (SSL)

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

Figure	Brief description	Type	Part no.
Adapters and distributors			
	Male connector M12, 8-pin, to 1 x female connector M12, 8-pin, to 1 x female connector M12, 5-pin, for connecting of a PLC	SBO-02F12-SM1	6053172
Plug connectors and cables			
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: special color code, PVC, shielded, 5 m	DOL-1208-G05MF	6020664
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: digital I/Os, drag chain use, PUR, halogen-free, unshielded, 2 m	DSL-1205-G02MC	6025931
	Head A: female connector, M12, 8-pin, straight Head B: male connector, M12, 8-pin, straight Cable: drag chain use, PUR, halogen-free, shielded, 2 m	DSL-1208-G02MAC	6030121
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, drag chain use, PUR, shielded, 2 m	SSL-2J04-G02ME	6034414

For more accessories, see → [X-0](#)

LESS EFFORT AND GREATER FLEXIBILITY VIA INTEGRATED INTERFACES



Product description

With increasing levels of automation of systems or machines, the cabling work required also rises, which in turn increases the amount of project planning, installation, commissioning and maintenance work required. MLG-2 ProNet from SICK offers all the advantages of a measuring automation light grid now with integrated interfaces such as PROFINET, EtherCAT, Ethernet/IP, CANopen and PROFIBUS. Commissioning is quick

and easy thanks to suitable function blocks. In the configuration software SOPAS, solutions are pre-installed allowing even complex applications like lens width measurement to be easily configured. Automatic format conversion via fieldbus is also possible. With MLG-2 ProNet, SICK is offering a suitable solution for a variety of applications in production logistics and machinery construction.

At a glance

- System self-diagnosis possible
- High-resolution light grid with 2.5 mm, 5 mm, 10 mm, 20 mm, 25 mm, 30 mm and 50 mm beam separation
- “High speed scan” function with three scan speeds
- “Transparent mode” function for detection of transparent objects
- Measuring cross-beam, measuring 4 x zones, 2 x holding functions
- Data compression: Run length coding

Your benefits

- Reduced cabling work saves time in planning and installation.
- Acyclic data communication enables access to diagnostic functions and format conversion.
- Integrated interfaces and suitable function blocks reduce commissioning work
- “High measurement accuracy” function for reliable detection of small objects
- “Transparent mode” function for reliable detection and measurement of transparent objects
- Configuration software SOPAS for more functions and direct access to MLG-2 ProNet
- “High speed scan” function offers fast response time for safe detection of fast objects
- Extensions or adjustments are easily carried out, guaranteeing flexibility and future viability

Additional information

Detailed technical data	43
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Type code	48
Dimensional drawings	50
Adjustments	51
Connection type and diagram	52
Recommended accessories	54

→ www.sick.com/MLG-2_ProNet

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Detailed technical data

Features

Version	ProNet
Technology	Sender/receiver
Minimum detectable object (MDO)¹⁾	2.5 mm ²⁾ , 3.5 mm ³⁾ 5 mm ²⁾ , 9 mm ³⁾ 10 mm ²⁾ , 14 mm ³⁾ 20 mm ²⁾ , 24 mm ³⁾ 25 mm ²⁾ , 29 mm ³⁾ 30 mm ²⁾ , 34 mm ³⁾ 50 mm ²⁾ , 54 mm ³⁾ (depending on type)

¹⁾ Depending on beam separation without cross beam setting.

²⁾ MDO min. detectable object at high measurement accuracy.

³⁾ MDO min. detectable object for standard measurement accuracy.

Performance

Maximum range	12 m ¹⁾ (depending on type)
Minimum range	≥ 0 mm
Response time	3.5 ms ... 38.2 ms ^{2) 3)} (depending on type)

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

²⁾ Without high speed.

³⁾ With resistive load.

Interfaces

Fieldbus, industrial network	PROFINET PROFIBUS EtherCAT® EtherNet/IP CANopen®
Type of fieldbus integration	Integrated in the device

Mechanics/electronics

Wave length	850 nm
Supply voltage V_s¹⁾	DC 18 V ... 30 V
Power consumption sender	55.3 mA ... 78.95 mA ²⁾ (depending on type)
Power consumption receiver	121.2 mA ... 215.8 mA ²⁾ (depending on type)
Power consumption fieldbusmodule typ.	115 mA
Ripple	< 5 V _{pp}
Output current I_{max}.	≤ 100 mA
Output load capacitive	100 nF
Output load inductive	1 H
Initialization time	< 1 s
Housing material	Aluminum
Indication	LED
Enclosure rating	IP 65, IP 67
Circuit protection	U _v connections, reverse polarity protected, Output Q short-circuit protected, Interference pulse suppression
Weight	0.545 kg ... 6.547 kg (depending on type)
Weight fieldbus module	0.350 kg
Front screen	PMMA
Option	Nonexistent

¹⁾ Without load.

²⁾ Without load with 24 V.

8017054/2017-03-17

Subject to change without notice

Ambient data

Protection class	III
EMC	EN 60947-5-2
Ambient operating temperature	-30 °C +55 °C
Ambient storage temperature	-40 °C +70 °C
Ambient light immunity	Direct: 150,000 lx ¹⁾ Indirect: 200,000 lx ²⁾ (depending on type)
Vibration resistance	Sinusoidal oscillation 10-150 Hz 5 g
Shock load	Continuous shocks 10 g, 16 ms, 1000 shocks, Single shocks 15 g, 11 ms 3 per axle

¹⁾ Outdoor mode.

²⁾ Light resistance indirect.

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 38 indicates all possible configurations that can be ordered.

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

Other models → www.sick.com/MLG-2_ProNet

MLGxxN-xxxxNx

- **Data interface:** PROFINET

Beam separation	Operating range	Detection height	Type	Part no.
2.5 mm	2 m	145 mm	MLG02N-0145N13201	1216746
		295 mm	MLG02N-0295N13201	1216768
		445 mm	MLG02N-0445N13201	1216769
		595 mm	MLG02N-0595N13201	1217336
		745 mm	MLG02N-0745N13201	1216952
		1,195 mm	MLG02N-1195N13201	1217762
5 mm	5 m	145 mm	MLG05N-0145N10501	1217292
		745 mm	MLG05N-0745N10501	1217580
		1,045 mm	MLG05N-1045N10501	1216929
		1,495 mm	MLG05N-1495N10501	1216930
		1,645 mm	MLG05N-1645N10501	1217339
		1,795 mm	MLG05N-1795N10501	1217265
		2,245 mm	MLG05N-2245N10501	1217615
	8.5 m	595 mm	MLG05N-0595N10801	1217517
10 mm	5 m	140 mm	MLG10N-0140N10501	1216564
		290 mm	MLG10N-0290N10501	1217086
		440 mm	MLG10N-0440N10501	1216880
		740 mm	MLG10N-0740N10501	1217070
		890 mm	MLG10N-0890N10501	1217069
	5 m	1,040 mm	MLG10N-1040N10501	1217413
		1,190 mm	MLG10N-1190N10501	1217674
		1,340 mm	MLG10N-1340N10501	1217271
		1,490 mm	MLG10N-1490N10501	1216943
		1,640 mm	MLG10N-1640N10501	1217248
		1,790 mm	MLG10N-1790N10501	1217749
		2,540 mm	MLG10N-2540N10501	1217022
		2,690 mm	MLG10N-2690N10501	1217814

Beam separation	Operating range	Detection height	Type	Part no.
20 mm	5 m	140 mm	MLG20N-0140N10501	1217907
		280 mm	MLG20N-0280N10501	1217908
		580 mm	MLG20N-0580N10501	1217909
		1,180 mm	MLG20N-1180N10501	1217910
		2,080 mm	MLG20N-2080N10501	1217911
25 mm	5 m	575 mm	MLG25N-0575N10501	1217660
		725 mm	MLG25N-0725N10501	1217091
		875 mm	MLG25N-0875N10501	1218046
		1,025 mm	MLG25N-1025N10501	1217306
		1,175 mm	MLG25N-1175N10501	1217661
		1,325 mm	MLG25N-1325N10501	1217307
		1,475 mm	MLG25N-1475N10501	1216833
		1,625 mm	MLG25N-1625N10501	1217616
		2,225 mm	MLG25N-2225N10501	1216946
		2,525 mm	MLG25N-2525N10501	1216531
		2,825 mm	MLG25N-2825N10501	1217817
		3,125 mm	MLG25N-3125N10501	1217609
		8.5 m	2,075 mm	MLG25N-2075N10801
	50 mm	5 m	250 mm	MLG50N-0250N10501
700 mm			MLG50N-0700N10501	1217090
1,000 mm			MLG50N-1000N10501	1216771
1,150 mm			MLG50N-1150N10501	1216577
1,300 mm			MLG50N-1300N10501	1216785
1,450 mm			MLG50N-1450N10501	1216786
1,600 mm			MLG50N-1600N10501	1216787
1,750 mm			MLG50N-1750N10501	1216788
1,900 mm			MLG50N-1900N10501	1216789
2,050 mm			MLG50N-2050N10501	1216790
2,200 mm			MLG50N-2200N10501	1216791
2,350 mm			MLG50N-2350N10501	1216792
2,500 mm			MLG50N-2500N10501	1216793
2,650 mm			MLG50N-2650N10501	1216794
2,800 mm	MLG50N-2800N10501	1216993		

