



## RFH6xx RFID Interrogators (Write/Read Units)

Intelligent RFID communication

## Simply intelligent, intelligently simple

### Radio-based RFID technologies supplement SICK's industrial automation portfolio.

In applications where process-relevant data is modified remotely, RFID makes it possible to store data on writable and re-writable media.

In contrast to optical solutions, RFID provides reliable identification of all objects – despite dirt and everyday wear.

► **Your benefits:**

reliable solution for long-term use, maintenance-free, Simple integration into existing machines.

### The RFH6xx series stands out thanks to the following feature:

#### Powerful

- Integrated signal and data processing. Thus very high conveyor speeds possible (UID and 3 blocks at 3 m/s)
- Use as autonomous, decentralised unit through direct use of trigger signals and programmable control of outputs
- Rugged, industrial housing, also suitable for direct mounting on metal

#### Adaptable

- Innovative data handling: data is transmitted to the controller after customized filtering and output formatting
- Various data interfaces for RS-232, RS-422, Ethernet TCP/IP, CAN
- Flexible fieldbus connection due to external fieldbus proxies (see accessories on page 12)

#### Easy to use

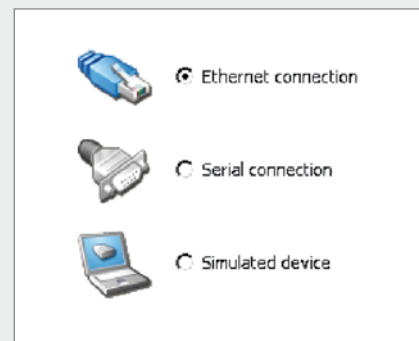
- Easy, intuitive user concept SOPAS-ET
- A Connection Wizard – for simple and fast connections. No extensive fieldbus knowledge necessary.
- Simple and rapid replacement of a RFH6xx without re-configuration with a PC, due to parameter cloning via optional cloning module or Micro-SD Flash Card
- Simple mounting thanks to compact housing, pivoting plug-in unit and flexible mounting technology
- Simple integration in existing IT infrastructures through parameterisable data output format



The practical pivoting plug-in unit allows the RFH6xx to be installed and connected even in difficult locations.



Integrated card slot for optional Micro-SD card



Simple connection assistant





## Features RFH6xx



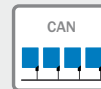
### Two function buttons

“Select” + “Start/End” for functions without PC connection, e.g. starting Test Mode.



### Micro-SD Flash Card

Integrated Micro-SD card slot allows simple and rapid replacement of a RFH620. Parameters stored in optional backup Micro-SD card. No need of PC for reconfiguration, ensuring quick MTTR <sup>1)</sup>.



### CAN

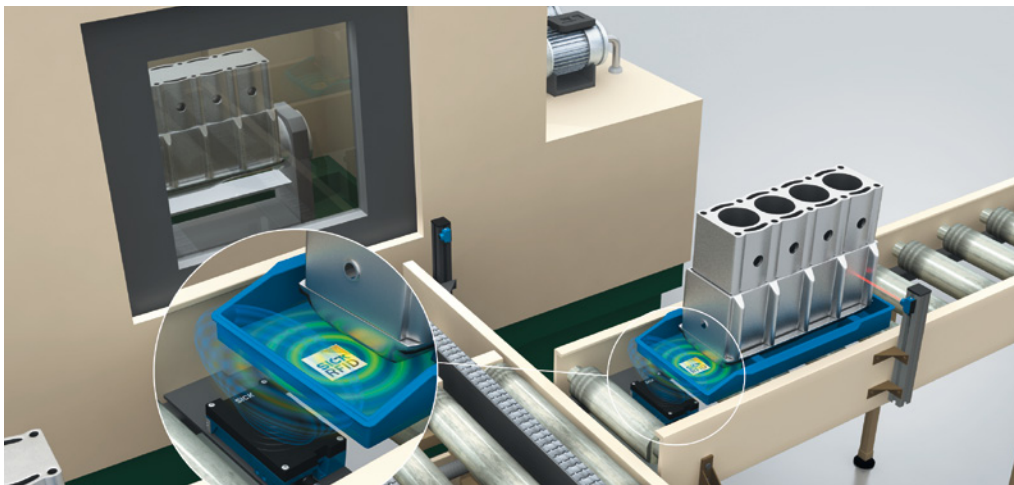
Integrated CAN bus supports:

- CANopen
- SICK CAN-sensor network for easier integration of scanner groups
- No additional multiplexer required

<sup>1)</sup> MTTR = Mean Time To Recovery.

## Typical RFH6xx applications

The RFH6xx series provides the perfect identification solution for various applications, including handling and warehousing system(s), industrial forklifts and the automotive industry.



