



LMS1104C-111031S01

LMS1000

2D LIDAR SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
LMS1104C-111031S01	1092445

Other models and accessories → www.sick.com/LMS1000



Detailed technical data

Features

Application	Outdoor, Indoor
Measurement principle	HDDM ⁺
Light source	Infrared (850 nm)
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014+A11:2021)
Aperture angle	
Horizontal	275°
Scanning frequency	150 Hz, 4 x 37,5 Hz
Angular resolution	
Horizontal	0.75°
	0.1875°, interlaced
	0.375°, interlaced
Heating	Self-heating
Working range	0.2 m ... 64 m
Scanning range	
At 10% remission factor	16 m
At 90% remission factor	30 m
Spot size	10.4 mrad x 26.2 mrad
Amount of evaluated echoes	3

Mechanics/electronics

Connection type	M12 round connectors with swivel connector
Supply voltage	10 V DC ... 30 V DC
Power consumption	Typ. 18 W Max. 42 W Power-up max. 35 W for 5 s
Housing material	AlSi12, Optics cover: polycarbonate
Housing color	Gray (RAL 7042)
Enclosure rating	IP65 (IEC 60529:1989+AMD1:1999+AMD2:2013) IP67 (IEC 60529:1989+AMD1:1999+AMD2:2013)
Protection class	III (IEC 61140:2016-11)
Electrical safety	IEC 61010-1:2010-06

Weight	1.2 kg
Dimensions (L x W x H)	151.9 mm x 150 mm x 92.5 mm
MTBF	50 years

Safety-related parameters

MTTF_D	> 100 years
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Performance

Output data LiDAR-LOC	Contamination indication, IMU (secondary sensor data)
Scan/frame rate	55,000 measurement point/s ... 165,000 measurement point/s
Response time	7 ms ¹⁾
Systematic error	± 60 mm
Statistical error	≤ 30 mm
Integrated application	Field evaluation Output of measurement data
Number of field sets	Up to 10 fields
Simultaneous evaluation cases	Up to 10 evaluations
Filter	Fog filter Particle filter Average filter Median filter Edge filter Echo filter

¹⁾ Depending on the selected filter settings and the object size.

Interfaces

Ethernet	✓ , TCP/IP, UDP/IP
Function	Data interface (read result output), OPC, NTP, Measured data output (distance, RSSI)
Data transmission rate	10/100 MBit/s
Digital inputs/outputs	I/O (8 (Multiport))
Output data	Contamination indication IMU (secondary sensor data)
Optical indicators	2 LEDs
Configuration software	SOPAS ET Web server (display)

Ambient data

Object remission	2 % ... > 1,000 % (Reflector)
Electromagnetic compatibility (EMC)	EN 61000-6-2:2005 / EN 61000-6-3:2007+A1:2011
Vibration resistance	IEC 60068-2-6:2007
Shock resistance	EN 60068-2-27:2008
Ambient operating temperature	-30 °C ... +50 °C
Storage temperature	-40 °C ... +75 °C
Ambient light immunity	80 klx