MLGxxN-xxxxPx

- **Data interface:** PROFIBUS

Beam separation	Operating range	Detection height	Type	Part no.
2.5 mm	2 m	145 mm	MLG02N-0145P13201	1217818
		295 mm	MLG02N-0295P13201	1217819
		895 mm	MLG02N-0895P13201	1217820
5 mm	5 m	295 mm	MLG05N-0295P10501	1217821
		895 mm	MLG05N-0895P10501	1217822
		1,945 mm	MLG05N-1945P10501	1217823

Beam separation	Operating range	Detection height	Type	Part no.
10 mm	5 m	140 mm	MLG10N-0140P10501	1217108
		290 mm	MLG10N-0290P10501	1217830
		890 mm	MLG10N-0890P10501	1217831
		1,940 mm	MLG10N-1940P10501	1217832
20 mm	5 m	140 mm	MLG20N-0140P10501	1217837
		280 mm	MLG20N-0280P10501	1217838
		580 mm	MLG20N-0580P10501	1217839
		1,180 mm	MLG20N-1180P10501	1217840
		2,080 mm	MLG20N-2080P10501	1217841
25 mm	5 m	275 mm	MLG25N-0275P10501	1217912
		575 mm	MLG25N-0575P10501	1217913
30 mm	5 m	270 mm	MLG30N-0270P10501	1217914
		570 mm	MLG30N-0570P10501	1217915

MLGxxN-xxxxEx

- **Data interface:** EtherCAT

Beam separation	Operating range	Detection height	Type	Part no.
2.5 mm	2 m	145 mm	MLG02N-0145E13201	1216796
		295 mm	MLG02N-0295E13201	1217801
		445 mm	MLG02N-0445E13201	1217518
		895 mm	MLG02N-0895E13201	1217266
5 mm	5 m	145 mm	MLG05N-0145E10501	1216920
		295 mm	MLG05N-0295E10501	1217371
10 mm	5 m	140 mm	MLG10N-0140E10501	1216566
		290 mm	MLG10N-0290E10501	1217124
		1,340 mm	MLG10N-1340E10501	1217639
20 mm	5 m	140 mm	MLG20N-0140E10501	1217890
		280 mm	MLG20N-0280E10501	1217891
		580 mm	MLG20N-0580E10501	1217892
		1,180 mm	MLG20N-1180E10501	1217893
	2,080 mm	MLG20N-2080E10501	1217894	
	8.5 m	1,780 mm	MLG20N-1780E10801	1217718
25 mm	5 m	275 mm	MLG25N-0275E10501	1217344
		1,625 mm	MLG25N-1625E10501	1217343
		1,925 mm	MLG25N-1925E10501	1217535
		2,525 mm	MLG25N-2525E10501	1216568
	8.5 m	725 mm	MLG25N-0725E10801	1217312
30 mm	5 m	270 mm	MLG30N-0270E10501	1217895
		570 mm	MLG30N-0570E10501	1217896
50 mm	5 m	250 mm	MLG50N-0250E10501	1217087
	8.5 m	400 mm	MLG50N-0400E10801	1217331
		1,750 mm	MLG50N-1750E10801	1217270

MLGxxNxxxxHxxxxx

- **Data interface:** EtherNet/IP

Beam separation	Operating range	Detection height	Type	Part no.
2.5 mm	2 m	145 mm	MLG02N-0145H13201	1216919
		595 mm	MLG02N-0595H13201	1217375
		745 mm	MLG02N-0745H13201	1216966
		895 mm	MLG02N-0895H13201	1217273
5 mm	5 m	145 mm	MLG05N-0145H10501	1216921
		295 mm	MLG05N-0295H10501	1217076
	5 m	745 mm	MLG05N-0745H10501	1216828
		895 mm	MLG05N-0895H10501	1216923
		2,095 mm	MLG05N-2095H10501	1217533
		2,245 mm	MLG05N-2245H10501	1217238
10 mm	5 m	140 mm	MLG10N-0140H10501	1216565
		890 mm	MLG10N-0890H10501	1217647
		1,040 mm	MLG10N-1040H10501	1217475
		1,190 mm	MLG10N-1190H10501	1217125
20 mm	5 m	280 mm	MLG20N-0280H10501	1217899
		580 mm	MLG20N-0580H10501	1217900
		1,180 mm	MLG20N-1180H10501	1217901
		2,080 mm	MLG20N-2080H10501	1217902
25 mm	5 m	275 mm	MLG25N-0275H10501	1216950
		425 mm	MLG25N-0425H10501	1217496
		575 mm	MLG25N-0575H10501	1218074
		725 mm	MLG25N-0725H10501	1216922
		1,025 mm	MLG25N-1025H10501	1217497
		1,475 mm	MLG25N-1475H10501	1217476
		2,225 mm	MLG25N-2225H10501	1217794
		2,375 mm	MLG25N-2375H10501	1217364
30 mm	5 m	270 mm	MLG30N-0270H10501	1217903
		570 mm	MLG30N-0570H10501	1217904
50 mm	5 m	250 mm	MLG50N-0250H10501	1216963
		550 mm	MLG50N-0550H10501	1217305

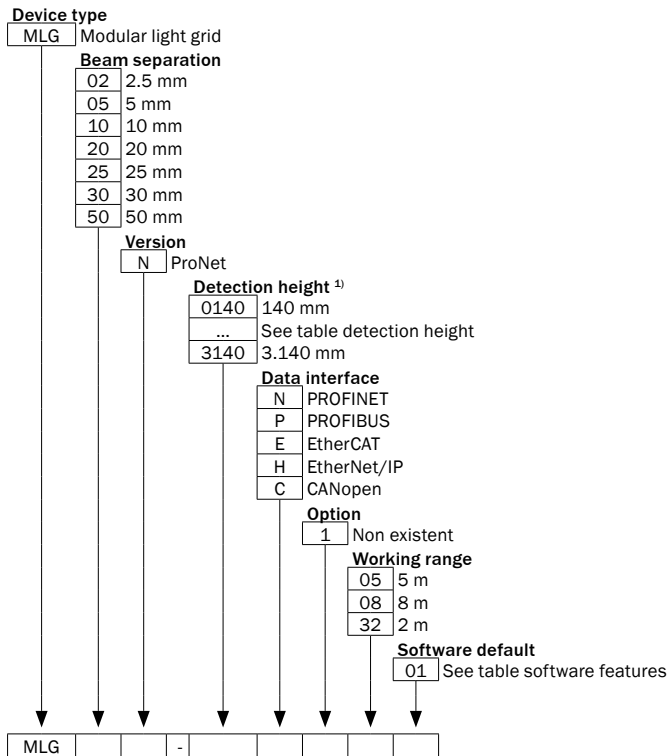
MLGxxN-xxxxCx

- **Data interface:** CANopen

Beam separation	Operating range	Detection height	Type	Part no.
2.5 mm	2 m	145 mm	MLG02N-0145C13201	1217824
		295 mm	MLG02N-0295C13201	1217825
		895 mm	MLG02N-0895C13201	1217826
5 mm	5 m	145 mm	MLG05N-0145C10501	1217251
		295 mm	MLG05N-0295C10501	1217827
		745 mm	MLG05N-0745C10501	1217082
		895 mm	MLG05N-0895C10501	1217828
		1,945 mm	MLG05N-1945C10501	1217829

Beam separation	Operating range	Detection height	Type	Part no.
10 mm	5 m	140 mm	MLG10N-0140C10501	1217053
		290 mm	MLG10N-0290C10501	1217833
		890 mm	MLG10N-0890C10501	1217834
		1,940 mm	MLG10N-1940C10501	1217835
20 mm	5 m	140 mm	MLG20N-0140C10501	1217842
		280 mm	MLG20N-0280C10501	1217843
		580 mm	MLG20N-0580C10501	1217844
		1,040 mm	MLG20N-1040C10501	1217782
		1,180 mm	MLG20N-1180C10501	1217845
		2,080 mm	MLG20N-2080C10501	1217846
30 mm	5 m	270 mm	MLG30N-0270C10501	1217918
		570 mm	MLG30N-0570C10501	1217919

Type code



¹⁾ Max. 500 beams.

