2024 RFID Solutions



Product Catalog

RFID Solutions

English
Stand 12/2024
www.hermos.com

HERMOS

MEMBER OF
ELEVION GROUP

Welcome to our RFID product catalog

Preface

HERMOS AG offers RFID standard products for various applications in industry and trade. Our products meet the highest demands on reliability and security through high-quality RFID and sensor technology. We offer a selection of readers and antennas in different frequency ranges (LF 134.2 kHz, HF 13.56 MHz, UHF 860-960 MHz).

In our product catalog you will find an overview of our standard products, which have been successfully used in industry for years.

CONTENT

1 RFID Basics

1.1 RFID-Technik 4

1.2 RFID Lesegerät 4

1.3 RFID Antenne 4

1.4 RFID Transponder 5

1.5 RFID Frequenzen 5

1.6 RFID Geräte-Wegweiser 5

2 RFID products LF

2.1 RFID LF Reader 8

2.1.1 LFM LP Reader 8
2.1.2 LFM Reader 10
2.1.3 LFM Reader E84 12
2.1.4 Reader LFM KIT LP 14
2.1.5 LFP Handheld 16

2.2 RFID LF Antennas 18

2.2.1 LF Rod antenna S 18
2.2.2 LF Rod antenna M 20
2.2.3 Block antenna M 22
2.2.4 Block antenna L 24

3 RFID products H

3.1 RFID HF Reader ....

3.1.1 HFP Handheld .....
3.1.2 HFS E-Signreader..
3.1.3 HFS Display Reade
3.1.4 HFS OEM module..
3.1.5 HFS SL Reader.....
3.1.6 HFM 6x Reader.....
3.1.7 HFM WIP-Regal ...

3.2 RFID HF antennas .

3.2.1 HF Accessories - An
3.2.2 HF Block antenna ..
3.2.3 HF E-Sign antenna
3.2.4 HF Frame antenna



HERMOS AG
Gartenstraße 19 | 95490 Mistelgau | Germany

Phone: +49 9279 991-0
Mail: rfid@hermos.com

www.hermos.com

HF

.....28

.....28
.....30
er 32
.....34
.....36
.....38
.....42

.....46

ntenna Cable 44
.....46
.....48
.....50

4 RFID products UHF

4.1 RFID UHF Reader 54

4.1.1 UHF Display Reader 54
4.1.2 UFS Compact Reader..... 56
4.1.3 UFC Kanban conveyor reader 58
4.1.4 UFC Kanban mailbox 60

4.2 RFID UHF antennas 62

4.2.1 UHF Compact antenna 62
4.2.2 UHF Mini antenna 64
4.2.3 UHF Accessories - antenna cable 66

5 Accessories

5.1 Plug power supplies 12W..... 70

1.0 RFID Basics

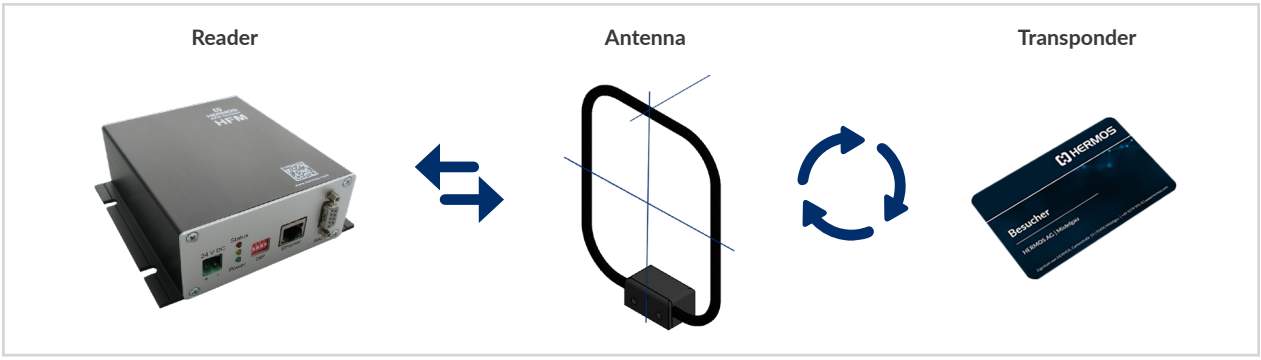
1.1 RFID technology

RFID = Radio Frequency Identification

RFID stands for Radio Frequency Identification. With this technology, data is transmitted contactlessly and without visual contact from a data carrier, the so-called transponder or tag, to an RFID reader and vice versa. The term transponder is made up of the words transmitter and responder.

RFID System

A conventional RFID system consists of three components: An RFID reader, an RFID antenna, an RFID transponder (or tag) that is electronically programmed with unique data.



1.2 RFID Reader

The reader generates an electromagnetic alternating field and radiates this via a connected antenna. If a transponder is in the alternating field, it draws energy from the alternating field to supply power to the microchip it contains. Thus, while in the field, the transponder can receive read and write commands from the reader, execute them and respond to them without its own power supply. The RFID reader decodes the received data and forwards it to a higher-level host system, depending on the application. RFID readers work with different output powers and use different frequency ranges depending on the requirements. A selection of the readers offered can be found in the individual frequency ranges.

1.3 RFID antenna

An RFID antenna ensures the transmission of radio signals between the transmitter and receiver. It emits the electromagnetic waves generated by the reader and receives the radio signals from the transponder. Antennas are available in different sizes and shapes. Their shape and size depends largely on the environment into which the system is integrated. The desired read and write ranges also influence the design. The technology of RFID antennas differs according to their design and functionality and depending on the frequency range used. HERMOS offers a selection of standard antennas in the different frequency ranges (LF, HF and UHF) for various applications.

1.4 RFID transponder

The heart of an RFID system is a data carrier called a transponder or tag. As with antennas, the transponder‘s design and mode of operation also differ depending on the frequency range. Passive transponders do not have their own power supply and obtain their energy by building up an induction field with the help of the radio signals from the reader. Transponders are available in many different sizes, designs and protection classes, depending on the intended use. Common forms are mainly adhesive labels or chip cards.

1.5 RFID frequencies

In order to adapt perfectly to the respective requirements, RFID systems work with different frequency ranges. A distinction is made between three frequency ranges: low frequency, high frequency and ultra-high frequency.

Frequency range		Typical applications	Features
LF 30...500 KHz	Trovan 125 kHz TIRIS 134,2 kHz	- Access controls - Animal identification - immobilizers - tool recognition - waste management	- Low range <50 cm - Good properties with liquids or metal - Low data transmission rates - Robust, expensive transponders - Small encryption possible - No anti-collision
HF 3...30 MHz	ISO14443 13,56MHz ISO15693 13,56MHz ISO18000-3 NFC	- Library management - Document management - ticketing - commerce - Logistics applications	- Range <150 cm - Good properties in difficult environments (liquids, textiles) - Difficulties in metal environment - Small, flat transponder designs possible - Encryption possible - Anti-collision for 10-40 tags per second
UHF 850...950 MHz	EPC Class 1 868MHz EU EPC Class 2 915MHz US	- Logistics - Waste management - Warehouse Management - KANBAN Systems	- High range <10 m - Good properties in difficult environment - Reflections at long range - High data transmission rates - Low cost transponders - Anti-collision for more than 50 tags per second

1.6 HERMOS RFID Device Guide

As a developer, manufacturer and system integrator of RFID components, we are able to offer our customers an RFID solution tailored to their needs. HERMOS offers RFID standard products for different applications. The RFID readers work with different output powers and use different frequency ranges depending on the requirements. According to the following table the HERMOS RFID devices are grouped.

Range / Frequenz	Customer	OEM	Portable	Short Range	Mid Range	Long Range
LF 134,2 KHz	LFC	LFO	LFP	LFS	LFM	LFL
HF 13,56 MHz	HFC	HFO	HFP	HFS	HFM	HFL
UHF 865–928 MHz	UFC	UFO	UFP	UFS	UFM	UFL



HERMOS | MEMBER OF ELEVION GROUP

The Elevion Group is the solution provider for all tasks relating to the intelligent use of energy. With its focus on holistic energy services, the Elevion Group provides its customers with solutions that seamlessly combine sustainable CO^2 reduction, continuous increase in energy efficiency, significant savings in energy costs, and all areas of technical building equipment (TGA) and services. Elevion Group's subsidiaries are highly specialized companies offering full-service energy solutions with the financial strength of an international holding company.

With over 60 consolidated companies, Elevion Group operates in more than 12 countries, including Germany, Austria, Italy, Poland, Romania and Hungary.

More information about the Elevion Group:
www.eleviongroup.com



2 RFID Products LF








2.1 RFID LF Reader 8

2.1.1 LFM LP Reader 8
2.1.2 LFM Reader 10
2.1.3 LFM Reader E84 12
2.1.4 Reader LFM KIT LP 14
2.1.5 LFP Handheld 16

2.2 RFID LF Antennas 18

2.2.1 LF Rod antenna S 18
2.2.2 LF Rod antenna M 20
2.2.3 Block antenna M 22
2.2.4 Block antenna L 24

For more than 30 years we have been developing and manufacturing RFID readers and antennas with our own know-how. Our focus is on equipping and integrating equipment and processes in the semiconductor industry worldwide, but other industries also rely on our years of expertise. Many features and different protocols make our LF products real all-rounders, with which we can even easily replace equipment from other RFID manufacturers for the customer.





LFM LP Reader

The HERMOS RFID LFM LP Reader is a read/write device of the LFM class (LF Midrange), which communicates with passive LF transponders. It is designed for Auto-ID solutions in retail and industry. High quality components make the reader very reliable and error resistant. The reader can also be used in metallic environments. The device is particularly suitable for clean room applications with a reading distance in the small and medium range.

Technology
LFM Reader (LF Midrange 134,2 kHz)

Components
» RS232, Ethernet data interface or EtherCAT
» 1 antenna port
» LEDs for status display

Functions
» Automatic antenna tuning
» Configurable test mode with visual indication
» Configurable polling mode
» Automatic reading function
» Automatic detection of antenna break

Features
» Transponder identifiable according to ISO 18000-2
» Applications also in metallic environment
» Available with customized interfaces

The highlights

Antenna port
Automatic detection of antenna breakage (defective antenna or feed line).

RS232 or Ethernet interface
Simple and uncomplicated integration due to RS232 or Ethernet interface. Available data protocols are ASCII and SECS/HSMS are available.

Various configurations available
Available with customer specific interfaces and protocols. The reader has the following protocols:
» SECS/HSMS
» ASCII HERMOS
» ASCII Brooks Automation
» ASCII OMRON V640
» ASYST

Automatic tuning
Flexible reading range, adjustable according to requirements. Optimal adjustment of the antenna tuning to the environmental conditions.

Polling mode adjustable
Automated reading processes simplify the procedures and the control effort.

Configurable test mode
The reading range can be easily checked on site by the device. The result is displayed on a status LED.

