



# RFH515-1004301

RFH5xx

RFID

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
RFH515-1004301	6072842

Other models and accessories → [www.sick.com/RFH5xx](http://www.sick.com/RFH5xx)



## Detailed technical data

## Features

<b>Version</b>	Short Range
<b>Product category</b>	RFID read/write device with integrated antenna
<b>Radio approval</b>	European Union <sup>1)</sup> USA Canada Australia Korea México China India United Kingdom Israel Singapore
<b>Frequency band</b>	HF (13.56 MHz)
<b>Carrier frequency</b>	13.56 MHz
<b>Output power</b>	200 mW
<b>RFID standard</b>	ISO/IEC 15693, ISO/IEC 18000-3 "Mode 1"
<b>Connection type</b>	IO-Link
<b>Read range</b>	≤ 80 mm <sup>2)</sup>
<b>Antenna</b>	Integrated
<b>Air interface data transmission rate</b>	26 kbit/s

<sup>1)</sup> All member states of the European Union, EEA-EFTA states (Liechtenstein, Iceland, Norway), Switzerland, Turkey.

<sup>2)</sup> With RFID ISO card transponder in plane parallel alignment to read/write device antenna; depending on dimensions and quality of transponder.

## Mechanics/electronics

<b>Connection type</b>	1 x M12, 4-pin male connector
<b>Supply voltage</b>	11 V DC ... 32 V DC
<b>Power consumption</b>	≤ 1.8 W

<sup>1)</sup> Continuous operation at ambient operating temperature +25 °C, 322 years at +40 °C, 41 years +80 °C.

<b>Housing material</b>	Brass (chromium-plated) PBTP (blue)
<b>Enclosure rating</b>	IP68
<b>Protection class</b>	II
<b>Weight</b>	108 g, incl. bracket
<b>Dimensions (L x W x H)</b>	40 mm x 40 mm x 67 mm
<b>Design</b>	Cubical (C44)
<b>MTTF</b>	> 756 years <sup>1)</sup>

<sup>1)</sup> Continuous operation at ambient operating temperature +25 °C, 322 years at +40 °C, 41 years +80 °C.

## Interfaces

<b>IO-Link</b>	✓, IO-Link V1.1
Remark	Process data length: IN (input), 32 bytes; OUT (output), 32 bytes
Function	Process data, parameterization, diagnosis Data interface (read result output)
Data transmission rate	COM3 (230,4 kBaud)
<b>Digital outputs</b>	1 (Q <sub>2</sub> , Switching, PNP, in IO-Link mode) 2 (Q <sub>1</sub> , Q <sub>2</sub> , Switching, PNP, in SIO mode)
<b>Optical indicators</b>	4 LEDs, multi-color (Process feedback)
<b>Configuration software</b>	PLC software SOPAS ET <sup>1)</sup>

<sup>1)</sup> In combination with SiLink2 Master or SIG200.