Detection height (mm)

MLG02	MLG05	MLG10	MLG20	MLG25	MLG30	MLG50
145	145	140	140	-	-	-
295	295	290	280	275	270	250
445	445	440	440	425	420	400
595	595	590	580	575	570	550
745	745	740	740	725	720	700
895	895	890	880	875	870	850
1045	1045	1040	1040	1025	1020	1000
1195	1195	1190	1180	1175	1170	1150
-	1345	1340	1340	1325	1320	1300
-	1495	1490	1480	1475	1470	1450
-	1645	1640	1640	1625	1620	1600
-	1795	1790	1780	1775	1770	1750
-	1945	1940	1940	1925	1920	1900
-	2095	2090	2080	2075	2070	2050
-	2245	2240	2240	2225	2220	2200
-	2395	2390	2380	2375	2370	2350
-	2545	2540	2540	2525	2520	2500
-	-	2690	2680	2675	2670	2650
-	-	2840	2840	2825	2820	2800
-	-	2990	2980	2975	2970	2950
-	-	3140	3140	3125	3120	3100

Softwarefeatures

Data interface: C = CANopen

Dez	Q!	Adress	Baudrate
01	Presence detection	6 (LSS)	125 kbit/s

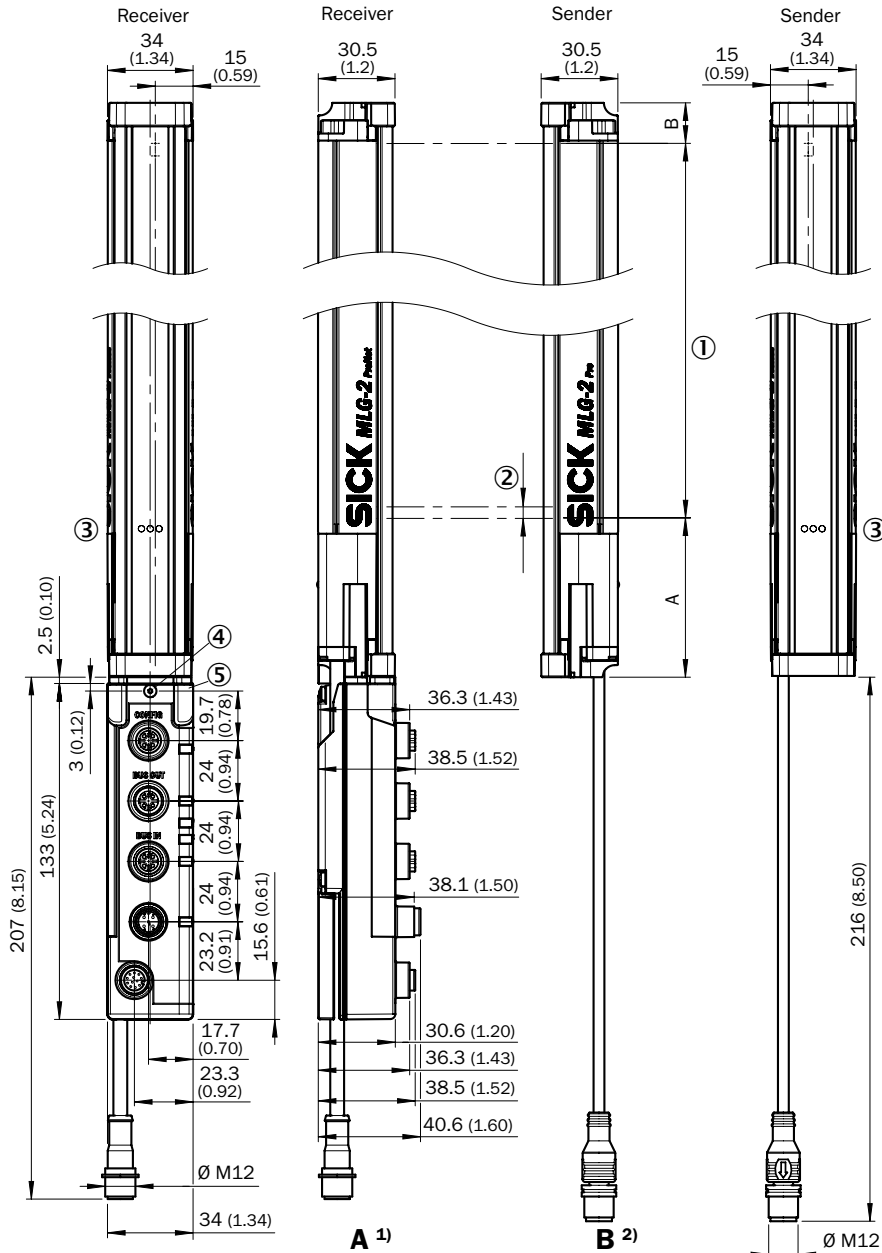
Data interface: P = PROFIBUS

Dez	Q!	Adress
01	Presence detection	126 (SAA)

Data interface: E / H / N = EtherCAT / EtherNet/IP / PROFINET

Dez	Q!
01	Presence detection

Dimensional drawings (Dimensions in mm (inch))



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

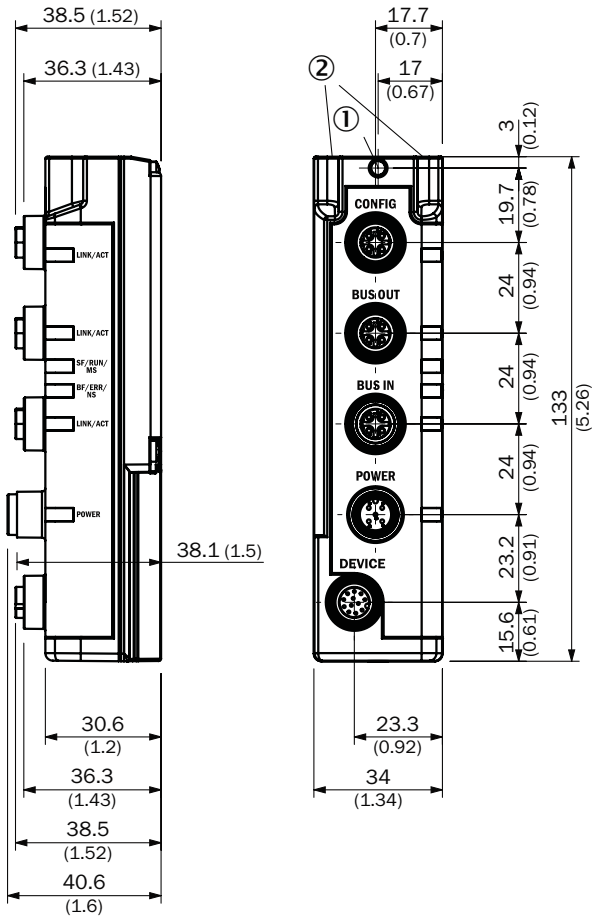
¹⁾ Distance: MLG-2 edge - first beam

²⁾ Distance: MLG-2 edge - last beam

³⁾ MLG20x-xx**40**: 68.3 mm
MLG20x-xx**80**: 78.3 mm

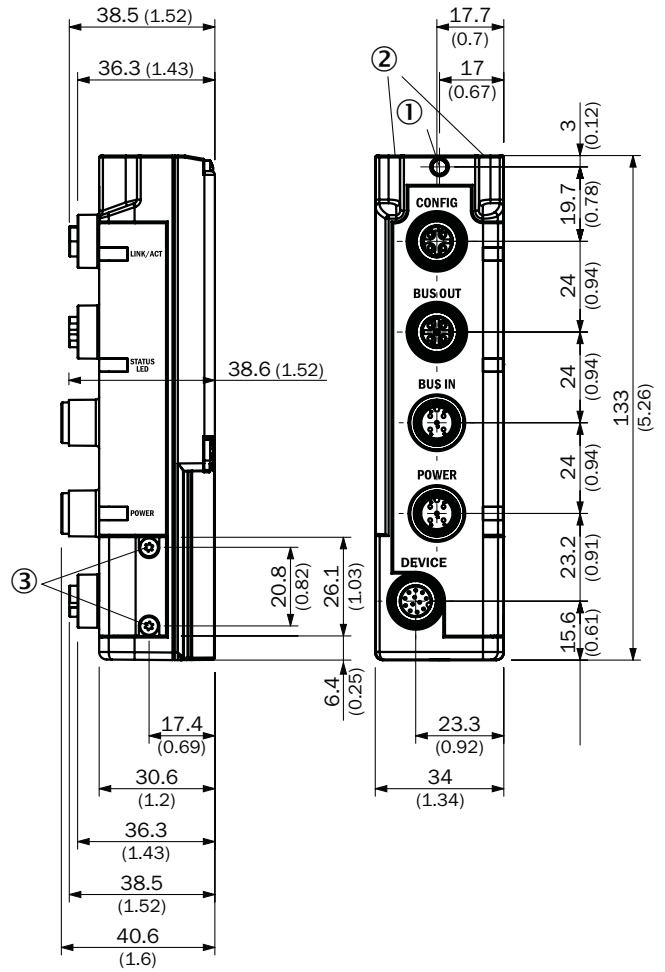
- ① Detection height (see optical performance)
- ② Beam separation (RM)
- ③ Status indicator: green, yellow, red LEDs
- ④ Safety screw M4; turning moment 0,5 Nm
- ⑤ For thread bold M4; turning moment 0,5 Nm