Item number	Description			
	Interfaces	Protocol	Antennas	I/Os
HRF.R.LFM.1L.XR.L0.10A	RS232	ASCII und SECS	LEMO	Without
HRF.R.LFM.1S.XR.L0.10A	RS232	ASCII und SECS	SMA	Without
HRF.R.LFM.1L.XE.L0.10A	Ethernet	ASCII und SECS/ HSMS	LEMO	Without
HRF.R.LFM.1S.XE.L0.10A	Ethernet	ASCII und SECS/ HSMS	SMA	Without
HRF.R.LFM.1L.XE.L1.10A	Ethernet	ASCII und SECS/ HSMS	LEMO	1 In-, 1 Output
HRF.R.LFM.1S.XE.L1.10A	Ethernet	ASCII und SECS/ HSMS	SMA	1 In-, 1 Output
HRF.R.LFM.1L.EC.L0.10A	EtherCAT	ASCII – EC	LEMO	Without
HRF.R.LFM.1L.OE.L0.10A	Ethernet	Omron	LEMO	Without
HRF.R.LFM.1L.TE.L1.10A	Ethernet	ASYST	LEMO	1 In-, 1 Output

(Further variants and customer-specific configurations available on request)

Technical data

Interface:	**RS232, Ethernet, EtherCAT**	**Protection class:**	**IP40**
Protocols:	**ASCII HERMOS, SECS/HSMS, ASCII Brooks, ASCII OMRON V640, ASYST**	**Operating temperature:**	**0 °C to 50 °C**
		Storage temperature:	**-25 °C to 70 °C**
Antenna port:	**1**	**Permissible humidity:**	**at 50°C 25% to 80%**
Frequency:	**134.2 kHz; ISO18000-2; TIRIS**	**Current consumption:**	**80 mA / 300 mA (passive/active)**
dimensions:	**110 x 82 x 34 mm**	**Voltage:**	**20 - 28 V** (reverse polarity protected)
Weight:	**250 g**	**Conformity:**	**CE, FCC, KCC, NCC, Sirim, RoHS, Reach**
Housing material:	**aluminum black/nature anodized**		







LFM Reader

The HERMOS RFID LFM reader is a read/write device of the HERMOS LFM class (LF midrange), which communicates with passive transponders in the LF range (134.2 kHz). The reader can also be used in metallic environments. With four antenna connections, linking with multiple identification points is possible. Each antenna connection has its own antenna tuning, with which the connected antenna is tuned to the ambient conditions. RS232 and Ethernet are available as data interfaces.

Technology
LFM Reader (LF Midrange 134,2 kHz)

Components
» RS232 and Ethernet data interface
» 4 antenna ports
» 4 DIP switches and 3 status LEDs
» I/O module with inputs and outputs per antenna port

Functions
» power supply via Ethernet (PoE) possible
» automatic antenna tuning
» configurable polling mode
» Configurable test mode with optical display
» Automatic reading function

Features
» Transponder identifiable according to ISO 18000-2
» Applications also in metallic environment
» uncomplicated setting by means of DIP switch
» reader available with different IO modules

Die Highlights

Four antenna ports
Cost-saving concept due to the extended number of identification points.

Various configurations available
The number of available four antenna ports can be customer-specific adaptable. Different I/O modules available.

RS232 and Ethernet interface
Easy and uncomplicated integration due to RS232 and Ethernet interface.
ASCII and SECS/HSMS are available as data protocols.

The reader has the following protocols:
» SECS/HSMS
» ASCII HERMOS
» ASCII Brooks Automation

Automatic tuning
Flexible reading range, depending on requirements adjustable. Optimal adaptation of antenna tuning to environmental conditions. Automatic detection of antenna breakage (defective antenna or feed line).

Power over Ethernet (PoE)
Savings potential through the use of PoE within the network infrastructure, relief of the cost budget through fewer power supply units and less cabling.

Polling mode adjustable for each antenna
Automated reading processes simplify operations and control efforts.

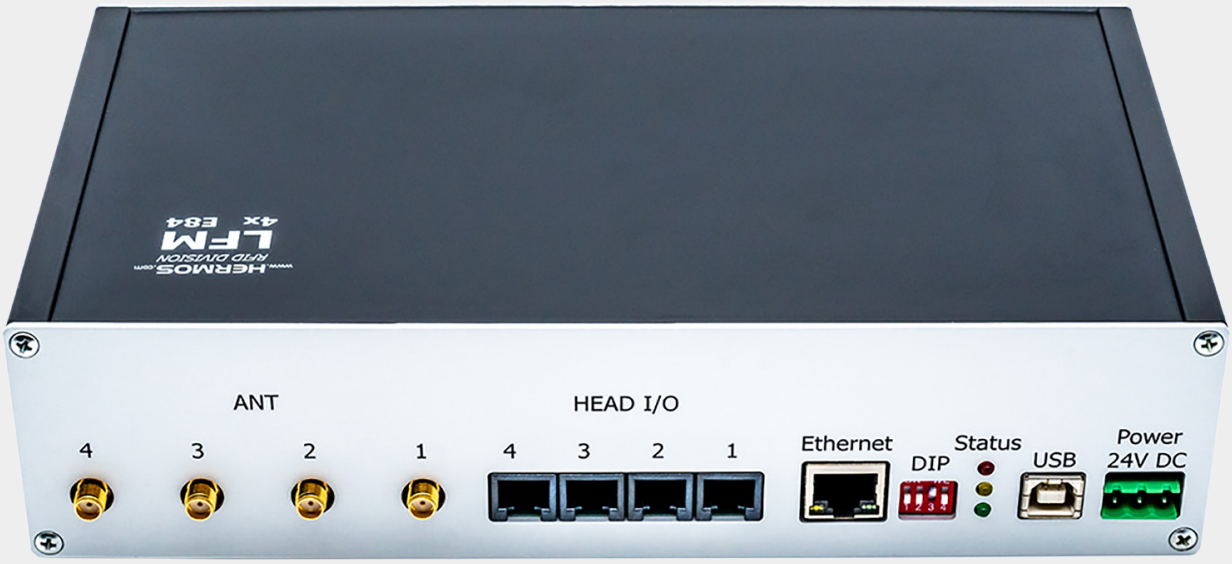
Configurable test mode with visual display
Visual monitoring of read characteristics through configurable test mode by means of DIP switches.

Item number	Description			
	Interfaces	Protocol	Antennas	I/Os
HRF.R.LFM.4S.XA.10.10A	Ethernet, RS232	ASCII, SECS		Without
HRF.R.LFM.4S.XA.18.10A	Ethernet, RS232	ASCII, SECS	Lemo 0S 3-polig Lemo 0S 2-polig	4 In 4 Out
HRF.R.LFM.4S.XE.10.10A	Ethernet RS232 (E-Sign)	ASCII, SECS		Without
HRF.R.LFM.4S.XE.1S.10A	Ethernet RS232 (E-Sign)	ASCII, SECS	6 In-, 8 Outputs (Phoenix MC 1,5 / 3,81 mm)	24V I/Os
HRF.R.LFM.4S.WA.10.10A	Ethernet, RS232	ASC-W1, SECS		Without
HRF.R.LFM.4S.WA.18.10A	Ethernet, RS232	ASC-W1, SECS	Lemo 0S 3-polig Lemo 0S 2-polig	4 In 4 Out

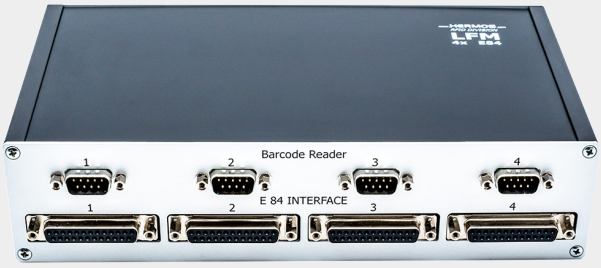
(Further variants and customer-specific configurations available on request)

Technical data

Interface:	**RS232, Ethernet**	**Protection class:**	**IP40**
Protocols:	**ASCII HERMOS, SECS/HSMS**	**Operating temperature:**	**0 °C to 50 °C**
Antenna port:	**4**	**Storage temperature:**	**-25 °C to 70 °C**
Frequency:	**134.2 kHz; ISO18000-2; TIRIS**	**Permissible humidity:**	**at 50°C 25% to 80%**
Dimensions:	**130 x 124 x 45 mm**	**Current consumption:**	**80 mA / 300 mA (passive/active)**
Weight:	**590 g**	**Voltage:**	**20 - 28 V** (reverse polarity protected)
Housing material:	**aluminum black/nature anodized**	**Conformity:**	**CE, FCC, RoHS, REACH**







LFM Reader E84

The HERMOS LFM RFID Reader E84 is a read/write device of the HERMOS LFM class with extended connection options for the complete connection to automated transport systems. The device is designed for load ports and has connection options for 4 RFID read heads with antennas, sensors and LEDs. For communication with a transport system the reader offers 4 interfaces according to SEMI standard E84. A barcode reader and an E-Ink display can be connected to each port.

Technology
LFM Reader 134,2 kHz

Components
» USB and Ethernet data interface
» 4 antenna ports with sensors and LEDs
» 4 E84 (D-Sub25) and barcode interfaces (D-Sub9)
» 4 display ports

Functions
» Supports Enhanced Carrier Handoff according to SEMI E84
» Automatic antenna tuning
» Automatic read function
» Status outputs on display

Die Highlights

USB and Ethernet interface
Easy and uncomplicated integration due to USB and Ethernet interface. Savings potential due to use of PoE within the network infrastructure.

Automatic tuning
Optimal adaptation of antenna tuning to the environmental conditions enables use even in metallic environments.

Enhanced Carrier Handoff (SEMI E84)
Simple expansion of transport systems with manual input and output stations.

Customized adaptations
Customized transfer stations for AMHS systems available.



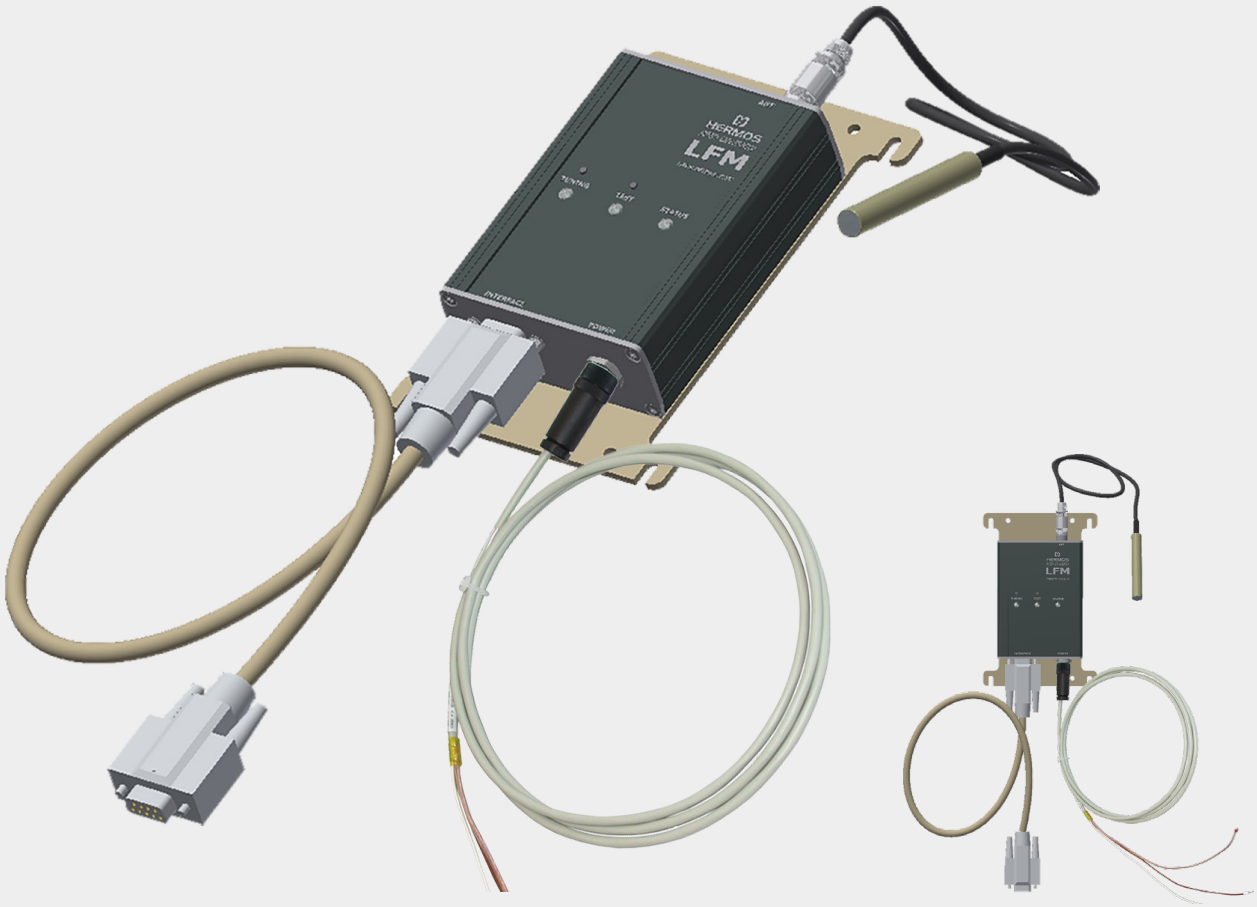
Item number	Description			
	Interfaces	Protocol	Antennas	I/Os
HRF.R.LFM.4S.SB.EB.10A	Ethernet, USB, 4xBC, 4xE84	ASCII / SECS	SMA	without
HRF.R.LFM.4S.SB.EBC.10A	Ethernet, USB, BC, E84	ASCII / SECS	SMA	4 In-, 4 Outputs
HRF.R.LFM.4S.SB.EBM.10A	Ethernet, USB, BC, E84	ASCII / SECS	SMA	4 M8 4-pin für Lasersensor

