



## LMS5xx Laser Measurement Technology

More than meets the eye.  
Compact unit for big solutions.

**SICK**  
Sensor Intelligence.

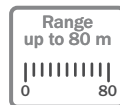
## A revolution in laser measurement

The introduction of the world's first 2D laser scanner by SICK years ago revolutionized measurement technology. Our laser measurement sensors enabled customers from a host of different industries and with the most diverse requirements to take productivity and security to unparalleled levels. SICK's numerous evolutionary improvements ever since and SICK's renowned application engineering excellence have made the name SICK and laser measurement sensors globally recognized synonyms.

And now it's time for a new revolution – LMS5xx brings a whole range of pioneering features and benefits to scores of applications where speed, accuracy, security and availability are paramount.



SICK's new high-speed sampling technology breaks new ground for laser scanning applications in virtually any weather conditions.



The outstanding performance of LMS5xx with superior range, resolution and frequency values, multiple I/Os, flexible connectivity and superior software, all packed into a small footprint unit, takes existing applications to new levels and allows for new applications.



Ingenious features for self-monitoring, auto-calibration and anti-pollution as well as dramatically reduced power consumption provide maximum reliability and low total cost of ownership.



Modular approach with PRO and Lite Lines, each with several models, to suit each application in terms of features and functionality, such as outdoor or indoor, spot sizes, inputs, outputs, communication protocols.

**Some things, however, never change. SICK will always continue to provide you with the engineering expertise and solution excellence that you can rightfully expect from the market leader.**



LMS5xx can see it all for you in a wide variety of industries and applications.

Ports (see page 12)



Traffic (see page 13)



Security (see page 14)



Navigation and geomapping (see page 15)





## Multi-echo technology – a new paradigm in laser measurement

An incontrovertible rule in laser measurement technology used to be:  
“If you can’t see it, the laser can’t see it”.

With LMS5xx, this is no longer true. SICK’s new, high-speed sampling 5-echo technology provides five measurements for each emitted pulse – with the reflectivity value for each distance value. Rain, fog, snow, dust – LMS5xx looks right through it. And if you wanted, you could even measure changing weather conditions in front of the object of interest.



### 5-echo technology

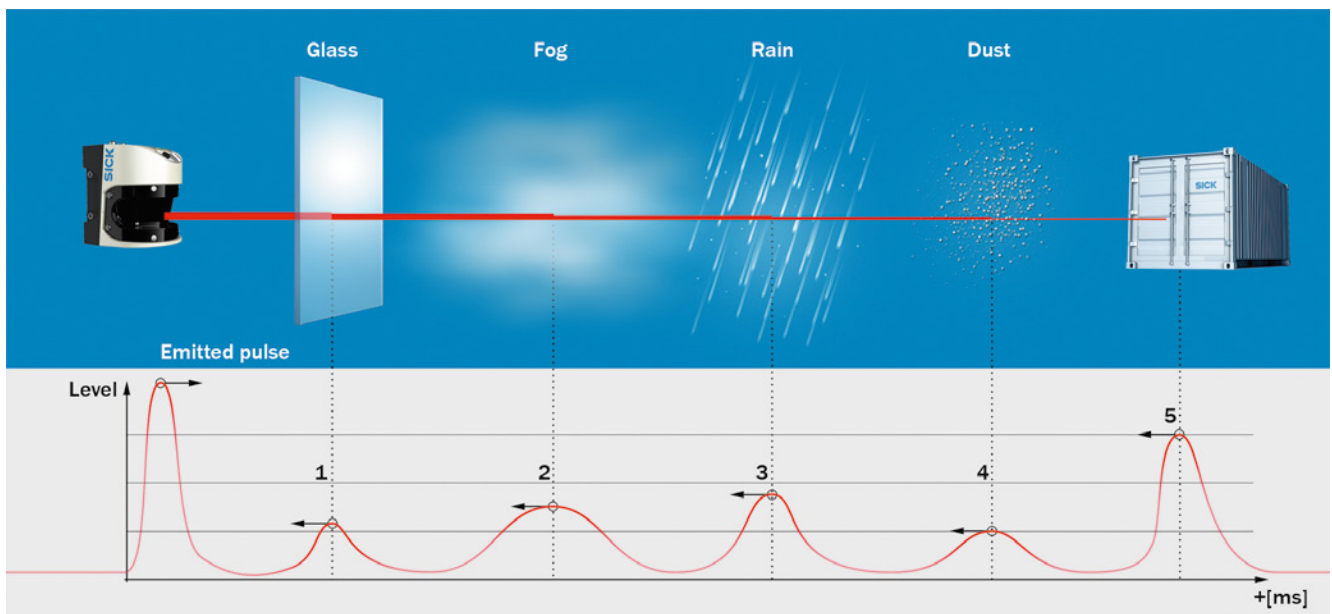
The new 5-echo technology is designed to make laser measurements more independent of weather conditions and to take the reliability of the data to new levels. LMS5xx can receive up to five echoes for each emitted pulse. In the illustration to the right, each of the measurements 1 to 4 are above the trigger threshold – but none of them represents the actual object of interest. Conventional laser measurement sensors and even systems with dual-echo technology would fail in such a scenario. LMS5xx reliably detects the actual target with echo 5.

The 5-echo technology is the perfect response to the challenges of applications involving the measurement of dynamic objects in changing and bad weather conditions as well as low visibility environments such as tunnels or mines. In toll systems, LMS5xx can reliably detect cars where conventional scanners would only see splash or spray water.

In addition to providing superior visibility in bad weather conditions, the 5-echo technology also increases accuracy. If, for example, the spot covers the edge of a surface, standard systems will only see the echo of the surface itself. A single pulse and 5 echoes are able to detect the surface of the object in front with its edge plus any second object further away – LMS5xx can see it all.

### Benefits

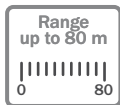
- Dramatically improved availability in even the worst weather conditions
- Ideal for low-visibility environments
- Maximum detection reliability
- Superior measurement precision
- High scanning speed
- Flexible and powerful configuration software



5-echo technology for LMS5xx PRO

## Superior performance across the board

**Outstanding performance is much more than just a few top values. LMS5xx combines an eagle eye with a superior brain and a powerful body to give you peak performance across the board: data acquisition, detection, evaluation, transmission and control at their best.**



### Maximum speed, range and accuracy

Depending on the application, speed, range and accuracy or any combination of these factors are paramount. LMS5xx boasts the following highlights:

- Scan frequency up to 100 Hz
- Range up to 80 m (up to 40 m at 10% reflectivity)
- Angular resolution from 1° to 0.167°
- Spot size as small as 3.6 mrad
- Response time as fast as 10 ms
- Built-in Ethernet
- Synchronization of several LMS5xx

### Powerful processing and evaluation

SICK's mature, standardized SOPAS software platform enables sophisticated applications and provides for fast and easy commissioning.

- Wizards for setting up to 10 fields with front and back borders for near field suppression.
- Up to 10 so-called evaluation cases provide a sophisticated framework for processing the measurement data.
- Each evaluation case can consider the values of each field (logical links) as well as the status of the inputs.
- Various strategies such as blanking of objects, reference contours, defined pixel patterns and I/O assignments refine the evaluation.
- All fields are evaluated in parallel.
- The response behavior can be set individually for each field.
- Fields can change dynamically, depending on the status of the inputs.



