



MRS1104C-011010

MRS1000

3D LIDAR SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
MRS1104C-011010	1075367

Other models and accessories → [www.sick.com/MRS1000](http://www.sick.com/MRS1000)



### Detailed technical data

#### Features

<b>Measurement principle</b>	HDDM <sup>+</sup>
<b>Application</b>	Indoor
<b>Light source</b>	Infrared (850 nm)
<b>Laser class</b>	1 (IEC 60825-1:2014, EN 60825-1:2014)
<b>Aperture angle</b>	Horizontal 275° Vertical 7.5° (Over 4 measurement levels)
<b>Scanning frequency</b>	50 Hz, 4 x 12.5 Hz
<b>Angular resolution</b>	0.25°
<b>Heating</b>	No
<b>Working range</b>	0.2 m ... 64 m
<b>Scanning range</b>	At 10% remission 16 m At 90% remission 30 m
<b>Spot size</b>	10.4 mrad x 8.7 mrad
<b>Amount of evaluated echoes</b>	3

#### Mechanics/electronics

<b>Electrical connection</b>	M12 round connectors (D-coded, aligned) with swivel connector
<b>Supply voltage</b>	10 V ... 30 V
<b>Power consumption</b>	≤ 13 W, Start-up phase max. 30 W for 1 s
<b>Housing</b>	AIMG4,5
<b>Housing color</b>	Light blue (RAL 5012)
<b>Enclosure rating</b>	IP65 (IEC 60529:1989+AMD1:1999+AMD2:2013)
<b>Protection class</b>	III
<b>Weight</b>	1.2 kg
<b>Dimensions (L x W x H)</b>	151.9 mm x 150 mm x 92.5 mm

## Performance

<b>Scan/frame rate</b>	55,000 measurement point/s ... 165,000 measurement point/s
<b>Response time</b>	4 layers, typ. 20 ms <sup>1)</sup> 1 layer, typ. 80 ms
<b>Systematic error</b>	± 60 mm
<b>Statistical error</b>	≤ 30 mm
<b>Integrated application</b>	Integrated field evaluation with flexible fields on 4 levels, Data output
<b>Number of field sets</b>	Up to 64 fields
<b>Simultaneous evaluation cases</b>	Up to 16 evaluations
<b>Filter</b>	Fog filter Particle filter Average filter Median filter Ground reference evaluation

<sup>1)</sup> Depending on the selected filter settings and the object size.

## Interfaces

<b>Ethernet</b>	✓, TCP/IP, UDP/IP
Function	Host, OPC, NTP, Measured data output (distance, RSSI)
Data transmission rate	10/100 MBit/s
<b>Digital inputs and outputs</b>	I/O (8 (Multiport))
<b>Optical indicators</b>	LEDs
<b>Configuration software</b>	SOPAS ET Web server (display)

## Ambient data

<b>Object remission</b>	2 % ... > 1,000 % (Reflector)
<b>Electromagnetic compatibility (EMC)</b>	EN 61000-6-2:2005-08 EN 61000-6-4 (2007-01) + A1 (2011)
<b>Vibration resistance</b>	IEC 60068-2-6:2007
<b>Shock resistance</b>	IEC 60068-2-27:2008
<b>Ambient operating temperature</b>	-10 °C ... +50 °C
<b>Storage temperature</b>	-40 °C ... +75 °C
<b>Ambient light immunity</b>	80 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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## Classifications

