



# LD-MRS400001S01

LD-MRS

3D LIDAR SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
LD-MRS40001S01	1052960

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



### Detailed technical data

#### Features

<b>Application</b>	Outdoor, Indoor				
<b>Light source</b>	Infrared light (905 nm, ± 10 nm)				
<b>Laser class</b>	1 (IEC 60825-1:2014, EN 60825-1:2014+A11:2021)				
<b>Aperture angle</b>	<table border="0"> <tr> <td>Horizontal</td> <td>85°, Working range with 4 scan layers, 25° extension of working range to a total of 110° with 2 scan layers</td> </tr> <tr> <td>Vertical</td> <td>3.2°</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	Vertical	3.2°
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°				
<b>Scanning frequency</b>	12.5 Hz ... 50 Hz, object tracking at 12.5 Hz				
<b>Angular resolution</b>	<table border="0"> <tr> <td>Horizontal</td> <td>0.125° 0.25° 0.5°</td> </tr> <tr> <td>Vertical</td> <td>0.8°</td> </tr> </table>	Horizontal	0.125° 0.25° 0.5°	Vertical	0.8°
Horizontal	0.125° 0.25° 0.5°				
Vertical	0.8°				
<b>Working range</b>	0.5 m ... 320 m				
<b>Scanning range</b>	<table border="0"> <tr> <td>At 10% remission factor</td> <td>50 m</td> </tr> </table>	At 10% remission factor	50 m		
At 10% remission factor	50 m				
<b>Amount of evaluated echoes</b>	3				

#### Mechanics/electronics

<b>Connection type</b>	2, 1 x Odu Mini-snap round connector, 4-pin (supply voltage, ETH), Odu Mini-snap round connector, 12-pin (Sync)
<b>Supply voltage</b>	9 V ... 30 V
<b>Power consumption</b>	8 W
<b>Housing material</b>	Al
<b>Housing color</b>	Gray (RAL 7032), black (RAL 9005)
<b>Enclosure rating</b>	IP69K
<b>Protection class</b>	III
<b>Weight</b>	1 kg
<b>Dimensions (L x W x H)</b>	94 mm x 165 mm x 88 mm
<b>MTBF</b>	> 100 years

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	> 100 years
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## Performance

<b>Detectable object shape</b>	Almost any
<b>Systematic error</b>	± 300 mm <sup>1)</sup>
<b>Statistical error</b>	100 mm <sup>1)</sup>
<b>Integrated application</b>	Object tracking

<sup>1)</sup> Typical value; actual value depends on environmental conditions.

## Interfaces

<b>Ethernet</b>		✓, TCP/IP
	Function	Raw data interface/parameterization
	Data transmission rate	100 Mbit/s
<b>Serial</b>		✓, RS-232
	Function	Auxiliary interface
	Data transmission rate	57,600 Baud
<b>CAN</b>		✓
	Function	Output: Objects, Input: Vehicle ego motion data

## Ambient data

<b>Ambient operating temperature</b>	-40 °C ... +70 °C
<b>Ambient light immunity</b>	100 klx

## General notes

<b>Note on use</b>	The sensor does not constitute a safety component as defined by relevant legislation on machine safety.
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## Certificates

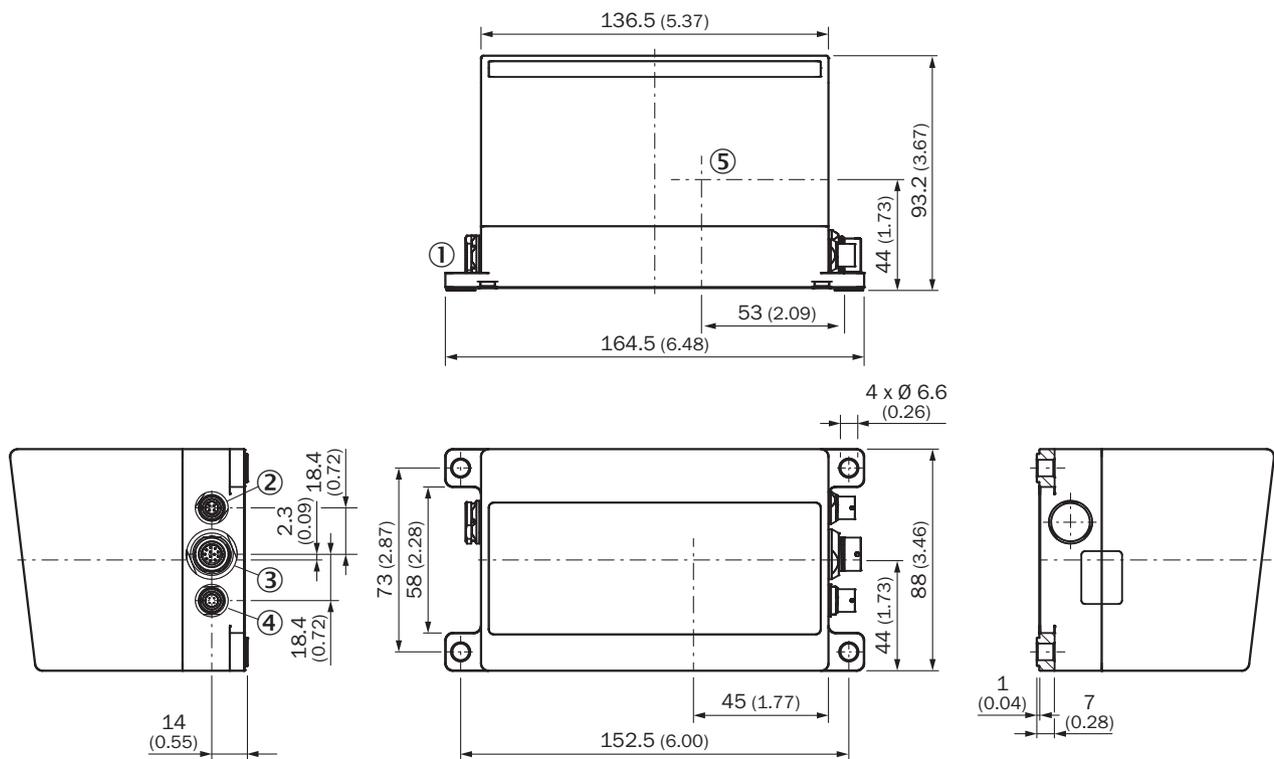
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓

## Classifications

<b>ECLASS 5.0</b>	27270990
<b>ECLASS 5.1.4</b>	27270990
<b>ECLASS 6.0</b>	27270913
<b>ECLASS 6.2</b>	27270913
<b>ECLASS 7.0</b>	27270913
<b>ECLASS 8.0</b>	27270913
<b>ECLASS 8.1</b>	27270913
<b>ECLASS 9.0</b>	27270913

<b>ECLASS 10.0</b>	27270913
<b>ECLASS 11.0</b>	27270913
<b>ECLASS 12.0</b>	27270913
<b>ETIM 5.0</b>	EC002550
<b>ETIM 6.0</b>	EC002550
<b>ETIM 7.0</b>	EC002550
<b>ETIM 8.0</b>	EC002550
<b>UNSPSC 16.0901</b>	41111615

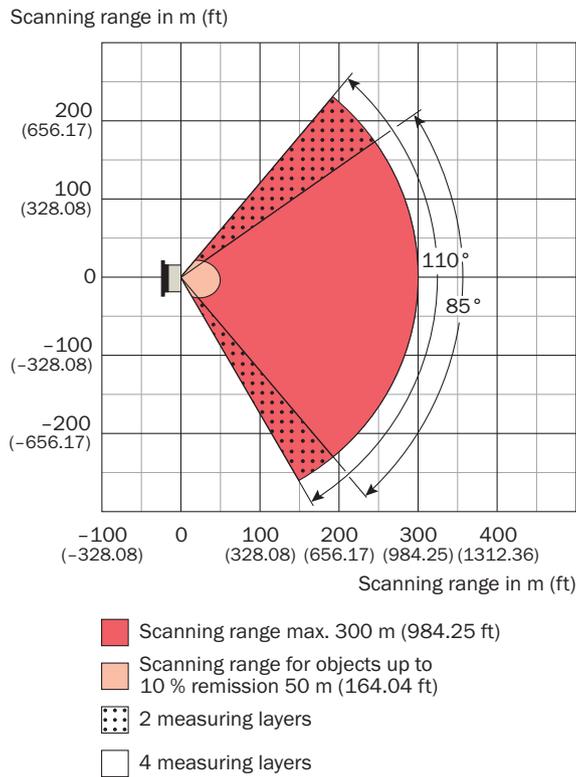
### Dimensional drawing



Dimensions in mm (inch)

- ① venting element
- ② "Ethernet" connection, 4-pin female connector
- ③ connection data interface / synchronisation, 12-pin female connector
- ④ connection "Power", 4-pin female connector
- ⑤ Sensor coordinate origin

### working range diagram 50 m



### Recommended accessories

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

	Brief description	Type	part no.
<b>Mounting systems</b>			
	<ul style="list-style-type: none"> <li><b>Description:</b> Bracket for LD-MRS, alignment adjustable in 2 axes</li> </ul>	Alignment bracket	1047429
<b>connectors and cables</b>			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, round plug, 4-pin, straight</li> <li><b>Connection type head B:</b> Male connector, RJ45, straight</li> <li><b>Signal type:</b> Ethernet</li> <li><b>Cable:</b> 8 m</li> <li><b>Description:</b> Ethernet, shielded</li> <li><b>Note:</b> Connects the Ethernet interface of the LD-MRS to the Ethernet interface of the PC</li> </ul>	YM2Z14-080EC3M-RJA8	2049827
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, round socket, 4-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Cable:</b> 8 m</li> <li><b>Description:</b> Shielded</li> <li><b>Connection systems:</b> Flying leads</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YM2Z14-080VA4M2Z12	2049824

## 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)