## Ambient data

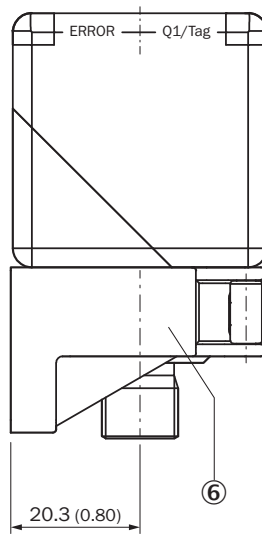
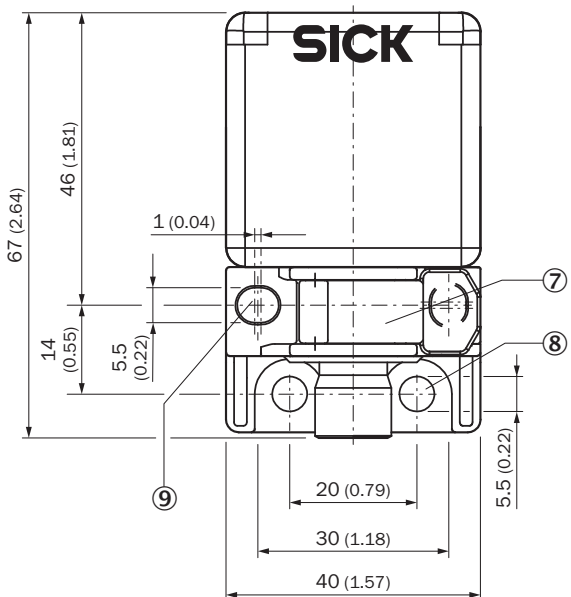
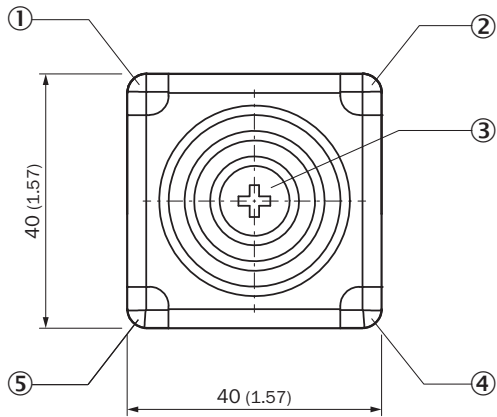
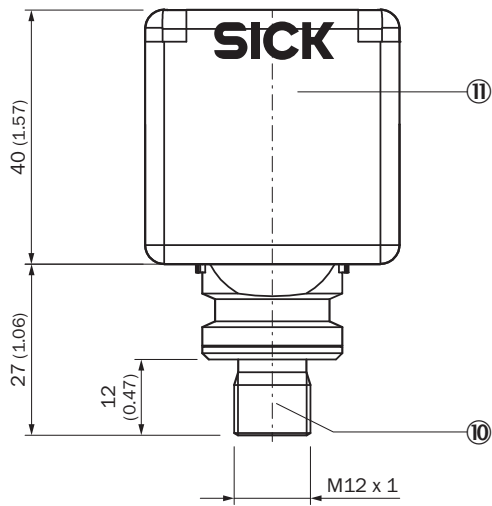
<b>Electromagnetic compatibility (EMC)</b>	EN 301489-3 V1.6.1 (2013)
<b>Vibration resistance</b>	IEC 60068-2-6:2007-12 (10 Hz to 55 Hz / 1 min / 5 min)
<b>Shock resistance</b>	IEC 60068-2-27:2008-02 (30 gn / 11 ms / half-sine)
<b>Ambient operating temperature</b>	-25 °C ... +80 °C
<b>Storage temperature</b>	-25 °C ... +80 °C
<b>Permissible relative humidity</b>	0% ... 95%, non-condensing

## Classifications

<b>ECLASS 5.0</b>	27280401
<b>ECLASS 5.1.4</b>	27280401
<b>ECLASS 6.0</b>	27280401
<b>ECLASS 6.2</b>	27280401
<b>ECLASS 7.0</b>	27280401
<b>ECLASS 8.0</b>	27280401
<b>ECLASS 8.1</b>	27280401
<b>ECLASS 9.0</b>	27280401
<b>ECLASS 10.0</b>	27280401
<b>ECLASS 11.0</b>	27280401
<b>ECLASS 12.0</b>	27280401
<b>ETIM 6.0</b>	EC002998
<b>ETIM 7.0</b>	EC002998

<b>ETIM 8.0</b>	EC002998
<b>UNSPSC 16.0901</b>	52161523

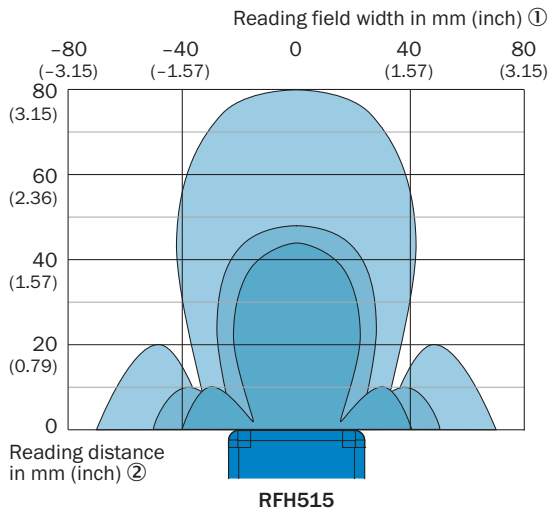
Dimensional drawing (Dimensions in mm (inch))