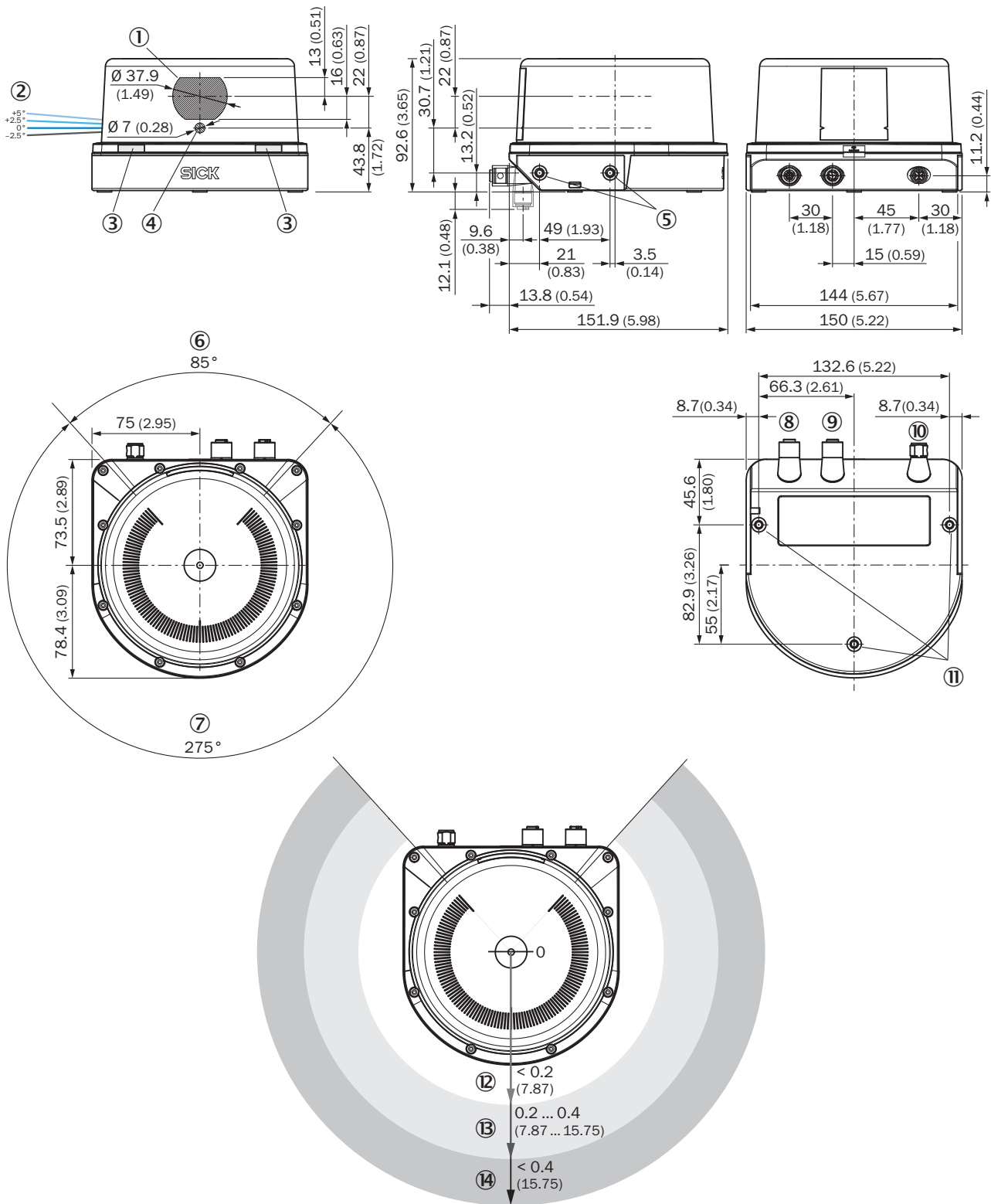
<b>ECl@ss 5.0</b>	27270990
<b>ECl@ss 5.1.4</b>	27270990
<b>ECl@ss 6.0</b>	27270913
<b>ECl@ss 6.2</b>	27270913
<b>ECl@ss 7.0</b>	27270913
<b>ECl@ss 8.0</b>	27270913
<b>ECl@ss 8.1</b>	27270913
<b>ECl@ss 9.0</b>	27270913

# MRS1104C-011010 | MRS1000

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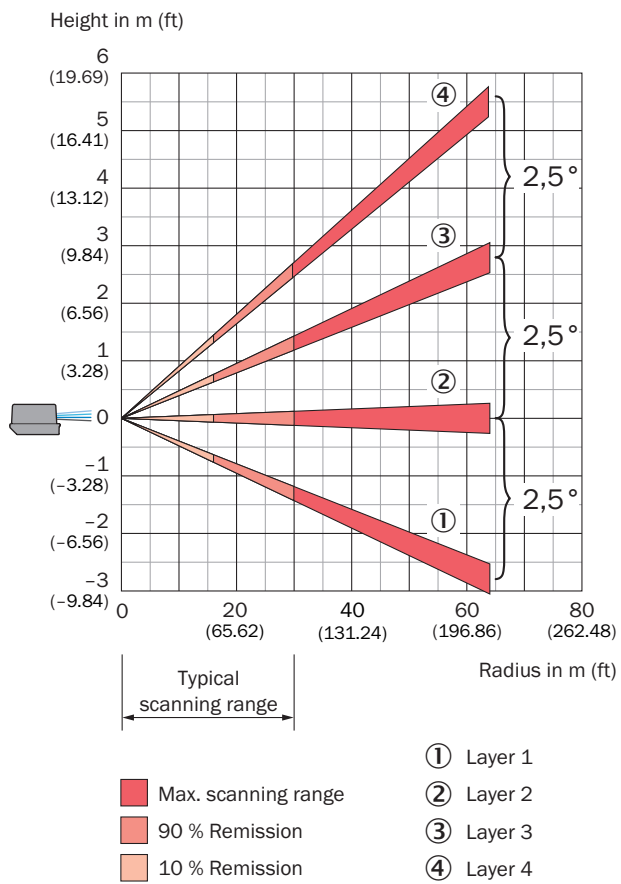
<b>ETIM 5.0</b>	EC002550
<b>ETIM 6.0</b>	EC002550
<b>UNSPSC 16.0901</b>	46171620