(Further variants and customer-specific configurations available on request)

Technical data

Interface:	**Ethernet, USB**
Protocols:	**ASCII , HSMS**
Antenna port:	**4**
Frequency:	**134.2 kHz; ISO18000-2; TIRIS**
Dimensions:	**130 x 124 x 45 mm**
Weight:	**500 g**
Housing material:	**black anodized aluminum**

Protection class:	**IP40**
Operating temperature:	**0 °C to 50 °C**
Storage temperature:	**-25 °C to 70 °C**
Permissible humidity:	**at 50°C 25% to 80%**
Current consumption:	**75 mA / 300 mA (passive/active)**
Voltage:	**20 - 28 VDC or PoE (48VDC)**
Conformity:	**CE, RoHS, REACH**



Reader LFM KIT LP

The HERMOS RFID LFM SET LP is an RFID set that contains all components necessary to equip a loadport with RFID functionality. It is designed for various loadport solutions in the semiconductor industry. High quality components make it very reliable and error resistant. Different configurations are available to be compatible with all loadport solutions on the market. The HERMOS RFID LFM SET LP offers maximum flexibility and reliability.

Technology
LFM Reader (LF Midrange 134,2 kHz)

Components
» LFM LP Reader
» LF rod antenna M
» Power supply cable
» RS232 cable
» Optional mounting plate

Functions
» Automatic antenna tuning
» Configurable test mode with visual indication
» Configurable polling mode
» Automatic reading function
» Automatic detection of antenna break

Features
» Transponder identifiable according to ISO 18000-2
» Applications also in metallic environment
» Available with customized interfaces

Die Highlights

Antenna Port
Automatic detection of antenna breakage (defective antenna or feed line).

RS232 or Ethernet interface
Simple and uncomplicated integration due to RS232 or Ethernet interface.
ASCII and SECS/HSMS are available as data protocols.

Polling mode adjustable
Automated reading processes simplify the processes and the control effort.

Automatic tuning
Flexible reading range, adjustable according to requirements. Optimal adaptation of antenna tuning to the environmental conditions.

Configurable test mode
The reading range can be easily checked on site by the device. The result is displayed on a status LED.

Various configurations available
Available with customized interfaces.

Item number	Description				
	Interfaces	Protocol	Antennas	Cable set	Footprint/ Mounting plate
HRF.K.LFM.LP.10A	RS232	ASCII/SECS	Rod M LEMO 1,0 m	Power cable 1,0 m RS232 1,0 m	Brooks LF80
HRF.K.LFM.LP.10B	RS232	ASCII/SECS	Rod M SMA 1,0 m	Power cable 1,0 m RS232 1,0 m	Brooks LF80
HRF.K.LFM.LP.11C	RS232	ASCII/SECS	Rod M SMA 1,5 m	Power cable 0,8 m RS232 (X) 1,0 m	Omron V640
HRF.K.LFM.LP.20A	RS232	ASCII/SECS	Rod M LEMO 1,0 m	Power cable 1,0 m RS232 1,0 m	Brooks ATR
HRF.K.LFM.LP.30A	RS232	ASCII/SECS	Rod M LEMO 1,5 m	-	-
HRF.K.LFM.LP.40B	RS232	ASCII/SECS	Rod S SMA 1,0 m	Power cable 3,0 m Sensor connector	Brooks ATR
HRF.K.LFM.LP.60A	RS232	Omron (1:1)	Rod M LEMO 1,5 m	-	-
HRF.K.LFM.LP.60S	Ethernet	Omron (1:1, 1:N)	Rod M LEMO 1,5 m	-	Omron V640

(Further variants and customer-specific configurations available on request)

Technical data

(Technical data of the accessories may vary depending on the KIT)

Interface: RS232, Ethernet
Protocols: ASCII HERMOS, SECS/HSMS, ASCII Brooks, ASCII OMRON V640, ASYST
Antenna port: 1
Frequency: 134.2 kHz; ISO18000-2; TIRIS
Dimensions: 110 x 82 x 34 mm (Reader)
Weight: 250 g (Reader)
Housing material: aluminum black/nature anodized (Reader)

Protection class: IP40 (Reader)
Operating temperature: 0 °C to 50 °C
Storage temperature: -25 °C to 70 °C
Permissible humidity: at 50°C 25 % to 80 %
Current consumption: 80 mA / 300 mA (passive/active)
Voltage: 20 – 28 V (reverse polarity protected)
Conformity: CE, FCC, KCC, NCC, Sirim, RoHS, REACH





LFP Handheld

The RFID reader LFP is a handheld reader for 134.2 kHz TIRIS transponders according to ISO standard 18000-2 with USB interface. The device can work in the two operating modes keyboard emulation and emulated RS232 interface. A read operation is initiated by pressing a button and confirmed by an LED and a beep if identification is successful. Depending on the selected operating mode, the read data is either output directly in an active input field (as with a keyboard input) or sent via an emulated RS232 interface (virtual COM port) in a defined ASCII protocol.

Technology
RFID-LF frequency 134.2 kHz (ISO 18000-2;
LF TIRIS transponder)

Components
» housing for ergonomic one-hand operation
» Integrated membrane keypad with LEDs
» integrated configurable buzzer
» USB connection cable in variable lengths up to 4.0 m
» The operating modes keyboard emulation and emulated RS232 interface combined in one device

Features
» Typical reading range of a LF TIRIS 32 mm glass transponder approx. 90 mm
» User friendliness due to easy handling
» Easy integration into existing processes
» In the operating mode keyboard emulation flexible parameterization through simple menu navigation
» In the operating mode emulated RS232 flexible parameterization via parameterization via defined messages
» Software update possible in emulated RS232 operating mode RS232 interface possible

Functions
» Mobile LF reader with medium reading range
» Operating modes: keyboard emulation or emulated RS232 interface
» Easy change between operating modes via key combination
» In the operating mode keyboard emulation installation-free

Commissioning (Plug & Play)
» In ASCII protocol operating mode, an RS232 interface is emulated interface is emulated (one-time driver installation required), here the reading and writing of data and the locking the locking (lock) of pages is possible
» Operation by push of a button
» Read button for index finger (bottom) or thumb (top)
» Optical display and adjustable acoustic feedback

The highlights

Ergonomic housing
Easy to use due to ergonomic handle area, for both right- and left-handers.

Membrane keypad
Easy operation through direct selection keys and LED displays in reading mode and menu navigation.

Simple process integration
Easy integration of the RFID solution into existing processes through the use of an HID interface (input like keyboard).

Flexible communication with standard ASCII protocol
Flexible rapid integration of the RFID solution into existing processes through communication using a simple standard ASCII protocol via a virtual COM port. In this mode also writing (programming) of transponders is possible.

Integrated antenna
The reader is equipped with an integrated antenna.

Customer specific adaptations
Customer specific functionalities are optionally implementable. Adaptation to customer-specific communication protocols is possible.

Part number	Description		
	Interfaces	Protocol	Length
HRF.R.LFP.0I.YU.10.12S	USB	Keyboard + ASCII	1,2 / 3,0 m Spiral cable
HRF.R.LFP.0I.YR.10.12S	RS232 (USB voltage)	Keyboard + ASCII	1,2 / 3,0 m Spiral cable

(Further variants and customer-specific configurations available on request)

Technical data

Connection: USB variable cable length up to 3m
antenna: integrated
Frequency: 134,2 kHz , ISO 18000-2, TIRIS
dimensions: 185 x 90 x 60 mm
weight: 450 g
Housing material: ABS
Protection class: IP40

Operating temperature: 0 °C to 50 °C
Storage temperature: -40 °C to 85 °C
Permissible humidity: at 50°C 25% to 80%
Current consumption: 80 mA / 300 mA (passive/active)
Voltage: 5 V (+/- 5%)
Compliance: FCC, RoHS, REACH





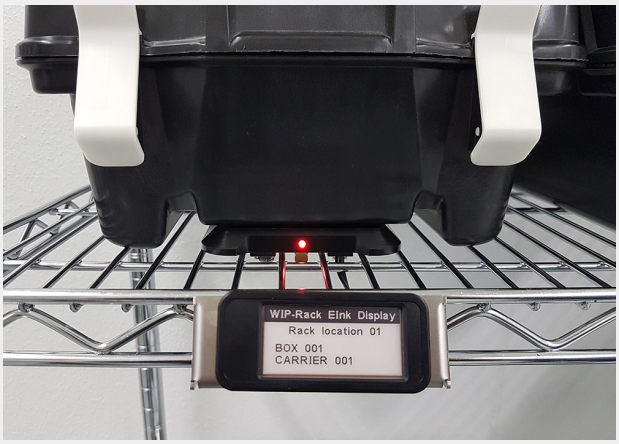
Boxes antenna head



Reading nest for 200mm carrier



E-Ink Display



LF
WIP Rack

The RFID WIP rack solution from HERMOS offers the possibility to equip lattice shelves with RFID functionality. This solution is applicable for all common shelf types and sizes and allows the retrofitting of existing shelves. The antenna heads are mounted directly on the shelf and connected to a central reader unit. The occupancy of a shelf location is detected by an integrated light sensor and an identification is performed automatically. Visualization at the shelf locations is provided by a multicolor LED or an E-Ink display. The shelf status and stock changes can be displayed on a panel PC.

Technology
RFID-LF Frequency 134.2 kHz (ISO 18000-2)

Components
» Central reading unit, up to 32-fold
» Special antenna heads for box or carrier, max. 32 pieces
» Antennas integrated in the antenna head, sensor and 3 colored LEDs
» E-Ink display (optional)

Functions
» Detection of shelf occupancy by optical sensor
» Automatic reading function and data transfer
» Visualization by multicolor LEDs at the shelf location
» Configurable test mode with optical display
» Level detection can be implemented

Features
» Easy RFID integration into existing shelves
» independent of shelf type and size
» LAN/WLAN interface
» Supports ASCII HERMOS protocol
» Supports SEMI Equipment Communication Standard SECS (on request)

The highlights

Touch panel PC (optional)
Status information, rack occupancy and other details can be displayed directly on the touch panel PC or transferred to the host.

Flexible configuration
The system is suitable for existing lattice racks and other rack types. It can be expanded modularly at any time. The number of rack locations and levels is flexible.

Power over Ethernet (PoE)
Savings potential through the use of PoE within the the network infrastructure.

Configurable test mode with visual display
Visual monitoring of the reading characteristics via DIP switches. Configurable test mode

Automatic data acquisition
Continuous inventory is maintained through automatic reading and data forwarding.

Event-controlled processes
ensure long component life.

E-Ink Displays
Detailed information can be displayed directly on an e-ink display.

Optimize your workflows with RFID!

