RFH505-1004301

RFH5xx

RFID

RFH505-1004301 | RFH5xx

RFID

Ordering information

Type	Part no.
RFH505-1004301	6072840

Other models and accessories ➜ www.sick.com/RFH5xx

Detailed technical data

Features

Version	Short Range
Product category	RFID read/write device with integrated antenna
Radio approval	European Union [1] USA Canada Australia Korea México China India United Kingdom Singapore
Frequency band	HF (13.56 MHz)
Carrier frequency	13.56 MHz
Output power	200 mW
RFID standard	ISO/IEC 15693, ISO/IEC 18000-3 "Mode 1"
Connection type	IO-Link
Read range	≤ 35 mm [2]
Antenna	Integrated
Air interface data transmission rate	26 kbit/s

[1] All member states of the European Union, EEA-EFTA states (Liechtenstein, Iceland, Norway), Switzerland, Turkey.
[2] With RFID ISO card transponder in plane parallel alignment to read/write device antenna; depending on dimensions and quality of transponder.

Mechanics/electronics

Connection type	1 x M12, 4-pin male connector
Supply voltage	11 V DC ... 32 V DC
Power consumption	≤ 1.8 W
Housing material	Brass (chromium-plated)

[1] Continuous operation at ambient operating temperature +25 °C, 322 years at +40 °C, 41 years +80 °C.

	PBTP (blue)
Enclosure rating	IP67
Protection class	II
Weight	37 g, Including nuts
Diameter	18 mm
Design	Cylindrical (M18)
MTTF	> 756 years [1]

[1] Continuous operation at ambient operating temperature +25 °C, 322 years at +40 °C, 41 years +80 °C.

Interfaces

IO-Link	✓, 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)
Digital outputs	1 (Q_2, Switching, PNP, in IO-Link mode) 2 (Q_1, Q_2, Switching, PNP, in SIO mode)
Optical indicators	4 LEDs, multi-color (Process feedback)
Configuration software	PLC software SOPAS ET [1]

[1] In combination with SiLink2 Master or SIG200.

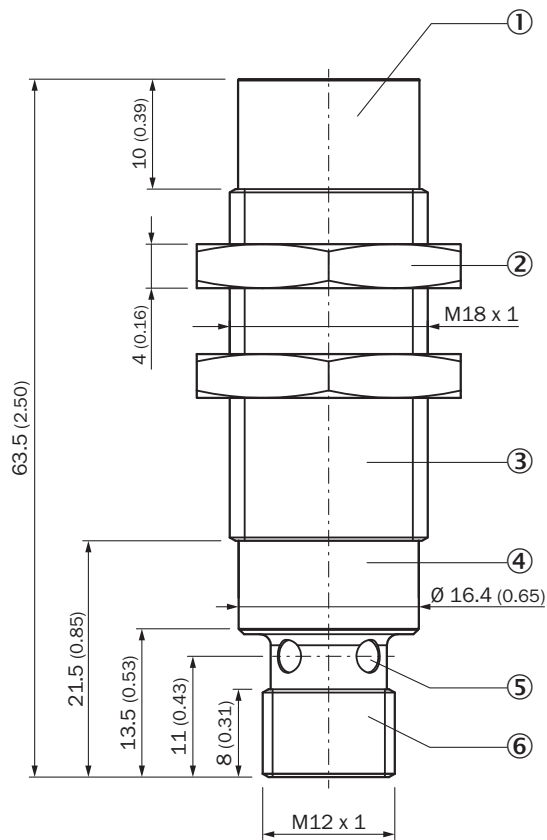## Ambient data

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

Classifications

ECLASS 5.0	27280401
ECLASS 5.1.4	27280401
ECLASS 6.0	27280401
ECLASS 6.2	27280401
ECLASS 7.0	27280401
ECLASS 8.0	27280401
ECLASS 8.1	27280401
ECLASS 9.0	27280401
ECLASS 10.0	27280401
ECLASS 11.0	27280401
ECLASS 12.0	27280401
ETIM 6.0	EC002998
ETIM 7.0	EC002998

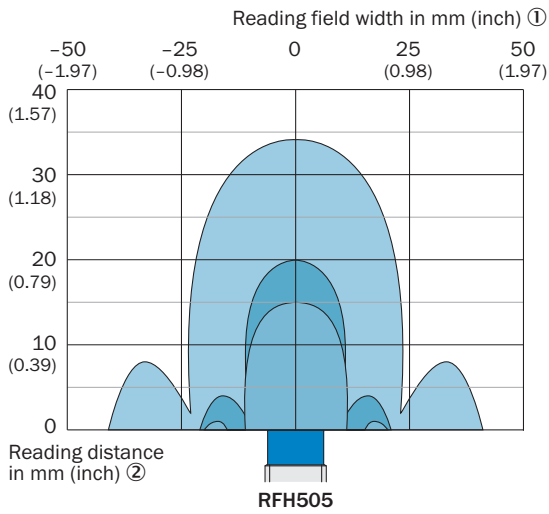|	
ETIM 8.0	EC002998
UNSPSC 16.0901	52161523

Dimensional drawing (Dimensions in mm (inch))