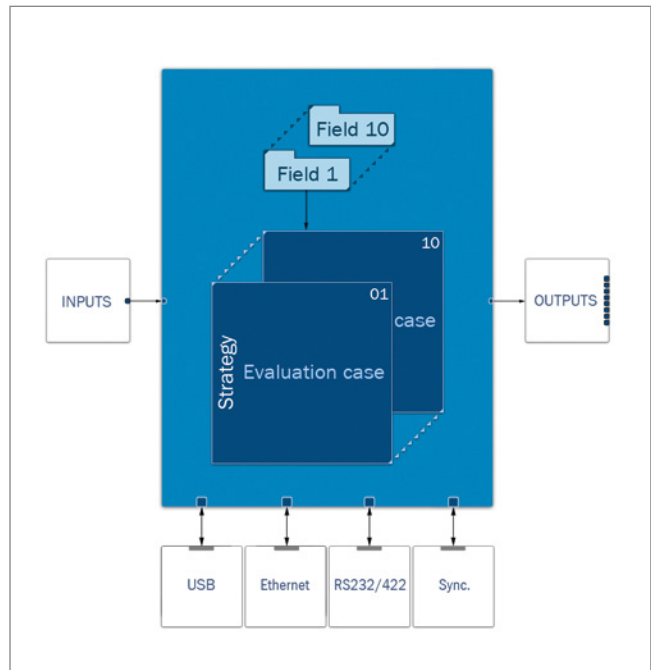


**Inputs, outputs and extended connectivity for optimum control**

Four inputs give you maximum flexibility in controlling the scanner. An encoder input (fast input) is provided for highly dynamic field control. Six outputs are provided for all types of switching tasks. This allows you to control and synchronize multiple scanners. LMS5xx also features an integrated Ethernet (TCP/IP) interface to facilitate numerous tasks (such as easy configuration, real-time output of raw data, etc.). A front USB connector helps accessing and configuring the scanner.

**Synchronization of multiple LMS5xx**

Multiple LMS5xx can be networked and synchronized in a Master-Slave configuration via dedicated signals. This unique feature boosts the application potential for laser measurement sensors and makes existing applications more flexible and powerful. For example, the overall scanning speed of a surveillance system is greatly increased, thus offering a higher potential of detection.



Optimum control for LMS5xx PRO

## Superior reliability, reduced maintenance and cost-effectiveness

**SICK is a global synonym for excellence in sensors for industrial applications. We know how to master the challenges of making delicate technology work reliably and cost-effectively for many years even under the most adverse conditions. All this experience has been packed into LMS5xx.**



### Superior-quality components and materials

The rugged design of the LMS5xx and its special alloy housing protect the scanner from mechanical impact and even the roughest environmental conditions. All components are chosen to highest quality standards. After all, you want your LMS5xx to deliver outstanding performance for many years of uninterrupted 24/7 operation.



### Self-monitoring

LMS5xx measurement sensors are the very heart of mission-critical applications. Self-monitoring functions such as auto-calibration and anti-pollution sensors greatly increase the availability of your system. For example, anti-pollution sensors continuously check the transmittance of the front window of the laser scanner and generate an alarm if the value falls below an adjustable threshold. This feature also reduces maintenance – LMS5xx can tell you when it needs cleaning.







### Reduced power consumption

Green is not only vital for a sustainable approach to our planet's resources. It also ensures reduced total cost of ownership. The power consumption of LMS5xx is as low as 22 W. And even if the built-in heater is used, the power consumption is still only 77 W. By the way, this is less than one half of what the predecessor of LMS5xx consumed.

### Easy maintenance

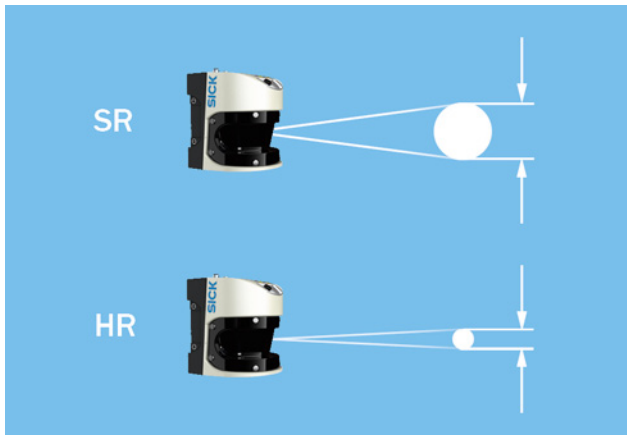
To start with, every effort has been made to keep the necessity of maintenance to a minimum. But even worst-case scenarios will not catch you off guard. The intelligent, modular concept behind LMS5xx allows for optimized spare parts logistics as well as fast and easy replacements of the affected components. And the intelligent Configuration Cloning function in the connector module (indoor version) gets you up and running again in the shortest possible time.



## Large variety of models for all applications

Some applications may not require an extremely wide range, in others, IP 67 is not needed, yet others work perfectly well with dual-echo technology. The LMS5xx family consists of the PRO and Lite Lines, each with a range of different models. This allows you to select the LMS5xx model that meets precisely your application requirements. You only pay for what you really need. But whatever model you opt for, one thing is for certain: you always get the outstanding technology base of LMS5xx.

Enclosure  
rating up to  
**IP67**



### The right model for each solution

The LMS5xx series comprises two lines – PRO and Lite. Each line consists of three models, the High Resolution (HR) indoor, the Standard Resolution (SR) and High Resolution (HR) outdoor versions. Both lines provide the ingenious LMS5xx technology base. They differ in terms of features and functionality so you can choose the model with the optimum price/performance ratio for your individual application. So whatever your application requirements are, there is no need to go for anything less than an LMS5xx laser measurement sensor.



### Easy maintenance, comprehensive range of accessories

Each laser measurement sensor consists of three main components: an application module, a connector module and a sensor housing. The modular approach behind LMS5xx allows for fast and easy replacements of the affected components <sup>\*)</sup>. All LMS5xx share a common, comprehensive range of accessories.

<sup>\*)</sup> Indoor models only.



## Optimum price/performance ratio for all applications

The LMS5xx series with its intelligently structured range of lines and models has been designed to give your specific application exactly the the level of performance it really needs at a highly attractive price.