» **Automatic inventory recording**
» **Recording of the production processes**
» **Optimization of the material stocks and thus the storage areas**

Part number	Description
HRF.W.LFM.32B.WV.1W.10K	**LF-Kit 32x** (LF-WIP 32x Reader + 32 Antennas (Read Head Box), Cable, Universal Kit for 32 Shelf,1- or 2-sided, or 2x16) **Hardware, with Display Connector, Generation 3 with Click Mounting in 7 Positions**
HRF.W.LFM.30B.WV.NW.10K	**LF-Kit 30x** (LF-WIP 32x Reader + 30 Antennas (Read Nest CAS), Cable, Kit for 30 Shelf) **Hardware, with Display Connector, Click Mount**

(Further variants and customer-specific configurations available on request)

As standard, the LFM WIP racks are designed for a maximum of 32 control stations. Further variants and customer-specific configurations are available on request.

Technical data

Interface:	**Ethernet**	**Operating temperature:**	**0 °C to 50 °C**
Protocols:	**ASCII HERMOS, SECS/HSMS (optional)**	**Storage temperature:**	**-25 °C to 70 °C**
Antenna port:	**32**	**Permissible humidity:**	**at 50°C 25% to 80%**
Frequency:	**134.2 kHz; ISO18000-2; TIRIS**	**Power consumption:**	**60 mA / 200 mA / max. 300 mA (passiv/reading/pulse)**
Housing material:	**Stainless steel/PP**		
Protection class:	**IP40**	**Voltage:**	**24 VDC and PoE**
Display:	**E-Ink display**	**Compliance:**	**FCC, RoHS, REACH**



LF rod Antenna S

The LF rod antenna S in the gray standard housing is a universally applicable and very compact solution for the LF range. The antenna is offered with a variable connector assembly. You can choose between Lemo standard connector, straight (picture) or angled and SMA connector. The cabling is done with a PVC cable , black. We offer different cable lengths.

RFID Antennas Frequency: 134,2 kHz

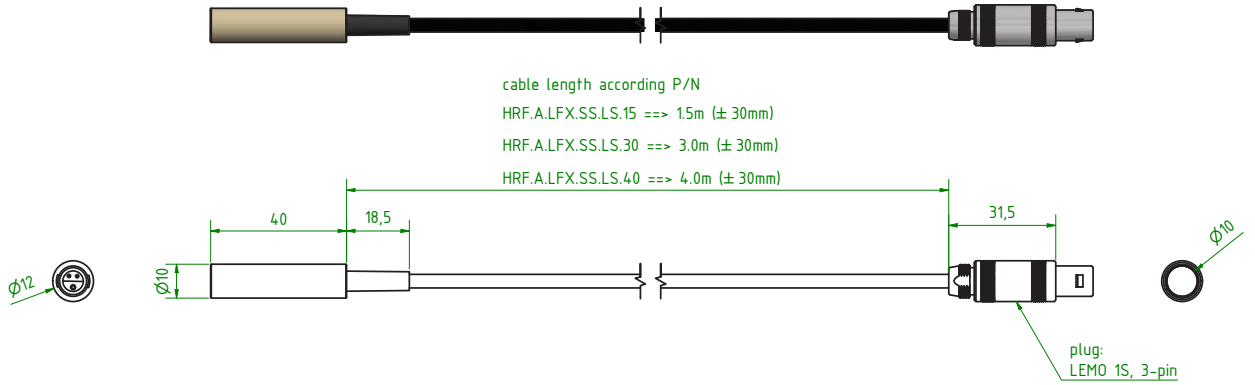
» Convenient plug-in connections for immediate use (push-pull system)
» Robust connectors for secure connections
» Different types and cable lengths available
» Compatible with HERMOS RFID readers (base LF)

Cable type

» PVC black
» Antenna housing: standard, max. reading range < 100 mm (depending on transponder type)

Connection options

» Cable eyelets for screwing on
» Open end, on request pre-assembled with Lemo standard connector, straight or angled or SMA connector



Part number	Description		
	Housing	Plug type	Length
HRF.A.LFX.SS.SS.xx	Standard housing	SMA	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0
HRF.A.LFX.SS.LS.xx	Standard housing	LEMO 1S	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0
HRF.A.LFX.SS.LW.xx	Standard housing	Lemo Angle plug	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0
HRF.A.LFF.SS.LS.xx	Standard housing	LEMO 1S	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0, flex cable
HRF.A.LFF.SS.SS.xx	Standard housing	SMA	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0, flex cable
HRF.A.LFC.SS.KS.xx	Standard housing	Cable eyelets	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0

(Further variants and customer-specific configurations available on request)

Technical data

Design:	**rod antenna**
Length antenna cylinder:	**40 mm**
Diameter antenna cylinder:	**10 mm**
diameter antenna cable:	**4,1 mm**
Antenna material:	**PP, light gray**
Frequency:	**134,2 kHz**
Cable sheath:	**PVC**

Cable length:	**Variant dependent**
Connector type:	**depending on variant**
Operating temperature:	**0 °C to 50 °C**
Storage temperature:	**-25 °C to 70 °C**
Permissible humidity:	**at 50°C 25% to 80%**
Conformity:	**RoHS, REACH**



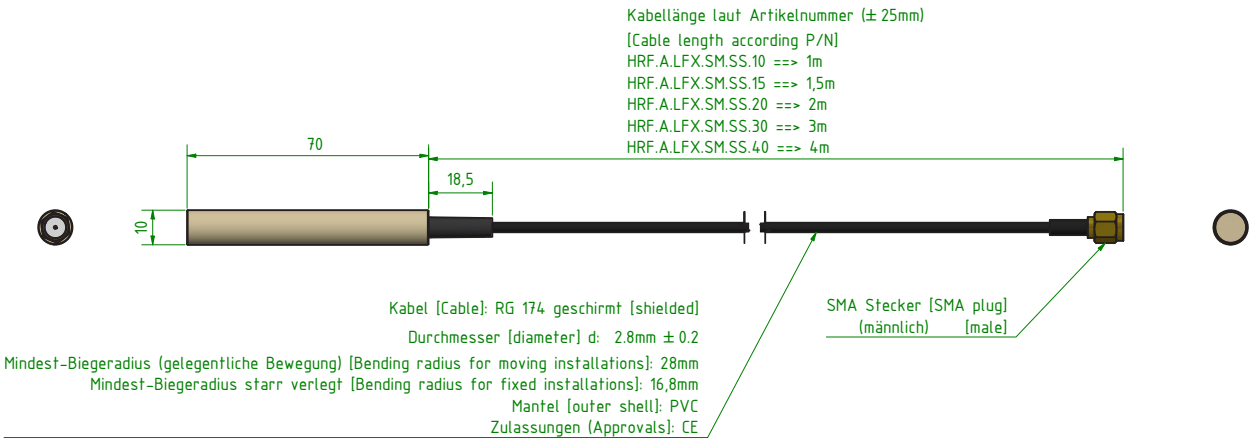
LF rod Antenna M

The LF rod antenna M in the gray standard housing is a universally applicable and very compact solution for the LF range. The antenna is offered with a variable connector assembly. You can choose between Lemo standard connector, straight (picture) or angled and SMA connector. The cabling is done with a PVC cable , black. We offer different cable lengths.

RFID Antennas Frequency: 134,2 kHz
» Convenient plug-in connections for immediate use (push-pull system)
» Robust connectors for secure connections
» Different types and cable lengths available
» Compatible with HERMOS RFID readers (base LF)

Cable type
» PVC black, temperature range from -35 / +80°C
» Flex cable for drag chains available
» Antenna housing: standard, max. reading range < 200 mm (depending on transponder type)

Connection options
» Cable eyelets for screwing on
» Open end, on request pre-assembled with Lemo standard connector, straight or angled or SMA connector

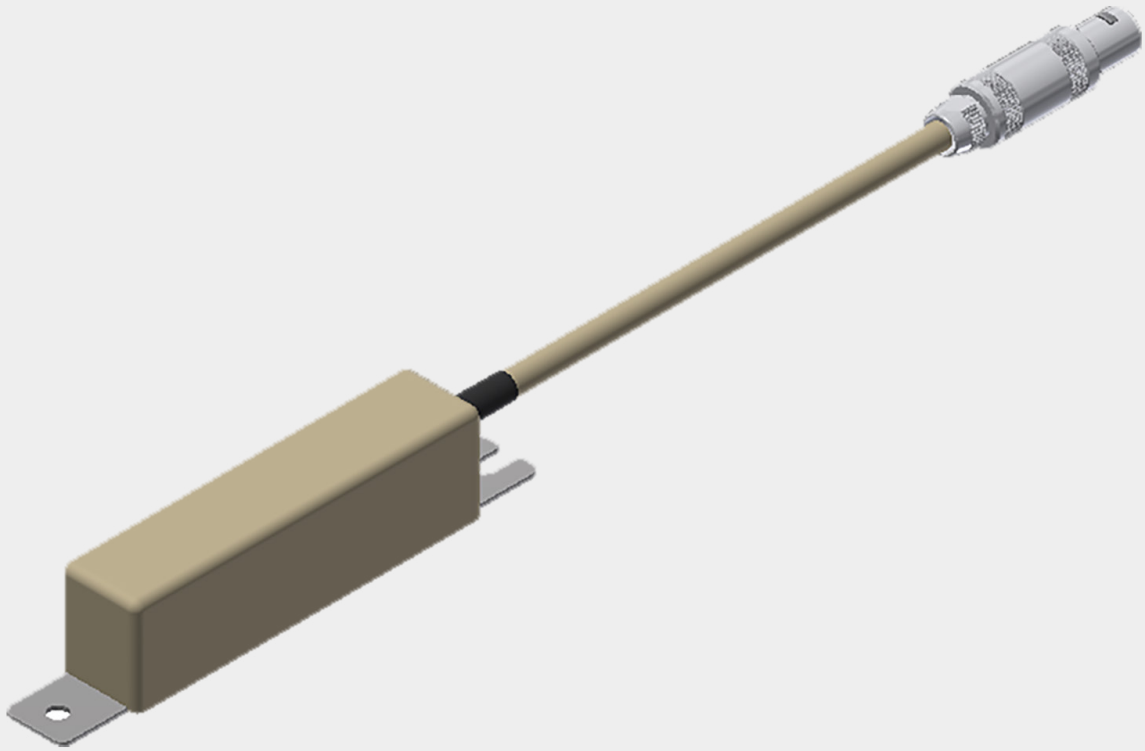


Part number	Description		
	Housing	Plug type	Length
HRF.A.LFX.SM.SS.xx	Standard housing	SMA	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0
HRF.A.LFX.SM.LS.xx	Standard housing	LEMO 1S	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0
HRF.A.LFX.SM.LW.xx	Standard housing	Lemo Angle plug	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0
HRF.A.LFF.SM.LS.xx	Standard housing	LEMO	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0, flex
HRF.A.LFF.SM.SS.xx	Standard housing	SMA	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0, flex
HRF.A.LFC.SM.KS.xx	Standard housing	Cable eyelets	xx = antenna cable in dm (10 = 1.0 m), available lengths: 1.0 1.5 2.0 3.0 4.0

(Further variants and customer-specific configurations available on request)

Technical data

Design:	**rod antenna**	**Cable length:**	**Variant dependent**
Length antenna cylinder:	**70 mm**	**Connector type:**	**depending on variant**
Diameter antenna cylinder:	**10 mm**	**Operating temperature:**	**0 °C to 50 °C**
diameter antenna cable:	**4,1 mm**	**Storage temperature:**	**-25 °C to 70 °C**
Antenna material:	**PP, light gray**	**Permissible humidity:**	**at 50°C 25% to 80%**
Frequency:	**134,2 kHz**	**Conformity:**	**RoHS, REACH**
Cable sheath:	**PVC**		