- ① LED ERROR, display color red
- ② POWER LED, display color green
- ③ Cap with integrated antenna
- ④ LED Q2 / BUSY, display color yellow

- ⑥ LED Q1 / TAG, display color yellow
- ⑥ Terminal bracket
- ⑦ Bracket for locking the device in the clamping bracket
- ⑧ 2 x round hole for mounting
- ⑧ 2 x slot for alternative mounting In this view, right slot with 90° rotated orientation covered by closed bracket.
- ⑩ IO-Link connection (male connector, M12, 4-pin, A-coded)
- ⑪ Field for product identification data

### Reading field diagram

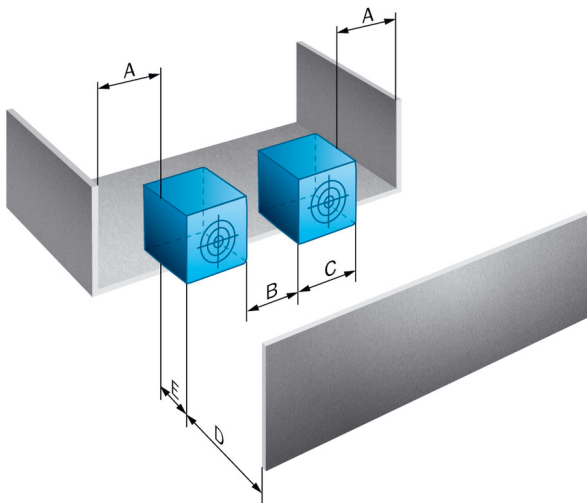


- Disc 50 mm
- Disc 30 mm
- Coin 16 mm

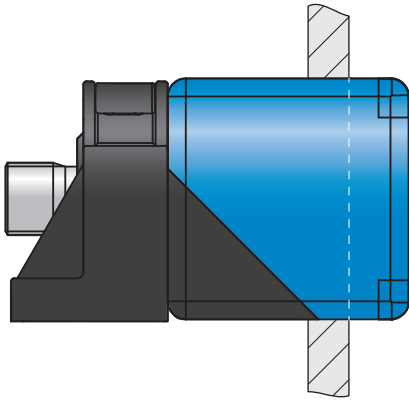
- ① Reading field width in mm (inch)
- ② Reading distance in mm (inch)

### Assembly note

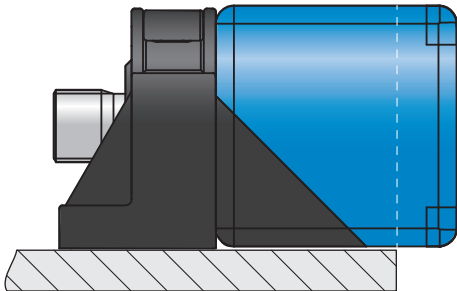
Parallel mounting



Distances required to prevent mutual interference with parallel mounting of several devices as well as from the environment.  
RFH515 (in metal)



Recommended overrun of the active head when mounting the device in metal: about 10 mm (non-flush installation)  
RFH515 (on metal)

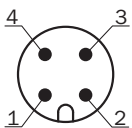


Recommended overrun of the active head when mounting the device on metal: about 10 mm

