INTELLIGENT RFID COMMUNICATION

Product description

The RFH6xx is a compact, high frequency (HF) read/write device for ranges up to 240 mm. It is compatible with ISO/IEC 15693. Thanks to its compact design and integrated antenna, it is a cost-effective and flexible solution for logistics. Integrated signal and data processing ensure extremely high identification process speeds. Trigger signals and output control enable use as a locally controlled unit. Compatible with all 4D*pro* accessories, such as CMC600, and uses SOPAS operating software.

At a glance

- 13.56 MHz RFID write/read device for ranges up to 240 mm
- Transponder communication according to ISO/IEC 15693 standard
- Compact, industrial design with integrated antenna
- Embedded protocols allow interfacing with standard industrial fieldbus technologies
- Powerful micro-processor executes internally configurable logic
- Flexible trigger control
- Supports parameter cloning via microSD memory card
- Built-in diagnostics

Your benefits

- Reliable identification ensures maximum throughput
- Adapts to changing needs, ensures investment over the long term
- Simple integration saves installation time
- A wide range of functionality ensures flexible solutions
- Maintenance-free
- Uses same connectivity and configuration software as SICK's bar code scanners and image-based code readers – compatible through standardized 4D*pro* platform

Additional information

→ www.mysick.com/en/RFH6xx

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

	RFH620 Short Range	RFH630 Mid Range
Carrier frequency	13.56 MHz	
Output power	200 mW	1,000 mW
Antenna	Integrated	Integrated, additional connection for external antenna (depending on type)
Further functions	Freely programmable data output format, heartbeat, diagnosis, cloning function (microSD memory card or system), updatable firmware, triggering	
Typical access times	Read UID (64 bit/8 Byte): 18 ms Read 1 block (32 bit/4 Byte): 13 ms Write 1 block (32 bit/4 Byte): 16 ms Read 28 blocks (896 bit/112 Byte): 64 ms Write 28 blocks (896 bit/112 Byte): 442 ms	
Data transmission rate	26 kbit/s (default)	

Interfaces

	RFH620 Short Range	RFH630 Mid Range
Serial (RS-232, RS-422)	✔	
Data transmission rate	0.3 kBaud ... 500 kBaud	
Ethernet	– / ✔ (depending on type)	
Data transmission rate	10/100 Mbit	
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT (optional via external connection module CDF600)	
CAN bus	✔	
Data transmission rate	20 kbit/s ... 1,000 kbit/s	
Protocol	CANopen, CSN (SICK CAN Sensor Network)	
PROFIBUS DP	✔, optional via external connection module (CDF600-2)	
DeviceNet	✔, optional available externally	
Switching inputs		
Cable	4 ("Sensor 1", "Sensor 2", 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)	
Ethernet	3 ("Sensor 1", 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)	4 ("Sensor 1", "Sensor 2", 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)
Switching outputs		
Cable	4 ("Result 1", "Result 2", 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)	
Ethernet	2 (via CMC600 in CDB620/CDM420)	4 ("Result 1", "Result 2", 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)
Optical indicators	6 LEDs (Ready, Result, RF, Data, CAN, LNK TX)	7 LEDs (feedback LED, status displays, Ready, Result, RF, Data, CAN, LNK TX)
Acoustic indicators	1 beeper (to confirm reading, adjustable)	
Configuration software	SOPAS ET	

Mechanics/electronics

	RFH620 Short Range	RFH630 Mid Range
Electrical connection		
Cable	1 x Cable with 15-pin D-sub HD male connector	
Ethernet	1 x Swivel connector with 4-pin M12 female connector and 12-pin M12 male connector	1 x Swivel connector with 4-pin M12 female connector and 17-pin M12 male connector
Operating voltage	10 V DC ... 30 V DC	
Power consumption	Typ. 5 W	Typ. 8 W
Housing color	Blue, black	
Enclosure rating	IP 67	
Protection class	III	
Weight	450 g ... 520 g (depending on type)	710 g ... 760 g (depending on type)
Dimensions	147 mm x 88 mm x 39 mm [1]	

[1] Swivel connector is 15 mm longer.