Block Antenna M

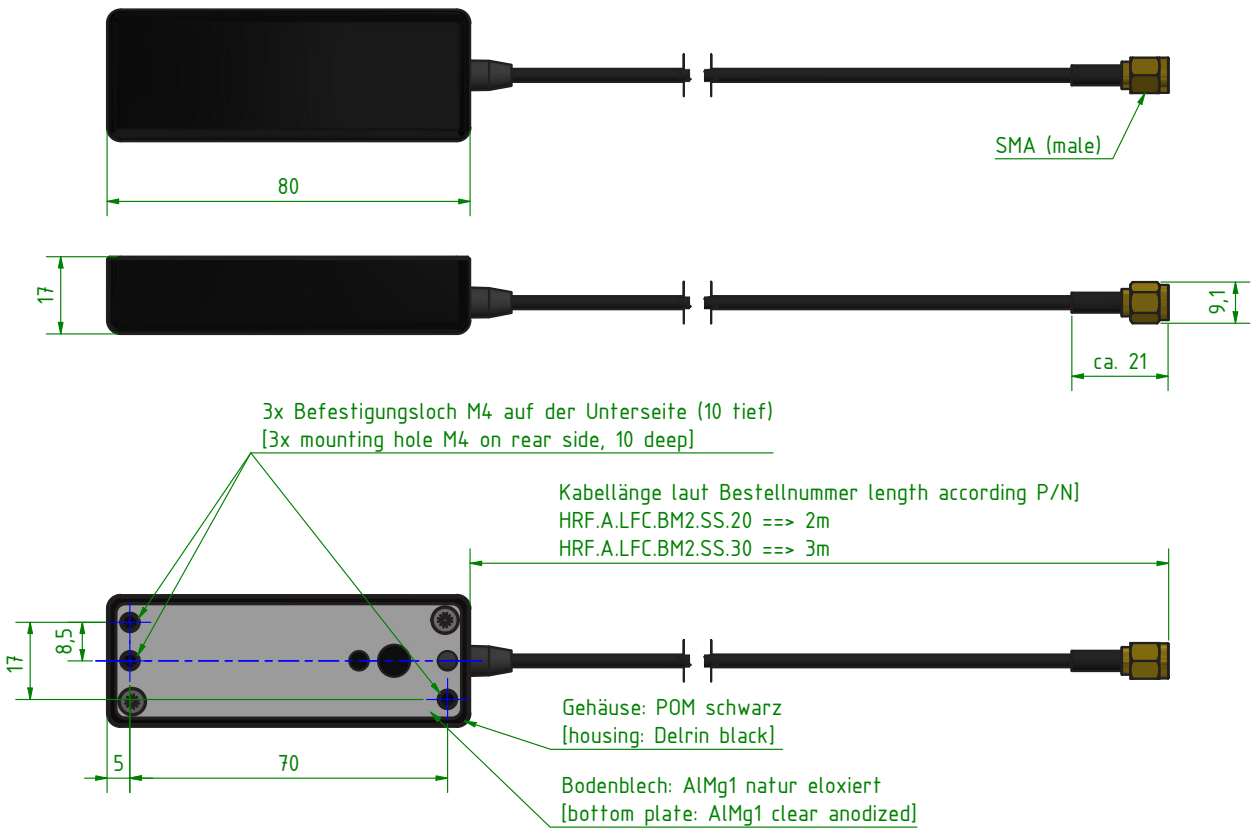
The Block Antenna M in the gray (black) standard housing is a universally applicable and compact solution for the LF range. The antenna is offered with a variable connector assembly. It is possible to choose between Lemo standard connector and SMA connector. The cabling is done by a PVC cable. We offer different cable lengths.

RFID Antennas Frequency: 134,2 kHz
» Convenient plug-in connections for immediate use (push-pull system)
» Robust connectors for secure connections
» Different types and cable lengths available
» Compatible with HERMOS RFID readers (base LF)

Cable type
» PVC cable, grey (LiYCY 2x0,5 mm²)
» Temperature range from -35 / +80°C
» Flex cable available for drag chains
» Antenna housing: standard, max. reading range < 200 mm (depending on transponder type)

Connection options
» Lemo or SMA standard connector
» Customized connections possible

Angaben in mm

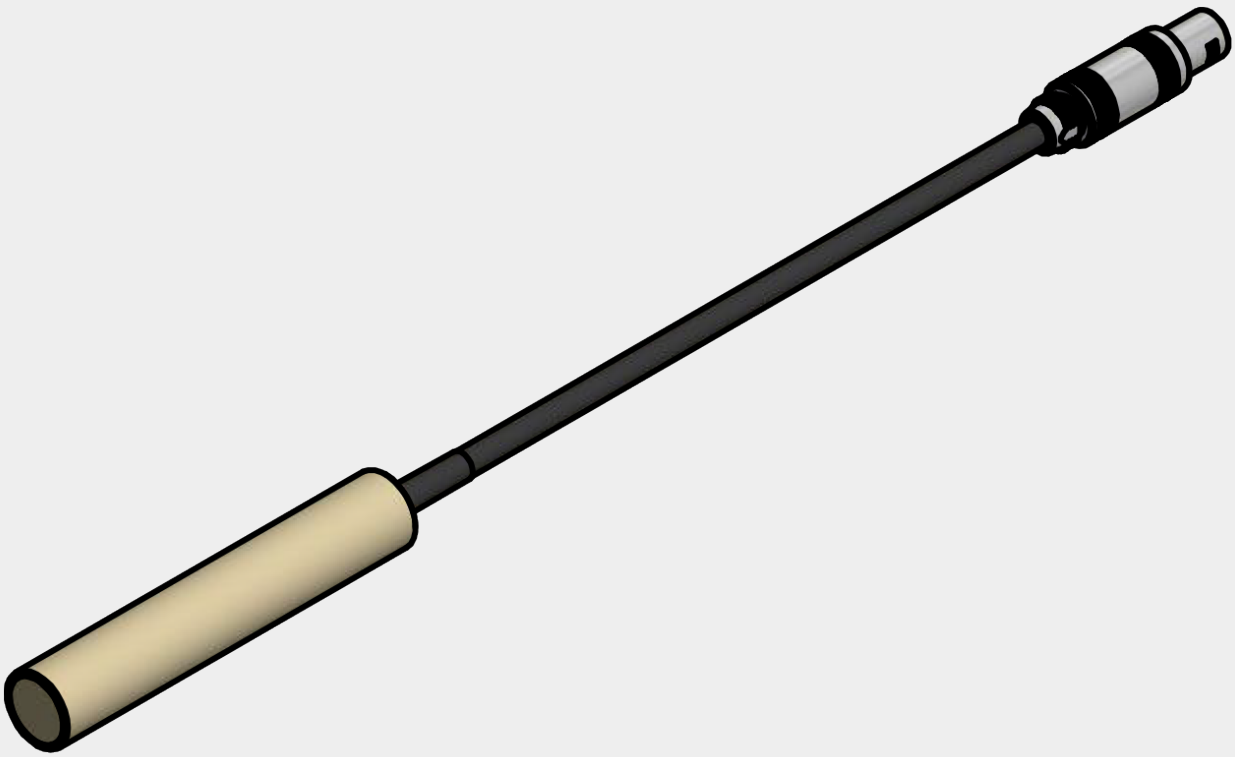


Part number	Description		
	Housing	Plug type	Length
HRF.A.LFC.BM.LS.20	Block M, PP gray Output lateral (IP65)	Lemo 1S	2,0 m
HRF.A.LFX.BM.LS.20	Block M, PP gray Output lateral (IP40)	Lemo 1S	2,0 m
HRF.A.LFX.BM.SS.20	Block M, PP gray Output lateral (IP40)	SMA	2,0 m
HRF.A.LFC.BM2.SS.20	Block M2, POM sw Output lateral (IP40)	SMA	2,0 m

(Further variants and customer-specific configurations available on request)

Technical data

Design:	**Block antenna**	**Cable length:**	**Variant dependent**
Dimensions:	**80 x 22 x 18 mm**	**Connector type:**	**Depends on variant**
Diameter antenna cable:	**4,1 mm**	**Operating temperature:**	**0 °C to 50 °C**
Antenna material:	**PPP, gray/black**	**Storage temperature:**	**-25 °C to 70 °C**
Frequency:	**134,2 kHz**	**Permissible humidity:**	**at 50°C 25% to 80%**
Cable sheath:	**PVC**	**Conformity:**	**RoHS, REACH**



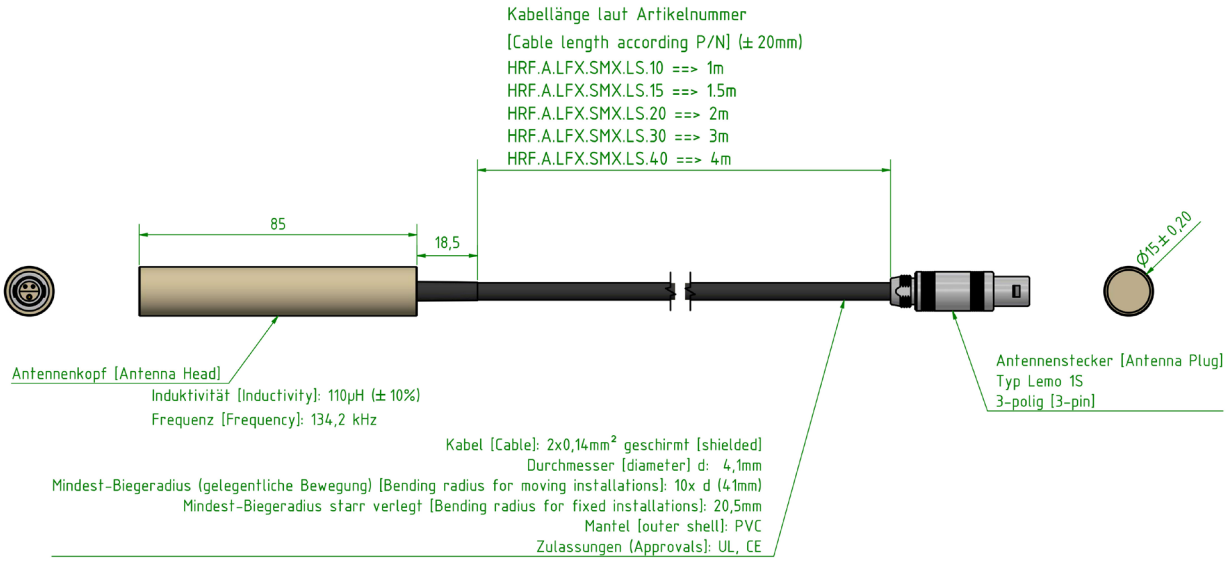
LF rod Antenna MX

The LF rod antenna MX in the gray standard housing is a universally applicable and very compact solution for the LF range. The antenna is offered with a variable connector assembly. You can choose between Lemo standard connector, straight or angled and SMA connector. The cabling is done with a PVC cable , black. We offer different cable lengths.

