



## LD-MRS

Suitable for use in harsh environments – 3D LiDAR sensor with multilayer technology

**SICK**  
Sensor Intelligence.



## Technical data overview

<b>Application</b>	Outdoor, Indoor				
<b>Integrated application</b>	Field evaluation, object tracking, output of measurement data (depending on type)				
<b>Aperture angle</b>	<table border="0"> <tr> <td style="text-align: right;">Horizontal</td> <td>85°, Working range with 4 scan layers, 25° extension of working range to a total of 110° with 2 scan layers 85°, Working range with 8 scan layers, 25° extension of working range to a total of 110° with 4 scan layers</td> </tr> <tr> <td style="text-align: right;">Vertical</td> <td>3.2° / 4.2° ... 6.4° (± 0.2°) (depending on type)</td> </tr> </table>	Horizontal	85°, Working range with 4 scan layers, 25° extension of working range to a total of 110° with 2 scan layers 85°, Working range with 8 scan layers, 25° extension of working range to a total of 110° with 4 scan layers	Vertical	3.2° / 4.2° ... 6.4° (± 0.2°) (depending on type)
Horizontal	85°, Working range with 4 scan layers, 25° extension of working range to a total of 110° with 2 scan layers 85°, Working range with 8 scan layers, 25° extension of working range to a total of 110° with 4 scan layers				
Vertical	3.2° / 4.2° ... 6.4° (± 0.2°) (depending on type)				
<b>Working range</b>	0.5 m ... 320 m				
<b>Scanning range</b>	<table border="0"> <tr> <td style="text-align: right;">At 10% remission factor</td> <td>30 m ... 50 m (depending on type)</td> </tr> <tr> <td></td> <td>150 m</td> </tr> </table>	At 10% remission factor	30 m ... 50 m (depending on type)		150 m
At 10% remission factor	30 m ... 50 m (depending on type)				
	150 m				
<b>Amount of evaluated echoes</b>	3 / 2 (depending on type)				
<b>Scanning frequency</b>	12.5 Hz ... 50 Hz, object tracking at 12.5 Hz (depending on type)				
<b>Ambient operating temperature</b>	-40 °C ... +70 °C				
<b>Ethernet</b>	✓				
<b>Serial</b>	✓				
<b>CAN</b>	✓				
<b>Weight</b>	1 kg / 0.77 kg (depending on type)				

## Product description

The LD-MRS multi-layer scanner is an efficient sensor solution for automation. It is immune to snow, rain and dust and is therefore particularly well-suited for rough outdoor industrial applications in stationary and mobile operation, such as in ports and surface mining, for measuring and for monitoring tasks as well as in industrial vehicles. The LD-MRS is available with object tracking or field evaluation. It scans and measures objects and areas on up to eight parallel planes simultaneously, which enables it to detect sloping lanes and compensate for the pitching movements of vehicles. It can also detect up to three consecutive echo pulses per measurement and plane. With its lightweight, compact and rugged design, it can be integrated easily into different applications.

## At a glance

- Simultaneous measurements on up to 8 scan planes
- Weatherproof thanks to multi-echo technology and IP69K enclosure rating
- Lightweight, compact design: Approx. 0.77 kg / 1 kg
- Wide temperature range: -40 °C to +70 °C
- Low power consumption: 8 watts
- Different angular resolutions in the scanning range are available
- Integrated object tracking

## Your benefits

- Simultaneous measurement on up to 8 planes compensates for vehicle pitch
- Easy sensor integration due to light and compact design
- Low operating costs due to low power consumption
- Fast data output, even when processing a high amount of information
- IP69K-rated housing ensures accurate measurements in difficult environmental conditions
- Better detection due to flexible angular resolution in the scanning range
- Data preprocessing allows tracking of up to 64 objects

## Fields of application

- Advanced anti-collision, e.g. of mining trucks, excavators or aircraft
- Reliable monitoring, e.g. in traffic management or site security applications
- Advanced Navigation, e.g. in agricultural environments or in harsh conditions
- High measurement data processing, e.g. for 3D mapping or 3D surface detection

## Ordering information

Other models and accessories → [www.sick.com/LD-MRS](http://www.sick.com/LD-MRS)

- **Integrated application:** Field evaluation
- **Scanning frequency:** 12.5 Hz ... 50 Hz
- **Application:** Outdoor, Indoor
- **Aperture angle:** horizontal (85°), Working range with 4 scan layers, 25° extension of working range to a total of 110° with 2 scan layers, vertical (3.2°)
- **Number of field sets:** 16 fields
- **Enclosure rating:** IP69K
- **Weight:** 1 kg

Type	Part no.
LD-MRS400001	1045046
LD-MRS400102 HD	1047145

- **Integrated application:** object tracking
- **Scanning frequency:** 12.5 Hz ... 50 Hz, object tracking at 12.5 Hz
- **Application:** Outdoor, Indoor
- **Enclosure rating:** IP69K

Aperture angle	Weight	Type	Part no.
Horizontal (85°), Working range with 4 scan layers, 25° extension of working range to a total of 110° with 2 scan layers Vertical (3.2°)	0.77 kg	LD-MRS420201	1085081
	1 kg	LD-MRS400001S01	1052960
		LD-MRS400102S01 HD	1052961
Horizontal (85°), Working range with 8 scan layers, 25° extension of working range to a total of 110° with 4 scan layers Vertical, 4.2° ... 6.4° (± 0.2°)	1 kg	LD-MRS800001S01	1069408

- **Integrated application:** output of measurement data

Scanning frequency	Application	Aperture angle	Enclosure rating	Weight	Type	Part no.
12.5 Hz ... 50 Hz	Outdoor, Indoor	Horizontal (85°), Working range with 8 scan layers, 25° extension of working range to a total of 110° with 4 scan layers Vertical, 4.2° ... 6.4° (± 0.2°)	IP69K	0.77 kg	LD-MRS820301	1115128

## 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](http://www.sick.com)