## PRO and Lite at a glance

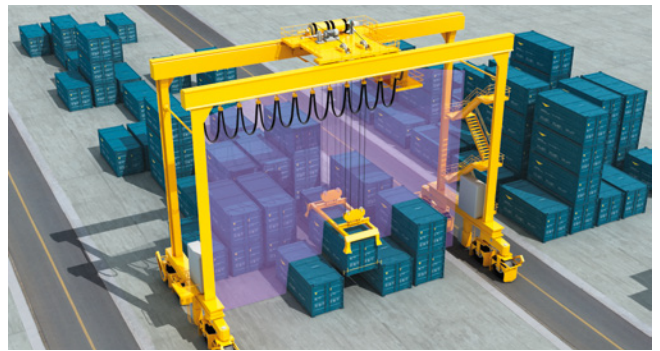
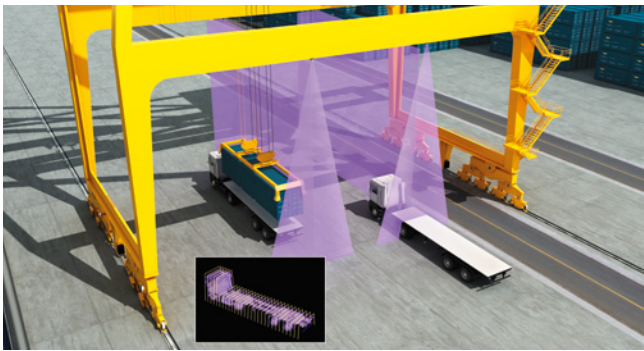
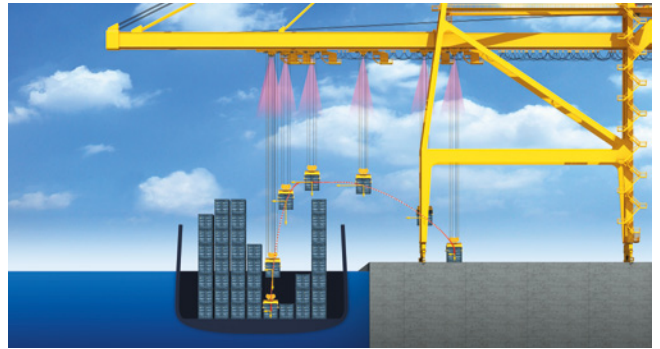
	PRO	Lite
Max. Scanning frequency	100 Hz	75 Hz
Min. angular resolution	0.166°	0.25°
Number of echos	5	2
Inputs / outputs	4 / 6	2 / 3
Number of fields	10	4
<b>Interfaces</b>		
Serial	✓	✓
Ethernet	✓	✓
USB	✓	✓
CAN	✓	✗



# Ports

## Applications

- Anti-collision systems for long range RTGs, RMGs, STSs and straddle carriers
- Trailer positioning below STS cranes for loading/unloading of containers



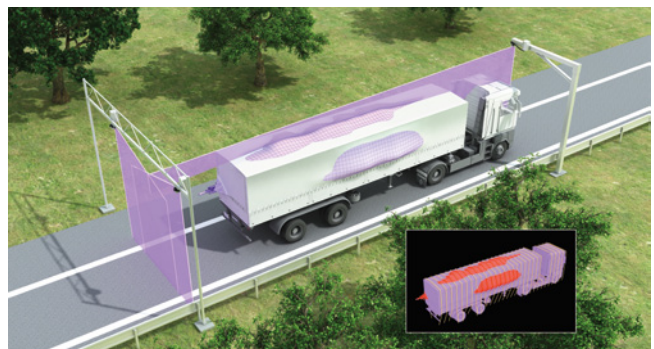
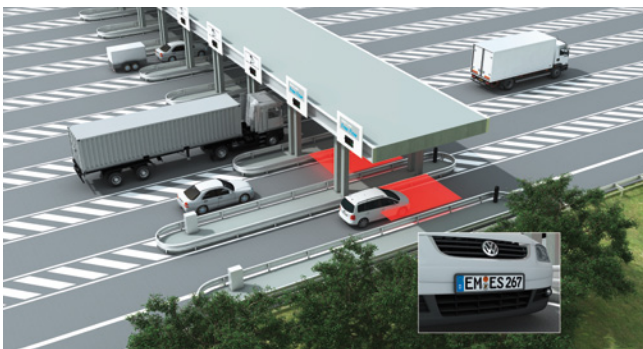
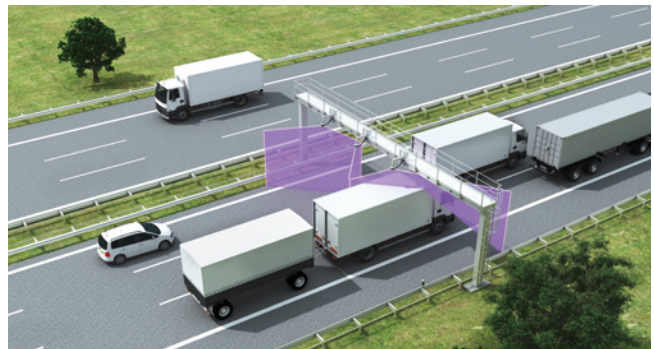
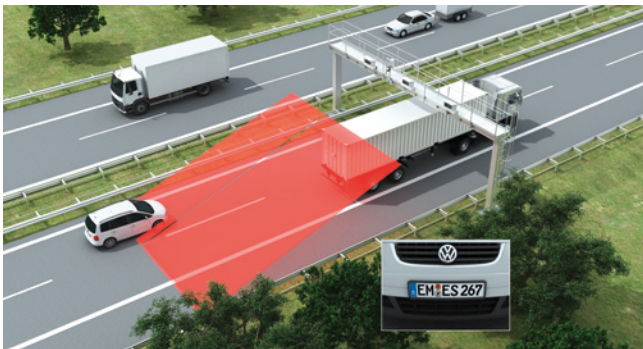
## Benefits

- Range and accuracy
- Greatly improved weather immunity and detection reliability due to SICK's 5-echo technology
- Reduced maintenance
- Configured fields for flexible use on different cranes
- Faster acquisition of data for higher degrees of automation (from driver's support to AGV)
- Compact size for easy and flexible mounting and low installation costs

# Traffic

## Applications

- Free Flow ETC (Electronic Toll Collection)
- Camera triggering
- Vehicle classification
- Speed monitoring
- Vehicle separation
- Lock protection



## Benefits

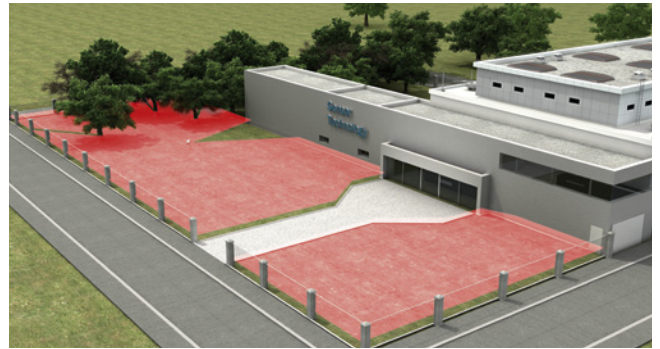
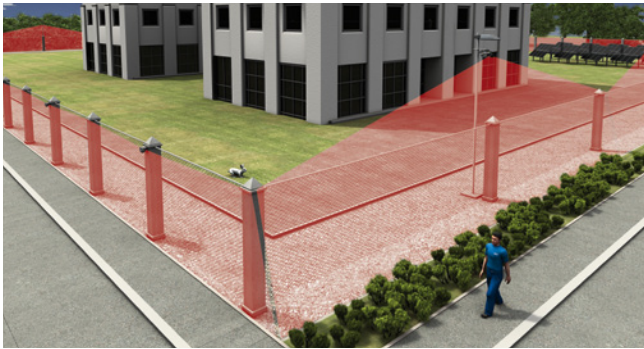
- Higher measurement accuracy
- Less cleaning/reduced maintenance
- Higher measurement speed hence more data per vehicle
- Greatly improved weather immunity due to SICK's 5-echo technology
- Compact size for easy and flexible mounting and low installation costs



# Security

## Applications

- Perimeter and large façade surveillance
- Roof protection at prisons, banks, art galleries and any high security building
- Area monitoring in museums, galleries, and other buildings