Ambient data

	RFH620 Short Range	RFH630 Mid Range
Electromagnetic compatibility (EMC)	EN 301489-3 V1.4.1 Receiver Class 2	
Vibration resistance	EN 60068-2-6	
Shock resistance	EN 60068-2-27	
Ambient operating temperature	–20 °C ... +60 °C	–20 °C ... +50 °C
Storage temperature	–25 °C ... +70 °C	
Permissible relative humidity	95 %, non-condensing	

Ordering information

- **Product category:** write/read device with integrated antenna
- **Frequency band:** HF (13.56 MHz)
- **RFID standard:** ISO/IEC 15693, ISO 18000-3 Mode 1
- **Radio approval:** global (EN 300330-2 V1.5.1, FCC Part 15)

Version	Scanning range	Connection type	Type	Part no.
RFH620 Short Range	Max. 150 mm [1]	Cable	RFH620-1000001	1044838
		Ethernet	RFH620-1001201	1044839
RFH630 Mid Range	Max. 240 mm [1]	Cable	RFH630-1000001	1054747
		Ethernet	RFH630-1102101	1054746

[1] With RFID ISO card transponder in plane parallel alignment to read/write device antenna; depending on dimensions and quality of transponder.

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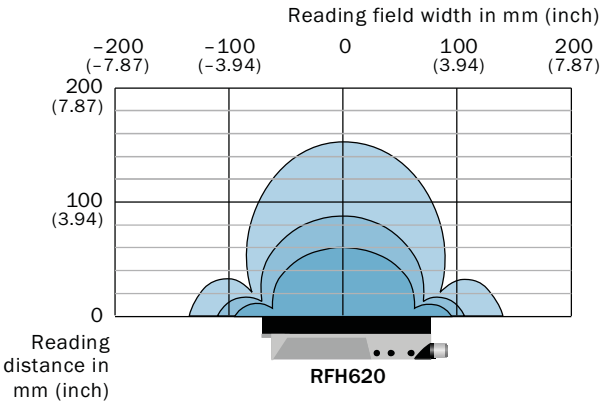
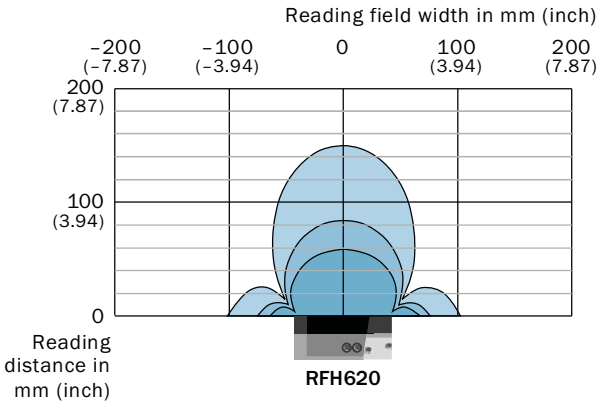
Reading field diagrams