RFID Antennas Frequency: 134,2 kHz
» Convenient plug-in connections for immediate use (push-pull system)
» Robust connectors for secure connections
» Different types and cable lengths available
» Compatible with HERMOS RFID readers (base LF)

Cable type
» PVC black, temperature range from -35 / +80°C
» Flex cable available for drag chains
» Antenna housing: standard, max. reading range < 250 mm (depending on transponder type)

Connection options
» Cable eyelets for screwing on
» Open end, on request pre-assembled with Lemo standard connector, straight or angled or SMA connector

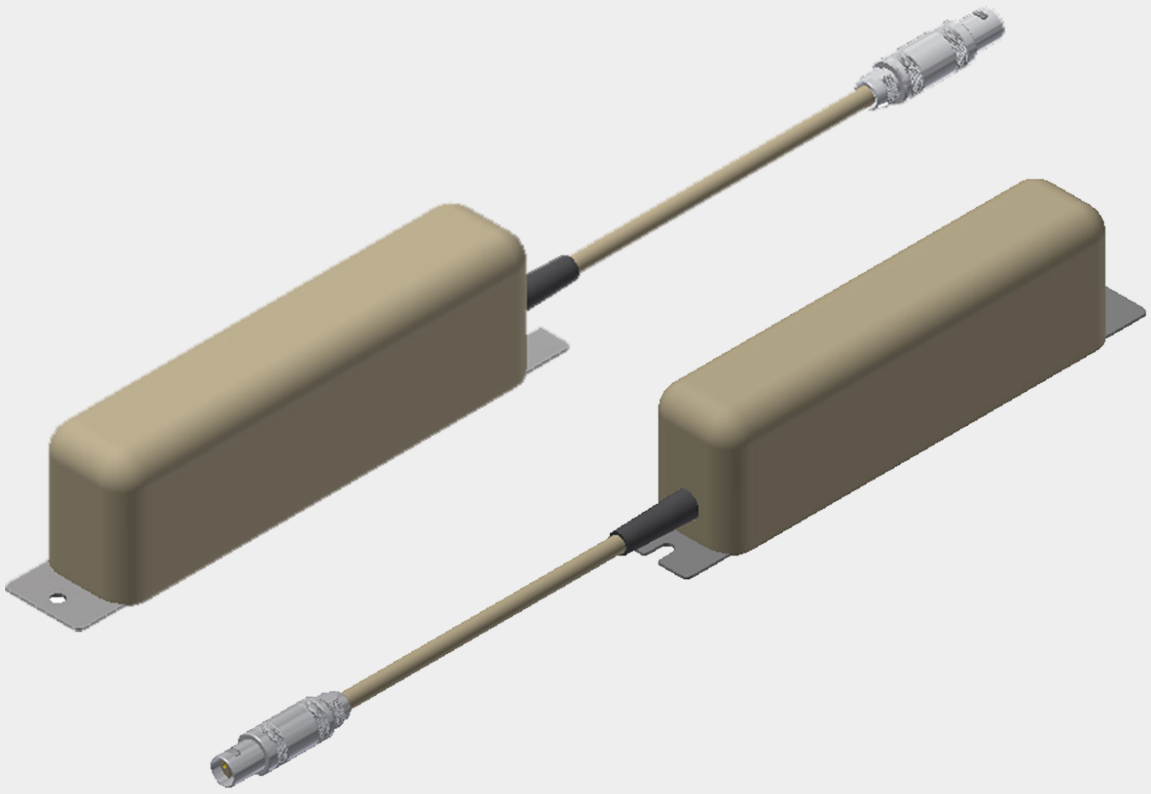


Part number	Description		
	Housing	Plug type	Length
HRF.A.LFX.SMX.LS.xx	Standard housing	LEMO 1S	xx = connection cable in dm
HRF.A.LFX.SMX.SS.xx	Standard housing	SMA	xx = connection cable in dm
HRF.A.LFF.SMX.LS.xx	Standard housing	LEMO 1S	xx = connection cable in dm Flex cable
HRF.A.LFF.SMX.SS.xx	Standard housing	SMA	xx = connection cable in dm Flex cable

(Further variants and customer-specific configurations available on request)

Technical data

Design:	**rod antenna**	**Cable length:**	**Variant dependent**
Length antenna cylinder:	**85 mm**	**Connector type:**	**depending on variant**
diameter antenna cylinder:	**15 mm**	**Operating temperature:**	**0 °C to 50 °C**
diameter antenna cable:	**4,1 mm**	**Storage temperature:**	**-25 °C to 70 °C**
Antenna material:	**PP, light gray**	**Permissible humidity:**	**at 50°C 25% to 80%**
frequency:	**34,2 kHz**	**Conformity:**	**RoHS, REACH**
Cable sheath:	**PVC**		



Block Antenna L

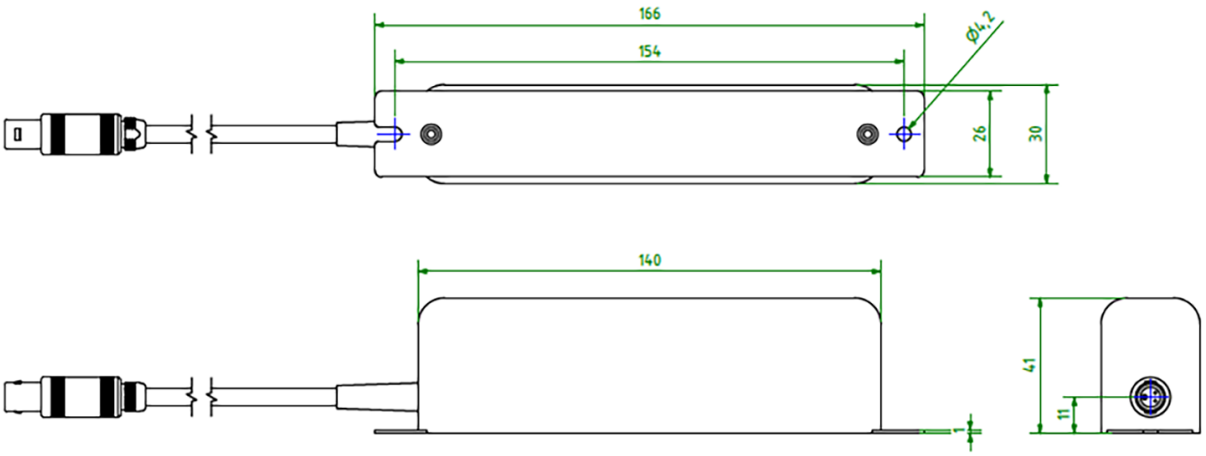
The Block Antenna L in the gray standard housing is a universally applicable and compact solution for the LF range. The antenna is offered with a variable connector assembly. You can choose between Lemo standard connector and SMA connector. The cabling is done by a PVC cable. We offer different cable lengths.

RFID Antennas Frequency: 134,2 kHz
» Convenient plug-in connections for immediate use (push-pull system)
» Robust connectors for secure connections
» Different types and cable lengths available
» Compatible with HERMOS RFID readers (base LF)

Cable type
» PVC cable, grey (LiYCY 2x0,5 mm²)
» Temperature range from -35 / +80°C
» antenna housing: standard, max. reading range < 250 mm (depending on transponder type)

Connection options
» Lemo or SMA standard connector
» Customized connections possible

Angaben in mm

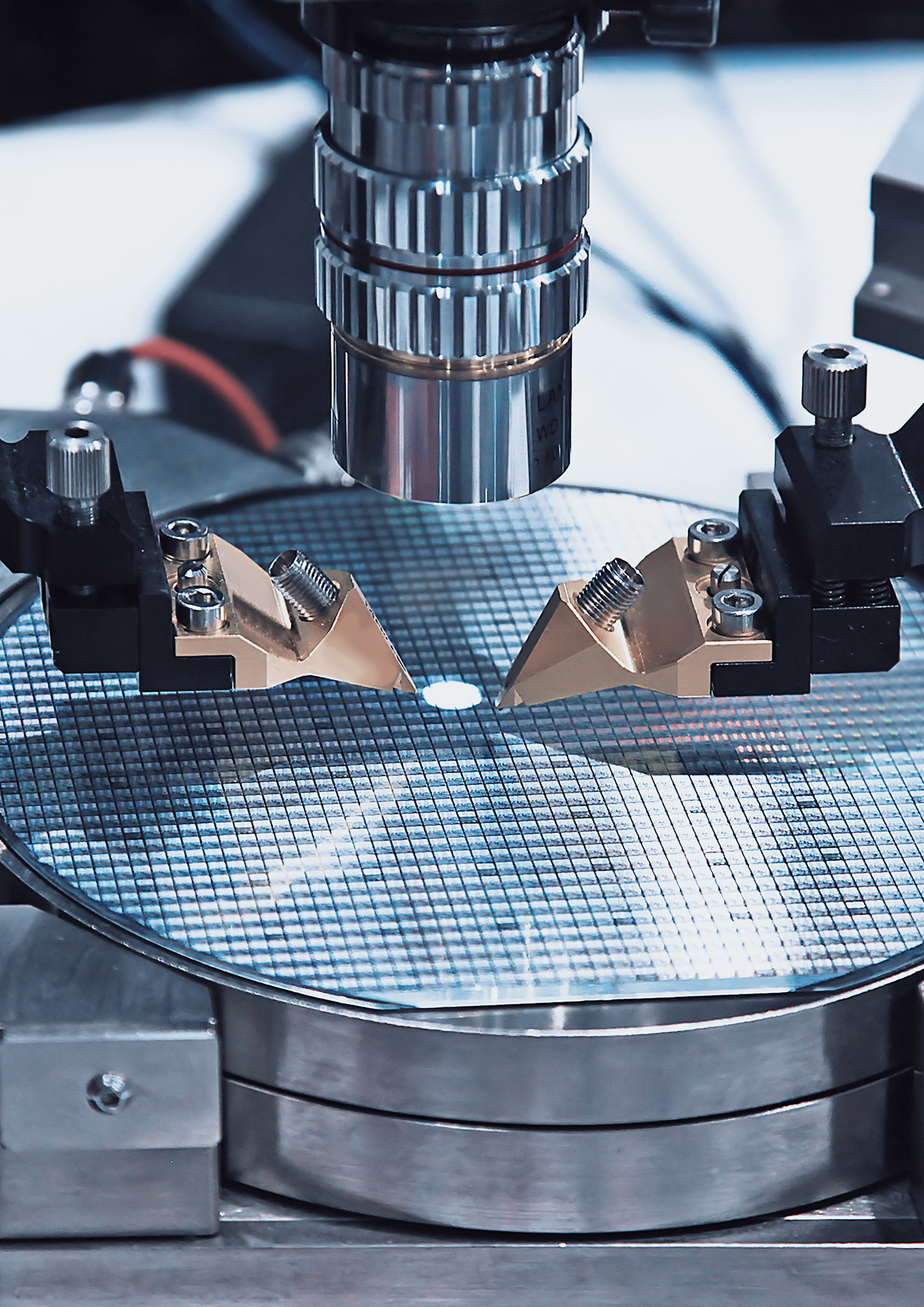


Part number	Description		
	Housing	Plug type	Length
HRF.A.LFC.BL.LS.60	Block L gray Output lateral (IP65)	Lemo 1S	6,0 m
HRF.A.LFX.BL.LS.60	Block L gray Output lateral (IP40)	Lemo 1S	6,0 m
HRF.A.LFX.BL.SS.20	Block L gray Output lateral (IP40)	SMA	2,0 m

(Further variants and customer-specific configurations available on request)

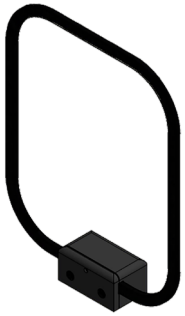
Technical data

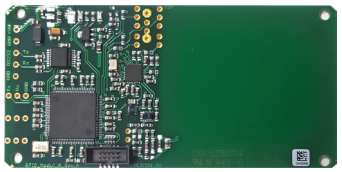
Design:	**Block antenna**	**Cable length:**	**Variant dependent**
Dimensions:	**140 x 41 x 30 mm**	**Connector type:**	**Depends on variant**
Diameter antenna cable:	**4,1 mm**	**Operating temperature:**	**0 °C to 50 °C**
Antenna material:	**PPP, gray/black**	**Storage temperature:**	**-25 °C to 70 °C**
Frequency:	**134,2 kHz**	**Permissible humidity:**	**at 50°C 25% to 80%**
Cable sheath:	**PVC**	**Conformity:**	**RoHS, REACH**



3 RFID Products HF





3.1 RFID HF Reader 28

3.1.1 HFP Handheld 28
3.1.2 HFS E-Signreader..... 30
3.1.3 HFS Display Reader 32
3.1.4 HFS OEM Module..... 34
3.1.5 HFS SL Reader..... 36
3.1.6 HFM 6x Reader..... 38
3.1.7 HFM WIP-Rack 42

3.2 RFID HF Antennas..... 46

3.2.1 HF Accessories - Antenna Cables.. 44
3.2.2 HF Block Antenna 46
3.2.3 HF E-Sign Antenna 48
3.2.4 HF Frame Antenna 50

For more than 30 years we have been developing and manufacturing RFID readers and antennas with our own know-how. Our focus is on equipping and integrating equipment and processes in the semiconductor industry worldwide, but other industries also rely on our years of expertise. Many features and different protocols make our RF products real all-rounders, with which we can even easily replace equipment from other RFID manufacturers for the customer.