PROFINET, EtherCAT®, EtherNet/IP



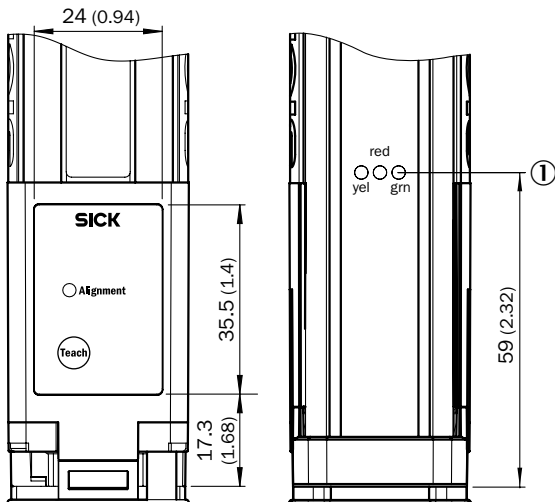
- ① Safety screw M4; turning moment 0.5 Nm
- ② For thread bold M4; turning moment 0.5 Nm

PROFIBUS, CANopen®



- ① Safety screw M4; turning moment 0.5 Nm
- ② For thread bold M4; turning moment 0.5 Nm
- ③ Lock screw, flap DIP-switch M2.5; turning moment 0.5 Nm

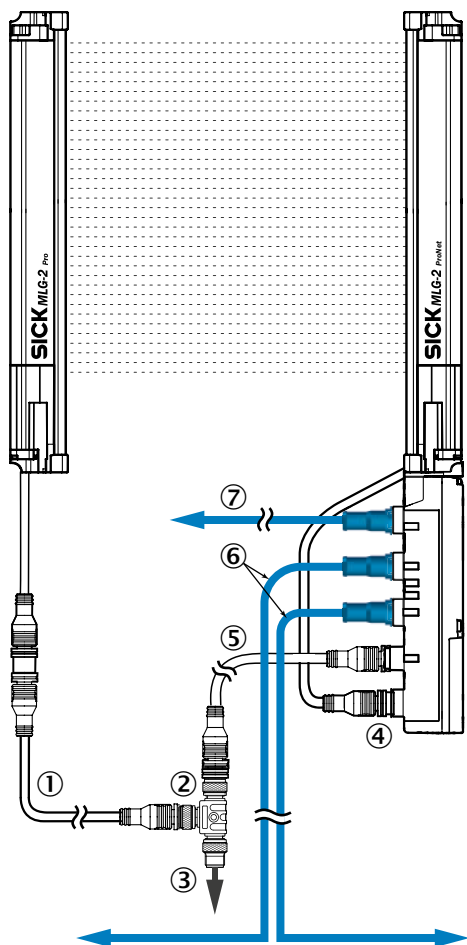
Adjustments



- ① Status indicator: green, yellow, red LEDs

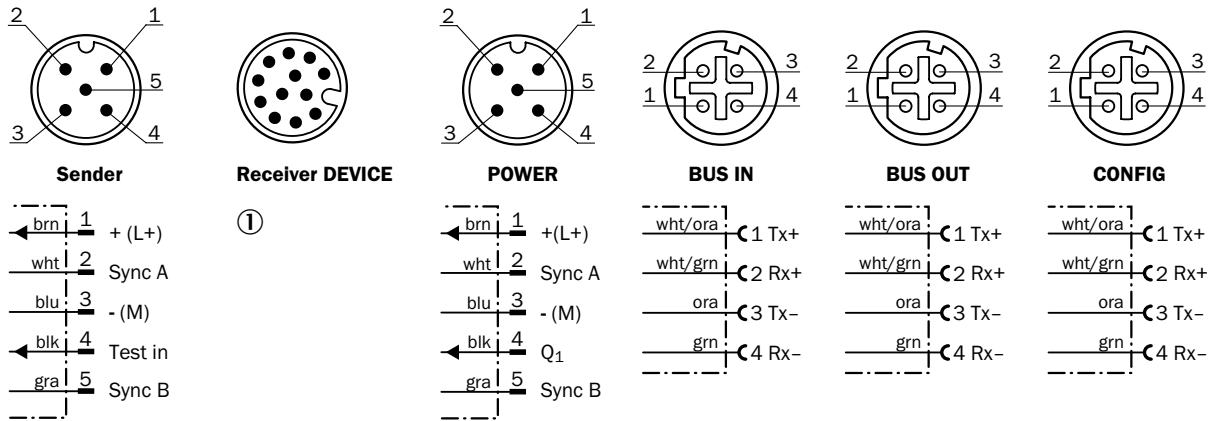
Connection type and diagram

Ethernet



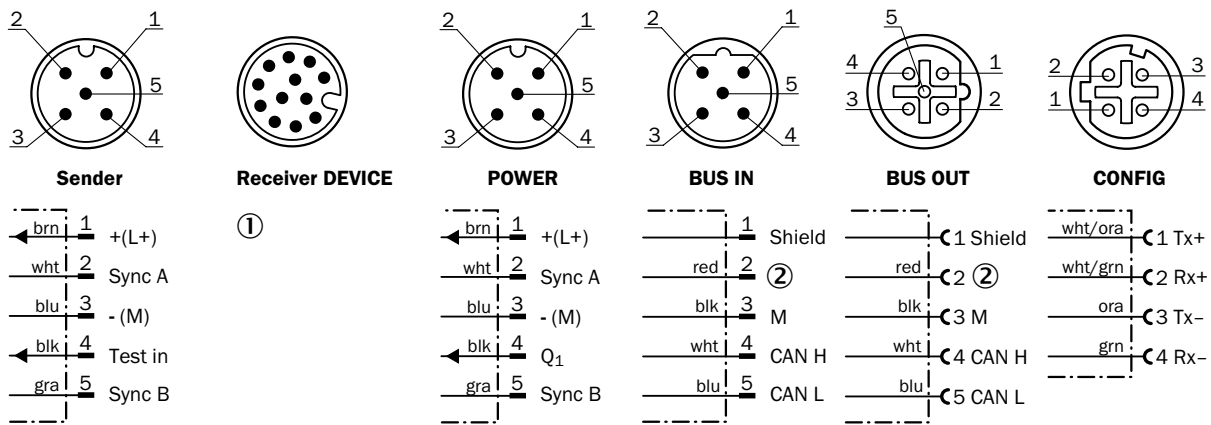
- ① Connection cable receiver (DSL-1205-GxxMC)
- ② T-piece
- ③ Connection cable (DOL-1205-GxxM)
- ④ Connection receiver "DEVICE"
- ⑤ Connection cable "POWER" (DSL-1205-GxxMC)
- ⑥ Ethernet Connection cable "BUS IN, BUS OUT"
- ⑦ Ethernet connection cable "CONFIG"

PROFINET, EtherCAT®, EtherNet/IP



① Connection to fieldbus module

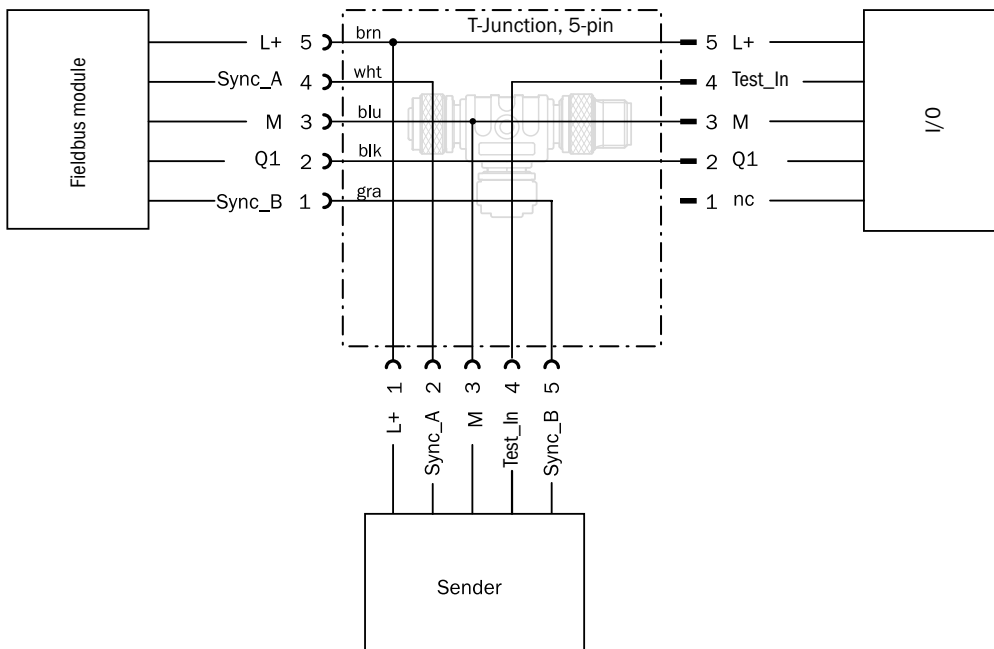
PROFIBUS, CANopen®



① Connection to fieldbus module

② Not connected

Connection diagram T-junction








Recommended accessories




A complete connection for the MLG-2 ProNet include:

