



# RMS1731C-636111

RMS1000

**RADAR SENSORS**

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
RMS1731C-636111	1107598

Other models and accessories → [www.sick.com/RMS1000](http://www.sick.com/RMS1000)



### Detailed technical data

#### Features

<b>Application</b>	Outdoor, Indoor	
<b>Variant</b>	Model RMS-A	
<b>Measurement principle</b>	FMCW	
<b>Radio approval</b>	European Union United Kingdom China Australia Turkey India South Africa The Philippines United Arab Emirates Korea Egypt Singapore Malaysia Vietnam	
<b>Frequency band</b>	61 GHz ... 61.5 GHz	
<b>Transmitting power</b>	< 20 dBm (e.i.r.p.)	
<b>Aperture angle</b>	Horizontal	± 60°
	Vertical	± 4°
<b>Working range</b>	0.4 m ... 100 m	
<b>Scanning range</b>	For 1 m <sup>2</sup> RCS	50 m
	At 10 m <sup>2</sup> RCS	100 m
<b>Distance accuracy</b>	1 m <sup>2</sup> RCS to 20 m	0.04 m
	1 m <sup>2</sup> RCS to 50 m	0.1 m
<b>Distance resolution</b>	0.4 m <sup>1)</sup>	
<b>Speed range</b>	± 30 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.

<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>CAN</b>	
Remark	Future option, hardware built into product
<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
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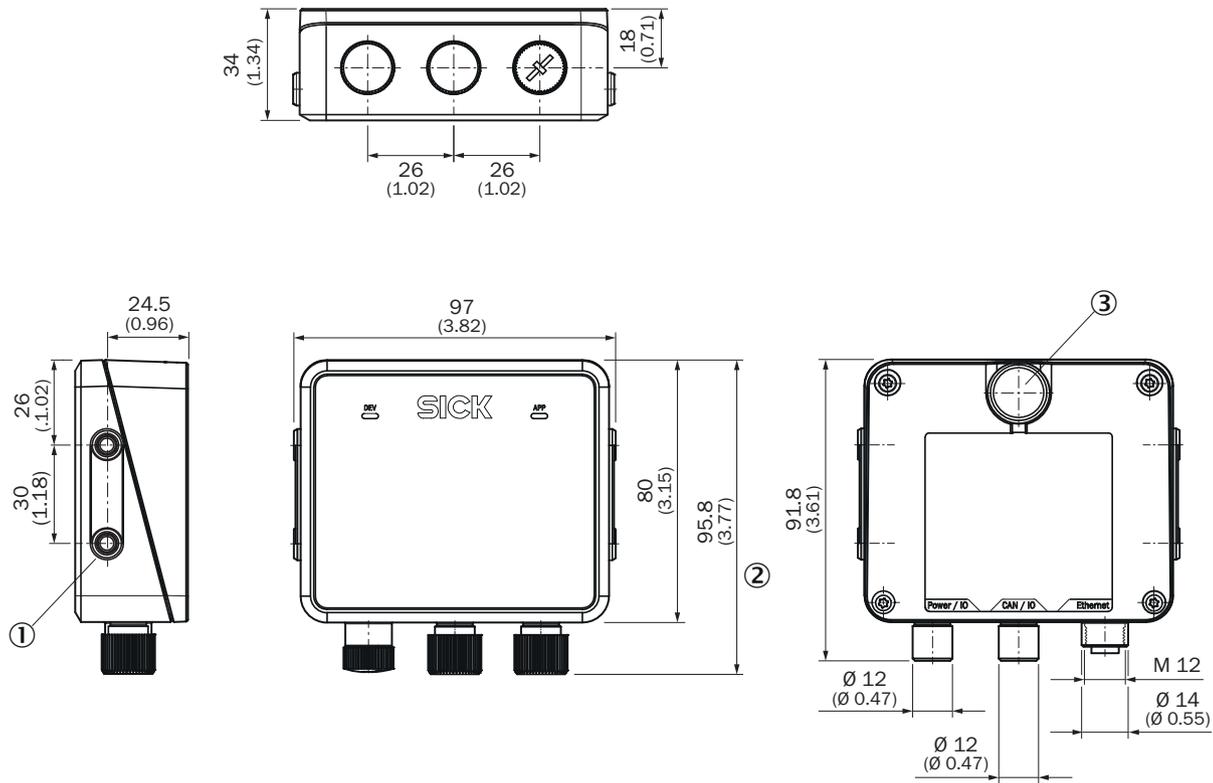
### Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cTUVus certificate</b>	✓
<b>EC-Type-Examination approval</b>	✓
<b>Radio Approval certificate United Arab Emirates</b>	✓
<b>Radio Approval certificate Egypt</b>	✓
<b>Radio Approval certificate Hong Kong</b>	✓
<b>Radio Approval certificate India</b>	✓
<b>Radio Approval certificate Korea</b>	✓
<b>Radio Approval certificate Malaysia</b>	✓
<b>Radio Approval certificate Philippines</b>	✓
<b>Radio Approval certificate Singapore</b>	✓
<b>Radio Approval certificate South Africa</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</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)

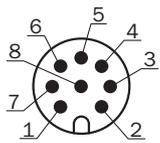
structure and device dimensions, unit: mm (inch), decimal separator: period

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

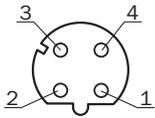
⑤ OUT2

⑥ OUT3

⑦ GND

⑧ OUT4

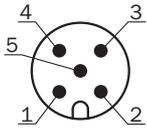
### PIN assignment Ethernet



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

## Recommended accessories

Other models and accessories → [www.sick.com/RMS1000](http://www.sick.com/RMS1000)

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 8-pin, straight</li> <li><b>Signal type:</b> Ethernet</li> <li><b>Cable:</b> 5 m, 4-wire, CAT5, CAT5e, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shielded</li> </ul>	SSL-2J04-H05ME	6045287
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A25-050UB6XLEAX	2095733
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A25-050UB6XLEAX	2095792
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shielded, PROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul>	YM2D24-050P-N1MRJA4	2106184
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A18-050UA5XLEAX	2095653
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A18-020UA5XLEAX	2095779
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A25-020UB6XLEAX	2145583
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 1 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A25-010UB6XLEAX	2145582
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 0.6 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A25-C60UB6XLEAX	2145581
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 0.6 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A18-C60UA5XLEAX	2145381
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 1 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> </ul>	YG2A18-010UA5XLEAX	2145382

	Brief description	Type	part no.
	<ul style="list-style-type: none"> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 3 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A18-030UA5XLEAX	2145383
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 0.6 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A25-C60UB6XLEAX	2145612
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 1 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A25-010UB6XLEAX	2145613
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, shielded</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A25-020UB6XLEAX	2145614

## 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)