RFH505-1004301

RFH5xx

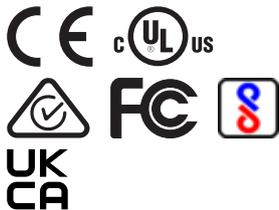**RFID**

SICK
Sensor Intelligence.

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
RFID standard	ISO/IEC 15693, ISO/IEC 18000-3 "Mode 1"
Connection type	IO-Link
Reading 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) PBTP (blue)

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

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

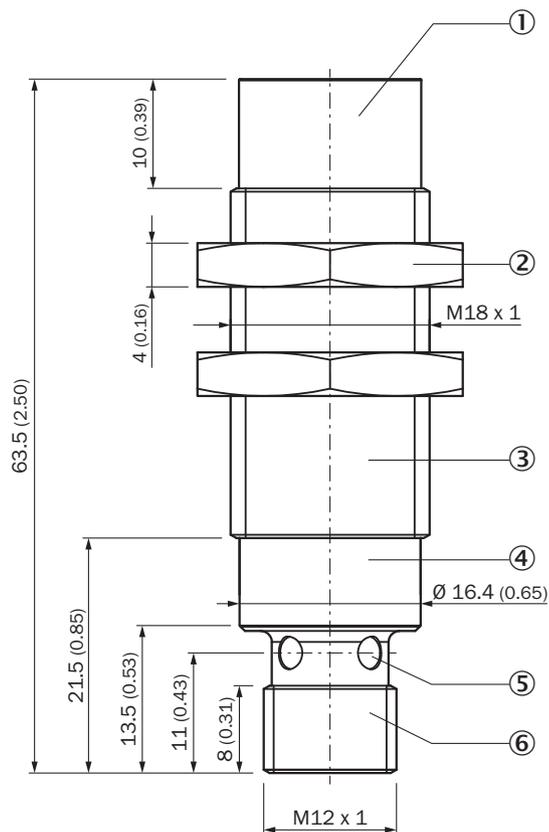| Electromagnetic compatibility (EMC)	EN 301489-3 V1.6.1 (2013)
Vibration resistance	IEC 60068-2-6:2007-12 (10 Hz to 55 Hz / 1 min / 5 min)
Shock resistance	IEC 60068-2-27:2008-02 (30 gn / 11 ms / half-sine)
Ambient operating temperature	−25 °C ... +80 °C
Storage temperature	−25 °C ... +80 °C
Relative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

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
FCC certificate	✓
BIS registration	✓
Radio Approval certificate India	✓
Radio Approval certificate Korea	✓
Radio Approval certificate Mexico	✓
Radio Approval certificate Singapore	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Classifications

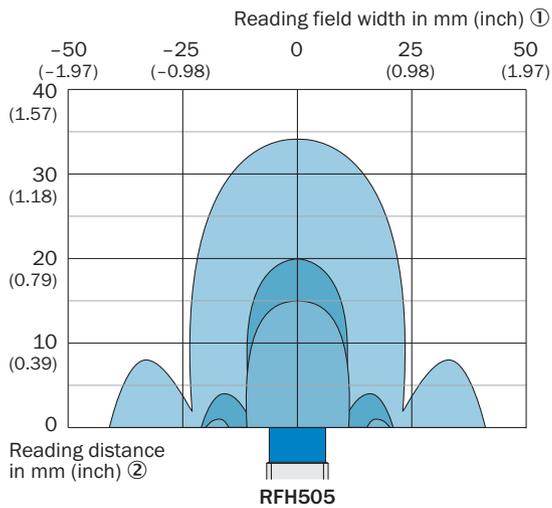|	
ECLASS 5.0	27280401
ECLASS 5.1.4	27280401
ECLASS 6.0	27280401
ECLASS 6.2	27280401
ECLASS 7.0	27280401
ECLASS 8.0	27280401
ECLASS 8.1	27280401
ECLASS 9.0	27280401
ECLASS 10.0	27280401
ECLASS 11.0	27280401
ECLASS 12.0	27280401
ETIM 6.0	EC002998
ETIM 7.0	EC002998
ETIM 8.0	EC002998
UNSPSC 16.0901	52161523