- 1 T-junction, 1 connecting cable (DOL), 2 connection cable (DSL),
- 2 BUS connection cable Ethernet (SSL) and 1 CONFIG connection cable Ethernet (SSL)

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

Figure	Brief description	Type	Part no.
Adapters and distributors			
	Male connector M12, 5-pin, straight, A-coded to 2 x female connector M12, 5-pin, straight, A-coded	SBO-02G12-SM	6029305
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: PVC, unshielded, 5 m	DOL-1205-G05M	6009868
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: digital I/Os, drag chain use, PUR, halogen-free, unshielded, 5 m	DSL-1205-G05MC	6029282
	Head A: male connector, M12, 4-pin, D-coded Head B: male connector, M12, 4-pin, D-coded Cable: Ethernet, PUR, shielded, 5 m	SSL-1204-G05ME	6034422
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, drag chain use, PUR, shielded, 5 m	SSL-2J04-G05ME	6034415

Fieldbus module

Figure	Brief description	Type	Part no.
Modules and gateways			
	MLG-2 ProNet, fieldbus module: PROFINET	FBM-N11	2081101
	MLG-2 ProNet, fieldbus module: EtherCAT®	FBM-E11	2081098
	MLG-2 ProNet, fieldbus module: EtherNet/IP	FBM-H11	2081100
	MLG-2 ProNet, fieldbus module: PROFIBUS	FBM-P11	2081102
	MLG-2 ProNet, fieldbus module: CANopen®	FBM-C11	2081096
	MLG-2 ProNet, fieldbus module, mounting set	BEF-MLG-2-FBM-SET	2090665

For more accessories, see → X-0

Accessories

Alignment aids

Figure	Description	Type	Part no.	Prime	Pro	ProNet
	Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!	AR60	1015741	●	●	●
	Adapter AR60 for deTec4, deTec2 and MLG-2	AR60 adapter, deTec, MLG-2	4070854	●	●	●
	IPG-2 protective tube adapter for laser alignment aid AR60	IPG	2085715	●	●	●

Cleaning agent


Figure	Description	Type	Part no.	Prime	Pro	ProNet
	Plastic cleaner and care product, anti-static, 0.5 liter	Plastic cleaner	5600006	●	●	●

Optics cloths

Figure	Description	Type	Part no.	Prime	Pro	ProNet
	Cloth for cleaning the front screen	Lens cloth	4003353	●	●	●




Equipment protection (mechanical)

protective housings and protective pipes

Figure	Material	Suitable for monitoring height	Housing length, visible protective tube (PMMA)	Type	Part no.	Prime	Pro	ProNet
	PMMA (protective pipes), Aluminum (end caps, spacer), ABS-plastic (support holder), Polyamide (cable gland)	140 mm ... 145 mm	220 mm	IPG2-0220A5P167	2083870	●	●	●
		250 mm ... 295 mm	370 mm	IPG2-0370A5P167	2083871	●	●	●
		400 mm ... 445 mm	520 mm	IPG2-0520A5P167	2082909	●	●	●
		550 mm ... 595 mm	670 mm	IPG2-0670A5P167	2083872	●	●	●
		700 mm ... 745 mm	820 mm	IPG2-0820A5P167	2083873	●	●	●
		850 mm ... 895 mm	970 mm	IPG2-0970A5P167	2083874	●	●	●
		1,000 mm ... 1.045 mm	1,120 mm	IPG2-1120A5P167	2083875	●	●	●
		1,150 mm ... 1.195 mm	1,270 mm	IPG2-1270A5P167	2083876	●	●	●
		1,300 mm ... 1.345 mm	1,420 mm	IPG2-1420A5P167	2083877	●	●	●
		1,450 mm ... 1.495 mm	1,570 mm	IPG2-1570A5P167	2083878	●	●	●
		1,600 mm ... 1.645 mm	1,720 mm	IPG2-1720A5P167	2083879	●	●	●
		1,750 mm ... 1.795 mm	1,870 mm	IPG2-1870A5P167	2083880	●	●	●
		1,900 mm ... 1.945 mm	2,020 mm	IPG2-2020A5P167	2083881	●	●	●
		2,050 mm ... 2.095 mm	2,170 mm	IPG2-2170A5P167	2083882	●	●	●
		2,200 mm ... 2,245 mm	2,320 mm	IPG2-2320A5P167	2082189	●	●	●
2,500 mm ... 2,545 mm	2,620 mm	IPG2-2620A5P167	2087174	●	●	●		





Adapters and distributors

T-junctions

Figure	Description	Type	Part no.	Prime	Pro	ProNet
	Male connector M12, 8-pin, to 1 x female connector M12, 8-pin, to 1 x female connector M12, 5-pin, for connecting of a PLC	SBO-02F12-SM1	6053172	-	●	-
	Male connector M12, 5-pin, to 1 x female connector M12, 8-pin, to 1 x female connector M12, 5-pin, for connecting on IO-Link-Master	SBO-02F12-SM2	6053283	-	●	-
	Male connector M12, 5-pin, straight, A-coded to 2 x female connector M12, 5-pin, straight, A-coded	SBO-02G12-SM	6029305	-	-	●

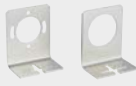



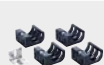



Other mounting accessories

Sliding nuts

Figure	Description	Type	Part no.	Prime	Pro	ProNet
	Sliding nut, M5	Sliding nut	5305719	●	●	●
	Sliding nut set, M5, 4x	Sliding nuts	2017550	●	●	●
	For grounding the MSL, C2000, M2000 or C4000 when using the AS-interface module lower parts FKE or FKE-A	T-nuts	4031411	●	●	●
	Sliding nut, ITEM profile, M6	UH sliding nut	5305615	●	●	●

Terminal and alignment brackets


Alignment brackets

Figure	Description	Type	Part no.	Prime	Pro	ProNet
	Mounting bracket for IPG-2 protective tube, 1 x mounting bracket right, 1 x mounting bracket left	BEF-WK-IPG2	2082211	●	●	●
	Bracket for external mounting of the fieldbus module, 1 x angle holder and 1 x screws	BEF-WN-FBM-SET1	2082322	-	-	●
	Bracket for external mounting of the fieldbus module, 2 x angle holder and 2 x screws	BEF-WN-FBM-SET2	2083323	-	-	●
	Bracket for fix mounting of the fieldbus module, 6 x Quick Fix	BEF-3SHABPKU2-SET1	2085604	-	-	●
	Bracket for alignable mounting of the fieldbus module, 4 x Flex Fix with 1 x angle holder	BEF-1SHABPKU4-SET2	2083452	-	-	●
	Replacement bracket kit replaces swivel mount brackets 2019649 and 2019659 or side brackets 2019506 with FlexFix brackets by using the existing fixing holes	BEF-1SHABP004	2071021	●	●	●
	FlexFix bracket	BEF-1SHABPKU4	2066614	●	●	●
	QuickFix bracket	BEF-3SHABPKU2	2066048	●	●	●


Plug connectors and cables

Connecting cables with female connector


M12, 5-pin, PUR, halogen-free, Oil / grease resistant, Power

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 5-pin, straight, A-coded, shielded	Cable, open conductor heads	5 m, 5-wire	DOL-1205-G05MAC	6036384	●	-	●




M12, 5-pin, PVC, chemical resistant

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 5-pin, straight, unshielded	Cable, open conductor heads	2 m, 5-wire	DOL-1205-G02M	6008899	●	-	●
			5 m, 5-wire	DOL-1205-G05M	6009868	●	-	●
			10 m, 5-wire	DOL-1205-G10M	6010544	●	-	●
			15 m, 5-wire	DOL-1205-G15M	6029215	●	-	●


M12, 8-pin, PUR, halogen-free

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 8-pin, straight, unshielded	Cable	2 m, 8-wire	DOL-1208-G10MF	6048434	-	●	-
			5 m, 8-wire	DOL-1208-G02MF	6020663	-	●	-
			10 m, 8-wire	DOL-1208-G05MF	6020664	-	●	-