## Benefits

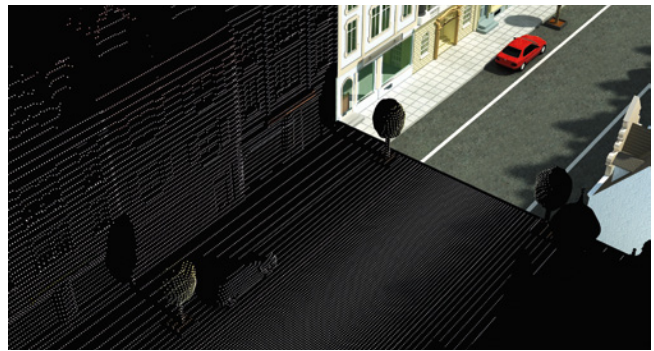
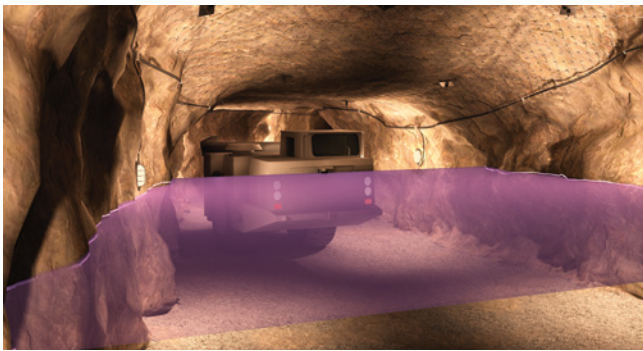
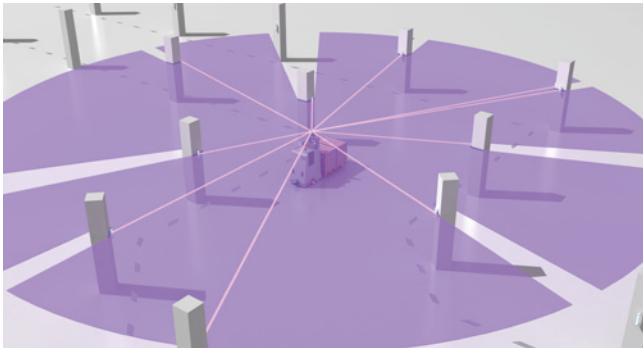
- Large scanning range and area coverage (130 m diameter)
- Selective field evaluation for more accuracy
- Higher measurement speed for reduced false alarm rates
- Synchronization of units for large area coverage and increased overall speed detection
- Greatly improved weather immunity due to SICK's 5-echo technology
- Compact size for easy and flexible mounting and low installation costs
- Low-noise operation for indoor applications



# Navigation and geomapping

## Applications

- AGV for both large indoor and outdoor areas
- Navigation with or without reflectors
- Long range anti-collision applications
- Acquisition of geographical data
- Street profiling



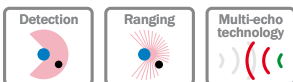
## Benefits

- Greater reliability of data for higher vehicle speeds and better maneuverability
- Greatly improved weather immunity due to SICK's 5-echo technology
- Low weight and low power consumption reduce required battery power
- Compact size for easy and flexible mounting and low installation costs

### Other applications

Volume measurement | Bulk measurement | Steel industry | Mining – *large vehicle anti-collision, AGV*  
Airports – *service vehicles, security, aircraft anti-collision* | Mapping – *geodata, surveillance*  
Train measurement – *profiling, bulk levels in wagons* | Trucks – *profiling, loading volume*

More than meets the eye.  
Compact unit for big solutions.



### Product description

The LMS5xx laser measurement sensor is the successor of the widely used LMS2xx series. It offers a host of new features to boost performance in existing applications and break ground for new applications. The powerful multi-echo high-speed sampling technology provides dramatically improved reliability even in the worst weather conditions. Major

reduction in power consumption and intelligent self-monitoring features for reduced maintenance lead to low total cost of ownership. With two variants, Lite and PRO, users can choose the best solution for their application. LMS5xx has the best performance/price ratio in this sensor class on the market.

### At a glance

- Powerful and efficient laser measurement sensor for ranges of up to 80 m
- Outstanding performance in adverse environmental conditions due to multi-echo technology
- IP 67 enclosure rating, built-in heater, highly compact design
- Low power consumption
- Fast signal processing
- Multiple I/Os
- Synchronization of multiple sensors possible

### Your benefits

- Superior performance in a vast range of applications
- Smallest sensor with highest accuracy in its class
- Comprehensive range of lines and models to suit all performance and price requirements
- Fast, reliable object detection in nearly any weather conditions
- Low power consumption reduces total cost of ownership
- Best price/performance ratio in this sensor class on the market
- Fast, easy commissioning due to SOPAS software
- Self-monitoring functions increase system availability



### Additional information

Detailed technical data . . . . . 17

Ordering information . . . . . 19

Operating range diagram . . . . . 20

Dimensional drawings . . . . . 21

Accessories . . . . . 23

→ [www.mysick.com/en/LMS5xx](http://www.mysick.com/en/LMS5xx)

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

## Detailed technical data

## Features

	LMS500	LMS511	LMS531
Field of application	Indoor	Outdoor	Outdoor, Security
Version	Mid Range		
Variant	Lite / PRO (depending on type)		Lite
Resolution power	High Resolution	Standard Resolution, High Resolution (depending on type)	Standard Resolution
Light source	Infrared (905 nm)		
Laser class	1, eye-safe (IEC 60825-1 (2007-6))		
Field of view	190°		
Scanning frequency	Lite PRO	25 Hz / 35 Hz / 50 Hz / 75 Hz 25 Hz / 35 Hz / 50 Hz / 75 Hz / 100 Hz	-
Angular resolution	Lite PRO	0.25°, 0.5°, 1° 0.167°, 0.25°, 0.333°, 0.5°, 0.667°, 1°	-
Heating	-	Yes	
Operating range	0 m ... 80 m		
Max. range with 10 % reflectivity	26 m	40 m / 26 m (depending on type)	40 m
Spot size	High Resolution Standard Resolution	4.7 mrad -	- 11.9 mrad
Amount of evaluated echoes	Lite PRO	2 5	-
Fog correction	No	Yes	

## Performance

	LMS500	LMS511	LMS531
Response time	Lite PRO	≥ 13 ms ≥ 10 ms	-
Detectable object shape	Almost any		
Systematic error	High Resolution Standard Resolution	± 25 mm (1 m ... 10 m) ± 35 mm (10 m ... 20 m) -	- ± 25 mm (1 m ... 10 m) ± 35 mm (10 m ... 20 m) ± 50 mm (20 m ... 30 m)
Statistical error	High Resolution Standard Resolution	± 7 mm (1 m ... 10 m) ± 9 mm (10 m ... 20 m) -	- ± 6 mm (1 m ... 10 m) ± 8 mm (10 m ... 20 m) ± 14 mm (20 m ... 30 m)
Integrated application	Field evaluation		



		LMS500	LMS511	LMS531
Number of field sets	Lite	4 fields		
	PRO	10 fields		-
Simultaneous processing cases	Lite	4		
	PRO	10		-

## Interfaces

Serial (RS-232, RS-422)		✓		
	Function	Host		
	Data transmission rate	9.6 kBaud ... 500 kBaud		
Ethernet		✓		
	Function	Host		
	Data transmission rate	10/100 Mbit		
	Protocol	TCP/IP, OPC		
CAN bus		- / ✓ (depending on type)	- / ✓ (depending on type)	-
	Function	Outputs extension		-
USB		✓, mini USB		
	Function	AUX		
	Data transmission rate	9.6 kBaud ... 500 kBaud		
Switching inputs	Lite	2		
	PRO	4 (Encoder)		-
Switching outputs	Lite			3 (2 relay, 1 digital)
	PRO	6		-
Optical indicators		5 LEDs (additional 7-segment display)		