Workpiece carrier detection, e.g., engine block and drive manufacturing



Skid identification during structural work, for example, in the paint shop

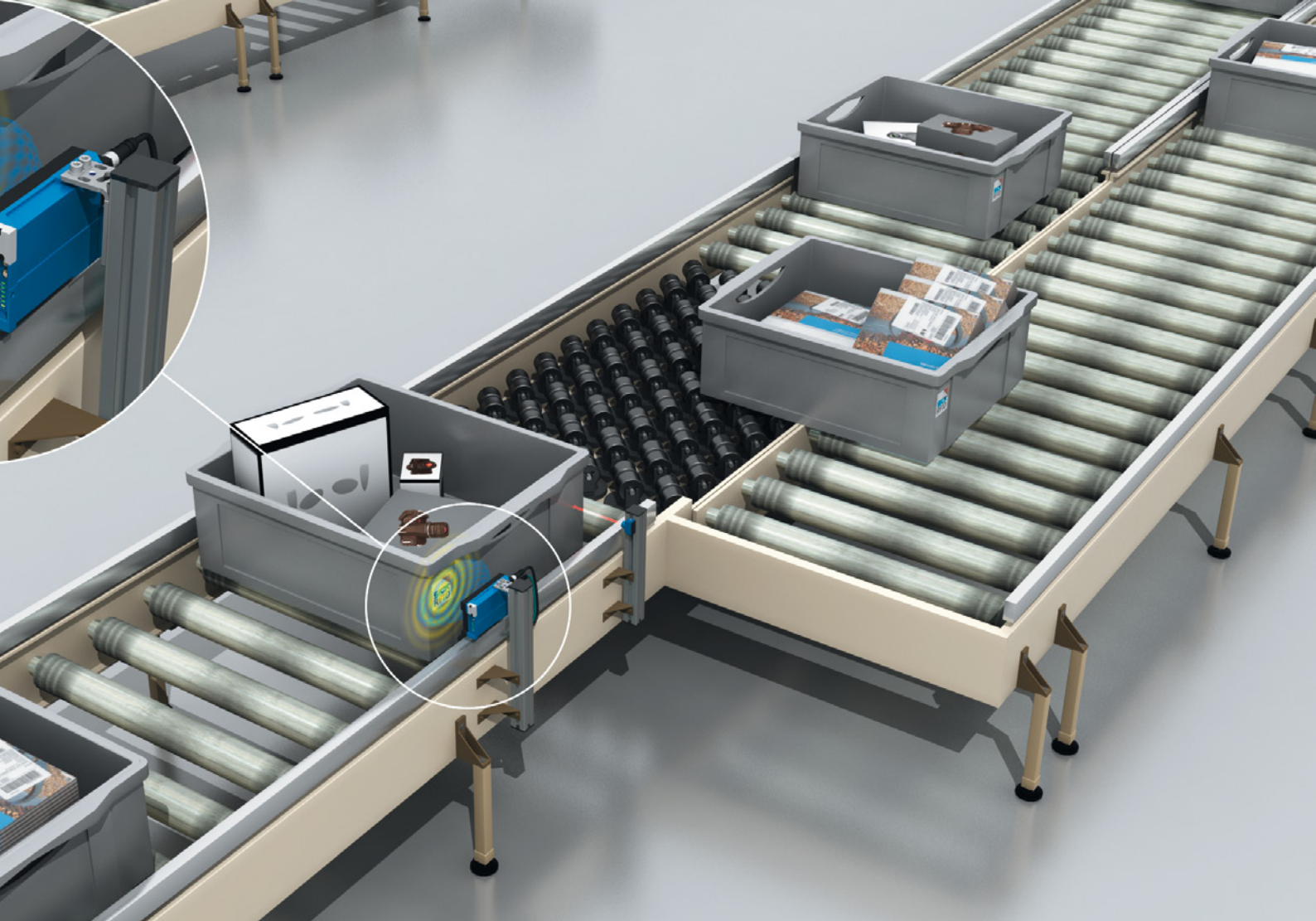


Position determination







Suspended conveyors, such as at a laundry facility





Box identification

## Distinguishing features – overview

				
	RFH620 Short Range		RFH630 Mid Range	
	Standard	Ethernet	Standard	Ethernet
Max. scanning range (internal antenna)	150 mm	150 mm	240 mm	240 mm
Output power	200 mW	200 mW	1,000 mW	1,000 mW
External antenna connection	–	–	–	Yes
Feedback LED	–	–	Yes	Yes
Interfaces	RS-232, RS-422, CAN	RS-232, RS-422, CAN, Ethernet	RS-232, RS-422, CAN	RS-232, RS-422, CAN, Ethernet
Connectivity	Cable with 15-pin. D-sub HD plug	Swivel connector with 4-pin M12 plug and 12-pin M12 socket	Cable with 15-pin. D-sub HD plug	Swivel connector with 4-pin M12 plug and 17-pin M12 socket
Digital internal – external switching input/output (via CMC600)	2/2 – 2/2	1/0 – 2/2	2/2 – 2/2	2/2 – 2/2

## Intelligent RFID communication



### Additional information

Detailed technical data.....	7
Ordering information.....	8
Reading field diagrams.....	9
Dimensional drawings.....	10
Accessories.....	12
Mounting distance.....	17
Transponder.....	18

### Product description

The RFH6xx is a compact, high frequency (HF) write/read unit 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 IDpro accessories, such as CMC600, and uses SOPAS operating software.

### At a glance

- 13.56 MHz RFID interrogator 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 Micro-SD Flash 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 IDpro platform

→ [www.mysick.com/en/RFH6xx](http://www.mysick.com/en/RFH6xx)

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

## Detailed technical data

### Features

		RFH620 Short Range	RFH630 Mid Range
<b>Product category</b>		Interrogator (write/read unit)	
<b>Output power</b>		200 mW	1,000 mW
<b>RFID standard</b>		ISO/IEC 15693, ISO 18000-3 Mode 1	
<b>Scanning range</b>		Max. 150 mm <sup>1)</sup>	Max. 240 mm <sup>1)</sup>
<b>Antenna</b>	Standard	Integrated	
	Ethernet	Integrated	Integrated, additional connection for external antenna
<b>Further functions</b>		Freely programmable data output format, heartbeat, diagnosis, cloning function (Micro-SD Flash Card or system), updatable firmware, triggering	
<b>Data transmission rate</b>		26 kbit/s (default)	
<b>Typical access times</b>		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	

<sup>1)</sup> With RFID ISO card transponder in plane parallel alignment to interrogator antenna; depending on dimensions and quality of transponder.

### Interfaces

		RFH620 Short Range	RFH630 Mid Range
<b>Serial (RS-232, RS-422)</b>		✓	
	Data transmission rate	0.3 kBaud ... 500 kBaud	
<b>Ethernet</b>		- / ✓ (depending on type)	
	Data transmission rate	10/100 Mbit	
	Protocol	TCP/IP, EtherNet/IP	
<b>CAN bus</b>		✓	
	Data transmission rate	20 kbit/s ... 1,000 kbit/s	
	Protocol	CANopen®, CSN (SICK CAN Sensor Network)	
<b>PROFIBUS</b>		-, optional via external connection module (CDF)	
<b>PROFINET</b>		-, optional via external connection module (CDM425)	
<b>EtherCAT</b>		-, optional via external connection module (CDF)	
<b>DeviceNet</b>		-, optional available externally	
<b>Switching inputs</b>			
	Standard	4 ("Sensor 1", "Sensor 2", 2 inputs via CMC600 in CDB620/CDM420)	
	Ethernet	3 ("Sensor 1", 2 inputs via CMC600 in CDB620/CDM420)	4 ("Sensor 1", "Sensor 2", 2 inputs via CMC600 in CDB620/CDM420)
<b>Switching outputs</b>			
	Standard	4 ("Result 1", "Result 2", 2 outputs via CMC600 in CDB620/CDM420)	
	Ethernet	2 (via CMC600 in CDB620/CDM420)	4 ("Result 1", "Result 2", 2 outputs via CMC600 in CDB620/CDM420)
<b>Optical indicators</b>		6 LEDs (Ready, Result, RF, Data, CAN, LNK TX)	7 LEDs (feedback LED, status displays, Ready, Result, RF, Data, CAN, LNK TX)
<b>Acoustic indicators</b>		1 beeper (to confirm reading, adjustable)	

## Mechanics/electronics

		RFH620 Short Range	RFH630 Mid Range
Electrical connection	Standard	1 cable with 15-pin D-sub HD plug	
	Ethernet	1 swivel connector with 4-pin M12 plug and 12-pin M12 socket	1 swivel connector with 4-pin M12 plug and 17-pin M12 socket
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	Standard	520 g, with connecting cable	760 g, with connecting cable
	Ethernet	450 g	710 g
Dimensions		47 mm x 88 mm x 39 mm <sup>1)</sup> (depending on type)	

<sup>1)</sup> Swivel connector is 15 mm longer.