Connection cables with female connector and male connector

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 5-pin, straight, unshielded	Male connector, M12, 8-pin, straight	0.1 m, 5-wire	DSL-1258-G0M1C	6057015	●	●	●
	Female connector, M12, 8-pin, straight, unshielded	Male connector, M12, 8-pin, straight	0.1 m, 8-wire	DSL-1208-G0M1C	6057014	●	●	-
	Female connector, M12, 8-pin, straight, unshielded	Male connector, M12, 5-pin, straight	0.1 m, 5-wire	DSL-1285-G0M1C	6057013	●	●	●


M12, 5-pin, PUR, halogen-free, Oil / grease resistant, digital I/Os

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 5-pin, straight, A-coded, unshielded	Male connector, M12, 5-pin, straight, A-coded	1 m, 5-wire	DSL-1205-G01MC	6029280	●	●	●
			2 m, 5-wire	DSL-1205-G02MC	6025931	●	●	●
			5 m, 5-wire	DSL-1205-G05MC	6029282	●	●	●
			10 m, 5-wire	DSL-1205-G10MC	6038954	●	●	●


M12, 8-pin, PUR, halogen-free, Oil / grease resistant

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 8-pin, straight, shielded	Male connector, M12, 8-pin, straight	1 m, 8-wire	DSL-1208-G01MAC	6026625	-	●	-
			2 m, 8-wire	DSL-1208-G02MAC	6030121	-	●	-
			5 m, 8-wire	DSL-1208-G05MAC	6032325	-	●	-
			10 m, 8-wire	DSL-1208-G10MAC	6034901	-	●	-

Connection cables with female connector and male connector M12, 12-pin, PUR, halogen-free, Oil / grease resistant



Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 12-pin, straight, shielded	Male connector, M12, 12-pin, straight	2.7 m, 12-wire, shielded	DSL-1212-G2M7AC	6056903	-	-	●

Connection cables with female connector and male connector M12, 12-pin, PVC

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 12-pin, straight, shielded	Male connector, M12, 12-pin, straight	2 m, 12-wire, shielded	DSL-1212-G02MAC	6041763	-	-	●


Connection cables with male and male connector

M12, 4-pin, PUR, Ethernet

Figure	Connection type head A	Connection type head B	Connecting cable	Type	Part no.	Prime	Pro	ProNet
	Male connector, M12, 4-pin, D-coded, shielded	Male connector, M12, 4-pin, D-coded	2 m, 4-wire	SSL-2J04-G02ME	6034414	-	●	●
			3 m, 4-wire	SSL-2J04-G03ME	6029630	-	●	●
			5 m, 4-wire	SSL-2J04-G05ME	6035389	-	●	●
			10 m, 4-wire	SSL-2J04-G10ME	6030928	-	●	●
			25 m, 4-wire	SSL-2J04-G25ME	6033555	-	●	●
	Male connector, M12, 4-pin, straight, D-coded, shielded	Male connector, RJ45, 8-pin, straight	2 m, 4-wire, AWG26	SSL-2J04-G02ME	6034420	-	●	●
			5 m, 4-wire, AWG26	SSL-2J04-G03ME	6034421	-	●	●
			5 m, 4-wire, AWG26	SSL-2J04-G05ME	6034422	-	●	●

Female connectors (ready to assemble)

M12, 5-pin

Figure	Connection type head A	Connection type head B	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 5-pin, straight, unshielded	Screw-type terminals	DOS-1205-G	6009719	●	●	●

M12, 8-pin




Figure	Connection type head A	Connection type head B	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 8-pin, straight, unshielded	Screw-type terminals	DOS-1208-G	6028422	-	●	-


Figure	Connection type head A	Connection type head B	Type	Part no.	Prime	Pro	ProNet
	Female connector, M12, 8-pin, straight, shielded	Screw-type terminals	DOS-1208-GA	6028369	-	●	-

Male connectors (ready to assemble)

M12, 5-pin



Figure	Connection type head A	Connection type head B	Type	Part no.	Prime	Pro	ProNet
	Male connector, M12, 5-pin, straight, unshielded	Screw-type terminals	STE-1205-G	6022083	●	●	●

M12, 8-pin

Figure	Connection type head A	Connection type head B	Type	Part no.	Prime	Pro	ProNet
	Male connector, M12, 8-pin, straight, shielded	Screw-type terminals	STE-1208-GA	6028370	-	●	-

Modules and gateways

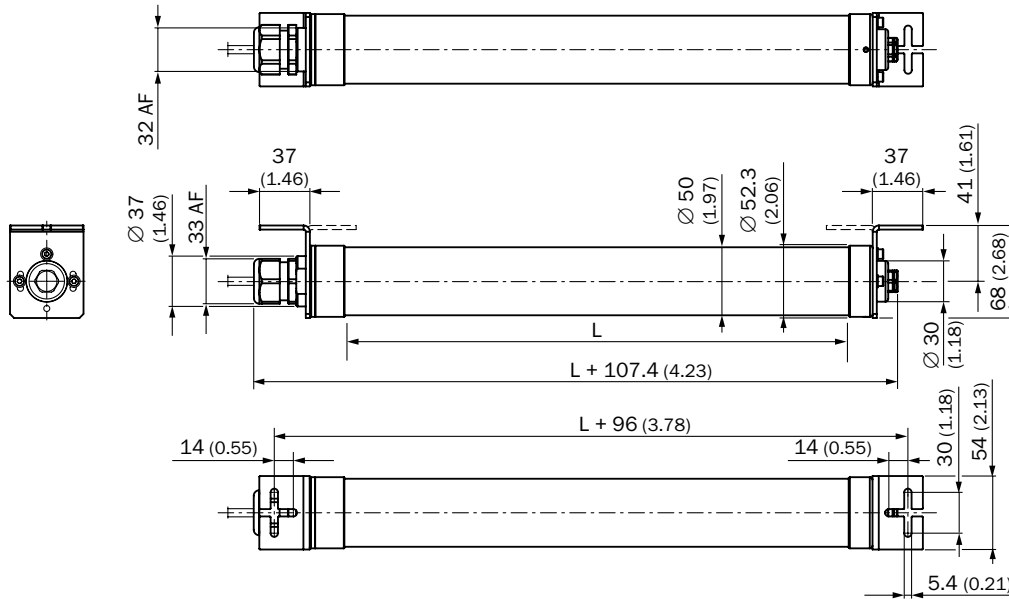
Connection modules

Figure	Description	Type	Part no.	Prime	Pro	ProNet
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790	●	●	-
	IO-Link version V1.1, Port class 2, PIN 2, 4, 5 galvanically connected, Supply voltage 18 V DC ... 32 V DC (limit values, operation in short-circuit protected network max. 8 A)	IOLP2ZZ-M3201 (SICK Memory Stick)	1064290	●	●	-

Dimensional drawings Accessories

Equipment protection (mechanical)

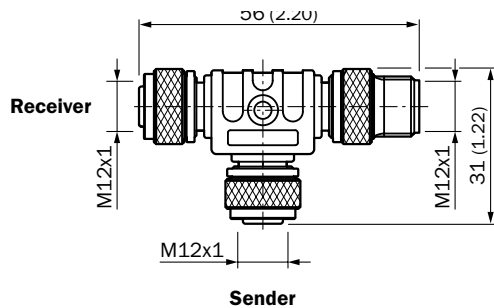
IPG2-xxxxA5P167



Monitoring height (L) mm	Protection pipe (L) mm	Monitoring height (L) mm	Protection pipe (L) mm	Monitoring height (L) mm	Protection pipe (L) mm
100 ... 145	220	1,000 ... 1,045	1,120	1,900 ... 1,945	2,020
250 ... 295	370	1,150 ... 1,195	1,270	2,050 ... 2,095	2,170
400 ... 445	520	1,300 ... 1,345	1,420	2,200 ... 2,245	2,320
550 ... 595	670	1,450 ... 1,495	1,570	2,500 ... 2,545	2,620
700 ... 745	820	1,600 ... 1,645	1,720		
850 ... 895	970	1,750 ... 1,795	1,870		