## Mechanics/electronics

	LMS500	LMS511	LMS531
Electrical connection	1 system plug with screw terminal block	4 M12 plug-in connectors	4 M12 plug-in connectors
Operating voltage	24 V DC		
Power consumption	22 W	22 W, + 55 W heating (typical)	
Housing color	Light blue (RAL 5012)	Gray (RAL 7032)	
Enclosure rating	IP 65 (EN 60529, Section 14.2.7)	IP 67 (EN 60529, Section 14.2.7)	
Protection class	III (EN 60529, Section 14.2.7)		
Weight	3.7 kg		
Dimensions	160 mm x 155 mm x 185 mm		

## Ambient data

	LMS500	LMS511	LMS531
Object remission	2 % ... > 1,000 % (reflectors)		
Electromagnetic compatibility (EMC)	EN 61000-6-2:2005 / EN 61000-6-3 (2001-10)		
Vibration resistance	EN 60068-2-6 (1995-04)		
Shock resistance	EN 60068-2-27 (1993-03), EN 60068-2-29 (1993-04)		
Ambient operating temperature	0 °C ... +50 °C	-30 °C ... +50 °C	
Storage temperature	-12 °C ... +50 °C	-30 °C ... +70 °C	
Ambient light safety	70,000 lx		

## General notes

Note on use	Not suitable for personnel protection
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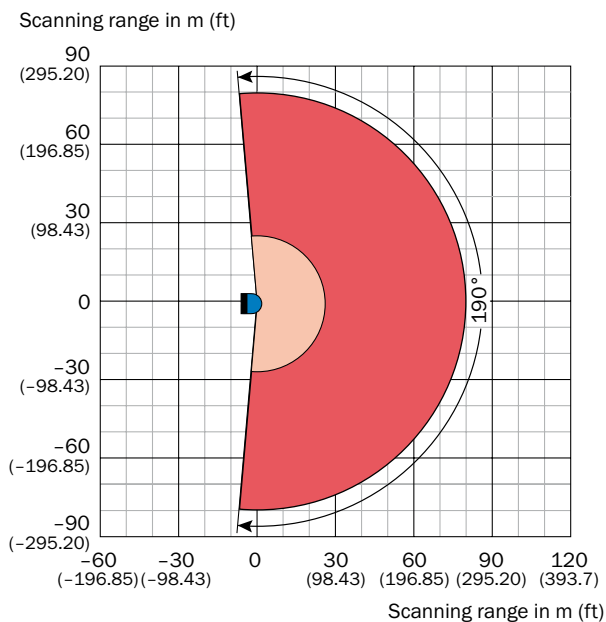
## Ordering information

- Version: Mid Range
- Object remission: 2 % ... > 1,000 %, reflectors

Sub product family	Field of application	Variant	Resolution power	Spot size	Heating	Switching outputs	Housing color	Model name	Part no.
LMS500	Indoor	Lite	High Resolution	4.7 mrad	-	3	Light blue (RAL 5012)	LMS500-21000 Lite	1054153
		PRO	High Resolution	4.7 mrad	-	6	Light blue (RAL 5012)	LMS500-20000 PRO	1047468
LMS511	Outdoor	Lite	Standard Resolution	11.9 mrad	Yes	3	Gray (RAL 7032)	LMS511-11100 Lite	1054155
			High Resolution	4.7 mrad	Yes	3	Gray (RAL 7032)	LMS511-21100 Lite	1054154
		PRO	Standard Resolution	11.9 mrad	Yes	6	Gray (RAL 7032)	LMS511-10100 PRO	1046135
			High Resolution	4.7 mrad	Yes	6	Gray (RAL 7032)	LMS511-20100 PRO	1047782
LMS531	Outdoor, Security	Lite	Standard Resolution	11.9 mrad	Yes	3 (2 relay, 1 digital)	Gray (RAL 7032)	LMS531-11100	1055376

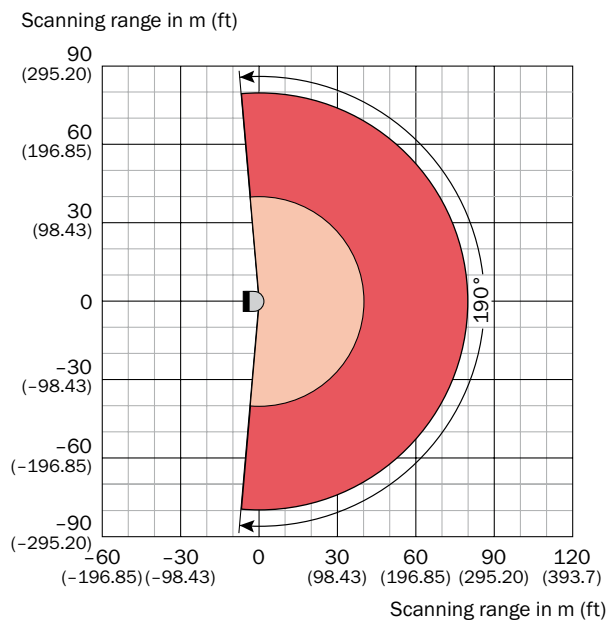
### Operating range diagram

**LMS500-20000 PRO Mid Range, High Resolution**  
**LMS511-20100 PRO Mid Range, High Resolution**



- Scanning range max. 80 m (262.47 ft)
- Scanning range for objects up to 10 % remission 26 m (85.3 ft)

