LMS511-10100 PRO
LMS5xx

2D LIDAR SENSORS

SICK
Sensor Intelligence.

LMS511-10100 PRO | LMS5xx
2D LIDAR SENSORS

Ordering information

Type	Part no.
LMS511-10100 PRO	1046135

Other models and accessories ➜ www.sick.com/LMS5xx

Detailed technical data

Features

Variant	PRO
Application	Outdoor
Resolution power	Standard Resolution
Light source	Infrared (905 nm)
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014)
Aperture angle	
Horizontal	190°
Scanning frequency	25 Hz / 35 Hz / 50 Hz / 75 Hz / 100 Hz
Angular resolution	0.167° 0.25° 0.333° 0.5° 0.667° 1°
Heating	Yes
Working range	1 m ... 80 m
Scanning range	
At 10% remission	40 m
Spot size	11.9 mrad
Amount of evaluated echoes	5
Fog correction	Yes

Mechanics/electronics

Electrical connection	4 x M12 round connector
Supply voltage	24 V DC
Power consumption	22 W, + 55 W heating (typical)
Housing color	Gray (RAL 7032)

Subject to change without notice

Enclosure rating	IP65, IP67 (IEC 60529 Edition 2.2:2013-08)
Protection class	III (EN 60529, Section 14.2.7)
Weight	3.7 kg
Dimensions (L x W x H)	160 mm x 155 mm x 185 mm

Performance

Response time	≥ 10 ms
Detectable object shape	Almost any
Systematic error	± 25 mm (1 m ... 10 m) ± 35 mm (10 m ... 20 m) ± 50 mm (20 m ... 30 m) [1]
Statistical error	6 mm (1 m ... 10 m) 8 mm (10 m ... 20 m) 14 mm (20 m ... 30 m) [1]
Integrated application	Field evaluation
Number of field sets	10 fields
Simultaneous evaluation cases	10

[1] Typical value; actual value depends on environmental conditions.

Interfaces

Ethernet	✔, TCP/IP
Remark	OPC
Function	Host
Data transmission rate	10/100 MBit/s
Serial	✔, RS-232, RS-422
Function	Host
Data transmission rate	9.6 kBaud ... 500 kBaud
CAN	✔
Function	Extension of outputs
USB	✔
Remark	Mini-USB
Function	AUX
Data transmission rate	9.6 kBaud ... 500 kBaud
Digital inputs	4 (Encoders)
Digital outputs	6
Optical indicators	5 LEDs (Additional 7-segment display)

Ambient data

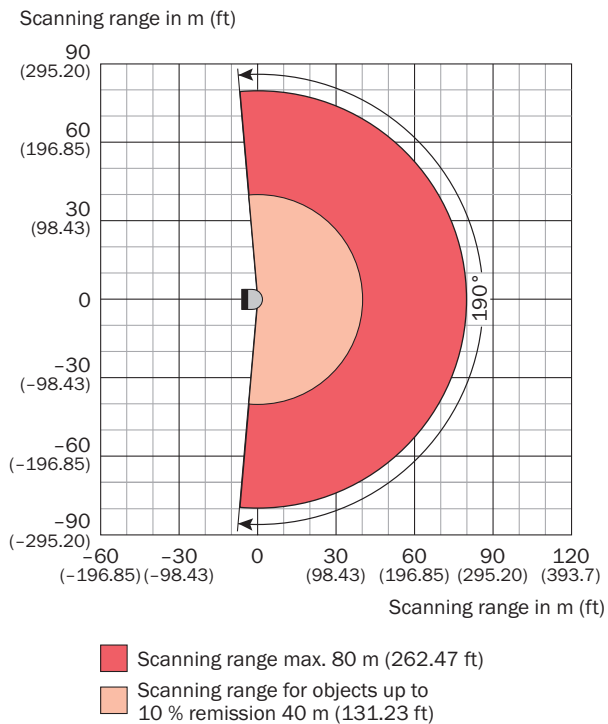| Object remission	2 % ... > 1,000 % (reflectors)
Electromagnetic compatibility (EMC)	IEC 61000-6-2:2016-08 / IEC 61000-6-4:2006+A1:2010
Vibration resistance	IEC 60068-2-6:2007-12
Shock resistance	IEC 60068-2-27:2008-02
Ambient operating temperature	−30 °C ... +50 °C
Storage temperature	−30 °C ... +70 °C
Ambient light immunity	70,000 lx