① Cap with integrated antenna
② 2 x fixing nuts, width across flats SW 24
③ Male thread (M18)
④ Field for product identification data
⑤ 4 x LED, multi-colored (process feedback)
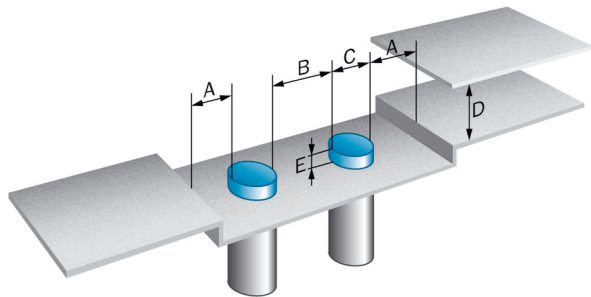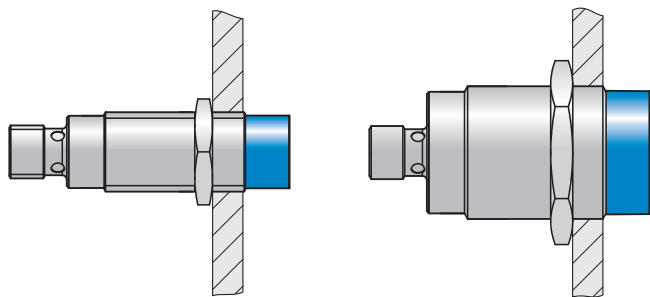⑥ IO-Link connection (male connector, M12, 4-pin, A-coded)

Reading field diagram

Reading field width in mm (inch) ①

−50 (−1.97)	−25 (−0.98)	0	25 (0.98)	50 (1.97)	

40 (1.57)
30 (1.18)
20 (0.79)
10 (0.39)
0

Reading distance in mm (inch) ②

RFH505

- 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. RFH505/510 (in metal)
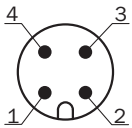

Required overrun of the active cap (blue) when mounting the device in metal (non-flush installation)

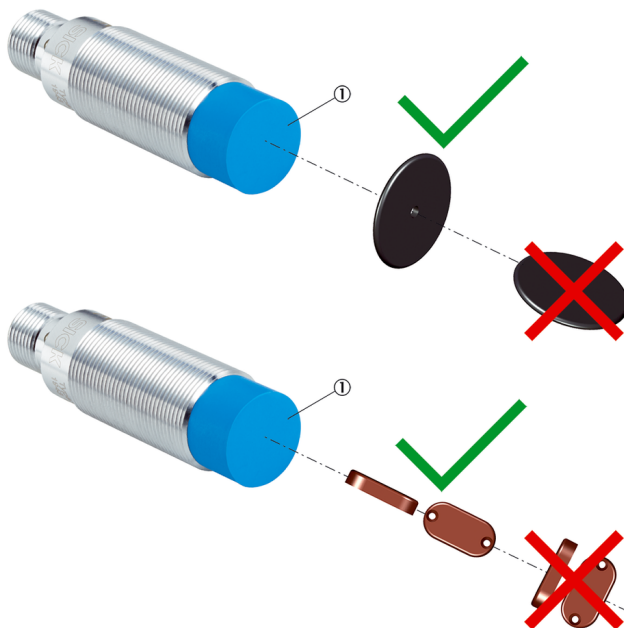| Distance	RFH505-1004301	RFH510-1004301
A	18 mm	30 mm
B	36 mm	60 mm
C	18 mm	30 mm
D	120 mm	180 mm
E	25 mm	10 mm
Tightening torque of fixing nuts	25 nm	70 nm

PIN assignment

IO-Link connection

IO-Link connection (male connector, M12, 4-pin, A-coded)
① L+
② Q_2
③ L-
④ C/Q1

Application

RFH505/510

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

	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
Mounting brackets and plates			
	Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
	• **Carrier frequency:** 13.56 MHz • **Special features:** High Temperature • **Memory capacity (UII / user memory):** 896 Bit (28 x 4 Byte) • **Diameter:** 16 mm	HF transponder, coin	6041592
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 4-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 0.6 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YF2A14-C60UB3M2A14	2095999
Sensor Integration Gateway			
	• **Further functions:** 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 • **Connection CONFIG:** 1 x M8, 4-pin female connector, USB 2.0 (USB-A) • **Logic editor:** yes • **Communication interface:** IO-Link, USB, Ethernet, PROFINET, REST API • **Product category:** IO-Link Master	SIG200-0A0412200	1089794

Recommended services

Additional services → www.sick.com/RFH5xx

	Type	Part no.
Commissioning		
• **Product area:** RFID • **Range of services:** 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 • **Duration:** Additional work will be invoiced separately	Commissioning RFU/RFH	1610018
Maintenance		
• **Product area:** RFID • **Range of services:** 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 • **Duration:** Additional work will be invoiced separately	Maintenance RFU/RFH	1611424

	Type	Part no.
Extended warranty		
• **Product area:** 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 • **Range of services:** The services correspond to the scope of the statutory manufacturer warranty (SICK general terms of delivery). • **Duration:** Five-year warranty from delivery date.	Extended warranty for a total of five years from delivery date	1680671

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