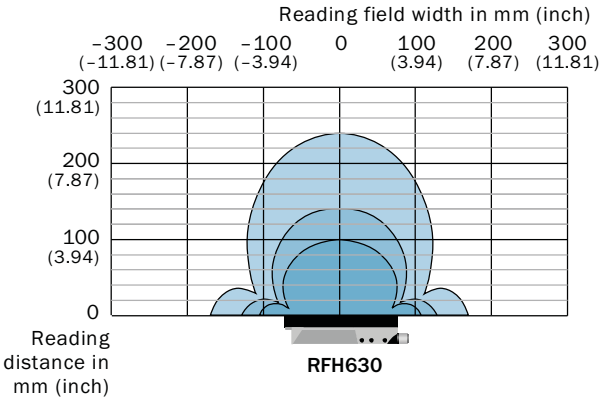
RFH620

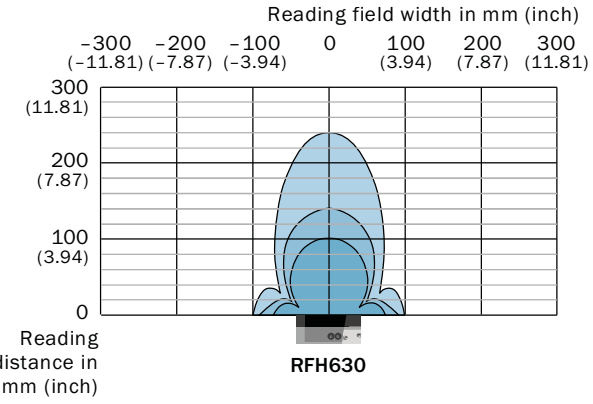




ISO Card
Disc 30
Coin 16

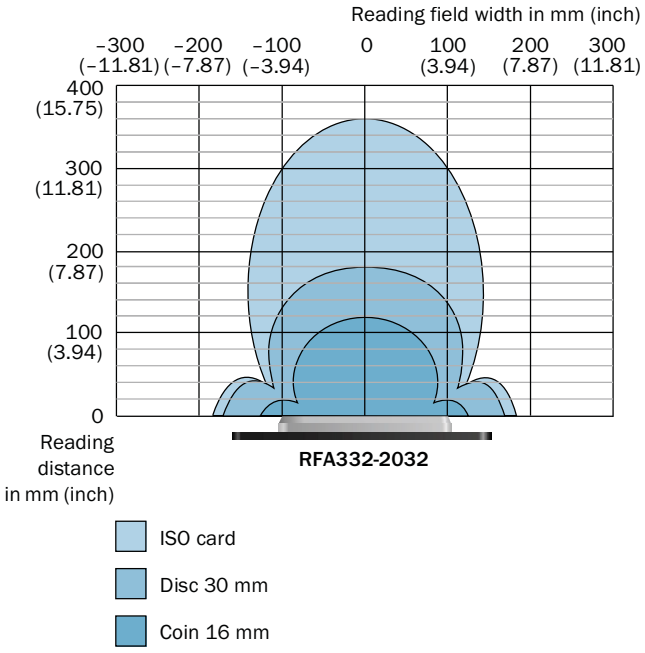
RFH630



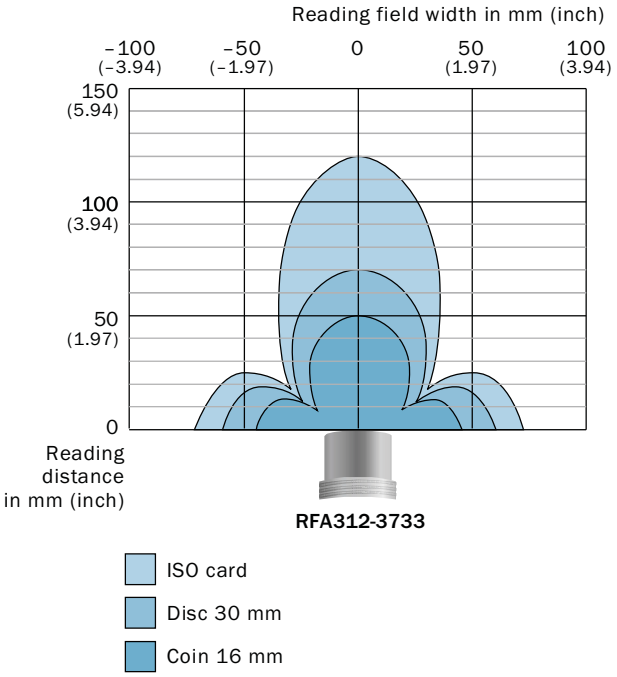


ISO Card
Disc 30
Coin 16

RFH630 Ethernet with external antenna



RFH630 Ethernet with external antenna



Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet
	Mounting bracket	2048551	●	●	●	●

Connection systems

Modules

	Brief description	Type	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●	●	●
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET-IO networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460	●	●	●	●

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2 m	2041834	–	●	–	–
		Female connector, M12, 17-pin, straight		To connection module CDx (except CDB650)	2 m	2055419	–	–	–	●
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, AWG26	2 m	6034414	–	●	–	●

Further accessories

RFID transponder

	Brief description	Type	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet
	HF transponder, PA 6, diameter 50 mm, NXP ICODE SLIX	Disc (50 mm)	6033781	●	●	●	●

➜ For additional accessories, please see page 28