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DATA SHEET

**RMS2831C-636511**

RMS2000  
Radar sensors

**SICK** Sensor Intelligence

## RADAR SENSORS

## RMS2831C-636511

## ORDERING INFORMATION

Type	part no.
RMS2831C-636511	1129091

Further device versions and accessories at [www.sick.com/RMS2000](http://www.sick.com/RMS2000)



## DETAILED TECHNICAL DATA

## FEATURES

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

Connection type	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
Supply voltage	9 V DC ... 32 V DC
Power consumption	Typ. 4 W, For digital outputs without load, max. 36 W
Housing color	Gray (RAL 7042)
Enclosure rating	IP67 IP69
Protection class	III
Weight	300 g
Dimensions (L x W x H)	34 mm x 97 mm x 96 mm
MTBF	81 years
MTTFd	> 100 years

**SAFETY-RELATED PARAMETERS**

MTTF <sub>d</sub>	> 100 years
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**PERFORMANCE**

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

**INTERFACES**

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

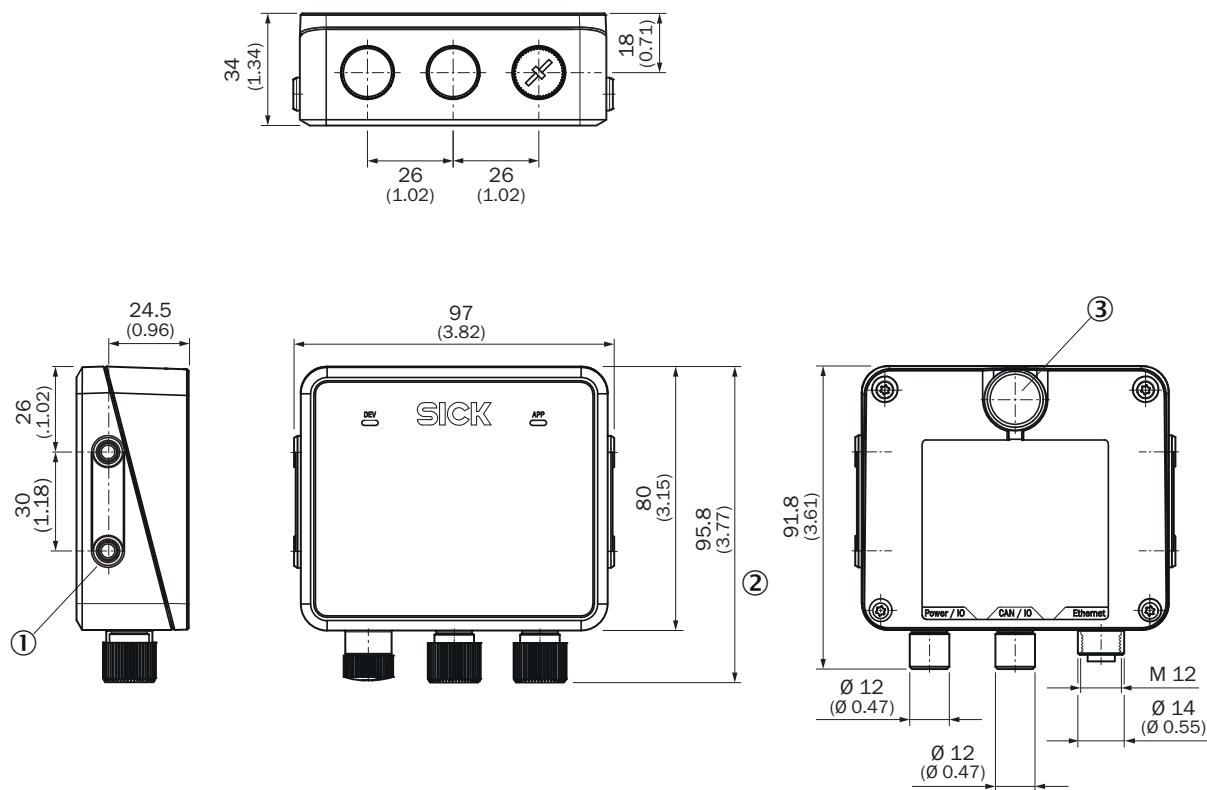
**AMBIENT DATA**

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

**CERTIFICATES**

China RoHS	✓
FCC certificate	✓
cTUVus certificate	✓
Radio Approval certificate	✓
Radio Approval certificate New Zealand	✓

**DIMENSIONAL DRAWING**



Dimensions in mm (inch)

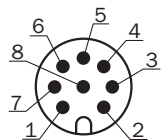
structure and device dimensions, unit: mm (inch), decimal separator: period

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>

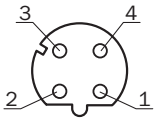
④ GND IN1/2

⑤ OUT2

⑥ OUT3

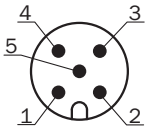
⑦ GND

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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/1129091](http://www.sick.com/1129091)



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# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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