## Ambient data

Radio equipment type approval	Europe (EN 300330-2 V1.5.1) North America (FCC Part 15)		
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

- Frequency band: HF (13.56 MHz)
- Radio equipment type approval: Europe, North America

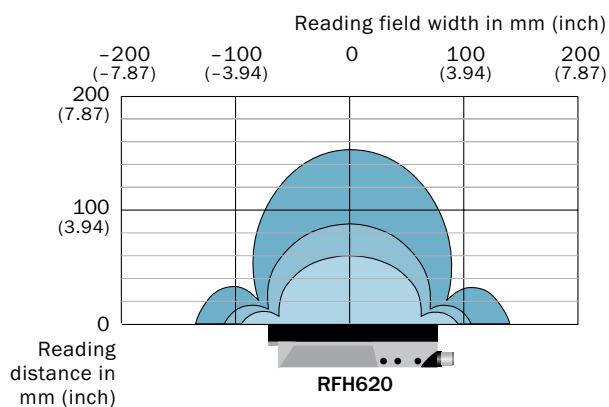
Version	Connection type	Model name	Part no.
RFH620 Short Range	Standard	RFH620-1000001	1044838
	Ethernet	RFH620-1001201	1044839
RFH630 Mid Range	Standard	RFH630-1000001	1054747
	Ethernet	RFH630-1102101	1054746



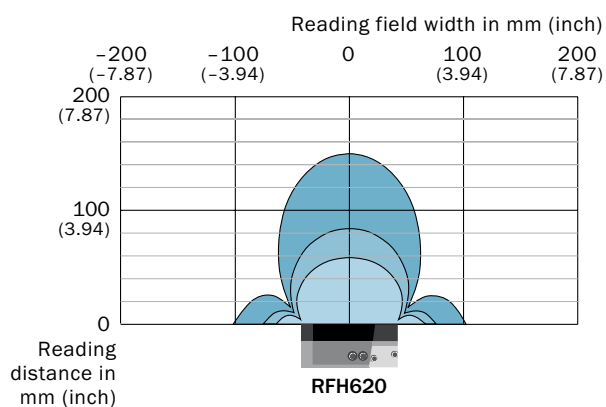
## Reading field diagrams

The diagrams illustrate the reading fields using the most common transponders in various installation situations under optimum conditions. More information about transponders is available on page 18.

