



LMS151 Laser Measurement System

The light-weight for long range

The LMS151 at a glance:

- Small, light and economical
- Maximum scanning range of 50 m at object remission >75 %
- Supply voltage range from 10.8 V to 30 V DC
- Real-time measurement data output via Ethernet interface
- Number of switching outputs can be expanded by external module
- Scanning frequency: 25 Hz to 50 Hz
- Power consumption: typically 8.4 W to 12 W
- IP 67 and integrated heating for outdoor use

Target applications

- Automated guided vehicles (AGV)
- Anti-collision

Future capabilities

- Synchronization of several LMS151
- Advanced CAN functionality



Safety note:
LMS151 laser measurement systems are not devices for personal protection within the sense of valid safety standards for machines.

Technical data

Type	LMS151-10100
Max. range	50 m (at >75 % reflectivity)/ 18 m (at 10 % reflectivity)
Scanning angle	Max. 270°
Angular resolution	0.5°/0.25° adjustable
Scanning frequency; Response time	50 Hz / 25 Hz; 20 ms / 40 ms
Error	Statistical (1 s): typ. 12 mm; Systematic: typ. ± 30 mm (temperature drift max. 0.32 mm/°C)
Sender	Pulsed laser diode; Divergence of the collimated beam (full angle): 15 mrad (equals approx. 15 mm/m or 0.86°); Light spot size at the optical hood: 8 mm
Switching inputs/outputs	2/3
Data interfaces	Ethernet 100 Mbit TCP/IP; RS 232
Supply voltage	Electronics: 10.8 V ... 30 V DC; Heating: 24 V DC
Laser Protection Class	Laser Class 1 (IEC 608251, corresponds to 21 CFR 1040.10 and 1040.11)
Enclosure rating; Protection class	IP 67 acc. to EN 60529, section 14.2.7; III acc. to EN 50178 (1997-10)
EMC test	Acc. to EN 61000-6-2 (2005-08), EN 61000-6-3 (2007-01)
Vibration test	Acc. to EN 60068-2-6 (1995-04); frequency range: 10 Hz to 150 Hz; Amplitude: min. 5 g RMS
Shock test	Acc. to EN 60068-2-27 (1993-03), EN 60068-2-29 (1993-04); single shock: 15 g, 11 ms; Cont. shock: 10 g, 16 ms
Housing alloy	Excellent weather resistance acc. to DIN/EN 1061988, table 3
Dimensions (W x H x D); Weight	102 mm x 162 mm x 105 mm; approx. 1.1 kg (without connection cables)
Operating temperature	-30 °C to +50 °C

Order information

Part no.	Type	Description
Device		
1047607	LMS151-10100	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), CD-ROM „Manuals & Software Auto Ident“
Accessories		
2034324	Mounting Set 1a ¹⁾	Bracket for mounting to wall or machine from the back
2034325	Mounting Set 1b ¹⁾	Bracket for mounting to wall or machine from the back, with cover protection
2039302	Mounting Set 2 ¹⁾	Bracket, only in combination with bracket 1a or 1b, adjustment possible around transverse axis
2039303	Mounting Set 3 ¹⁾	Retention plate, only in combination with bracket 2, adjustment possible around longitudinal axis
2046459 / 2046458		Weather hood, 190° / 270°
2046025		Standard mounting set for 190° / 270° weather hood
2046989		Rapid-release mounting set for 190° / 270° weather hood
6034415 / 6030928 / 6036158		Ethernet M12x4/RJ-45 connection cable for connection of LMS151 Ethernet interface to PC Ethernet interface, 5 m / 10 m / 20 m
6036159 / 6036160 / 6036161		Supply cable for LMS151-10100, M12x5, 4 open wires, 5 m / 10 m / 20 m
6036155 / 6036156 / 6036157		I/O-cable for LMS151-10100, M12x8, 8 open wires, 5 m / 10 m / 20 m
6036153 / 6028420 / 6036154		RS 232 cable for LMS151-10100, M12x8, 8 open wires, 5 m / 10 m / 20 m
6021195 / 2027649		Connection cable M8x4 / D-Sub 9-pin (DIN 41642) for connection of serial auxiliary interface with the PC serial interface, 2 m / 10 m
6038825		External CAN extension module for up to 8 additional outputs

¹⁾ Including mounting materials

Dimensional drawings (all dimensions in mm)

