



# RMS2831C-636511

RMS2000

**RADAR SENSORS**

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
RMS2831C-636511	1129091

Other models and accessories → [www.sick.com/RMS2000](http://www.sick.com/RMS2000)



### Detailed technical data

#### Features

<b>Application</b>	Outdoor, Indoor	
<b>Variant</b>	Model RMS-E	
<b>Measurement principle</b>	FMCW	
<b>Radio approval</b>	USA New Zealand Canada Taiwan	
<b>Frequency band</b>	61 GHz ... 61.5 GHz	
<b>Transmitting power</b>	≤ 100 mW (e.i.r.p.)	
<b>Aperture angle</b>	Horizontal	± 60°
	Vertical	± 4°
<b>Angular accuracy (azimuth)</b>	1.5°	
<b>Angular resolution (azimuth)</b>	15°	
<b>Working range</b>	1.6 m ... 200 m	
<b>Scanning range</b>	For 1 m <sup>2</sup> RCS	50 m
	At 10 m <sup>2</sup> RCS	200 m
<b>Distance accuracy</b>	1 m <sup>2</sup> RCS to 20 m	0.16 m
	1 m <sup>2</sup> RCS to 50 m	0.4 m
<b>Distance resolution</b>	1.6 m <sup>1)</sup>	
<b>Speed range</b>	± 60 m/s	
<b>Speed resolution</b>	0.625 m/s <sup>1)</sup>	
<b>Speed accuracy</b>	1 m <sup>2</sup> RCS to 20 m	0.0625 m/s
	1 m <sup>2</sup> RCS to 50 m	0.15 m/s

<sup>1)</sup> Resolution in the context of radar means that two signals can be separated if they differ in spacing, angle or speed by more than twice the specified values.

## Mechanics/electronics

<b>Connection type</b>	1 x M12 male connector, 8-pin, A-coded 1 x male connector M12, 5-pin, A-coded 1 x M12 female connector, 4-pin, D-coded
<b>Supply voltage</b>	9 V DC ... 32 V DC
<b>Power consumption</b>	Typ. 4 W, For digital outputs without load, max. 36 W
<b>Housing color</b>	Gray (RAL 7042)
<b>Enclosure rating</b>	IP67 IP69
<b>Protection class</b>	III
<b>Weight</b>	300 g
<b>Dimensions (L x W x H)</b>	34 mm x 97 mm x 96 mm
<b>MTBF</b>	81 years
<b>MTTFd</b>	> 100 years

## Safety-related parameters

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

<b>Initialization time</b>	Typ. 20 s
<b>Processing latency</b>	1 measurement cycle
<b>Measurement cycle duration</b>	100 ms
<b>Integrated application</b>	Zone evaluation
<b>Number of field sets</b>	Up to 4 zones

## Interfaces

<b>Ethernet</b>	✓
Function	Parameterization, Data output
Data transmission rate	10/100 MBit/s
<b>Digital inputs</b>	2 (digital)
<b>Digital outputs</b>	4 (digital)

## Ambient data

<b>Electromagnetic compatibility (EMC)</b>	ETSI EN 301 489-1 / EN 61000-6-2 / EN 61000-6-4
<b>Radio standard</b>	ETSI EN 305 550
<b>Vibration resistance</b>	EN 60068-2-6:2008-02
<b>Shock resistance</b>	EN 60068-2-27:2009-05
<b>Ambient operating temperature</b>	-40 °C ... +65 °C
<b>Storage temperature</b>	-40 °C ... +85 °C