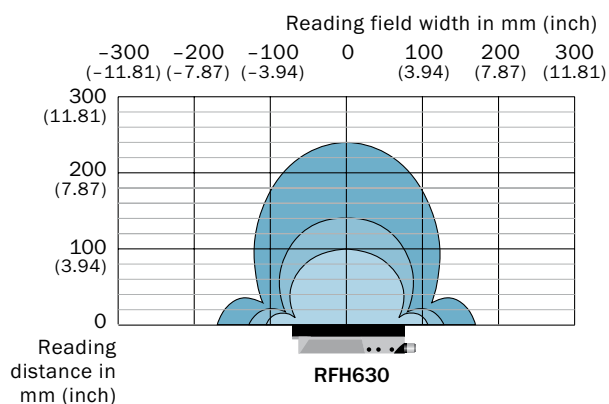
### RFH620



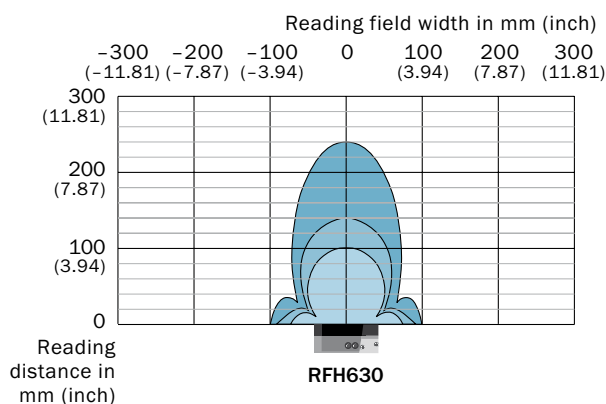
- Coin 16 mm
- Disc 30 mm
- ISO card



### RFH630

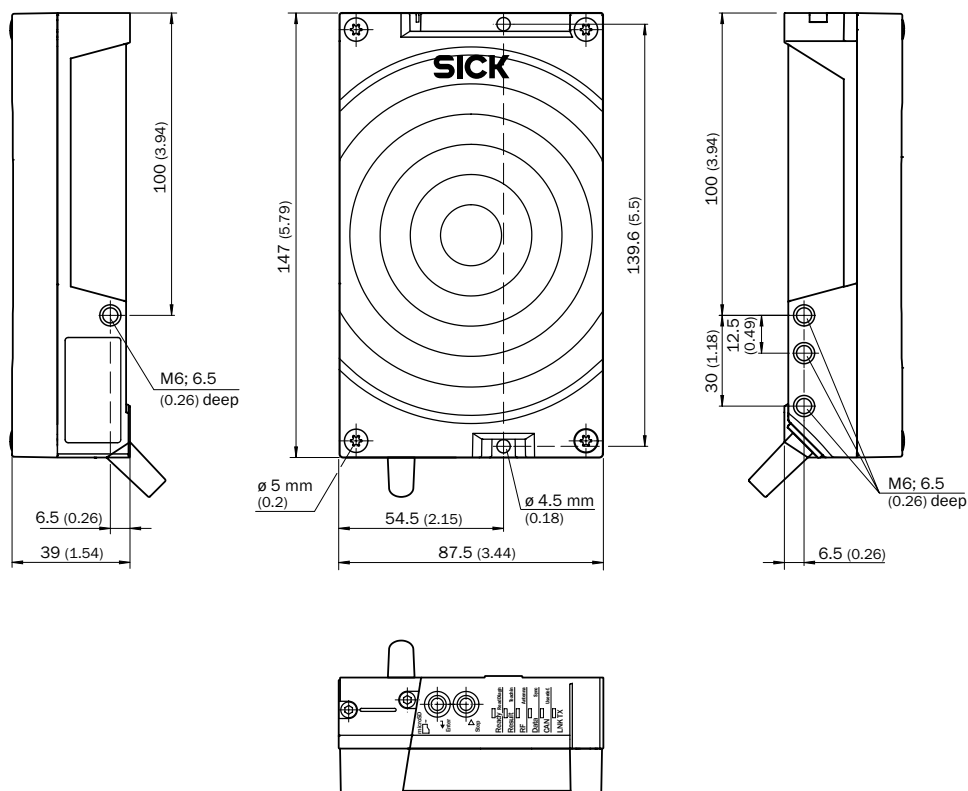


- Coin 16 mm
- Disc 30 mm
- ISO card

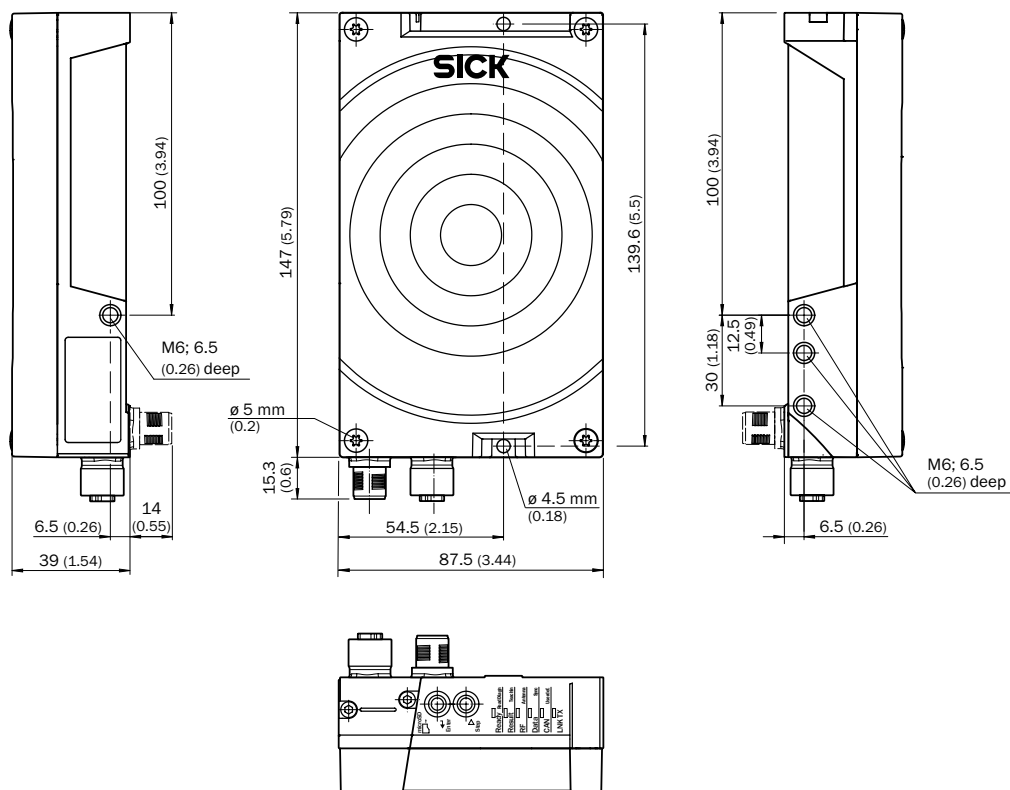


## Dimensional drawings

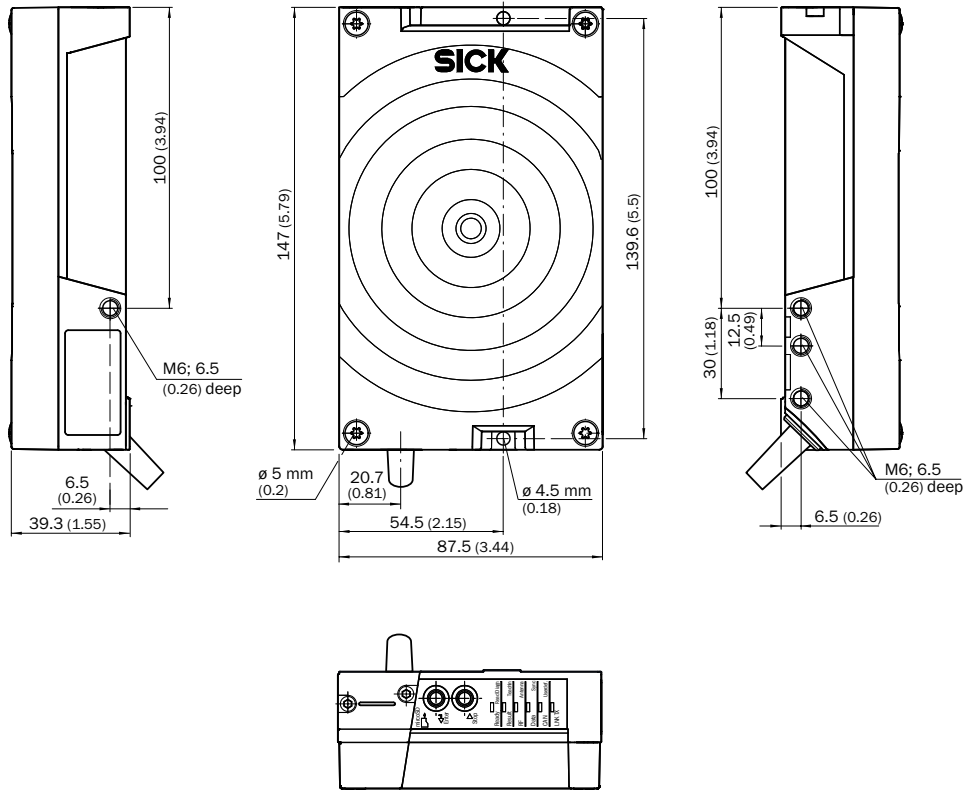
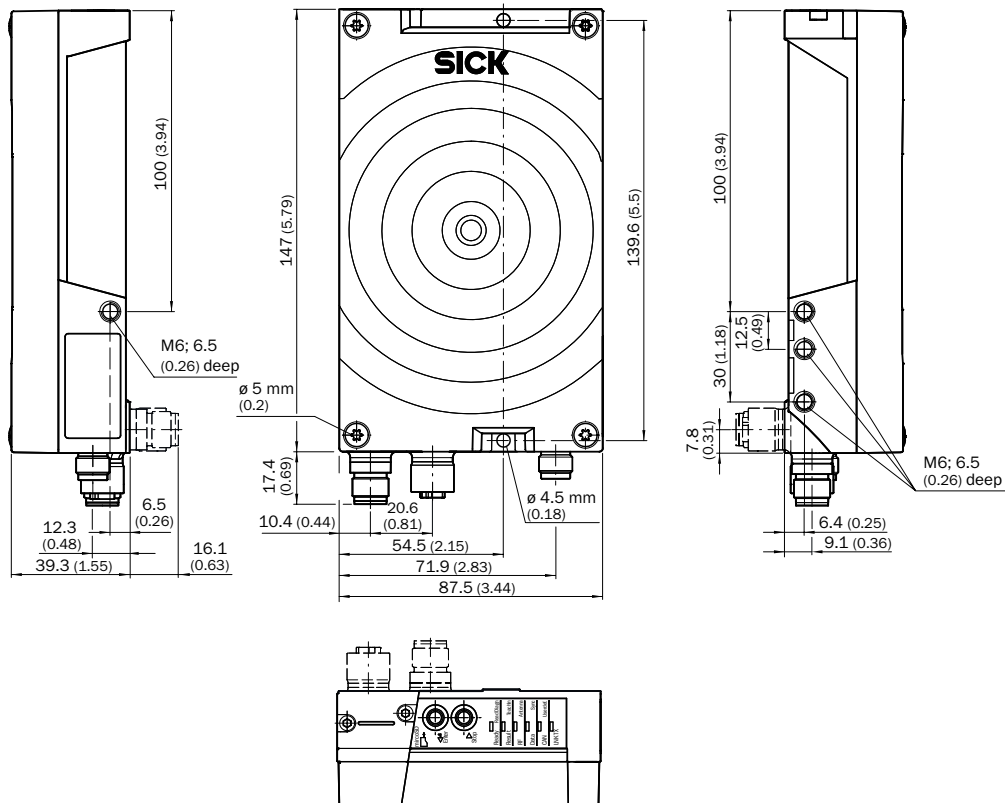
### RFH620 Standard



### RFH620 Ethernet



All dimensions in mm (inch)

**RFH630 Standard****RFH630 Ethernet**

All dimensions in mm (inch)




## Accessories







### Antennas

	Brief description	Model name	Part no.	RFH620 Standard	RFH620 Ethernet	RFH630 Standard	RFH630 Ethernet
	Industrial RFID HF antenna	RFA332-2032	1054399	-	-	-	●

### Device protection (mechanical)

	Brief description	Part no.	RFH620 Standard	RFH620 Ethernet	RFH630 Standard	RFH630 Ethernet
	IP-65 sealing rubber for extension cables with 15-pin D-Sub plug connection (6010075 and 6020092)	4038847	●	●	●	●