General notes

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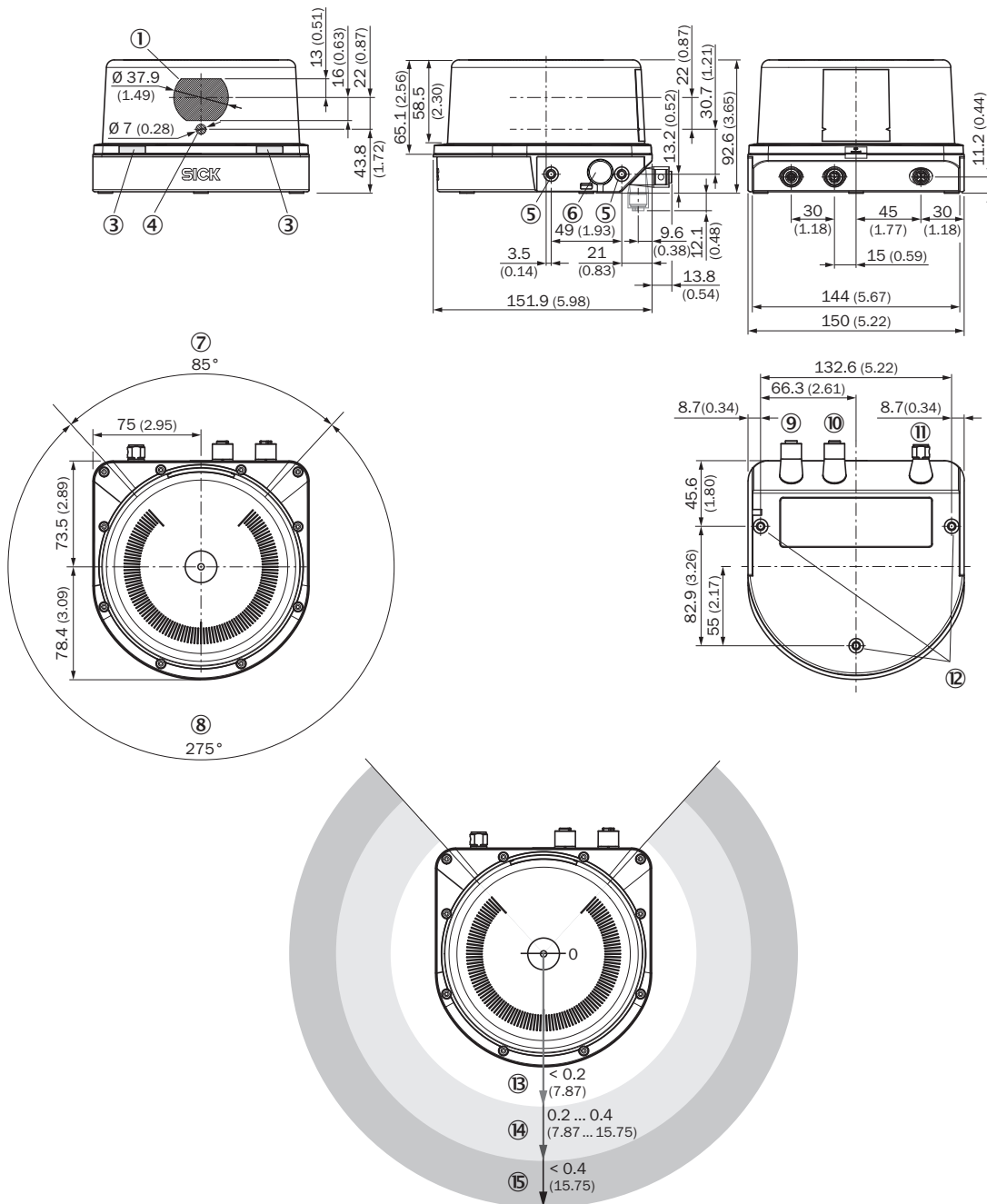
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cTUVus certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Classifications

ECLASS 5.0	27270990
ECLASS 5.1.4	27270990
ECLASS 6.0	27270913
ECLASS 6.2	27270913
ECLASS 7.0	27270913
ECLASS 8.0	27270913
ECLASS 8.1	27270913
ECLASS 9.0	27270913
ECLASS 10.0	27270913
ECLASS 11.0	27270913
ECLASS 12.0	27270913
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
UNSPSC 16.0901	41111615