Dimensional drawing (Dimensions in mm (inch))

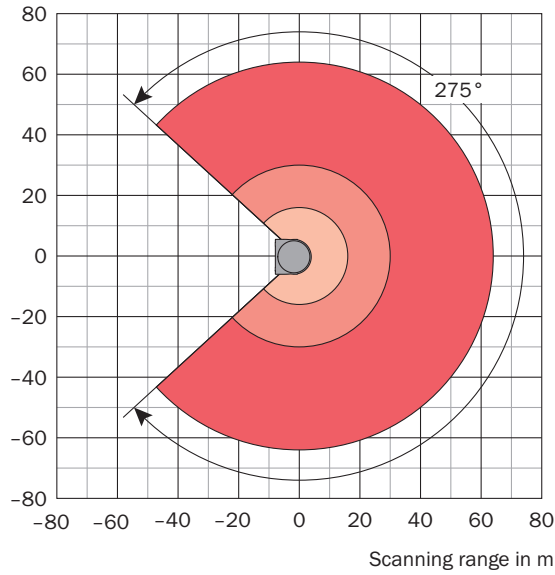


- ① Receiver
- ② Laser aperture angle, layers 1 to 4
- ③ Status LEDs
- ④ Sender
- ⑤ Mounting hole M5 x 7.5
- ⑥ Blind zone
- ⑦ Field of view
- ⑧ Ethernet connection
- ⑨ I/O connection
- ⑩ POWER connection
- ⑪ Mounting hole M5 x 7.5
- ⑫ Close range (no detection or measurement possible)
- ⑬ Detection zone
- ⑭ Detection zone

### Working range diagram



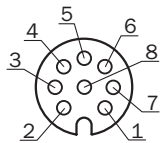
Scanning range in m



- Scanning range max. 64 m
- Scanning range for objects up to 90 % remission 30 m
- Scanning range for objects up to 10 % Remission 16 m

### Connection type

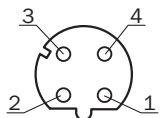
I/O



Connector M12, 8-pin, A-coded

- ① IN1/OUT1
- ② IN2/OUT2
- ③ IN3/OUT3
- ④ IN4/OUT4
- ⑤ IN5/OUT5
- ⑥ IN6/OUT6
- ⑦ GND INx/OUTx
- ⑧ IN7/OUT7

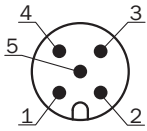
Ethernet



M12 female connector, 4-pin, D-coded

- ① TX+
- ② RX+
- ③ TX-
- ④ RX-

### Power







Connector M12, 5-pin, A-coded

- ① VS 10...30 V
- ② Reserved
- ③ GND
- ④ IN8/OUT8
- ⑤ Reserved

### Recommended accessories

Other models and accessories → [www.sick.com/MRS1000](http://www.sick.com/MRS1000)

	Brief description	Type	Part no.
<b>Terminal and alignment brackets</b>			
	Simple bracket, X6CRNITI1810 (1.4541)	Mounting kit	2093194
<b>Plug connectors and cables</b>			
	Head A: male connector, M12, 8-pin, straight, A-coded Head B: Flying leads Cable: PUR, halogen-free, shielded, 5 m	STL-1208-G05MAC	6036155
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, shielded, 5 m	YF2A25-050UB6XLEAX	2095733
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, twisted pair, PUR, halogen-free, shielded, 5 m	SSL-2J04-G05ME	6034415



## 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)