## Modules

	Brief description	Model name	Part no.	RFH620 Standard	RFH620 Ethernet	RFH630 Standard	RFH630 Ethernet
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●	●	●
Illustration may differ	Small connection module for one sensor, 2 cable glands, 2 x M12 connector/socket for CAN, base for CMC600	CDB620-101	1042257	●	●	●	●
	Small connection module for a sensor, 5 cable glands, socket for CMC cloning module	CDB620-201	1042258	●	●	●	●
	CDF600 fieldbus proxy to connect a CLV6xx, RFH6xx, LECTOR@62x and corded hand-held scanner IDM1xx to a PROFIBUS network	CDF600-0100	1041251	●	●	●	●
	Modular connection module for one sensor	CDM420-0001	1025362	●	●	●	●
	Modular connection module for two sensors	CDM420-0004	1028487	●	●	●	●
Illustration may differ							
	Modular connection module for one sensor, additional M12 socket for PROFINET on face plate	CDM425-00034094	1048488	●	●	●	●
Illustration may differ	Modular connection module for two sensors, additional M12 socket for PROFINET on face plate. Reduction of cable glands from 6 to 4, M12 socket for CAN bus and M12 plug for connection to power supply on front side	CDM425-10234094	1050643	●	●	●	●




## Mounting brackets/plates

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


## Plug connectors and cables

	Brief description	Part no.	RFH620 Standard	RFH620 Ethernet	RFH630 Standard	RFH630 Ethernet
	Cable, M12, 12-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 0.9 m (socket/plug)	2042916	-	●	-	-
	Cable, M12, 12-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 2 m (socket/plug)	2041834	-	●	-	-
	Cable, M12, 12-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 3 m (socket/plug)	2042914	-	●	-	-
	Cable, M12, 12-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 5 m (socket/plug)	2042915	-	●	-	-
	Cable, M12, 12-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 3 m (socket/plug), drag-chain compliant	2061604	-	●	-	-
	Cable, M12, 12-pin, to open end, 5 m (socket/ open end)	6034605	-	●	-	-
	Cable, M12, 12-pin, to open end, 5 m (socket/ open end), drag-chain compliant	6045140	-	●	-	-
	Cable, M12, 17-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 0.35 m (socket/plug)	2056184	-	-	-	●
	Cable, M12, 17-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 0.9 m (socket/plug)	2049764	-	-	-	●
	Cable, M12, 17-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 2 m (socket/plug)	2055419	-	-	-	●
	Cable, M12, 17-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 3 m (socket/plug)	2055420	-	-	-	●
	Cable, M12, 17-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 5 m (socket/plug)	2055859	-	-	-	●
	Cable, M12, 17-pin, to CDB620/CDM420/CDM425/CDF600 15-pin D-sub, 3 m (socket/plug), drag-chain compliant	2061605	-	-	-	●
	Cable, M12, 17-pin, to open end, 3 m (socket/open end)	6042772	-	-	-	●
	Cable, M12, 17-pin, to open end, 5 m (socket/open end)	6042773	-	-	-	●
	Cable, M12, 17-pin, to open end, 10 m (socket/open end)	6048817	-	-	-	●
	Cable, M12, 17-pin, to open end, 5 m (socket/ open end), drag-chain compliant	6045141	-	-	-	●
	Ethernet cable, 4-pole, shielded, M12 plug, 4-pin (D-type encoded) / RJ-45 plug, 8-pin, 2 m	6034414	-	●	-	●
	Ethernet cable, 4-pole, shielded, M12 plug, 4-pin (D-type encoded) / RJ-45 plug, 8-pin, 3 m	6044400	-	●	-	●
	Ethernet cable, 4-pole, shielded, M12 plug, 4-pin (D-type encoded) / RJ-45 plug, 8-pin, 5 m	6034415	-	●	-	●
	Ethernet cable, 4-pole, shielded, M12 plug, 4-pin (D-type encoded) / RJ-45 plug, 8-pin, 10 m	6030928	-	●	-	●
	Ethernet cable, 4-pole, shielded, M12 plug, 4-pin (D-type encoded) / RJ-45 plug, 8-pin, 20 m	6036158	-	●	-	●
	Ethernet cable, 4-pole, shielded, M12 plug, 4-pin (D-type encoded) / RJ-45 plug, 8-pin, 3 m, drag-chain compliant	6029630	-	●	-	●
	Extension cable, 2 m, 15-wired, shielded, with 15-pin D-sub HD (plug/socket) AWG26	6034417	●	●	●	●
	Extension cable, 3 m, 15-wired, shielded, with 15-pin D-sub HD (plug/socket) AWG26	6034418	●	●	●	●
	Extension cable, 2 m, 15-wired, shielded, with 15-pin D-sub HD (socket/open end) AWG26	2043413	●	●	●	●
	D-sub plug house, 15-pin HD plug, hand-soldered terminal	6010020	●	●	●	●
	D-sub plug house, 15-pin HD socket, hand-soldered terminal	6010019	●	●	●	●
	D-sub plug house (metal), for 9-/15-pin HD insert	6009438	●	●	●	●













	Brief description	Part no.	RFH620 Standard	RFH620 Ethernet	RFH630 Standard	RFH630 Ethernet
 Illustration may differ	Black AS-i flat cable for looping in the power supply to IDpro Ethernet sensors, sold per meter	6022463	-	●	-	●
	M12 AS-i clip for connection on black AS-i flat cable	6022472	-	●	-	●
	Cable, M12, 12-pin to M12 4-pin for connecting one IDpro sensor to a M12 AS-i clip on black AS-i flat cable, 1 m (plug/socket), drag-chain compliant	6044572	-	●	-	-
	Cable, M12, 12-pin to M12 4-pin for connecting one IDpro sensor to a M12 AS-i clip on black AS-i flat cable, 2.5 m (plug/socket), drag-chain compliant	6044573	-	●	-	-
	Cable, M12, 17-pin to M12 4-pin for connecting one IDpro sensor to a M12 AS-i clip on black AS-i flat cable, 1 m (plug/socket), drag-chain compliant	6044574	-	-	-	●
	Cable, M12, 17-pin to M12 4-pin for connecting one IDpro sensor to a M12 AS-i clip on black AS-i flat cable, 2.5 m (plug/socket), drag-chain compliant	6044575	-	-	-	●

## Power supply units/ power cord connectors


	Brief description	Part no.	RFH620 Standard	RFH620 Ethernet	RFH630 Standard	RFH630 Ethernet
	Power supply unit with pre-assembled M12 socket	2049552	-	●	-	-

## RFID transponder


	Brief description	Model name	Part no.	RFH620 Standard	RFH620 Ethernet	RFH630 Standard	RFH630 Ethernet
	Diameter 30 mm, thickness 3 mm, IC: NXP ICODE SLI SL2, -25 °C ... +85 °C, IP 68	Disc (30 mm)	6034740	●	●	●	●
	Diameter 30 mm, thickness 3 mm, IC: Fujitsu, -25 °C ... +85 °C, IP 68	Disc (30 mm)	6043514	●	●	●	●
	Diameter 50 mm, thickness 3 mm, IC: NXP ICODE SLI SL2, -25 °C ... +85 °C, IP 68	Disc (50 mm)	6033781	●	●	●	●
	Diameter 50 mm, thickness 3 mm, IC: Fujitsu, -25 °C ... +85 °C, IP 68	Disc (50 mm)	6042212	●	●	●	●
	85.6 mm x 54 mm x 0.76 mm, IC: TI Tag-it HF-I plus, -35 °C ... +50 °C	ISO card	6037846	●	●	●	●
	85.6 mm x 54 mm x 0.76 mm, IC: NXP ICODE SLI SL2, -25 °C ... +50 °C	ISO card	6037848	●	●	●	●
	85.6 mm x 54 mm x 0.76 mm, IC: TI Tag-it HF-I plus, -25 °C ... +50 °C	ISO card (low cost)	6042981	●	●	●	●
	Diameter 16 mm, thickness 2.9 mm, IC: NXP ICODE SLI SL2, -25 °C ... +70 °C, IP 68	Coin (16 mm)	6041592	●	●	●	●
	Diameter 22 mm, thickness 3 mm, IC: TI Tag-it HF-I plus, -25 °C ... +90 °C, IP 68	Coin (22 mm)	6033173	●	●	●	●
	90 mm x 34 mm x 7 mm, IC: NXP ICODE SLI SL2, -20 °C ... +85 °C, IP 68	On-metal transponder flat	6047938	●	●	●	●