**LMS511-10100 PRO Mid Range, Standard Resolution**  
**LMS531-11100 Mid Range, Standard Resolution**

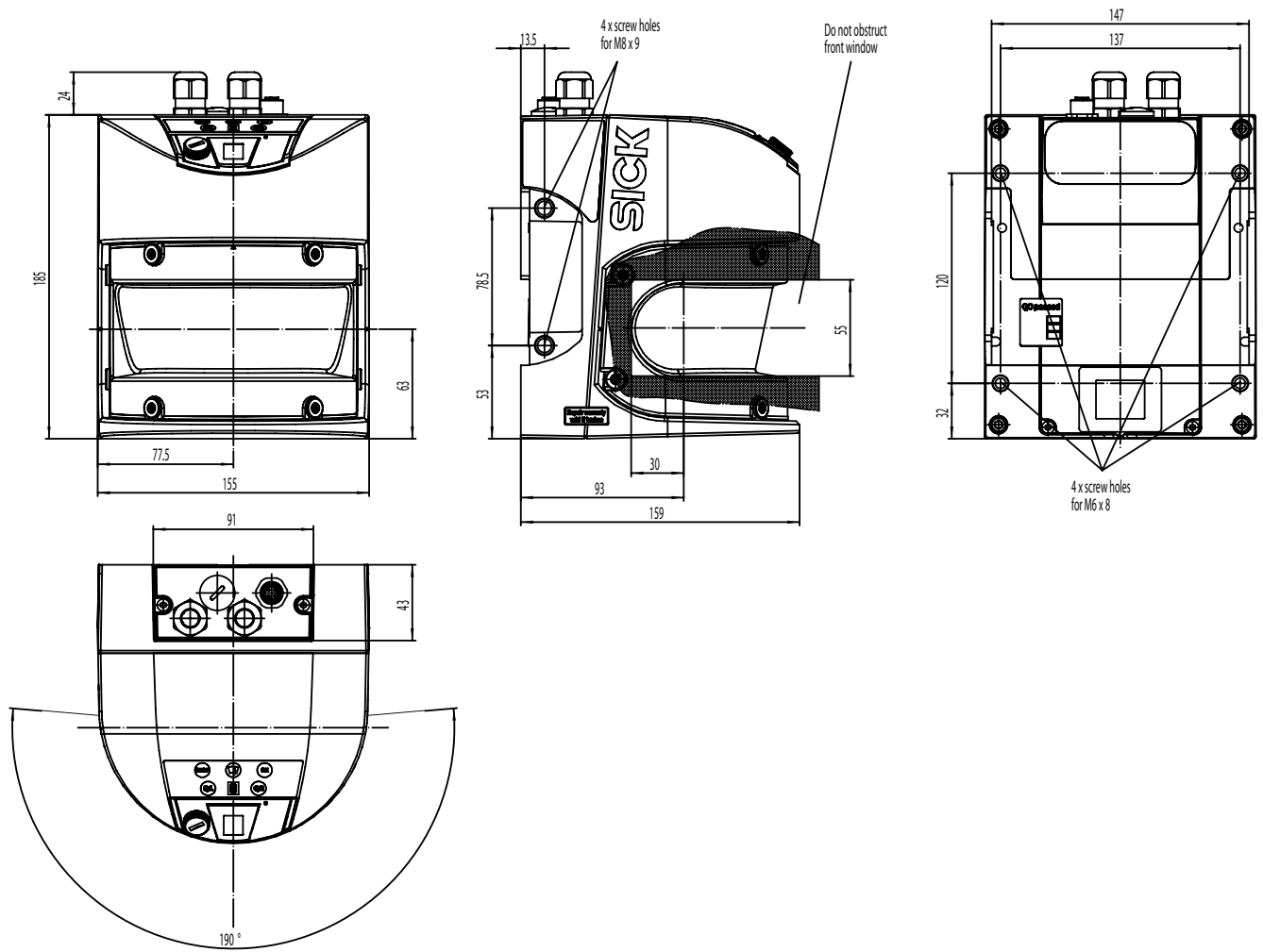


- Scanning range max. 80 m (262.47 ft)
- Scanning range for objects up to 10 % remission 40 m (131.23 ft)