Distance	RFH515-1004301
A	40 mm
B	80 mm
C	40 mm
D	240 mm
E	10 mm

## PIN assignment

IO-Link connection

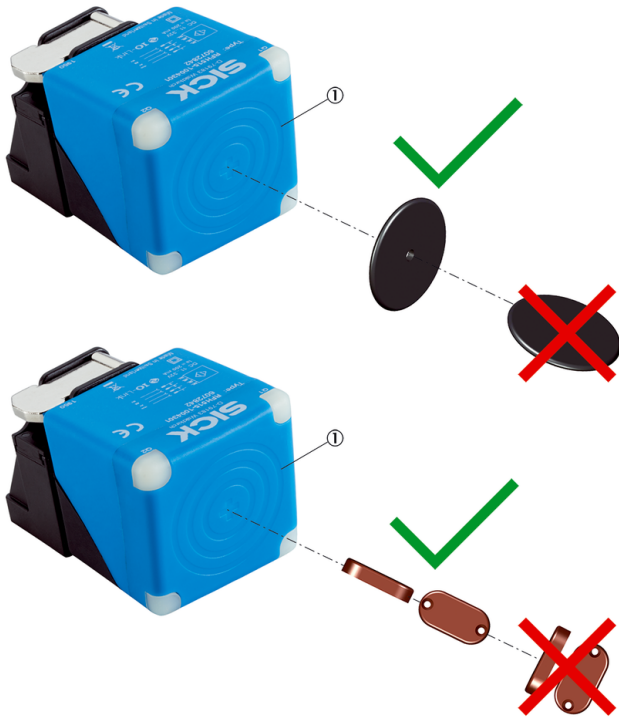


IO-Link connection (male connector, M12, 4-pin, A-coded)

- ① L+
- ② Q<sub>2</sub>
- ③ L-
- ④ C/Q1

## Application

RFH515



Optimal alignment of the transponders for a reliable read and write process


① Cap with integrated antenna

## Recommended accessories

Other models and accessories → [www.sick.com/RFH5xx](http://www.sick.com/RFH5xx)

	Brief description	Type	Part no.
Connection modules			
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790
	<ul style="list-style-type: none"> <li>• <b>Carrier frequency:</b> 13.56 MHz</li> <li>• <b>Special features:</b> On Metal</li> <li>• <b>Memory capacity (UII / user memory):</b> 896 Bit (28 x 4 Byte)</li> <li>• <b>Dimensions (L x W x H):</b> 12.5 mm x 25 mm x 5 mm</li> </ul>	HF Transponder, rectangular, on-metal	6039051
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Male connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 4-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A14-C60UB3M2A14	2095999



	Brief description	Type	Part no.
Sensor Integration Gateway			
	<ul style="list-style-type: none"> <li>• <b>Further functions:</b> Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions</li> <li>• <b>Connection CONFIG:</b> 1 x M8, 4-pin female connector, USB 2.0 (USB-A)</li> <li>• <b>Logic editor:</b> yes</li> <li>• <b>Communication interface:</b> IO-Link, USB, Ethernet, PROFINET, REST API</li> <li>• <b>Product category:</b> IO-Link Master</li> </ul>	SIG200-0A0412200	1089794

## Recommended services

Additional services → [www.sick.com/RFH5xx](http://www.sick.com/RFH5xx)

	Type	Part no.
Commissioning		
<ul style="list-style-type: none"> <li>• <b>Product area:</b> RFID</li> <li>• <b>Range of services:</b> Inspection of connection, alignment, optimization of parameters of the RFU/RFH as well as tests, Setup of previously defined functions of reading configuration, data processing and network, interfaces and inputs and outputs</li> <li>• <b>Duration:</b> Additional work will be invoiced separately</li> </ul>	Commissioning RFU/RFH	1610018
Maintenance		
<ul style="list-style-type: none"> <li>• <b>Product area:</b> RFID</li> <li>• <b>Range of services:</b> Inspection, analysis and restoring of defined functions, Checking and adjustment of reading configuration, data processing, network, interfaces and inputs and outputs as well as operating data</li> <li>• <b>Duration:</b> Additional work will be invoiced separately</li> </ul>	Maintenance RFU/RFH	1611424
Extended warranty		
<ul style="list-style-type: none"> <li>• <b>Product area:</b> Machine vision, LiDAR sensors, safety camera sensors, Safety laser scanners, Safety radar sensors, Radar sensors, Fixed mount barcode scanners, Image-based code readers, RFID, Mobile handheld scanners</li> <li>• <b>Range of services:</b> The services correspond to the scope of the statutory manufacturer warranty (SICK general terms of delivery).</li> <li>• <b>Duration:</b> Five-year warranty from delivery date.</li> </ul>	Extended warranty for a total of five years from delivery date	1680671

## 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)