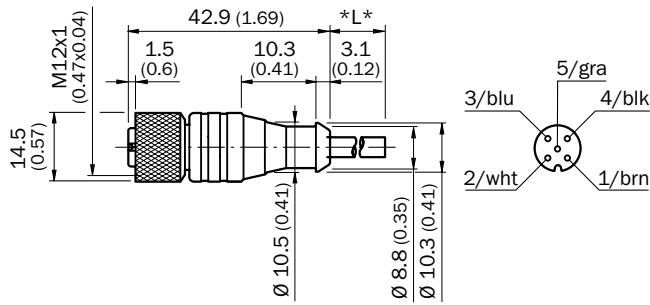
Adapters and distributors

SBO-02F12-SM

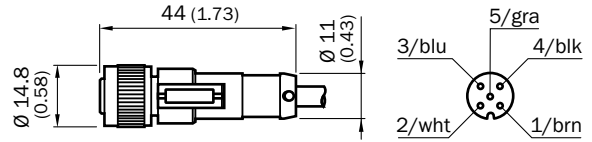


Plug connectors and cables

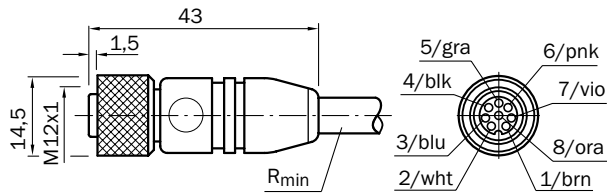
DOL-1205-GxxM



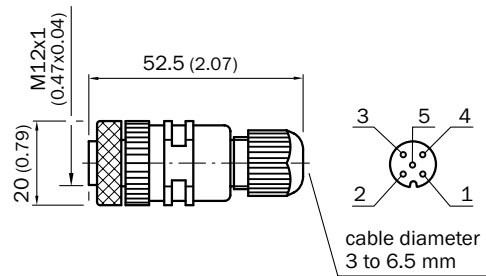
DOL-1205-GxxMAC



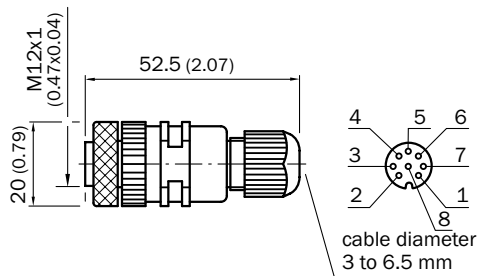
DOL-1208-GxxMF



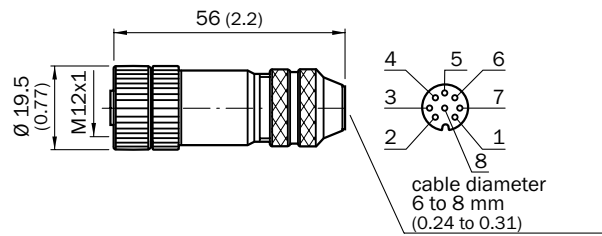
DOS-1205-G



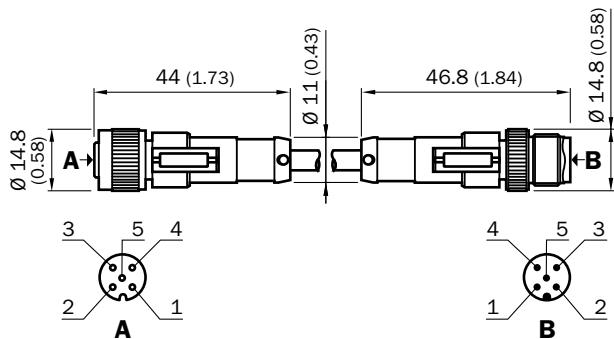
DOS-1208-G



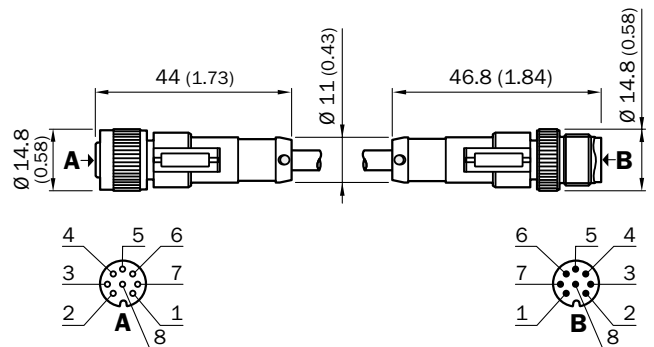
DOS-1208-GA



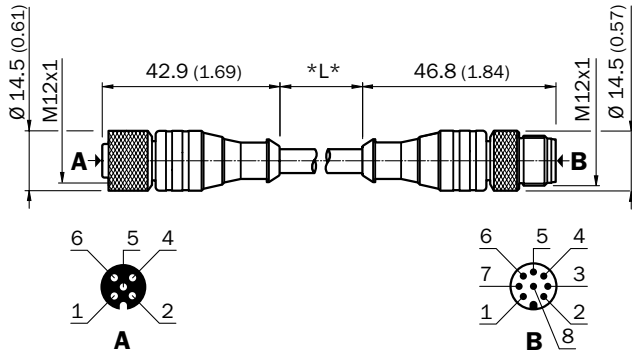
DSL-1205-GxxMC



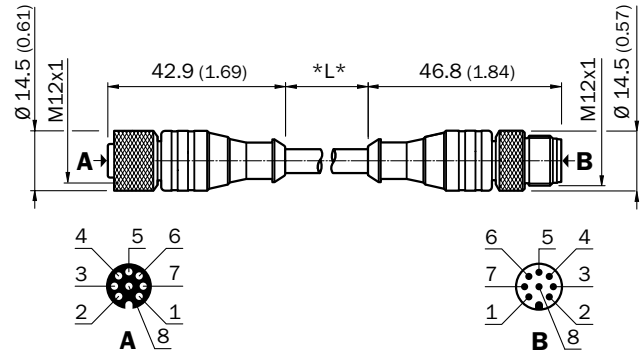
DSL-1208-GxxMAC



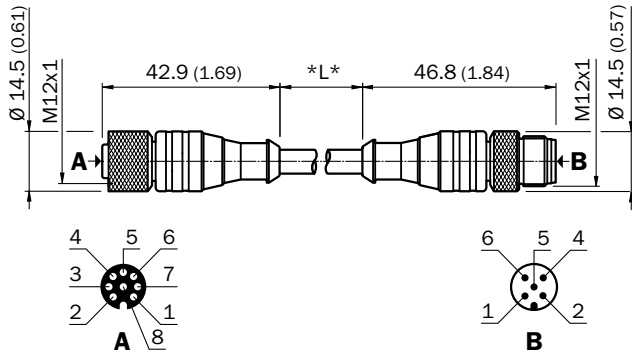
DSL-1258-G0M1C (6057015)



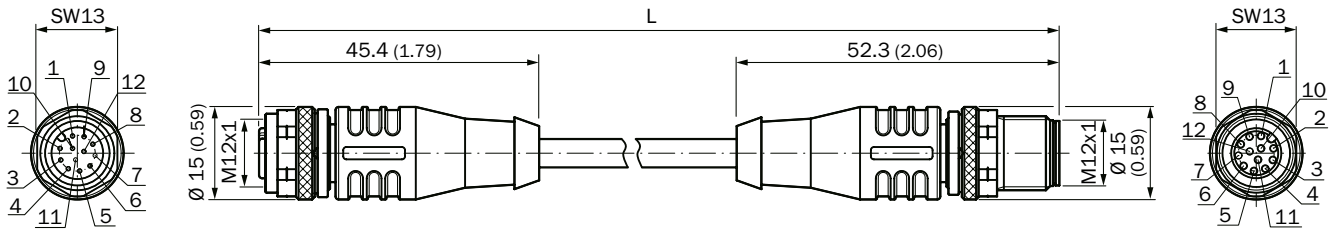
DSL-1208-G0M1C (6057014)



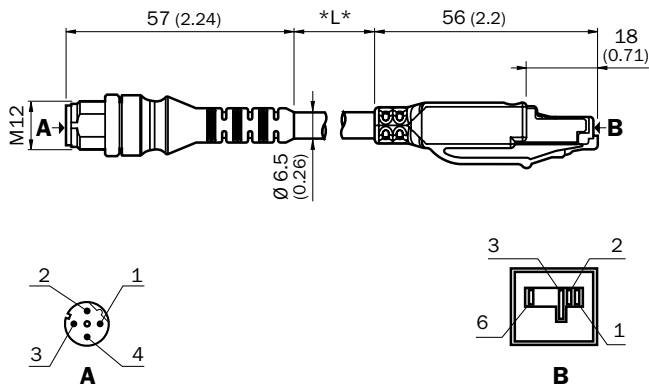
DSL-1285-G0M1C (6057013)



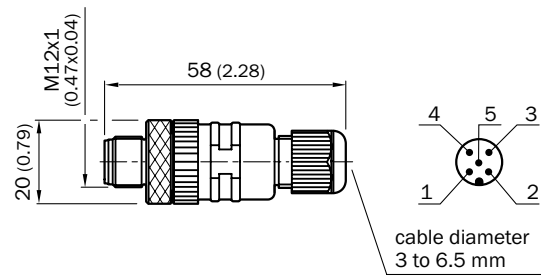
DSL-1212-G2M7AC (6056903)



