LMS100
Laser Measurement System

Convenient Measurement System
with Double-pulse Technology

SICK
Sensor Intelligence.

The LMS100 Laser Measurement System: small and innovative

The LMS100 laser measurement system is the "small" and economical option in SICK's family of laser measurement systems, and an alternative to other existing solutions, particularly when long ranges and speeds are not the highest priorities. The system is practical regarding dimensions and weight, space-saving (with its transmitter and receiver in a single housing), and has a low purchase price with low operating costs.

The innovation involved here, however, is "big": double-pulse technology increases outdoor availability and even permits mounting behind glass.

IP 67

Traffic telematics

The use of products with low operating costs is particularly important for increasing the efficiency of existing traffic infrastructures. The LMS100 laser measurement system is also particularly suitable here due to the possibility of mounting it directly below the roof and monitoring two lanes simultaneously with a single device. Thus neither supplementary installation of posts nor underground wiring effort are required.

Special advantages in this application

- No wiring necessary between transmitter and receiver
- Installation position protected against weather and collisions
- Simple mounting due to low weight of device
- Separate field evaluation of two lanes with one device
- Configuration while mounted via M8 socket on front of device

IP 67

Anti-collision

During the operating of loading cranes, e.g. at container ports, it is often not the visible elements but the hidden obstacles on the ground that make it difficult for the crane driver to avoid collisions and thus prevent damage. The LMS100 laser measurement system assists the crane driver in narrow aisles by offering definable monitoring fields (also dynamic fields).

Special advantages in this application

- Housing alloy with excellent weather resistance
- Rugged housing with enclosure rating of IP 67
- Reasonably priced alternative when operating ranges of up to 18 m are sufficient on the ground
- Field evaluation using intelligent algorithms

IP 65

Building security

It is impossible for the security staff at museums and exhibitions, who are supposed to prevent theft and vandalism, to keep their eyes on everything all the time. Monitored fields can be cleanly delineated with the LMS100 laser measurement system and, when a defined area is infringed, there is an immediate alarm when someone gets too close to the protected object.

Special advantages in this application

- Small size for invisible mounting
- Connection to existing 12 V DC system possible
- Reduction of false alarms through precise teach-in of field limits
- Field evaluation using intelligent algorithms
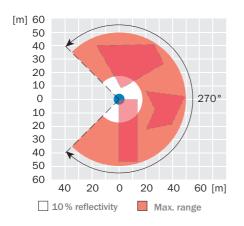- VdS version (with security approval) in preparation
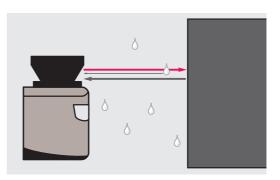
Overview and definitions

IP 65

IP 67

The LMS100 at a glance:

- Small, light and economical measurement system
- Operation possible with supply voltages from 10.8 V DC
- Real-time output of measurement data via Ethernet interface
- Number of switching outputs can be expanded via external CAN module
- Scanning frequency: 25 Hz to 50 Hz
- Power consumption: typically 8.4 W to 12 W
- Parameterisation interface accessible from the front while device mounted
- Further potential areas of use:
  - automated guided vehicles
  - automatic multi-storey car parks
  - indoor and outdoor equipment at buildings requiring security
  - use within other housings (incl. EX-Zones)

⚠️ **Safety note:**
LMS100 laser measurement systems are not devices for personal protection within the sense of valid safety standards for machines.

Freely definable fields

- Creation of evaluation strategies
- Dynamic field adaptation (e.g. dependent on vehicle speed)
- Object blanking possible
- Contour of surroundings is used as a reference

☐ 10 % reflectivity   🟥 Max. range

Double-pulse technology

The distance between the LMS100 laser measurement system and an object is calculated from the time-of-flight of the pulses received. The LMS100 can evaluate two reception signals per emitted measurement beam.
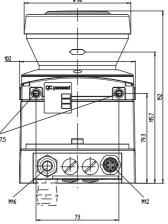
- Protected mounting behind glass possible
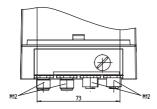- High availability during outdoor use

Raindrops reflect earlier, smaller pulses back to the LMS100 than the target object
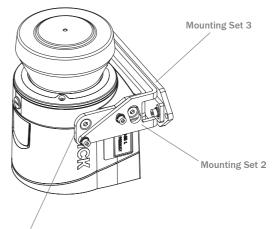
Dimensional drawings

LMS100-10000

LMS111-10100

Mounting Sets for installation

Mounting Set 3

Mounting Set 2

Mounting Set 1a

All dimensions in mm

Technical data

Type	LMS100-10000 IP 65	LMS111-10100 IP 67	LMS120-10000[1] IP 65
Max. range / at 10 % reflectivity	50 m / 10 m	50 m / 18 m	50 m / 10 m
Scanning angle	Max. 270°		
Angular resolution	0.5°/0.25° adjustable		
Statistical error	±40 mm		
Systematic error	±30 mm		
Data interfaces	Ethernet 100 Mbit TCP/IP, UDP; RS-232; CAN		
Supply voltage	10.8 V to 30 V DC		9 V to 30 V DC
Laser Protection Class	Laser Class 1 (IEC 608251, corresponds to 21 CFR 1040.10 and 1040.11)		
Enclosure rating	IP 65 acc. to EN 60529, section 14.2.5	IP 67 acc. to EN 60529, section 14.2.7	IP 65 acc. to EN 60529, section 14.2.5
Housing alloy	Excellent weather resistance acc. to DIN/EN 1061988, Table 3		
Dimensions (W x H x D)	102 mm x 152 mm x 105 mm[2]	102 mm x 162 mm x 105 mm	102 mm x 152 mm x 105 mm[2]
Weight[3]	< approx. 1.1 kg		
Operating temperature	0 °C to +50 °C	–30 °C to +50 °C	0 °C to +50 °C

[1] Available from 4th quarter 2008, building security variant
[2] Without projecting cable gland / M12 socket
[3] Without connection cables

Ordering information

Part no.	Type	Description
1041113	LMS100-10000	Indoor variant, IP 65, system plug with M16 screw cable gland / threaded terminals and M12 socket (4-pin)
1041114	LMS111-10100	Outdoor variant with heating, IP 67, system plug with 2 x M12 plugs (5-pin/8-pin) and 2 x M12 sockets (4-pin/8-pin)
1044321	LMS120-10000[1]	Indoor variant for building security, IP 65, system plug as for LMS100-10000
2034324	Mounting Set 1a	Mounting bracket for mounting device back to wall or ceiling
2034325	Mounting Set 1b	Mounting bracket for mounting device back to wall or ceiling, with protection from optics hood
2039302	Mounting Set 2	Mounting bracket, adjustment around transverse axis possible, only with Mounting Set 1a or 1b
2039303	Mounting Set 3	Mounting bracket, adjustment around longitudinal axis possible, only with Mounting Set 2
6021195		Data cable (RS 232), 2 m, with M8 plug (4-pin) and D-Sub socket (9-pin), for configuration of LMS using PC
2027649		As for 6021195, but 8 m

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