	Brief description	Model name	Part no.	RFH620 Standard	RFH620 Ethernet	RFH630 Standard	RFH630 Ethernet
	25 mm x 12.5 mm x 5 mm, IC: NXP ICODE SLI SL2, -25 °C ... +85 °C, IP 68	On-metal transponder small	6039051	●	●	●	●
	Diameter 53 mm, thickness 12 mm, IC: NXP ICODE SLI SL2, -40 °C ... +140 °C	Disc (High Temp)	6041594	●	●	●	●
	Length 22 mm, diameter 4 mm, IC: NXP ICODE SLI SL2, -25 °C ... +85 °C, IP 68	Glass transponder	6039237	●	●	●	●
	Length 30 mm, diameter 5 mm, IC: NXP ICODE SLI SL2, -25 °C ... +85 °C, IP 67	Cylinder transponder	6044368	●	●	●	●
	Length 22 mm, diameter 4 mm, IC: NXP ICODE SLI SL2, -25 °C ... +60 °C, IP 68	Bar transponder	6044085	●	●	●	●
	Paper label, white, siliconized paper, 81 mm x 49 mm, IC: NXP ICODE SLI SL2, -10 °C ... +50 °C	Paper label	6037763	●	●	●	●

## Software

	Model name	Part no.	RFH620 Standard	RFH620 Ethernet	RFH630 Standard	RFH630 Ethernet
	DVD Manuals & Software	2039442	●	●	●	●

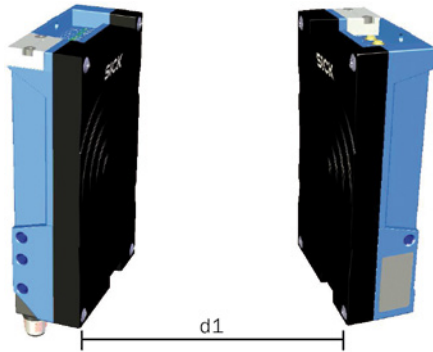
## Storage mediums

	Brief description	Part no.	RFH620 Standard	RFH620 Ethernet	RFH630 Standard	RFH630 Ethernet
	Micro SD Flash Card, memory medium with 512 MB	4051366	●	●	●	●

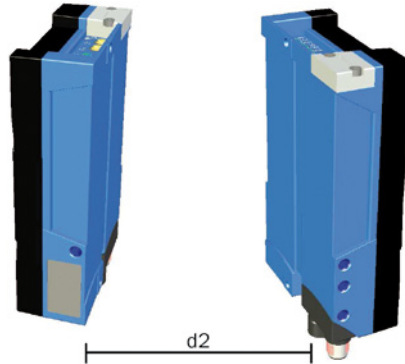
## Mounting distance

The relative arrangement of two RFH6xx can vary in three different ways, whereby the following installation distances must be maintained.

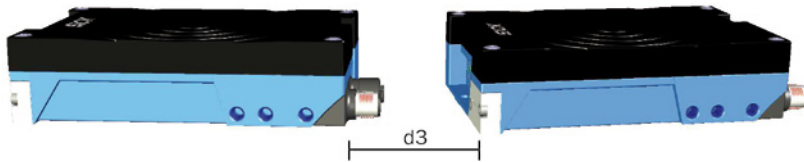
### Face to face



### Back to back



### Side by side











Version	d1	d2	d3
RFH620 Short Range	340 mm	140 mm	150 mm
RFH630 Mid Range	1,700 mm	1,200 mm	1,300 mm



## Transponder

## Features

Description	Dimensions		IC	Max. reading distance (mm)	IP class	Temperature range			
						Ambient operating temperature		Tested	
						min. (°C)	max. (°C)	to (°C)	Duration (h)
Disc	Ø 30 mm		NXP ICODE SL2	85 RFH620 140 RFH630	IP 68	-25	+85	+140	100
	Ø 30 mm		Fujitsu MB89R118	85 RFH620 140 RFH630	IP 68	-25	+85	+140	100
	Ø 50 mm		NXP ICODE SL2	120 RFH620 200 RFH630	IP 68	-25	+85	+140	100
	Ø 50 mm		Fujitsu MB89R118	120 RFH620 200 RFH630	IP 68	-25	+85	+140	100
ISO card	86 x 54 mm²		NXP ICODE SL2	150 RFH620 240 RFH630	-	-25	+50	-	-
	86 x 54 mm²		TI Tag-it HF-I plus	150 RFH620 240 RFH630	-	-35	+50	-	-
ISO card low cost	86 x 54 mm²		NXP ICODE SL2	110 RFH620 190 RFH630	-	-25	+50	-	-
Coin	Ø 16 mm		NXP ICODE SL2	60 RFH620 100 RFH630	IP 68	-25	+70	+120	100
	Ø 22 mm		TI Tag-it HF-I plus	65 RFH620 115 RFH630	IP 68	-25	+90	+160	50
On-metal transponder	90 x 34 x 7 mm³		NXP ICODE SL2	65 RFH620 120 RFH630	IP 68	-20	+85	-	-
	25 x 13 x 5 mm³		NXP ICODE SL2	65 RFH620 120 RFH630	IP 68	-25	+85	-	-
High temp. transponder			NXP ICODE SL2	65 RFH620 110 RFH630	IP 68	-40	+140	+250	-
Glass transponder	Ø 4 mm 22 mm		NXP ICODE SL2	45 RFH620 85 RFH630	IP 68	-25	+85	+120	100
Cylinder transponder	Ø 5 mm 30 mm		NXP ICODE SL2	25 RFH620 45 RFH630	IP 67	-25	+85	-	-
Bar transponder	20 x 6.1 x 5.6 mm³		NXP ICODE SL2	60 RFH620 115 RFH630	IP 68	-25	+60	-	-
Paper label	81 x 49 mm²		NXP ICODE SL2	140 RFH620 230 RFH630	-	-10	+50	-	-

## Overview ISO 15693 transponder IC

Manufacturer	Type	UID <sup>1)</sup>	AFI <sup>2)</sup>	DSFID <sup>3)</sup>	User memory	Block number	Block size
NXP	ICODE SLI SL2	●	●	●	896 bit	28	4 Byte
	ICODE SLI-S	●	●	●	1,280 bit	40	4 Byte
Texas Instruments	Tag-it HF-I pro	●	●	●	256 bit	8	4 Byte
	Tag-it HF-I plus	●	●	●	2,048 bit	64	4 Byte
Infineon	SRF55V01P	●	●	–	416 bit	13	4 Byte
	SRF55V02P	●	●	–	1,792 bit	56	4 Byte
	SRF55V10P	●	●	–	7,936 bit	248	4 Byte
Fujitsu	MB89R118	●	●	●	16,000 bit	250	8 Byte

<sup>1)</sup> UID = Unique Identifier: Individual, not re-writable, not erasable 64 bit number e.g. E0 04 01 00 1a b2 3c 45.