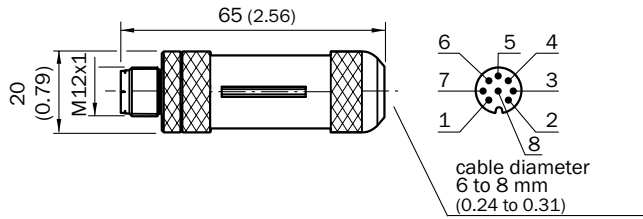
SSL-2J04-GxxME



STE-1205-G

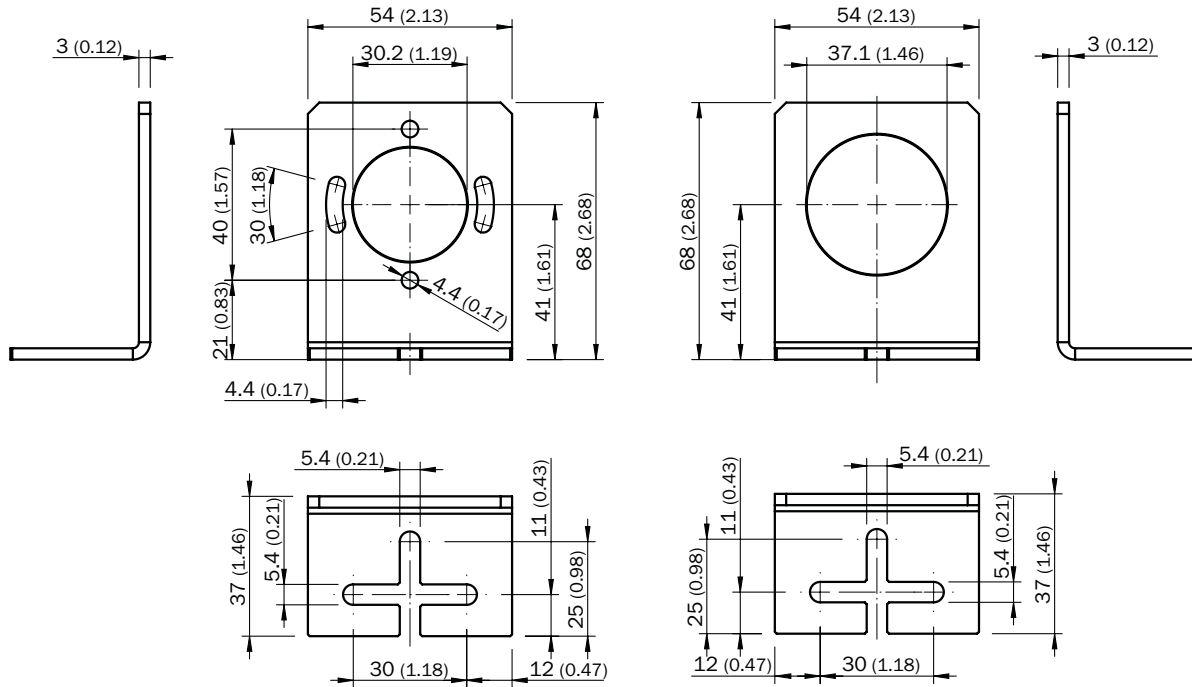


STE-1208-GA

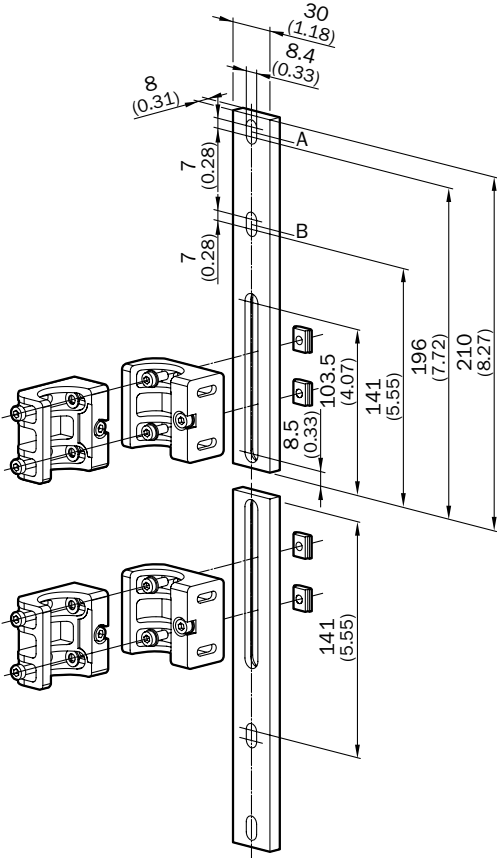


Terminal and alignment brackets

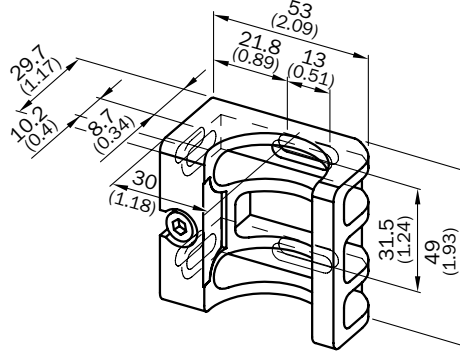
BEF-WK-IPG2 (2082211)



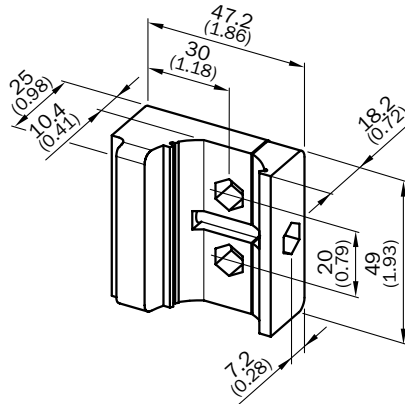
BEF-1SHABP004



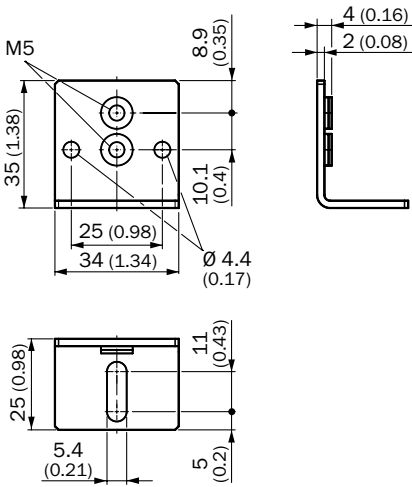
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BEF-3SHABPKU2

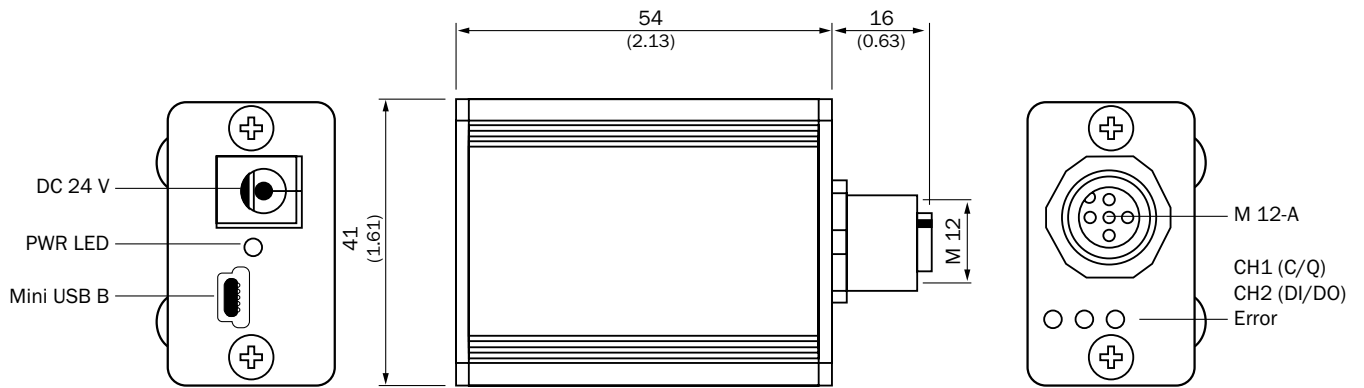


BEF-WN-FBM-SET1 / BEF-WN-FBM-SET2

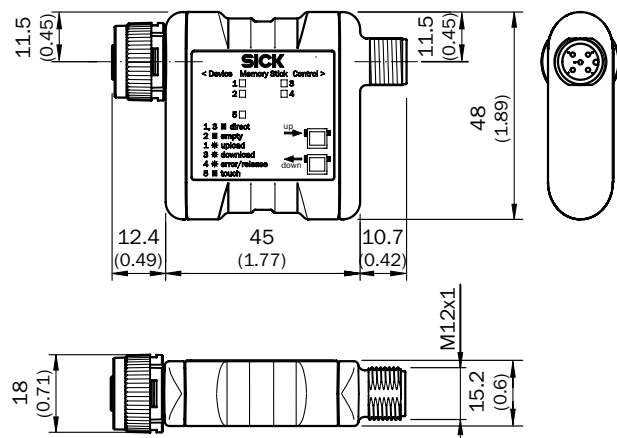


Modules and gateways

IOLA2US-01101 (SiLink2 Master) (1061790)



IOLP2ZZ-M3201 (SICK Memory Stick) (1064290)



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