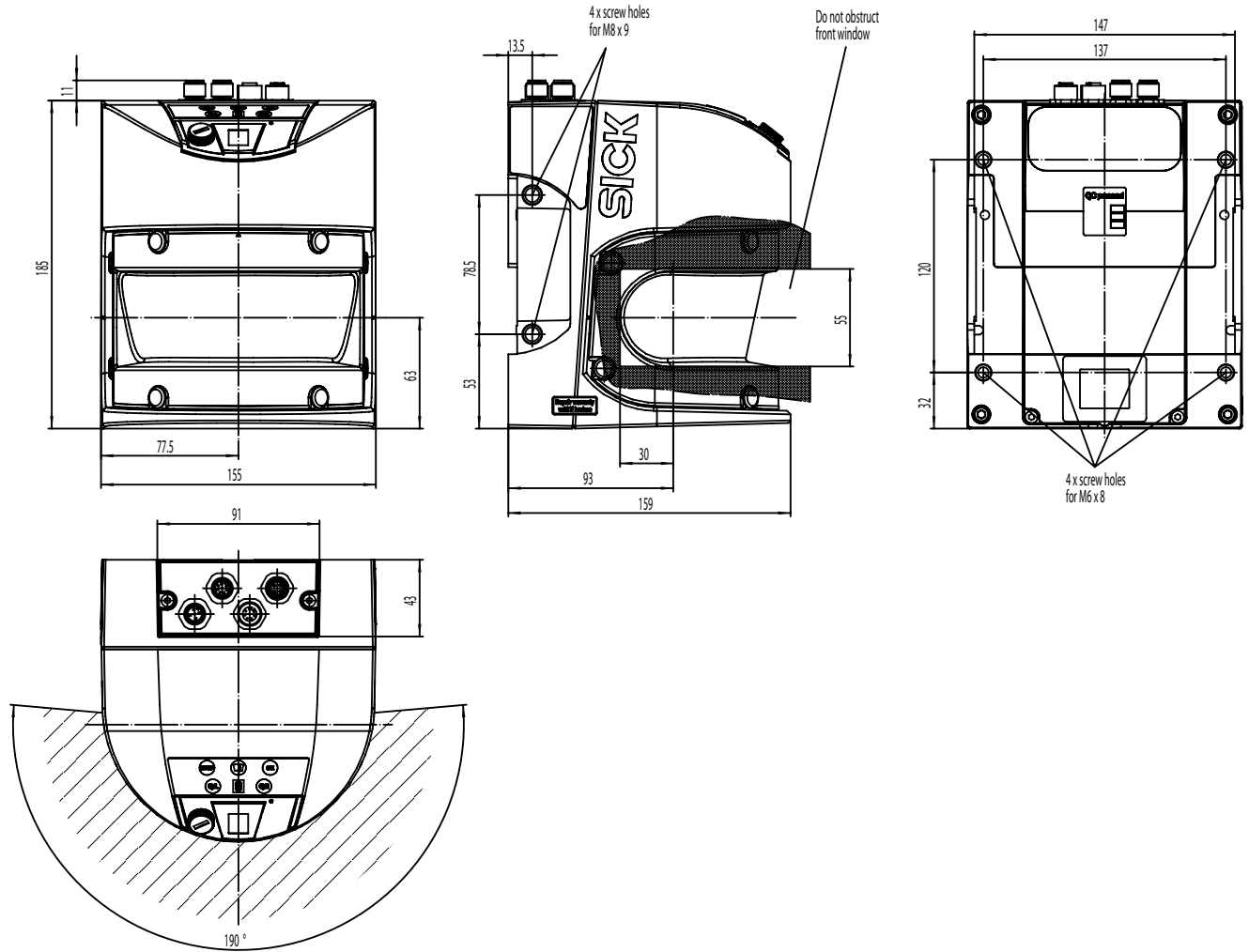
Dimensional drawings

LMS500



All dimensions in mm

LMS511/LMS531



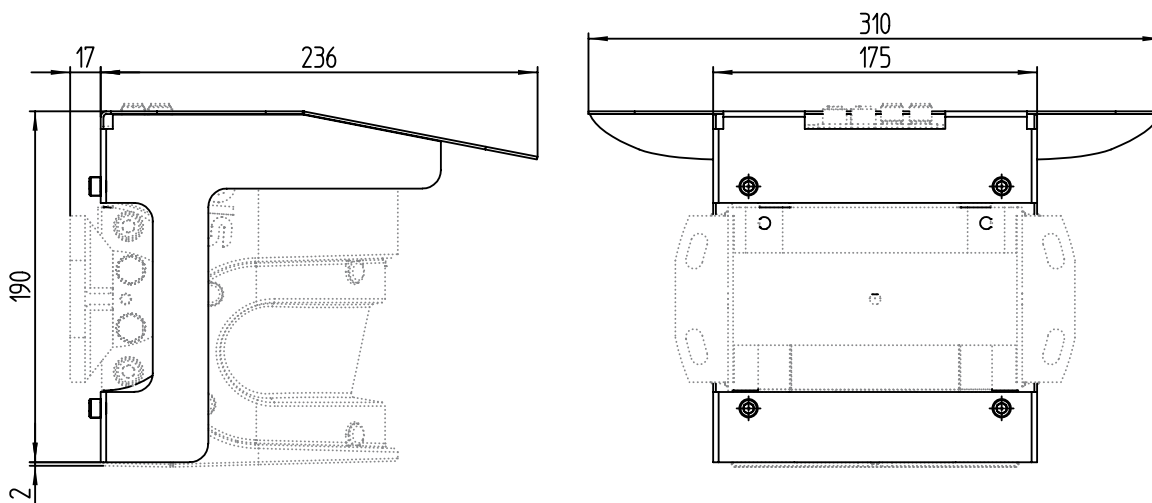
All dimensions in mm

## Accessories

### Device protection (mechanical)

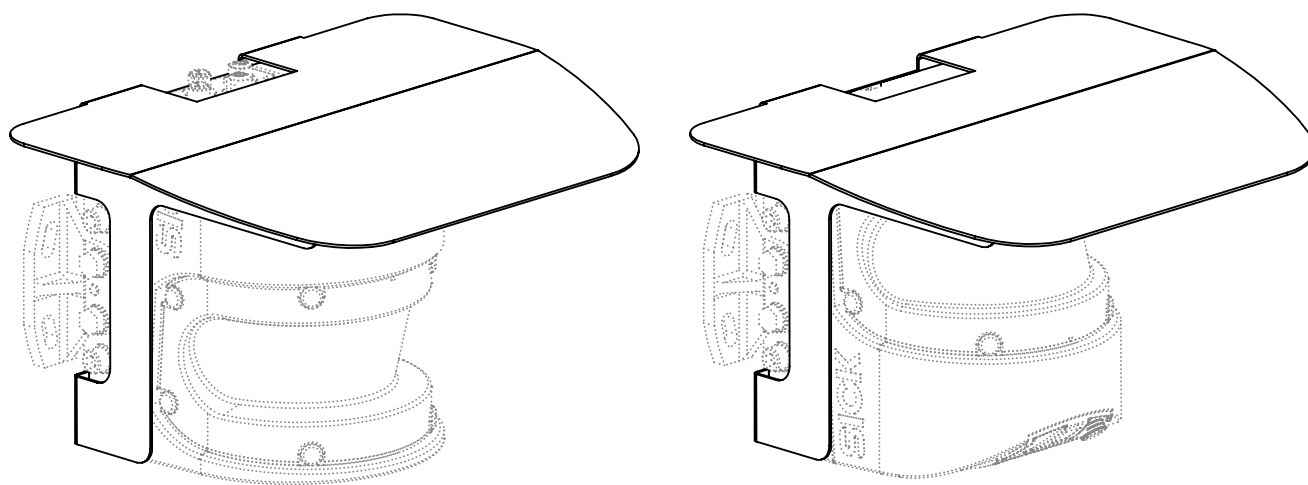
Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
Protection hood	2056850	-	-	●	●	●
Weather hood (180°), vertical mounting	2063050	-	-	●	●	●

### Protection hood

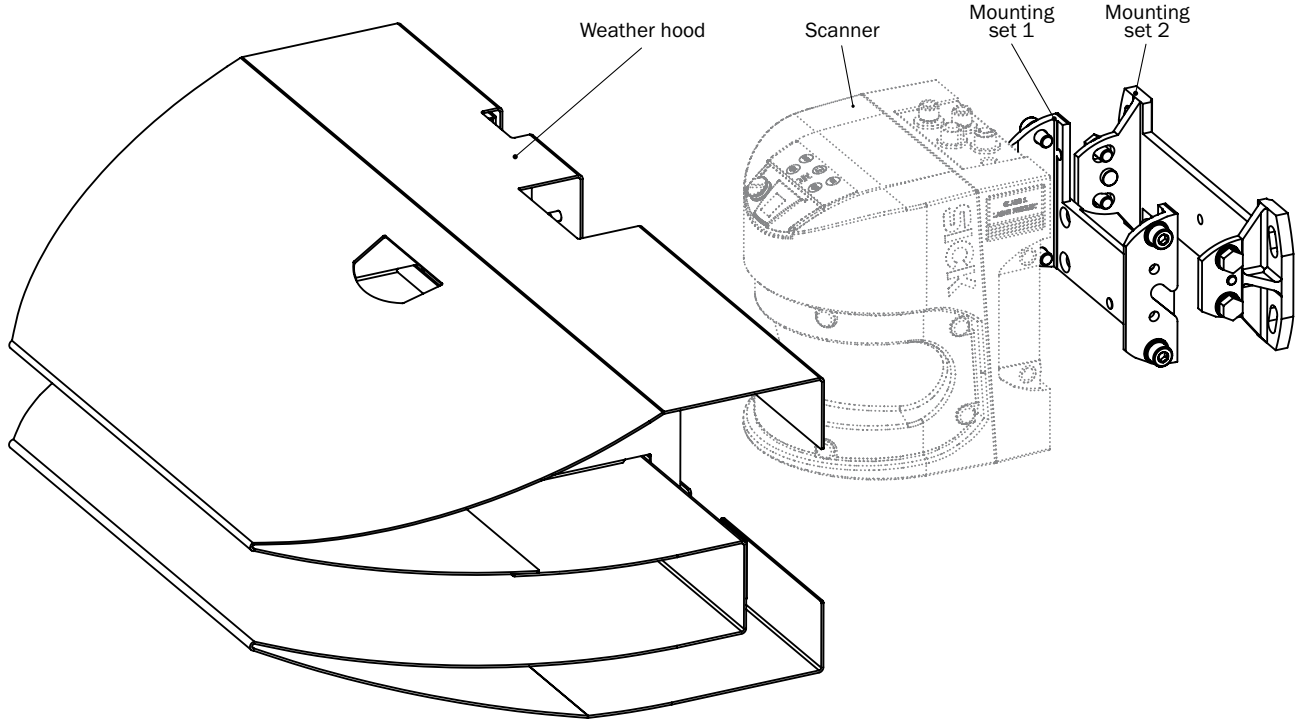


All dimensions in mm

- Mounting possibilities



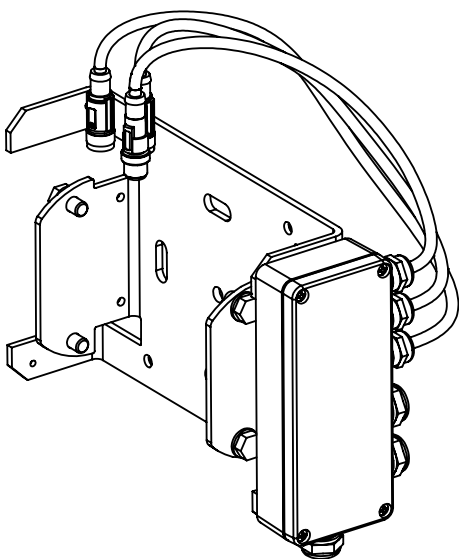
**Weather hood**







**Modules**

Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
Electrical connection box for power, I/Os and RS-232/-422 data (no Ethernet), with three pre-wired M12 cables	2062346	-	-	●	-	-
	2063034	-	-	-	●	-

