LMS102-10000

LMS1xx

2D LIDAR SENSORS

SICK
Sensor Intelligence.

LMS102-10000 | LMS1xx
2D LIDAR SENSORS

Ordering information

Type	part no.
LMS102-10000	1048235

Other models and accessories ➜ www.sick.com/LMS1xx

Detailed technical data

Features

Application	Indoor
Light source	Infrared (905 nm)
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014+A11:2021)
Aperture angle	
Horizontal	270°
Scanning frequency	25 Hz 50 Hz
Angular resolution	
Horizontal	0.25°
	0.5°
Heating	No
Working range	0.5 m … 20 m
Scanning range	
At 10% remission factor	18 m
At 90% remission factor	20 m
Amount of evaluated echoes	2
Fog correction	Yes

Mechanics/electronics

Connection type	1 x system plug with screw terminal block
Supply voltage	10.8 V DC … 30 V DC
Power consumption	22 W
Housing color	Black (RAL 9005)
Enclosure rating	IP65 (EN 60529, Section 14.2.5)
Protection class	III (EN 61010-1:2010-10)
Weight	1.1 kg
Dimensions (L x W x H)	105 mm x 102 mm x 152 mm

MTBF	> 100 years
MTTFd	> 100 years

Safety-related parameters

$MTTF_D$	> 100 years

Performance

Response time	≥ 20 ms
Detectable object shape	Almost any
Systematic error	± 30 mm [1]
Statistical error	12 mm [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
Function	Data interface (read result output)
Data transmission rate	10/100 MBit/s
Serial	✓ , RS-232
Function	Data interface (read result output), Service interface
Data transmission rate	9.6 kBaud ... 115.2 kBaud
CAN	✓
Function	Extension of outputs
Digital inputs/outputs	
Inputs	2 digital and 2 encoder inputs
Outputs	3
Optical indicators	7-segment display (plus 5 LEDs showing device status, contamination warning and initial condition)

Ambient data

Remission factor	3 % ... > 1,000 % (reflectors)
Electromagnetic compatibility (EMC)	EN 61000-6-2:2005 / EN 61000-6-3:2007+A1:2011
Vibration resistance	EN 60068-2-6 (1995-04)
Shock resistance	EN 60068-2-27 (1993-03)
Ambient operating temperature	0 °C ... +50 °C
Storage temperature	−30 °C ... +70 °C
Ambient light immunity	80,000 lx

General notes

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

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
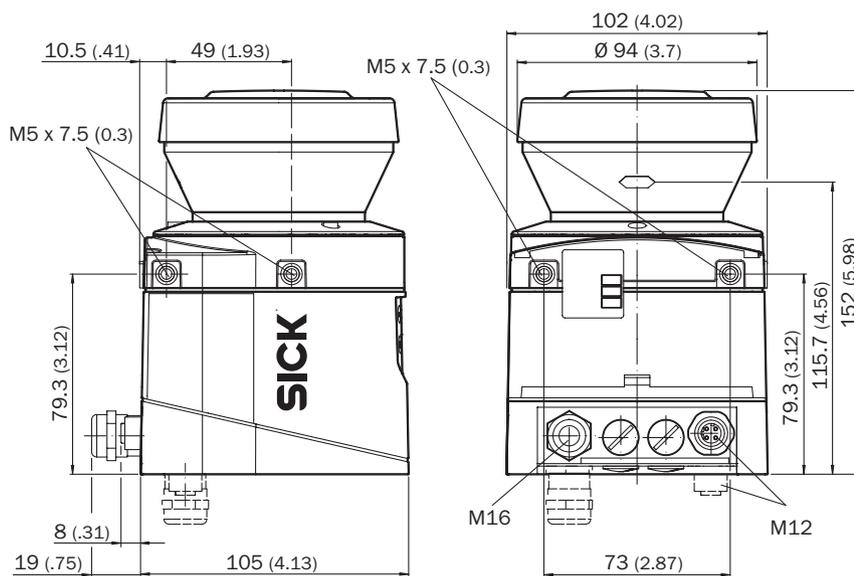
Dimensions in mm (inch)

Working range diagram

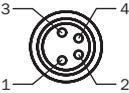Scanning range in m (ft)
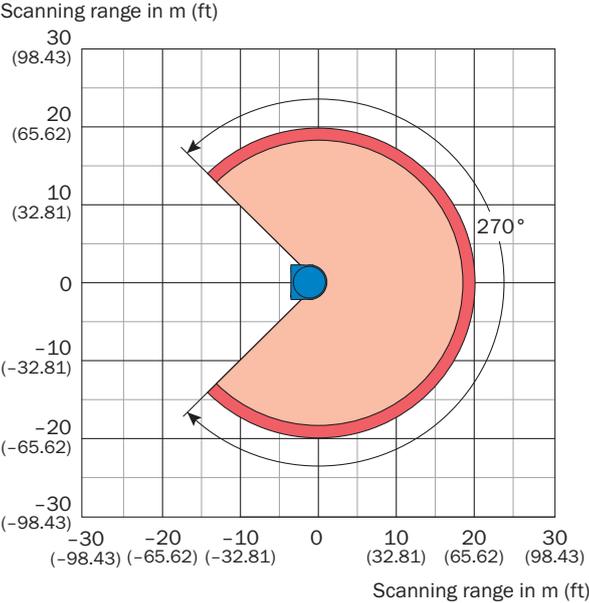
■ Scanning range max. 20 m (65.62 ft)

■ Scanning range for objects up to
10 % remission 18 m (59.06 ft)

Connection type Ethernet
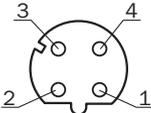
M12 female connector, 4-pin, D-coded
① TX+
② RX+
③ TX-
④ RX-

PIN assignment Service interface

female connector M8, 4-pin
① Reserved
② RxD AUX
③ GND RS
④ TxD AUX

Recommended accessories

Other models and accessories ➜ www.sick.com/LMS1xx

Brief description	Type	part no.
Mounting systems		
• **Description:** Mounting bracket for rear mounting on wall or machine • **Material:** Anodized aluminum • **Details:** AlMg3, black anodized • **Packing unit:** 1 piece • **Items supplied:** Mounting bracket, 4 x M5 x 10 countersunk screws	Mounting kit 1a	2034324
• **Description:** Mounting bracket for rear mounting on wall or machine with protection of optics hood • **Material:** Anodized aluminum • **Details:** AlMg3, black anodized • **Packing unit:** 1 piece • **Items supplied:** Mounting bracket, 4 x M5 x 10 countersunk screws	Mounting kit 1b	2034325
• **Description:** Mounting bracket, adjustable lateral axis, only in conjunction with mounting kit 1a (2034324) or 1b (2034325) • **Material:** Anodized aluminum • **Details:** AlMg3, black anodized • **Packing unit:** 1 piece • **Items supplied:** Mounting bracket, 4 x countersunk screws with washers M4 x 10, 4 x spring washer	Mounting kit 2	2039302
• **Description:** Mounting plate, adjustable longitudinal axis, only in conjunction with mounting kit 2 (2039302) • **Material:** Anodized aluminum • **Details:** AlMg3, black anodized • **Packing unit:** 1 piece • **Items supplied:** Mounting plate, 2 x countersunk screws with washers M4 x 10, 2 x spring washer	Mounting kit 3	2039303
connectors and cables		
• **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:** Flying leads • **Connection type head B:** Flying leads • **Items supplied:** By the meter • **Cable:** 15-wire, AWG20, PVC • **Description:** Unshielded • **Note:** On 100 m reel	Connecting cable	6030795

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."

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