



LMS400-2000

LMS4xx

2D LIDAR SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
LMS400-2000	1041725

Other models and accessories → www.sick.com/LMS4xx



Detailed technical data

Features

Application	Indoor
Reading field	Front
Light source	Visible red light (650 nm)
Laser class	2, in standby operation laser class 1 (IEC 60825-1:2014, EN 60825-1:2014)
Aperture angle	Horizontal 70°
Scanning frequency	300 Hz ... 500 Hz
Angular resolution	0.1° ... 1.0°, configurable
Working range	0.7 m ... 3 m
Scanning range	At 10% remission factor 3 m

Mechanics/electronics

Supply voltage	≤ 24 V DC, ± 15 %
Power consumption	25 W
Housing	Aluminum die cast
Housing color	Light blue (RAL 5012)
Enclosure rating	IP65 (EN 60529, Section 14.2.7) ¹⁾
Weight	2.3 kg
Dimensions (L x W x H)	179 mm x 107 mm x 130 mm

¹⁾ With plug housing.

Performance

Response time	≥ 2 ms
Detectable object shape	Almost any
Systematic error	± 4 mm ¹⁾
Statistical error	3 mm ¹⁾
Integrated application	Level Control

¹⁾ Typical value; actual value depends on environmental conditions.

Interfaces

Ethernet	✓, TCP/IP
Function	Data interface (read result output)
Data transmission rate	10 Mbit/s, half-duplex
Serial	✓, RS-232
Function	Data interface (read result output), Service interface
Digital inputs	4
Digital outputs	5 (4 x PNP / analog 1 x 4 mA ... 20 mA)
Optical indicators	6 LEDs

Ambient data

Object remission	4.5 % ... 100 %
Electromagnetic compatibility (EMC)	EN 61000G6G2:2001 / EN 61000G6G4:2001
Vibration resistance	EN 60068G2G6, G27, G29, G64
Shock resistance	EN 60068G2G6, G27, G29, G64
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	-20 °C ... +70 °C

General notes

Note on use	The sensor does not constitute a safety component as defined by relevant legislation on machine safety.
Selectable region of interest (ROI)	From 50 mm x 3,000 mm to 1,000 mm x 1,750 mm
Number of columns	Up to 50 equidistant or 30 freely positionable
Minimum column width	≥ 50 mm
Minimum detectable object	30 mm x 30 mm
Smallest height threshold above the container floor	30 mm
Switching threshold output	Telegram, digital outputs or analog output
Output of height values in the columns	Telegram, Analog output

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

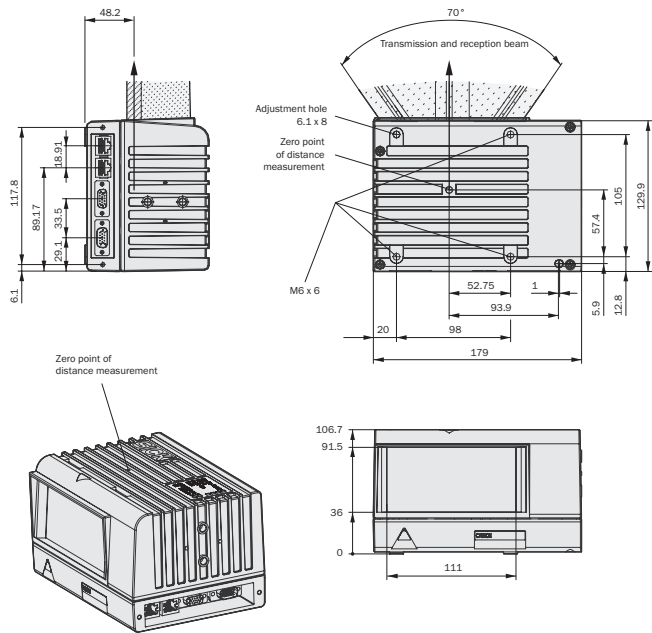
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ETIM 8.0	EC002550
UNSPSC 16.0901	41111615