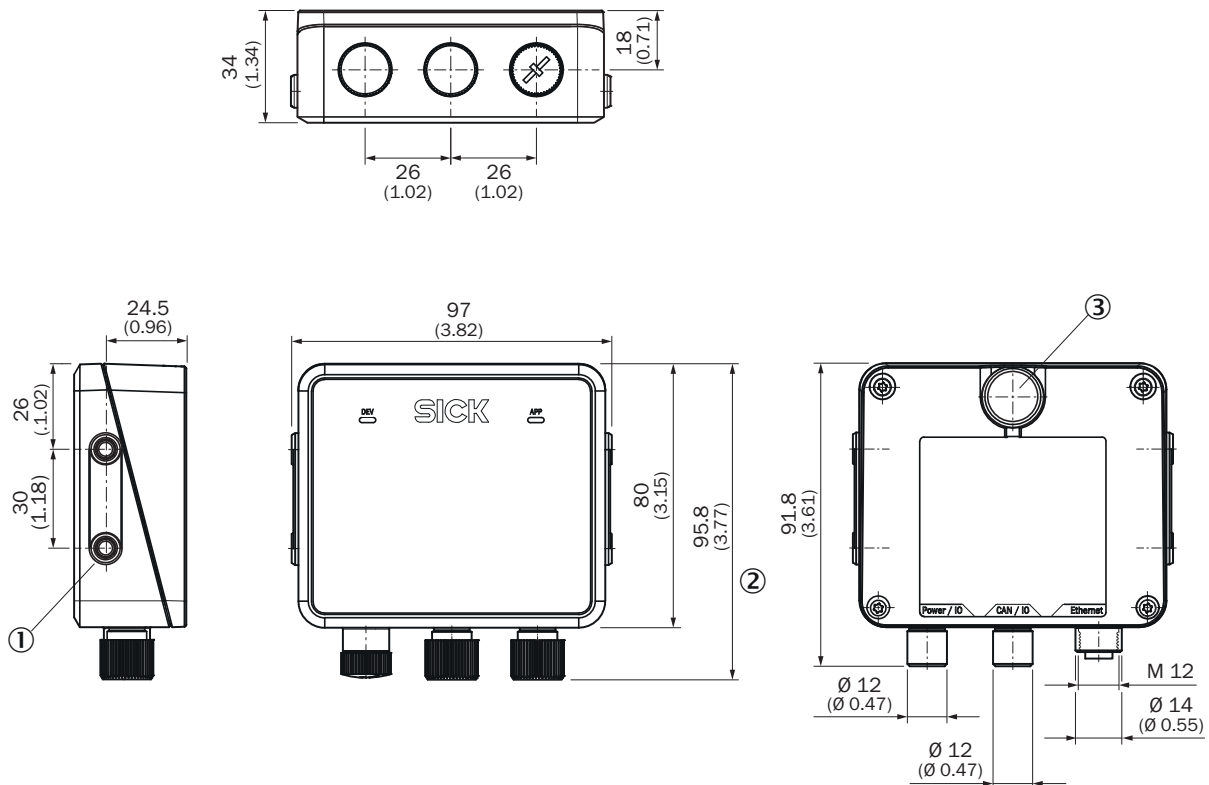
## Certificates

<b>China RoHS</b>	✓
<b>FCC certificate</b>	✓
<b>cTUVus certificate</b>	✓
<b>Radio Approval certificate</b>	✓
<b>Radio Approval certificate New Zealand</b>	✓

### Classifications

<b>ECLASS 5.0</b>	27270890
<b>ECLASS 5.1.4</b>	27270890
<b>ECLASS 6.0</b>	27270890
<b>ECLASS 6.2</b>	27270890
<b>ECLASS 7.0</b>	27270890
<b>ECLASS 8.0</b>	27270890
<b>ECLASS 8.1</b>	27270890
<b>ECLASS 9.0</b>	27270890
<b>ECLASS 10.0</b>	27270807
<b>ECLASS 11.0</b>	27270807
<b>ECLASS 12.0</b>	27274501
<b>ETIM 5.0</b>	EC001825
<b>ETIM 6.0</b>	EC001825
<b>ETIM 7.0</b>	EC001825
<b>ETIM 8.0</b>	EC001825
<b>UNSPSC 16.0901</b>	39121528

### Dimensional drawing



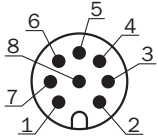
Dimensions in mm (inch)

structure and device dimensions, unit: mm (inch), decimal separator: period

① 4 x M5 blind tapped holes, 7.5 mm deep for mounting the device

- ② Dimension with protective cap mounted on the connections
- ③ Pressure compensation diaphragm

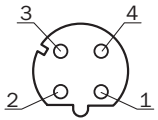
### PIN assignment CAN



Connector M12, 8-pin, A-coded

- ① CAN\_HI
- ② CAN\_LO
- ③ In<sub>2</sub>
- ④ GND IN1/2
- ⑤ OUT2
- ⑥ OUT3
- ⑦ GND
- ⑧ OUT4

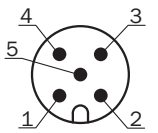
### PIN assignment Ethernet



M12 female connector, 4-pin, D-coded

- ① TX+
- ② RX+
- ③ TX-
- ④ RX-

### PIN assignment Power



Connector M12, 5-pin, A-coded

- ① L+
- ② In<sub>1</sub>
- ③ GND
- ④ OUT1
- ⑤ GND IN1/2

## 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)