<sup>2)</sup> AFI = Application Family Identifier: 1 Byte used for filtering direct on the air interface to distinguish between different transponder populations.

<sup>3)</sup> DSFID = Data Storage Format Identifier: 1 Byte used for filtering after read process to distinguish between different transponder populations.

## Typical duration of read/write operations with RFH6xx and ISO 15693 Transponder (HF settings: 26 kbit/s)

Read UID <sup>1)</sup>

Number of transponders	1	2	3	4
Time (ms)	19 <sup>2)</sup>	54	60	67

<sup>1)</sup> UID = Unique Identifier: Individual, not re-writable, not erasable 64 bit number e.g. E0 04 01 00 1a b2 3c 45.

<sup>2)</sup> Single slot mode (no anticollision needed).

## Read multiple blocks

Number of blocks	1	2	3	4	5	6	7	8	9	...
Time (ms)	13	15	17	19	21	23	25	27	29	...

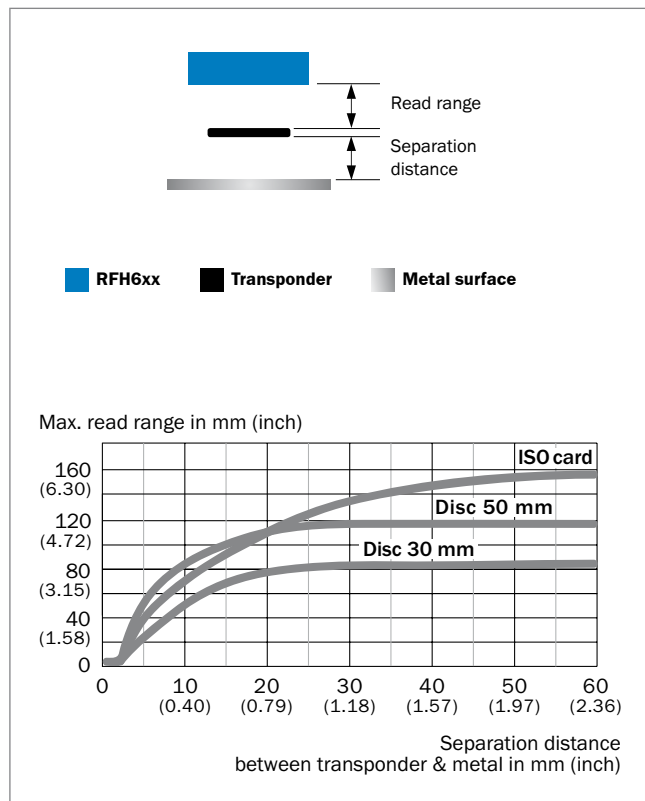
## Write multiple blocks

Number of blocks	1	2	3	4	5	6	7	8	9	...
Time (ms)	16	32	48	64	80	96	112	128	144	...

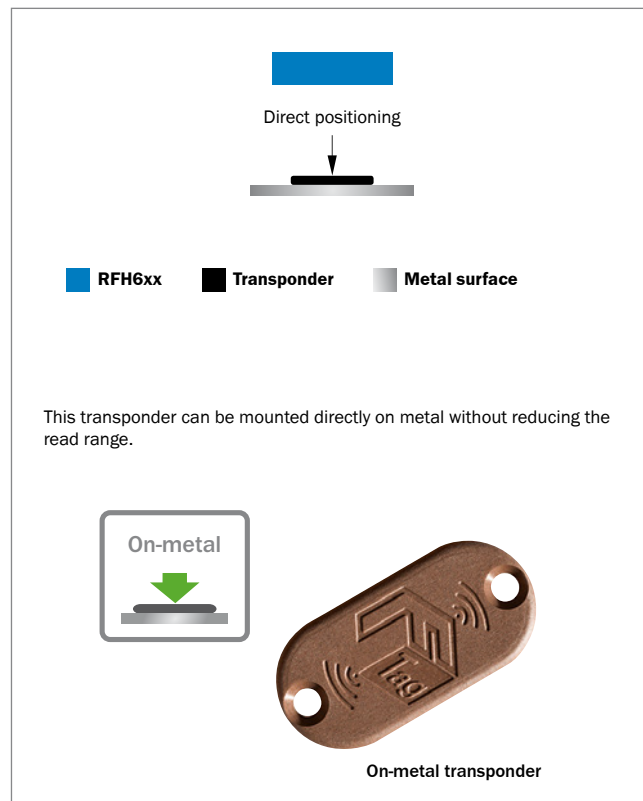
## Mounting on metal

The reading distance of standard transponders is reduced when in the vicinity of metal. The greater the distance between the transponder and the metal, the larger the maximum reading distance. The following diagram (on the left) displays the behavior of three transponders in a metallic environment. The recommended distance between the transponder and metal is 20 mm. In comparison, the disk transponder can achieve more than 90% of its reading distance in a non-metallic environment. The diagram on the right illustrates an alternative to directly positioning it on metal.