HFP Handheld

The RFID Reader HFP is a handheld reader with keyboard emulation for 13.56 MHz transponders according to ISO standard 15693. The reader is automatically recognized when connected to a USB port without driver installation. A read operation is triggered by pressing a button and is indicated by an LED and a beep when identification is successful. The read data is displayed in an active input field or an application program, as with a keyboard input (HID Human Device Interface).

Technology
RFID-HF Frequenz 13,56 MHz (ISO 15693)

Functions
» Mobile HF reader with medium reading range
» Installation-free commissioning (Plug&Play)
» Operation at the push of a button
» Optical and acoustic display
» Keyboard emulation, optional emulated RS232 interface

Components
» Housing for ergonomic one-hand operation
» Integrated membrane keyboard with LEDs
» USB connection cable in variable lengths

Features
» Typical reading range with HF transponder card approx. 120 mm
» Transmitting power approx. 200 mW
» User-friendly due to easy handling
» Easy integration into existing processes
» Flexible parameterization through simple menu navigation

The highlights

Ergonomic housing
Easy to use due to ergonomic grip area, for both right and left handed users.

Membrane keypad
Easy operation through direct selection keys and LED displays in reading mode and menu navigation.

Simple process integration
Easy integration of the RFID solution into existing processes through the use of an HDI interface.

Flexible configuration
Menu-guided setting of parameters enables flexible and intuitive configuration.

Integrated antenna
The reader is equipped with an integrated antenna.

Customization
Customer-specific functionalities can be implementable.



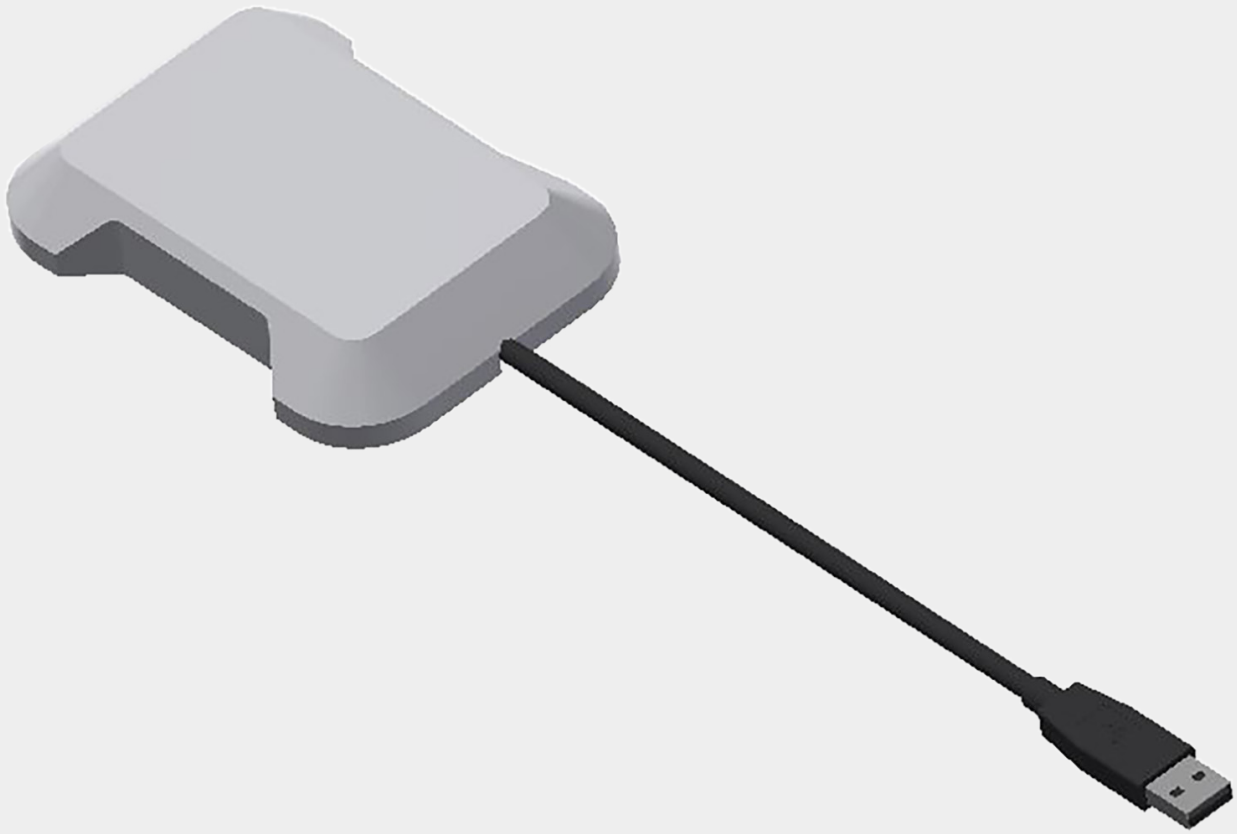
Part number	Description		
	Housing	Plug type	Length
HRF.R.HFP.0I.KU.10.30A	USB	Keyboard	3,0 m
HRF.R.HFP.0I.AU.10.30A	USB	ASCII	3,0 m
HRF.R.HFP.0I.SU.10.30A	USB	SECS	3,0 m

(Further variants and customer-specific configurations available on request)

Technical data

Connection:	**USB variable cable length up to 3m**
antenna:	**integrated**
Frequency:	**13,56 MHz , ISO 15693**
transmitting power:	**200 mW**
dimensions:	**185 x 90 x 60 mm**
weight:	**450 g**
Housing material:	**ABS**

Protection class:	**IP40**
Operating temperature:	**0 °C to 50 °C**
Storage temperature:	**-40 °C to 85 °C**
Permissible humidity:	**at 50°C 25% to 80%**
Current consumption:	**80 mA / 300 mA (passive/active)**
Voltage:	**5 V (+/- 5%)**
Conformity:	**CE, RoHS, REACH**



HFS E-Signreader

The RFID reader HFS E-Sign is a reader for 13.56 MHz transponders according to ISO standard 15693. Due to the small design, the E-Sign reader is ideal for direct operation at the reading point. This reader is also a practical, effective and extremely inexpensive alternative for quickly and easily adding RFID capability to PCs. The reader is available in RS232 and USB versions. A driver for the USB variant is offered for all common operating systems.

Technology
RFID HF frequency 13.56 MHz (ISO15693)

Components
» Rugged POM housing
» Integrated antenna
» 3 user LEDs, 1 RGB LED on the side

Functions
» Adjustable polling mode
» Status display via LEDs

Features
» Transponder identifiable according to ISO15693
» Application also in metallic environment
» User-friendly due to easy handling
» Problem-free integration into existing processes

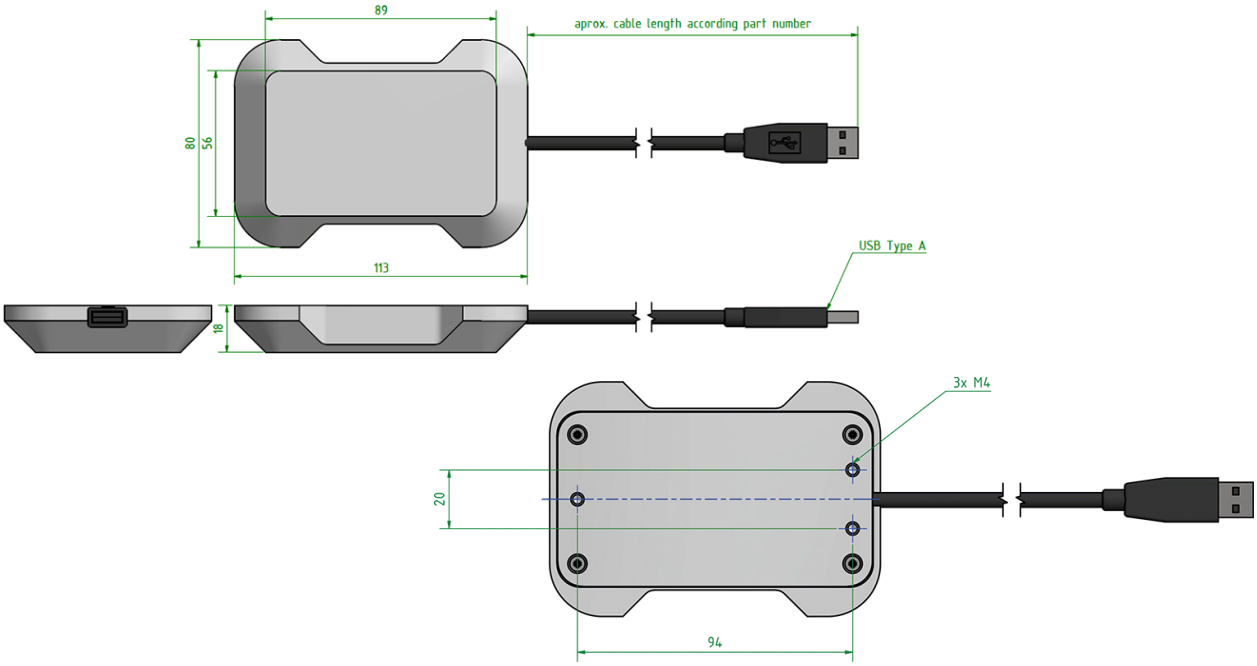
The highlights

Compact housing
Compact design allows operation as a desktop reader or direct mounting at the reading point.

Integrated antenna
The reader is already equipped with an integrated antenna. equipped.

Simple process integration
Easy integration of the RFID solution into existing processes

Customer-specific adaptations
Customer-specific functionalities can be implementable



Part number	Description		
	Housing	Plug type	Length
HRF.R.HFS.0I.XR.E0.50A	RS232	ASCII, SECS	5,0 m
HRF.R.HFS.0I.XU.E0.30A	USB	ASCII, SECS	3,0 m
HRF.R.HFS.0I.XU.E0.50A	USB	ASCII, SECS	5,0 m

(Further variants and customer-specific configurations available on request)

Technical data

Interface: RS232, USB
Protocols: ASCII, SECS
Connection: USB variable cable length up to 3m
antenna: frame antenna, internal
Frequency: 13,56 MHz , ISO 15693
transmit power: 200 mW
dimensions: 113 x 80 x 18 mm
weight: 150 g

Housing material: POM
Protection class: IP20
Operating temperature: -10 °C to 50 °C
Storage temperature: -40 °C to 85 °C
Permissible humidity: at 50°C 25% to 80%
Current consumption: 80 mA / 300 mA (passive/active)
Voltage: 5 V (+/- 5%)
Conformity: CE, RoHS, REACH







HFS Display Reader

The HERMOS HFS Display Reader is designed for use in the intelligent handling of processes and sequences. Feedback signals or instructions for the operating personnel can be visualized. The simple integration of this reader via Ethernet (PoE) enables a customer-oriented application. The integration of a user interface and the use of the SD card data memory make this reader universally applicable.

Technology
RFID HF 13,56 MHz (ISO 15693)

Components
» 3.5“ LCD display with touch
» 6 status LEDs and one buzzer
» PoE Ethernet data interface
» protected micro SD card slot
» integrated antenna

Functions
» configuration directly at the device via touch display
» Status indication via LEDs, buzzer and display
» Micro SD slot for backup of configuration and log data
» Password-protected display access

Features
» User-friendly due to easy handling
» Easy integration into existing processes
» Flexible parameterization and software updates via Ethernet or SD card
» Configuration as stand-alone or system solution
» Customer-specific user interface (GUI)

The highlights

Touch Display
Direct configuration via the built-in touch display.

Customized UI
Optional integration of a customer-specific user interface

Micro SD card slot
Backup of important data for configuration as well as log data.

Password security
Password protected access to the display, depending on the application.

