Data sheet

LD-MRS420201

LD-MRS

3D LIDAR SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	part no.
LD-MRS420201	1085081

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	50 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 7042), black (RAL 9005)
Enclosure rating	IP69K
Protection class	III
Weight	0.77 kg
Dimensions (L x W x H)	91.3 mm x 164.5 mm x 88 mm
MTBF	> 100 years

MTTFd	> 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.

Certificates

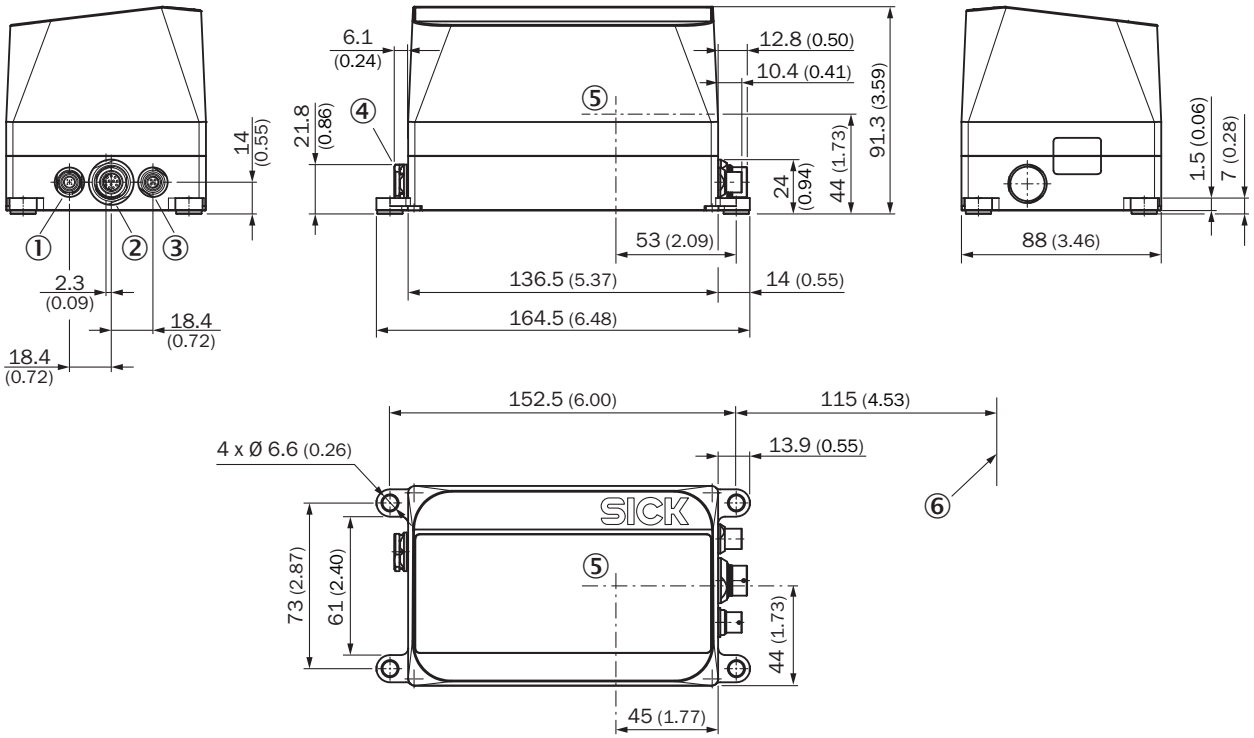
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

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

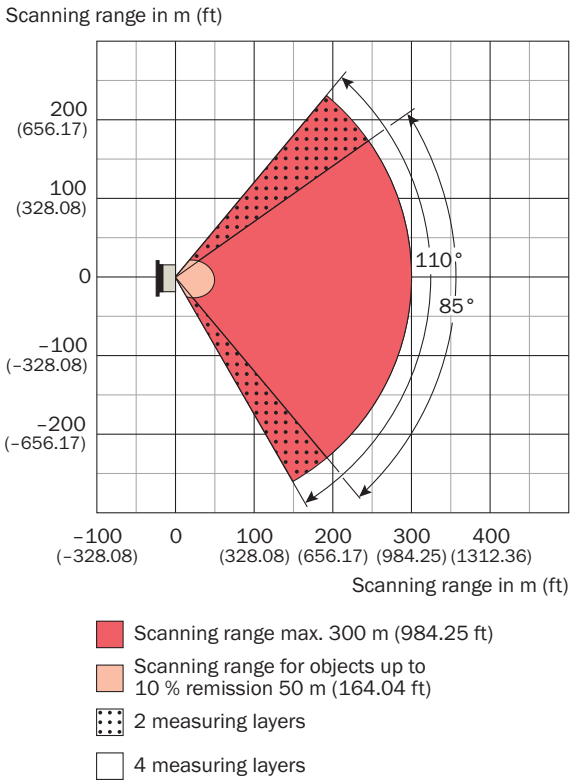
ECLASS 9.0	27270913
ECLASS 10.0	27270913
ECLASS 11.0	27270913
ECLASS 12.0	27270913
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
UNSPSC 16.0901	41111615

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
⑥ Minimum area to be kept clear for the connecting cable (at least 72 mm with bend radius)

working range diagram 50 m



Recommended accessories

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	Brief description	Type	part no.
Mounting systems			
	• **Description:** Bracket for LD-MRS, alignment adjustable in 2 axes	Alignment bracket	1047429
connectors and cables			
	• **Connection type head A:** Male connector, round plug, straight • **Connection type head B:** Male connector, RJ45, straight • **Signal type:** Ethernet • **Cable:** 2 m • **Description:** Ethernet, shielded • **Note:** Connects the Ethernet interface of the LD-MRS to the Ethernet interface of the PC	YM2Z14-020EC3M-RJA8	2049826
	• **Connection type head A:** Female connector, round socket, 4-pin, straight • **Connection type head B:** Flying leads • **Cable:** 2 m • **Description:** Shielded • **Connection systems:** Flying leads • **Application:** Zones with chemicals, Uncontaminated zones	YM2Z14-020VA4M2Z12	2049823

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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