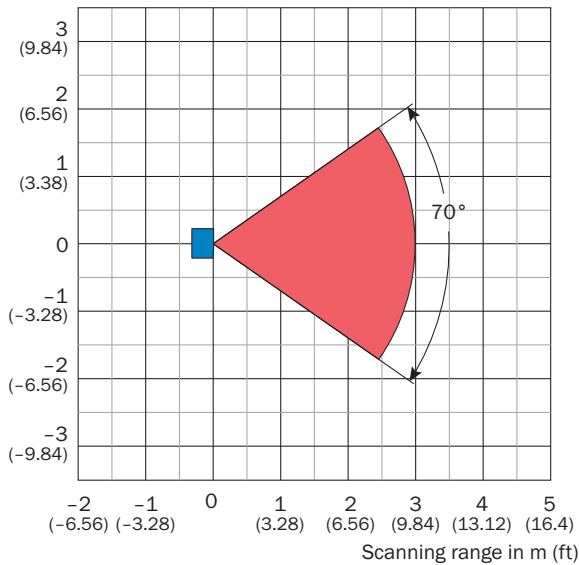
Dimensional drawing (Dimensions in mm (inch))

LMS400



Working range diagram





Scanning range in m (ft)









- Scanning range max. 3 m (9.84 ft)
- Scanning range for objects up to 10 % remission 3 m (9.84 ft)

Recommended accessories

Other models and accessories → www.sick.com/LMS4xx

	Brief description	Type	Part no.
Power supply modules			
	Power supply unit, 25 W, installation by replacement of lid	CMP490	2030091
Plug connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, D-Sub, 15-pin, straight • Connection type head B: Male connector, D-Sub, 15-pin, straight • Cable: 3 m, 15-wire • Description: Shielded 	YFHDAC-030XXXMHDAC	2020302
	<ul style="list-style-type: none"> • Connection type head A: Male connector, RJ45 • Connection type head B: Male connector, RJ45 • Signal type: Ethernet • Cable: 3 m • Description: Ethernet, unshielded • Note: For plug hood 	YMRJA8-030XXXMRJA8	2062036
	<ul style="list-style-type: none"> • Connection type head A: Male connector • Connection type head B: Male connector • Cable: 3 m, FSI • Description: Unshielded, Synchronization cable for plug hood 	YMRJA8-030XXXMRJA8	2030451

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> • Connection type head A: Male connector, RJ45 • Connection type head B: Male connector, RJ45 • Signal type: Ethernet • Cable: 10 m • Description: Ethernet, unshielded • Note: For plug hood 	YMRJA8-100XXXMRJA8	2030467
	<ul style="list-style-type: none"> • Connection type head A: Male connector, female connector, D-Sub-HD, 15-pin, straight • Connection type head B: Male connector, D-Sub-HD, 15-pin, straight • Signal type: CAN • Cable: 3 m • Description: CAN, unshielded • Note: For VMD, Master 	Modular hood	2030535
Terminal and alignment brackets			
	Alignment bracket for LMS	Alignment bracket	2043070
	Holder for Item Profile	Alignment bracket	2030421
	PS95W-24V	PS95W-24V	7028790
Modules			
	<ul style="list-style-type: none"> • Sub product family: CDM490 • Fieldbus interface: PROFIBUS DP, Ethernet, DeviceNet™ • Supported products: CLV69x, LMS400 • Brief description: Modular connection module for one sensor 	CDM490-0001	1025363

Recommended services

Additional services → www.sick.com/LMS4xx

	Type	Part no.
Maintenance		
<ul style="list-style-type: none"> • 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 • Duration: Additional work will be invoiced separately • Travel expenses: The prices do not include travel costs such as hotel, flight, travel time and expenses. 	Maintenance of LiDAR sensors	1682593
Commissioning		
<ul style="list-style-type: none"> • 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 as well as tests, Setup of previously defined functions of basic settings, parameters of field application, filters for raw data output and product-specific configuration • Travel expenses: The prices do not include travel costs such as hotel, flight, travel time and expenses. • Duration: Additional work will be invoiced separately 	Commissioning LiDAR sensors	1680672

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