General notes

Note on use	The sensor does not constitute a safety component as defined by relevant legislation on machine safety.

Classifications

ECl@ss 5.0	27270990
ECl@ss 5.1.4	27270990
ECl@ss 6.0	27270913
ECl@ss 6.2	27270913
ECl@ss 7.0	27270913
ECl@ss 8.0	27270913
ECl@ss 8.1	27270913
ECl@ss 9.0	27270913
ETIM 5.0	EC002550
ETIM 6.0	EC002550
UNSPSC 16.0901	46171620

Working range diagram

Scanning range in m (ft)

Scanning range in m (ft)

■ Scanning range max. 80 m (262.47 ft)

■ Scanning range for objects up to
10 % remission 40 m (131.23 ft)

Recommended accessories

Other models and accessories ➜ www.sick.com/LMS5xx

	Brief description	Type	Part no.
Device protection (mechanical)			
	Weather hood (180°), vertical mounting	Weather protection hood	2063050
Mounting brackets and plates			
	1 piece, mounting bracket for direct mounting, from the rear, on wall or machine, not adjustable	Mounting kit 1	2015623
	1 piece, mounting bracket for rear mounting on wall or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623)	Mounting kit 2	2015624
Plug connectors and cables			
	Head A: female connector, M12, 12-pin, straight, A-coded Head B: Flying leads Cable: Power, I/O, twisted pair, PUR, halogen-free, shielded, 5 m	YF2A2B-050UD4XLEAX	6042735
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Power, shielded, 5 m	YF2A64-050XXXXLEAX	6036159
	Head A: male connector, M12, 12-pin, straight, A-coded Head B: Flying leads Cable: Power, I/O, twisted pair, PUR, halogen-free, shielded, 5 m	YM2A2B-050UD4XLEAX	6042732
	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/LMS5xx

	Type	Part no.
Warranty extensions		
• **Product area:** Identification solutions, Vision, Distance sensors, Detection and ranging solutions • **Range of services:** 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. • **Duration:** Five-year warranty from date of purchase.	Five-year extended warranty	1680671

	Type	Part no.
Training		
• **Product family group:** 2D LiDAR sensors, 3D LiDAR sensors • **Range of services:** The training format and location can be worked out in collaboration with SICK • **Note:** 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 • **Duration:** 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 • **Travel expenses:** The prices include costs for the travel time and expensestravel costs, such as flight or hotel expenses, are not included	Training LMS/MRS/NAV/TiM	1612234
Commissioning		
• **Product area:** 2D LiDAR sensors, 3D LiDAR sensors • **Range of services:** 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 • **Documentation:** Archiving of product parameters in a SICK database, Documentation of performance, Creation of a commissioning log • **Duration:** Additional work will be invoiced separately based on time spent • **Note:** The prices do not include expenses or costs for the travel time	Commissioning LMS/MRS/NAV/TiM (Prime package)	1680672
Maintenance		
• **Product area:** 2D LiDAR sensors, 3D LiDAR sensors • **Range of services:** 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 • **Documentation:** Documentation of operating hours and archiving of parameters in a SICK database, Creation of a maintenance log • **Duration:** Additional work will be invoiced separately based on time spent • **Note:** The prices do not include expenses or costs for the travel time	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**

SICK AG | Waldkirch | Germany | www.sick.com

SICK
Sensor Intelligence.