### Mounting on metal with separation distance

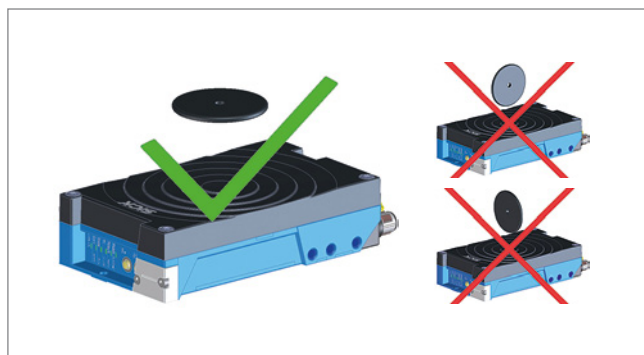


### Mounting direct on metal

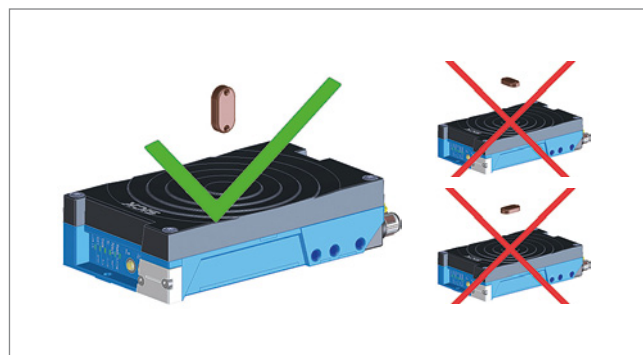


## Perfect orientation

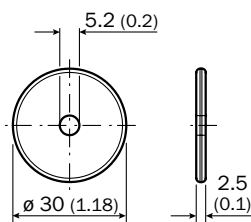
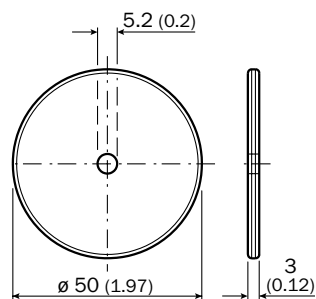
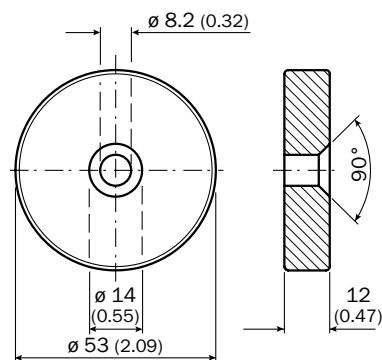
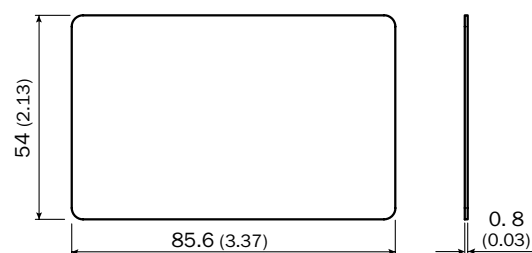
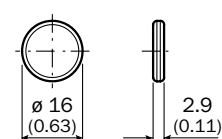
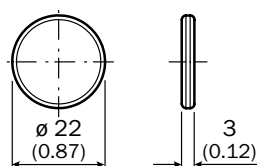
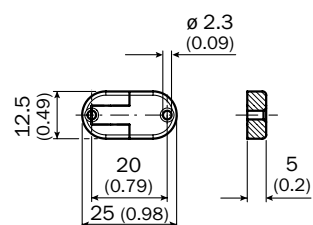
### For disc, coin and ISO card transponder



### For on-metal transponder and glass transponder



## Dimensional drawings

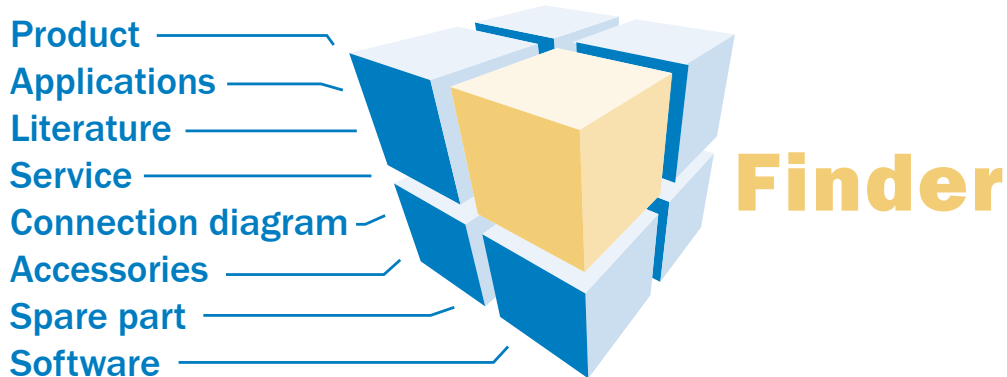
**Disc 30 mm****Disc 50 mm****Disk High Temp****Glass transponder****ISO card****Coin 16 mm****Coin 22 mm****On-metal transponder small**

All dimensions in mm (inch)





## Search online quickly and safely with the SICK “Finders”



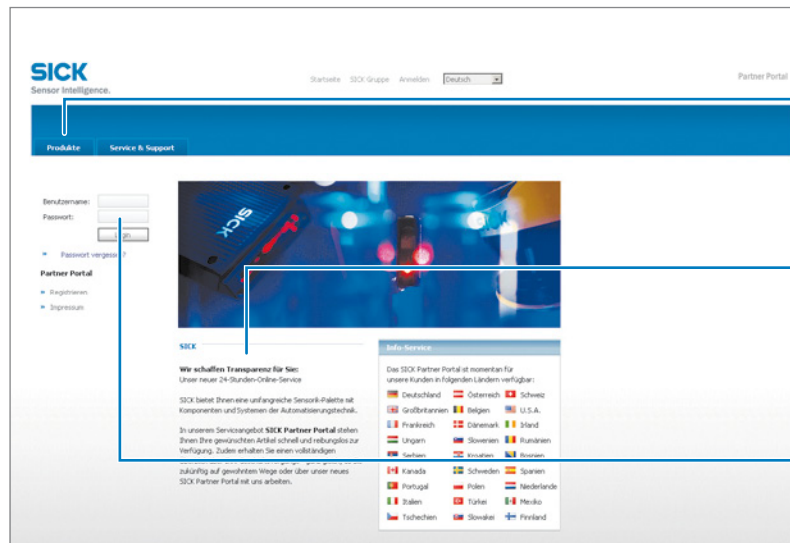
**Product Finder:** We can help you to quickly target the product that best matches your application.

**Applications Finder:** Select the application description on the basis of the challenge posed, industrial sector, or product group.

**Literature Finder:** Go directly to the operating instructions, technical information, and other literature on all aspects of SICK products.

These and other Finders at [www.mysick.com](http://www.mysick.com)

## Efficiency – with SICK e-commerce tools



**Clearly structured:** You can find everything you need for your sensor planning under the menu items Products, Information, and My Account.

**Available 24 hours a day:** Regardless of where you are in the world or what you'd like to know – everything is just a click away at [www.mysick.com](http://www.mysick.com).

**Safe:** Your data is password-protected and only visible to you. With the individual user management, you define who can see what data and who can execute what actions.

### Find out prices and availability

Determine the price and possible delivery date of your desired product simply and quickly.

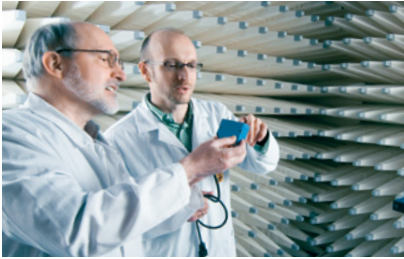
### Request or view a quote

You can have a quote generated online here. Every quote is confirmed to you via e-mail.

### Order online

You can go through the ordering process in just a few steps.

## SICK at a glance



### Leading technologies

With a staff of more than 5,000 and over 50 subsidiaries and representations worldwide, SICK is one of the leading and most successful manufacturers of sensor technology. The power of innovation and solution competency have made SICK the global market leader. No matter what the project and industry may be, talking with an expert from SICK will provide you with an ideal basis for your plans – there is no need to settle for anything less than the best.



### Unique product range

- Non-contact detecting, counting, classifying, positioning and measuring of any type of object or media
- Accident and operator protection with sensors, safety software and services
- Automatic identification with bar code and RFID readers
- Laser measurement technology for detecting the volume, position and contour of people and objects
- Complete system solutions for analysis and flow measurement of gases and liquids



### Comprehensive services

- SICK LifeTime Services – for safety and productivity
- Application centers in Europe, Asia and North America for the development of system solutions under real-world conditions
- E-Business Partner Portal [www.mysick.com](http://www.mysick.com) – price and availability of products, requests for quotation and online orders

Worldwide presence with subsidiaries in the following countries:

Australia  
Belgium/Luxembourg  
Brasil  
Česká Republika  
Canada  
China  
Danmark  
Deutschland  
España  
France  
Great Britain  
India  
Israel  
Italia  
Japan

México  
Nederland  
Norge  
Österreich  
Polska  
România  
Russia  
Schweiz  
Singapore  
Slovenija  
South Africa  
South Korea  
Suomi  
Sverige  
Taiwan  
Türkiye  
United Arab Emirates  
USA

Please find detailed addresses and additional representatives and agencies in all major industrial nations at [www.sick.com](http://www.sick.com)