LD-MRS400102S01 HD

LD-MRS

3D LIDAR SENSORS

SICK
Sensor Intelligence.

LD-MRS400102S01 HD | LD-MRS

3D LIDAR SENSORS

Ordering information

Type	Part no.
LD-MRS400102S01 HD	1052961

Other models and accessories ➜ www.sick.com/LD-MRS

Detailed technical data

Features

Application	Outdoor, Indoor
Light source	Infrared light (905 nm, ± 10 nm)
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014+A11:2021)
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°
Scanning frequency	12.5 Hz ... 50 Hz, object tracking at 12.5 Hz
Angular resolution	
Horizontal	0.125° 0.25° 0.5°
Vertical	0.8°
Working range	0.5 m ... 320 m
Scanning range	
At 10% remission factor	30 m
At 90% remission factor	150 m
Amount of evaluated echoes	3

Mechanics/electronics

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

Safety-related parameters

$MTTF_D$	> 100 years

Performance

Detectable object shape	Almost any
Systematic error	± 300 mm [1]
Statistical error	100 mm [1]
Integrated application	Object tracking

[1] Typical value; actual value depends on environmental conditions.

Interfaces

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

Ambient data

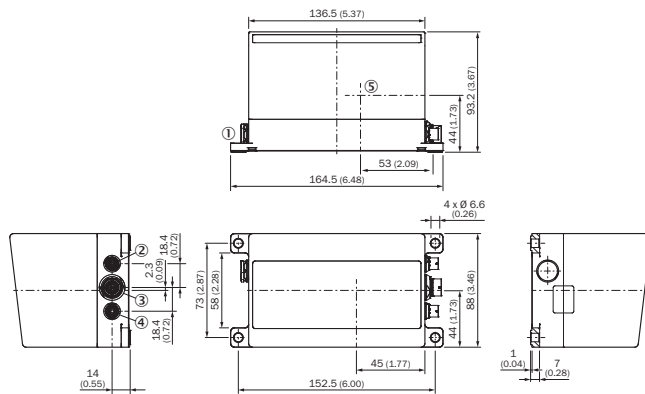|	
Ambient operating temperature	–40 °C … +70 °C
Ambient light immunity	100 klx

General notes

Note on use	The sensor does not constitute a safety component as defined by relevant legislation on machine safety.

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
ETIM 8.0	EC002550
UNSPSC 16.0901	41111615

Dimensional drawing (Dimensions in mm (inch))
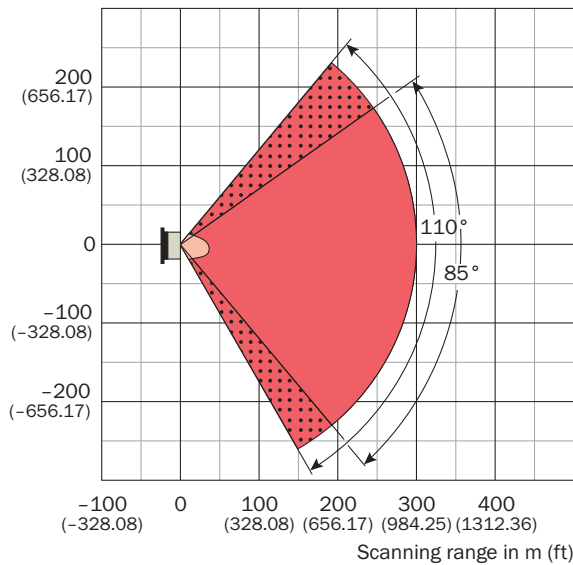

① Venting element
② "Ethernet" connection, 4-pin female connector
③ Connection data interface / synchronisation, 12-pin female connector
④ Connection "Power", 4-pin female connector
⑤ Sensor coordinate origin

Working range diagram

Working range diagram 30 m

Scanning range in m (ft)

Scanning range in m (ft)

■ Scanning range max. 300 m (984.25 ft)

■ Scanning range for objects up to
10 % remission 30 m (98.43 ft)

⁙ 2 measuring layers

□ 4 measuring layers

Recommended accessories

Other models and accessories ➜ www.sick.com/LD-MRS

	Brief description	Type	Part no.
Terminal and alignment brackets			
	Bracket for LD-MRS, alignment adjustable in 2 axes	Alignment bracket	1047429
Others			
	• **Connection type head A:** Male connector, round plug, 4-pin, straight • **Connection type head B:** Male connector, RJ45, straight • **Signal type:** Ethernet • **Cable:** 8 m • **Description:** Ethernet, shielded • **Note:** Connects the Ethernet interface of the LD-MRS to the Ethernet interface of the PC	YM2Z14-080EC3MRJA8	2049827
	• **Connection type head A:** Female connector, round socket, 4-pin, straight • **Connection type head B:** Flying leads • **Cable:** 8 m • **Description:** Shielded • **Connection systems:** Flying leads • **Application:** Zones with chemicals, Uncontaminated zones	YM2Z14-080VA4M2Z12	2049824

Recommended services

Additional services ➜ www.sick.com/LD-MRS

	Type	Part no.
Commissioning		
• **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 • **Duration:** Additional work will be invoiced separately	Commissioning LiDAR sensors	1680672
Maintenance		
• **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	Maintenance of LiDAR sensors	1682593
Extended warranty		
• **Product area:** Machine vision, LiDAR sensors, safety camera sensors, Safety laser scanners, Safety radar sensors, Radar sensors, Fixed mount barcode scanners, Image-based code readers, RFID, Mobile handheld scanners • **Range of services:** The services correspond to the scope of the statutory warranty (SICK General Terms of Delivery) • **Duration:** Five-year warranty from delivery date.	Extended warranty for a total of five years from delivery date	1680671

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."

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