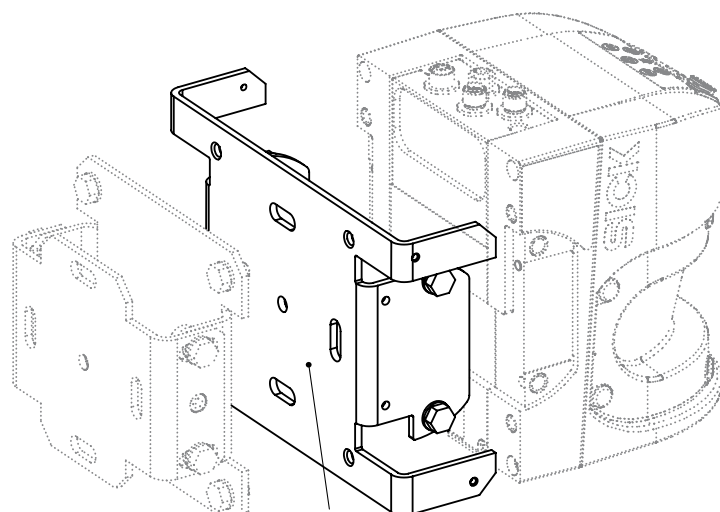
**Electrical connection box**



### Mounting brackets/plates

	Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
	Mounting bracket for LMS5xx (for retrofitting, if 2018303 is already in use)	2059271	●	●	●	●	●
	Mounting Set with two axes, fine adjustable (basic equipment)	2020925	●	●	●	●	●
	Mounting bracket for direct mounting, from the rear, on wall or machine, not adjustable, mounting set 1	2015623	●	●	●	●	●
	Mounting bracket for rear mounting on wall or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623), mounting set 2	2015624	●	●	●	●	●
	Mounting bracket for rear mounting on wall, floor, or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623) and 2 (2015624), mounting set 3	2015625	●	●	●	●	●

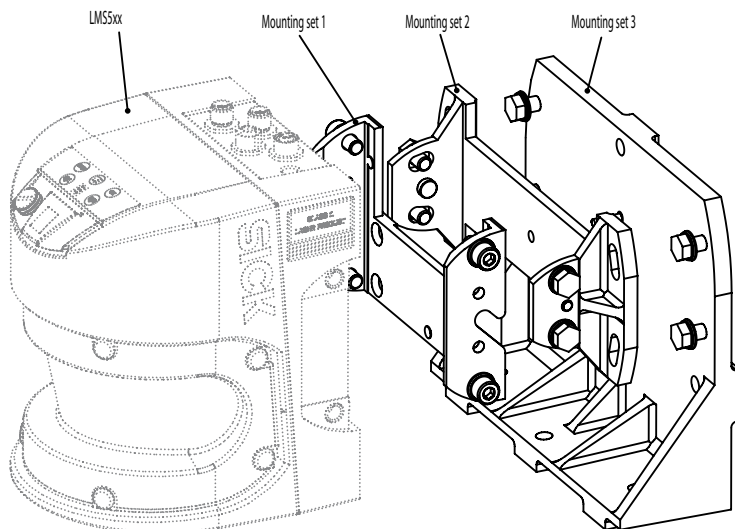
### Mounting bracket for LMS5xx



(Mounting set LMS2xx part no. 2018303)


Adapter bracket

### Mounting Set with two axes











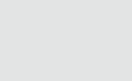
## Optics cloths



	Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
	Lens cloth	4003353	●	●	●	●	●

## Other mounting accessories



	Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
	Extension for mounting set 2015925 (3. axis)	2020926	●	●	●	●	●
	Strap for mast bracket (sold by meter)	5306222	●	●	●	●	●
	Strap lock	5306221	●	●	●	●	●

## Plug connectors and cables


	Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
	I/O connection cable, 8-pole, shielded, M12 plug, 8-pin (A-type encoded) / open end, 5 m	6036155	-	-	●	-	●
	I/O connection cable, 8-pole, shielded, M12 plug, 8-pin (A-type encoded) / open end, 10 m	6036156	-	-	●	-	●
	I/O connection cable, 8-pole, shielded, M12 plug, 8-pin (A-type encoded) / open end, 20 m	6036157	-	-	●	-	●
	I/O connection cable, 12-pole, shielded, M12 plug, 12-pin (A-type encoded) / open end, 5 m	6042732	-	-	-	●	-
	I/O connection cable, 12-pole, shielded, M12 plug, 12-pin (A-type encoded) / open end, 10 m	6042733	-	-	-	●	-
	I/O connection cable, 12-pole, shielded, M12 plug, 12-pin (A-type encoded) / open end, 20 m	6042734	-	-	-	●	-
	Data (RS-232/422) and synchronization input cable, 8-pole, shielded, M12 socket, 8-pin (A-type encoded) / open end, 5 m	6036153	-	-	●	-	●
	Data (RS-232/422) and synchronization input cable, 8-pole, shielded, M12 socket, 8-pin (A-type encoded) / open end, 10 m	6028420	-	-	●	-	●
	Data (RS-232/422) and synchronization input cable, 8-pole, shielded, M12 socket, 8-pin (A-type encoded) / open end, 20 m	6036154	-	-	●	-	●
	Power supply cable, 4 x 0,50 mm <sup>2</sup> , shielded, M12 socket, 5-pin (A-type encoded) / open end, 5 m	6036159	-	-	●	●	●
	Power supply cable, 4 x 0,75 mm <sup>2</sup> , shielded, M12 socket, 5-pin (A-type encoded) / open end, 10 m	6042565	-	-	●	●	●
	Power supply cable, 4 x 0,75 mm <sup>2</sup> , shielded, M12 socket, 5-pin (A-type encoded) / open end, 20 m	6042564	-	-	●	●	●
	Data (RS-232/-422) and I/O connection cable, 12-pole, shielded, M12 socket, 12-pin (A-type encoded) / open end, 5 m	6042735	-	-	-	●	-
	Data (RS-232/422) and I/O connection cable, 12-pole, shielded, M12 socket, 12-pin (A-type encoded) / open end, 20 m	6042737	-	-	-	●	-
	Data (RS-232/422) and I/O connection cable, 12-pole, shielded, M12 socket, 12-pin (A-type encoded) / open end, 10 m	6042736	-	-	-	●	-

	Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
	USB cable, 4-pole, shielded, plug type mini B / plug type A, 3 m	6042517	●	●	●	●	●
	Ethernet cable, 4-pole, shielded, M12 plug, 4-pin (D-type encoded) / RJ-45 plug, 8-pin, 5 m	6034415	●	●	●	●	●
	Ethernet cable, 4-pole, shielded, M12 plug, 4-pin (D-type encoded) / RJ-45 plug, 8-pin, 10 m	6030928	●	●	●	●	●
	Ethernet cable, 4-pole, shielded, M12 plug, 4-pin (D-type encoded) / RJ-45 plug, 8-pin, 20 m	6036158	●	●	●	●	●


### Power supply units/ power cord connectors

	Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
	Power supply DC 24 V / 2,5 A	6022427	●	●	●	●	●
	Power supply DC 24 V / 4 A	6010362	●	●	●	●	●
	Power supply DC 24 V / 10 A	6020875	●	●	●	●	●


### Programming/Configuration Tool

	Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
	Scan finder, receiver to localize infra red scans	6020756	●	●	●	●	●

### Software

	Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
	DVD Manuals & Software	2039442	●	●	●	●	●

Terminal and alignment brackets

	Brief description	Part no.	LMS500 Lite	LMS500 PRO	LMS511 Lite	LMS511 PRO	LMS531 Lite
	Pole bracket (additionally required: adapter bracket 2059271 for LMS5xx / mounting set 2018303 for LD-LRS)	2018304	●	●	●	●	●

**Pole bracket**