Dimensional drawing



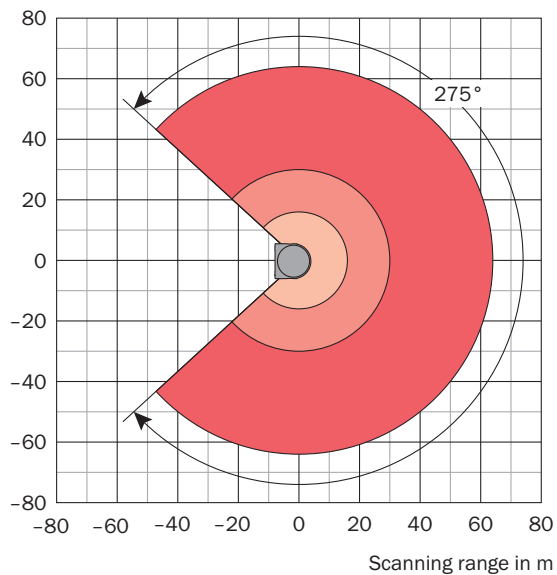
Dimensions in mm (inch)

- ① receiver
- ② -
- ③ status LEDs
- ④ sender
- ⑤ Mounting hole M5 x 7.5
- ⑥ Pressure compensation element
- ⑦ Blind zone
- ⑧ Field of view
- ⑨ Ethernet connection
- ⑩ I/O connection
- ⑪ POWER connection
- ⑫ Mounting hole M5 x 7.5

- ⑬ Close range (no detection or measurement possible)
- ⑭ Detection zone
- ⑮ measuring range

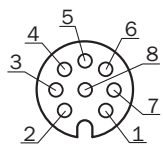
Working range diagram

Scanning range in m



- Scanning range max. 64 m
- Scanning range for objects up to 90 % remission 30 m
- Scanning range for objects up to 10 % Remission 16 m

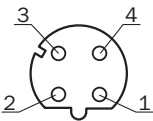
Connection type I/O



female connector M12, 8-pin, A-coded

- ① IN1/OUT1
- ② IN2/OUT2
- ③ IN3/OUT3
- ④ IN4/OUT4
- ⑤ IN5/OUT5
- ⑥ IN6/OUT6
- ⑦ GND IN_x/OUT_x
- ⑧ IN7/OUT7

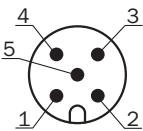
Connection type Ethernet



M12 female connector, 4-pin, D-coded

- ① TX+
- ② RX+
- ③ TX-
- ④ RX-

Connection type Power



Connector M12, 5-pin, A-coded

- ① VS 10...30 V
- ② Reserved
- ③ GND
- ④ IN8/OUT8
- ⑤ Reserved

Recommended accessories

Other models and accessories → www.sick.com/LMS1000

	Brief description	Type	part no.
Mounting systems			
	• Description: Standard mounting set for weather hood • Material: Stainless steel 1.4301 (V2A) • Details: Stainless steel 1.4301 (V2A) • Items supplied: Mounting bracket, incl. 7 x screws with M6 x 12 washers • Suitable for: 2085937, 2085938, 2085939, 2046459, 2046458, 2082563, 2082560	Mounting bracket	2046025
device protection and care			
	• Description: Optics cover for protecting the front screen from weather conditions • Items supplied: 1 x weather protection hood and 1 x mounting kit 1a (2093194), 4 M5 x 6 cylinder head screws with washers, 4 x M5 x 12 countersunk screws, 2 x cylinder head screws, M5 x 10 cap screws with washers, 4 x M5 x 10 countersunk screws • Suitable for: LMS1000, MRS1000, LRS4000	Weather protection hood 210° with mounting kit 1a	2085939

	Brief description	Type	part no.
connectors and cables			
	• Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, shielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A25-050UB6XLEAX	2095733
	• Connection type head A: Male connector, M12, 4-pin, straight, D-coded • Connection type head B: Male connector, RJ45, 4-pin, straight • Signal type: Ethernet, PROFINET • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Ethernet, shielded, PROFINET • Application: Drag chain operation, Zones with oils and lubricants	YM2D24-050P-N1MRJA4	2106184
	• Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, shielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A25-020UB6XLEAX	2145583
	• Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 1 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, shielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A25-010UB6XLEAX	2145582
	• Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 0.6 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, shielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A25-C60UB6XLEAX	2145581

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