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)
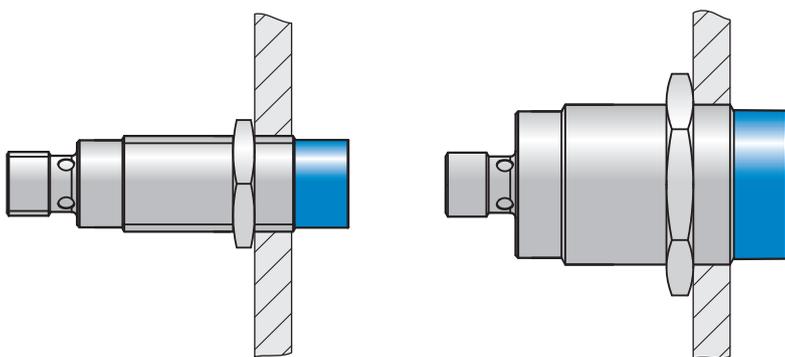⑥ IO-Link connection (male connector, M12, 4-pin, A-coded)

Reading field diagram

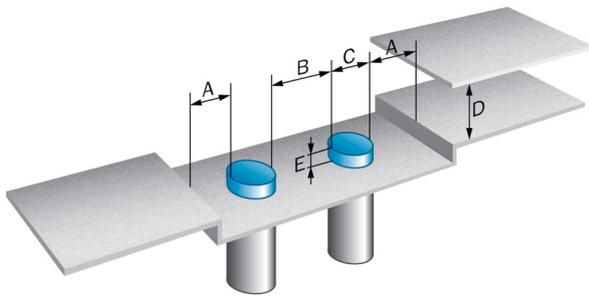Reading field width in mm (inch) ①

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 RFH505/510 (in metal)

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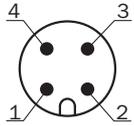
Assembly note Parallel mounting

Distances required to prevent mutual interference with parallel mounting of several devices as well as from the environment.

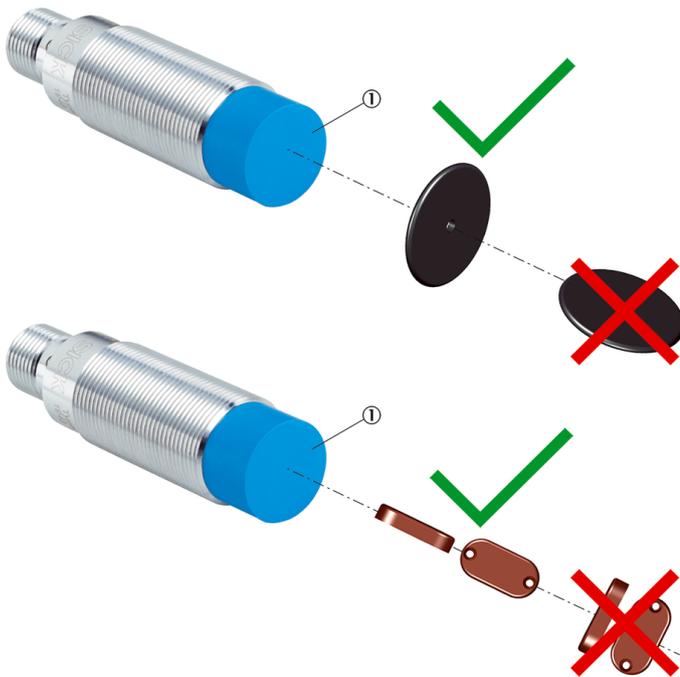| Distance	RFH505-1004301	RFH510-1004301
A	18 mm	30 mm
B	36 mm	60 mm
C	18 mm	30 mm
D	120 mm	180 mm
E	25 mm	10 mm
Tightening torque of fixing nuts	25 nm	70 nm

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.
RFID transponders			
	• **Special features:** High Temperature • **Memory capacity (EPC / user memory):** 2528 Bit (79 x 4 Byte) (User Memory) • **Diameter:** 16 mm	HF transponder, coin	6041592
Mounting systems			
	• **Description:** Mounting bracket for M18 sensors • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Without mounting hardware • **Suitable for:** GR18, V180-2, V18, W15, Z1, Z2	BEF-WN-M18	5308446

	Brief description	Type	part no.
network devices			
		SIG200-0A0412200	1089794
		IOLA2US-01101 (SiLink2 Master)	1061790
connectors and cables			
	• **Description:** Sensor/actuator cable, unshielded • **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 • **Application:** Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-C60UB3M2A14	2095999

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."

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