



RFH505-1004301

RFH5xx

RFID

SICK
Sensor Intelligence.



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)
Enclosure rating	IP67

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

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

Certificates

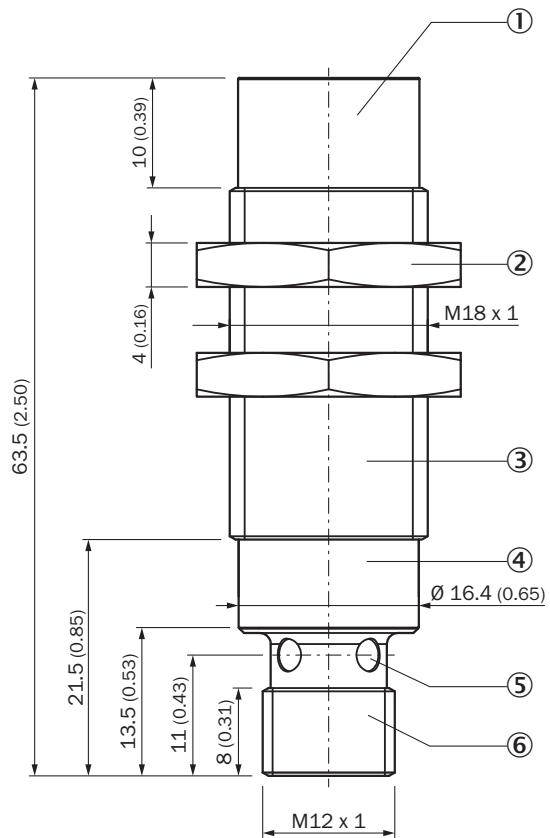
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
FCC certificate	✓
Radio Approval certificate India	✓
Radio Approval certificate Korea	✓
Radio Approval certificate Mexico	✓
Radio Approval certificate Singapore	✓
Information 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

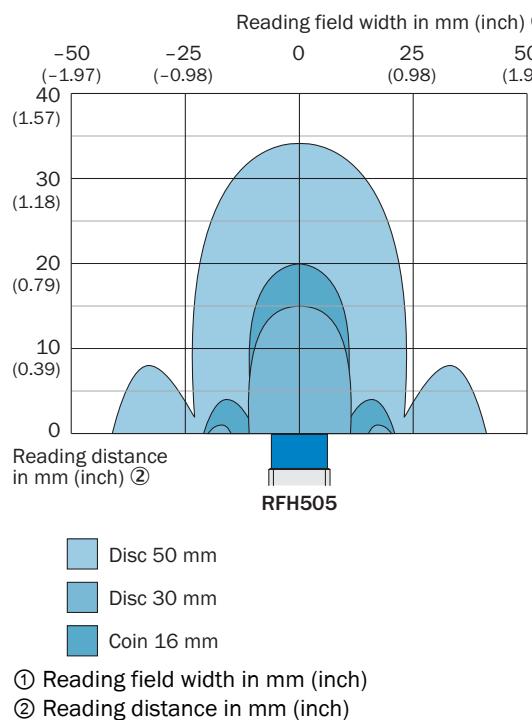
Dimensional drawing



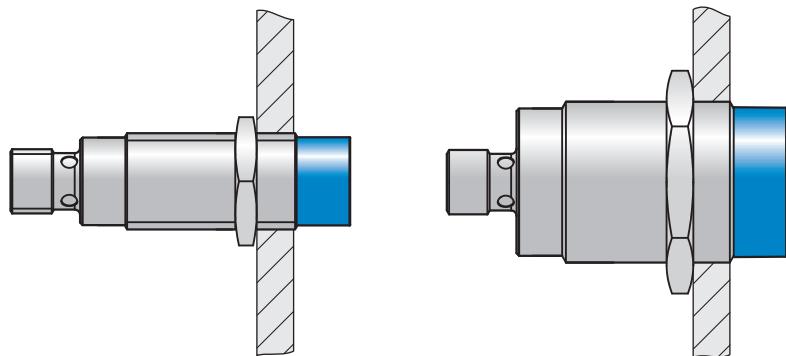
Dimensions in mm (inch)

- 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

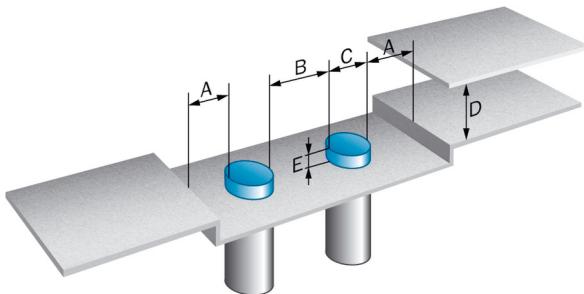


Assembly note RFH505/510 (in metal)



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

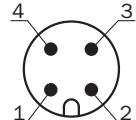
Assembly note Parallel mounting



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

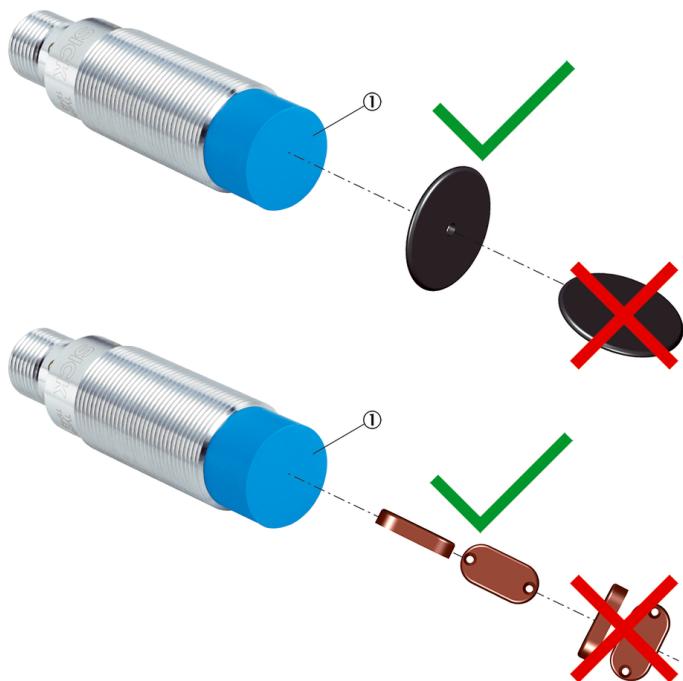
PIN assignment IO-Link connection



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

- ① L+
- ② Q2
- 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			
	<ul style="list-style-type: none"> 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			
	<ul style="list-style-type: none"> 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			
	<ul style="list-style-type: none"> 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: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14- C60UB3M2A14	2095999

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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.

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