



# LMS111-10100

LMS1xx

2D LIDAR SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
LMS111-10100	1041114

Other models and accessories → [www.sick.com/LMS1xx](http://www.sick.com/LMS1xx)



## Detailed technical data

### Features

<b>Application</b>	Outdoor
<b>Light source</b>	Infrared (905 nm)
<b>Laser class</b>	1 (IEC 60825-1:2014, EN 60825-1:2014)
<b>Aperture angle</b>	
Horizontal	270°
<b>Scanning frequency</b>	25 Hz / 50 Hz
<b>Angular resolution</b>	0.25° 0.5°
<b>Heating</b>	Yes
<b>Working range</b>	0.5 m ... 20 m
<b>Scanning range</b>	
At 10% remission	18 m
At 90% remission	20 m
<b>Amount of evaluated echoes</b>	2
<b>Fog correction</b>	Yes

### Mechanics/electronics

<b>Electrical connection</b>	1 x M12 round connector
<b>Supply voltage</b>	10.8 V DC ... 30 V DC
<b>Power consumption</b>	Typ. 8 W, heating typ. 35 W
<b>Housing color</b>	Gray (RAL 7032)
<b>Enclosure rating</b>	IP67 (EN 60529, Section 14.2.7)
<b>Protection class</b>	III (EN 50178 (1997;10))
<b>Weight</b>	1.1 kg
<b>Dimensions (L x W x H)</b>	105 mm x 102 mm x 162 mm

## Performance

<b>Response time</b>	≥ 20 ms
<b>Detectable object shape</b>	Almost any
<b>Systematic error</b>	± 30 mm <sup>1)</sup>
<b>Statistical error</b>	12 mm <sup>1)</sup>
<b>Integrated application</b>	Field evaluation with flexible fields
<b>Number of field sets</b>	10 fields
<b>Simultaneous evaluation cases</b>	10

<sup>1)</sup> Typical value; actual value depends on environmental conditions.

## Interfaces

<b>Ethernet</b>	✓, TCP/IP
Remark	OPC
Function	Host
Data transmission rate	10/100 MBit/s
<b>Serial</b>	✓, RS-232
Function	Host, AUX
Data transmission rate	9.6 kBaud ... 115.2 kBaud
<b>CAN</b>	✓
Function	Extension of outputs
<b>Digital inputs</b>	2 digital and 2 encoder inputs
<b>Digital outputs</b>	3
<b>Optical indicators</b>	7-segment display (plus 5 LEDs showing device status, contamination warning and initial condition)

## Ambient data

<b>Object remission</b>	2 % ... > 1,000 % (reflectors)
<b>Electromagnetic compatibility (EMC)</b>	EN 61000-6-2:2005 / EN 61000-6-4 (2007-01)
<b>Vibration resistance</b>	EN 60068-2-6 (1995-04)
<b>Shock resistance</b>	EN 60068-2-27 (1993-03)
<b>Ambient operating temperature</b>	-30 °C ... +50 °C
<b>Storage temperature</b>	-30 °C ... +70 °C
<b>Ambient light immunity</b>	40,000 lx

## General notes

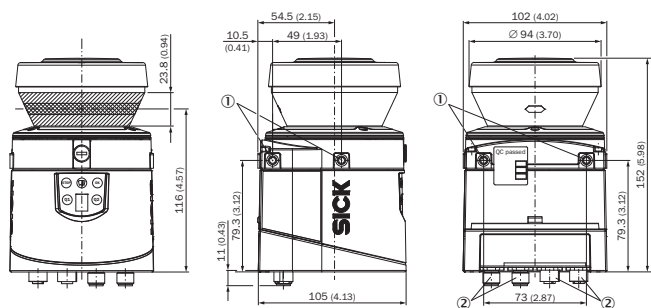
<b>Note on use</b>	The sensor does not constitute a safety component as defined by relevant legislation on machine safety.
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## Classifications

<b>ECI@ss 5.0</b>	27270990
<b>ECI@ss 5.1.4</b>	27270990
<b>ECI@ss 6.0</b>	27270913
<b>ECI@ss 6.2</b>	27270913
<b>ECI@ss 7.0</b>	27270913
<b>ECI@ss 8.0</b>	27270913

<b>ECI@ss 8.1</b>	27270913
<b>ECI@ss 9.0</b>	27270913
<b>ETIM 5.0</b>	EC002550
<b>ETIM 6.0</b>	EC002550
<b>UNSPSC 16.0901</b>	46171620

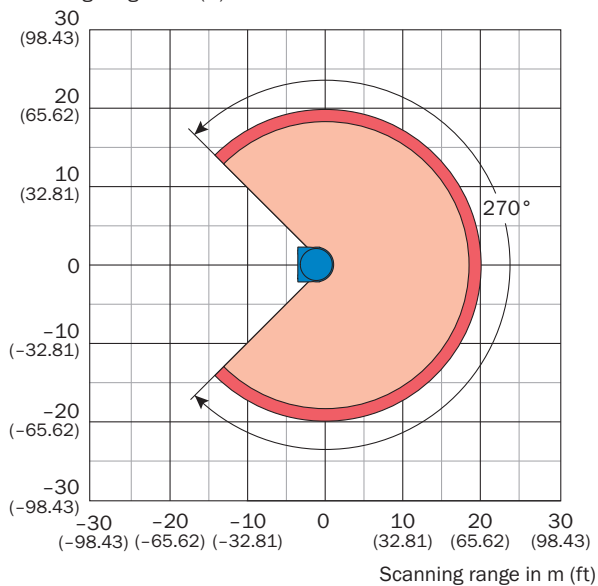
### Dimensional drawing (Dimensions in mm (inch))



- ① Mounting hole M5 x 7.5
- ② Connector M12

### Working range diagram

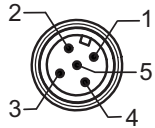
Scanning range in m (ft)



- Scanning range max. 20 m (65.62 ft)
- Scanning range for objects up to 10 % remission 18 m (59.06 ft)

## PIN assignment

Power







Connector M12, 5-pin, A-coded

- ①  $V_s$
- ②  $V_s$  Heat.
- ③ GND
- ④ Reserved
- ⑤ GND heat.

## Recommended accessories

Other models and accessories → [www.sick.com/LMS1xx](http://www.sick.com/LMS1xx)

	Brief description	Type	Part no.
Device protection (mechanical)			
	Weather hood, 190°	Weather protection cover 190°	2046459
	Weather hood, 270°	Weather protection cover 270°	2046458
Mounting brackets and plates			
	Standard mounting set for weather hood	Mounting bracket	2046025
	1 piece, mounting bracket for rear mounting on wall or machine	Mounting kit 1a	2034324
	1 piece, mounting bracket for rear mounting on wall or machine with protection of optics hood	Mounting kit 1b	2034325
	1 piece, mounting bracket, adjustable lateral axis, only in conjunction with mounting kit 1a (2034324) or 1b (2034325)	Mounting kit 2	2039302
	1 piece, mounting plate, adjustable longitudinal axis, only in conjunction with mounting kit 2 (2039302)	Mounting kit 3	2039303
Terminal and alignment brackets			
	Quick-action lock system for weather hood 190°/270°	Quick release	2046989
Plug connectors and cables			
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: RS-232, RS-422, shielded, 5 m	Connecting cable (female connector - open)	6036153

	Brief description	Type	Part no.
	Head A: male connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: PUR, halogen-free, shielded, 5 m	YF2A28-050UA6XLEAX	6036155
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Power, shielded, 5 m	YF2A64-050XXXLEAX	6036159
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, twisted pair, PUR, halogen-free, shielded, 5 m	YM2D24-050EA1MRJA4	6034415

## Recommended services

Additional services → [www.sick.com/LMS1xx](http://www.sick.com/LMS1xx)

	Type	Part no.
Warranty extensions		
<ul style="list-style-type: none"> <li>• <b>Product area:</b> Identification solutions, Vision, Distance sensors, Detection and ranging solutions</li> <li>• <b>Range of services:</b> The services correspond to the scope of the statutory manufacturer warranty (SICK general terms and conditions of purchase), Long-term protection for calculable lump sum.</li> <li>• <b>Duration:</b> Five-year warranty from date of purchase.</li> </ul>	Five-year extended warranty	1680671
Training		
<ul style="list-style-type: none"> <li>• <b>Product family group:</b> 2D LiDAR sensors, 3D LiDAR sensors</li> <li>• <b>Range of services:</b> The training format and location can be worked out in collaboration with SICK</li> <li>• <b>Note:</b> A minimum and maximum number of participants is determined based on the training format, depending on the training format, content and location, a training course may take place over the course of one or more work days</li> <li>• <b>Duration:</b> The fixed price includes the specific training services agreed upon with the customer, the fixed price includes the work time required for the training services, the required work time depends on the range of services, Additional work will be invoiced separately based on time spent</li> <li>• <b>Travel expenses:</b> The prices include costs for the travel time and expenses, travel costs, such as flight or hotel expenses, are not included</li> </ul>	Training LMS/MRS/NAV/TiM	1612234
Commissioning		
<ul style="list-style-type: none"> <li>• <b>Product area:</b> 2D LiDAR sensors, 3D LiDAR sensors</li> <li>• <b>Range of services:</b> Inspection of connection, fine adjustment, configuration of monitored areas, configuration and optimization of parameters of the LMS/MRS/NAV/TiM as well as verification tests, Setup of previously defined functions of basic settings, parameters of field application, filters for raw data output and product-specific configuration</li> <li>• <b>Documentation:</b> Archiving of product parameters in a SICK database, Documentation of performance, Creation of a commissioning log</li> <li>• <b>Duration:</b> Additional work will be invoiced separately based on time spent</li> <li>• <b>Note:</b> The prices do not include expenses or costs for the travel time</li> </ul>	Commissioning LMS/MRS/NAV/TiM (Prime package)	1680672
Maintenance		
<ul style="list-style-type: none"> <li>• <b>Product area:</b> 2D LiDAR sensors, 3D LiDAR sensors</li> <li>• <b>Range of services:</b> Inspection, analysis and restoring of defined functions, Inspection and adaptation of basic settings, parameters of field application, filters for raw data output, and product-specific configuration</li> <li>• <b>Documentation:</b> Documentation of operating hours and archiving of parameters in a SICK database, Creation of a maintenance log</li> <li>• <b>Duration:</b> Additional work will be invoiced separately based on time spent</li> <li>• <b>Note:</b> The prices do not include expenses or costs for the travel time</li> </ul>	Maintenance LMS/MRS/NAV/TiM	1682593

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)