Flexible configuration
Communication via Ethernet.
Parameterization data as well as software updates can be imported remotely or via the micro SD card.

Simple process integration
Easy integration of the RFID solution into existing processes.

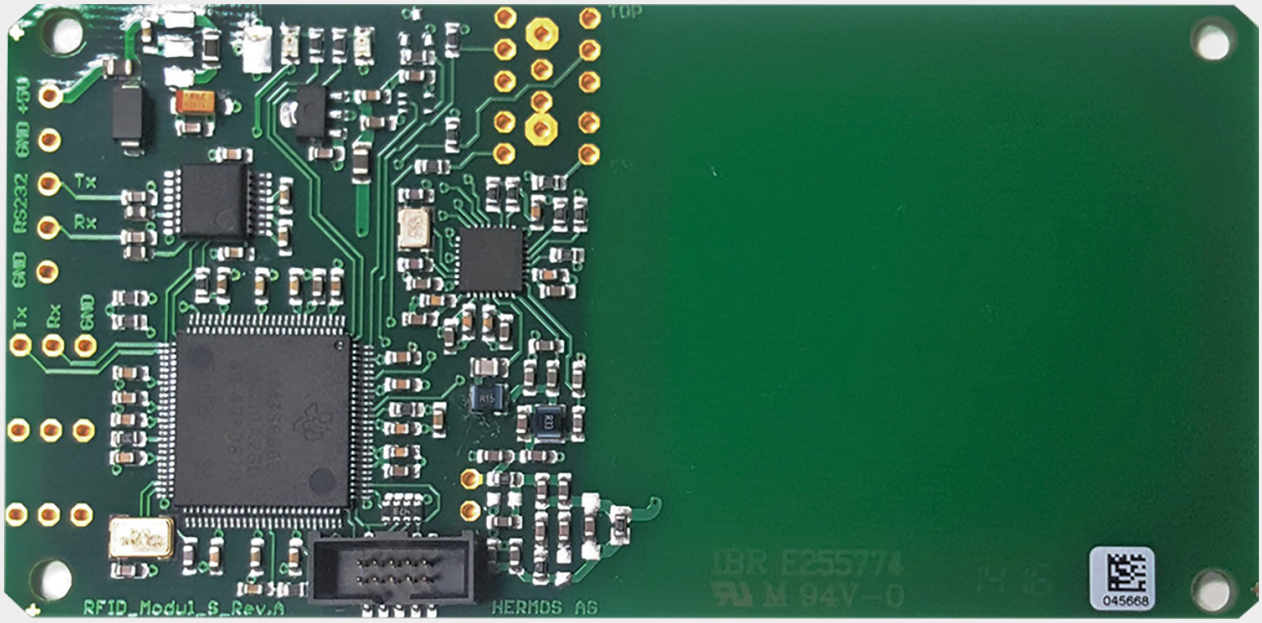
Integrated antenna
The reader is already equipped with an integrated antenna. optionally with a remote antenna.

Part number	Description		
	Interfaces	Protocol	Antenna
HRF.R.HFS.0I.AV.1D.10A	Ethernet, PoE	ASCII	Intern
HRF.R.HFS.0I.KV.1D.10A	Ethernet, PoE	ASCII/SECS	Intern
HRF.R.HFS.1S.AV.1D.10A	Ethernet, PoE	ASCII/SECS	Intern, 1x extern SMA

(Further variants and customer-specific configurations available on request)

Technical data

Interface:	**Ethernet (PoE)**	**Mounting:**	**2 flange plates (aluminum) Hole spacing: 136 mm**
Protocols:	**ASCII**		
Antenna:	**integrated, optional external**	**Display:**	**3.5“ TFT, integrated touch, QVGA TFT LCD,**
Frequency:	**13.56MHz, ISO15693**		
Transmit power:	**200 mW**	**Pixel:**	**320x240 px**
Dimensions:	**120 x 120 x 42 mm**	**Protection class:**	**IP40**
Weight:	**300 g**	**Operating temperature:**	**-25 °C to 70 °C**
Housing material:	**aluminum frame AlMgSi 0.5**	**Storage temperature:**	**-40 °C to 85 °C**
Plastic cover:	**ASA+PC-FR black (RAL 9005)**	**Permissible humidity:**	**at 50°C 25% to 80%**
Voltage:	**PoE**	**Conformity:**	**CE, RoHS, REACH**



HFS
OEM module

The RFID IO-MODUL HF is a powerful compact RFID module for integration into industrial automation products. It supports transponders/ smart labels of frequency 13.56 MHz according to ISO standard 15693 and is designed for retrofitting in standard housings. System integrators and OEM customers get the possibility to integrate high quality RFID functionality into new or existing products.

Technology
RFID-HF Frequency 13.56 MHz (ISO 15693)

Components
» Compact printed circuit board with RFID functionality
» Antenna integrated on PCBA (external antenna possible)
» Available with and without housing

Functions
» HF reader with medium reading range
» Inputs and outputs for evaluation of trigger signals
» Display of states & data (depending on transponder type)
» Compatible with HF transponders according to ISO 15693
» Interface RS232 or C-MOS

Features
» Easy RFID integration into existing systems
» individually adaptable to customer requirements
» Number of I/Os is selectable
» transmitting power 150mW
» reading range approx. 100mm with HF transponder card

The highlights

OEM module for use in RFID customer products
Frequency: 13.56 MHz
Dimensions 100 x 50 x 8 mm
Compatible with transponders
According to ISO 15693
Interface RS232 or C-MOS

Low cost solution
Small, compact printed circuit board
Inexpensive RFID retrofit solution instead of expensive complete new acquisition

Housing and antenna variants
Available with and without housing
Integrated antenna on the PCBA
An external HF antenna is also available as an option, depending on location

Delivery form/variants
PCB without housing as ASCII RS232/TTL without IO
Printed circuit board without housing as ASCII RS232/TTL 4 Input +
3 Output Interfaces

Inputs and outputs
Evaluation of trigger signals via existing inputs possible, display of states

Customer specific functions
are possible and freely installable, number of I/Os is selectable

Easy integration into existing systems
Saves costs and effort serial communication
System integrators

Part number	Description		
	Interfaces	Protocol	I/Os
HRF.R.HFS.0I.AR.O0.10A	RS232/TTL	ASCII	Without
HRF.R.HFS.0I.AR.O4.10A	RS232/TTL	ASCII	3 In-, 4 Outputs

(Further variants and customer-specific configurations available on request)

Technical data

Interface:	**RS232, TTL**
Protocols:	**ASCII**
Antenna:	**integrated, optional external**
Frequency:	**13.56MHz, ISO15693**
Transmit power:	**150 mW**
dimensions:	**100 x 50 x 8 mm**
Housing:	**optional, on request**

Operating temperature:	**-20 °C to 70 °C**
Storage temperature:	**-40 °C to 85 °C**
Permissible humidity:	**at 50°C 25% to 80%**
Voltage:	**5 V (+/- 5%)**
Current:	**90 mA, standby: 40 mA**
Conformity:	**CE, RoHS, REACH**



HFS SL Reader

The HERMOS HFS SL RFID Reader is a read/write device of the HERMOS HFS class. The reader is already equipped with an integrated frame antenna. Due to its compact design, the antenna is largely shielded against metal in the installation environment. The easy integration of this reader via Ethernet (PoE) allows a customer-oriented application. Existing connections for inputs and outputs can be assigned individually.

Technology
RFID HF 13,56MHz (ISO 15693)

Components
» Robust housing with impact protection bracket
» Integrated antenna
» Inputs and outputs, pushbutton and status LED

Features
» Transponder identifiable according to ISO 15693
» Applications also in metallic environment
» Uncomplicated setting by means of DIP switch
» Easy integration into existing processes

The highlights

Compact housing
The compact design allows the operation in a metallic environment.

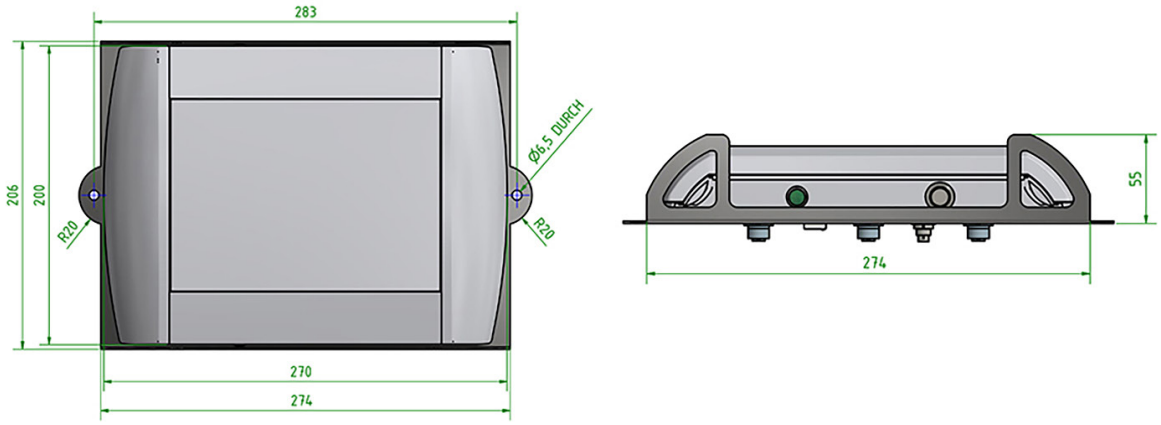
Integrated antenna
The reader is already equipped with an integrated antenna. equipped.

Power over Ethernet (PoE)
Savings potentials through the use of PoE within the the network infrastructure. Relief of the cost budget and simple cabling.

Simple process integration
Easy integration of the RFID solution into existing processes

Polling mode
Automated reading processes simplify the procedures and the control effort.

Customer-specific adaptations
Customer-specific functionalities are optionally implementable



Part number	Description			
	Interfaces	Protocol	Antennas	I/Os
HRF.R.HFSS.0I.AV.10A	Ethernet, PoE	ASCII	Internal	4 In-, 4 Outputs

(Further variants and customer-specific configurations available on request)

Technical data

Interface:	**Ethernet (PoE)**
Protocols:	**ASCII**
Antenna:	**integrated**
Frequency:	**13.56MHz, ISO15693**
Transmit power:	**250 mW**
Dimensions:	**300 x 206 x 55 mm**
Weight:	**1400 g**
Housing material:	**ABS**
Protection class:	**IP40**

Mounting:	**Stainless steel impact protection**
Operating temperature:	**0 °C to 50 °C**
Storage temperature:	**-25 °C to 70 °C**
Permissible humidity:	**at 50°C 25% to 80%**
Voltage:	**24VDC or PoE (48VDC)**
Power consumption:	**0.2A@24VDC (PoE class 0)**
Compliance:	**CE, RoHS, REACH**







HFM
6X Reader

The HERMOS RFID HFM reader is a reader of the HERMOS HFM class (HF midrange). With an adjustable output power of up to 1W, demanding tasks in the HF range can be realized. The reader can also be used in metallic environments. With six antenna connections, linking to many identification points is possible. RS232 and Ethernet are available as data interfaces.

Technology
HFM Reader (HF Midrange 13,56 MHz)

Components
» RS232 and Ethernet data interface
» 6 antenna ports
» 4 DIP switches and 3 status LEDs
» I/O module with inputs and outputs per antenna port

Functions
» power supply via Ethernet (PoE) possible
» adjustable transmit power
» adjustable polling mode
» Configurable test mode with optical display
» Automatic reading function

Features
» Transponder identifiable according to ISO 15693
» Applications also in metallic environment
» uncomplicated setting by means of DIP switch
» reader available with different IO modules

The highlights

Six antenna ports
Cost-saving concept due to the extended number of identification points.

Various configurations available
The number of antenna ports available can be customized. Different I/O modules are available.

RS232 and Ethernet interface
Easy and uncomplicated integration due to RS232 and Ethernet interface.
ASCII and SECS/HSMS are available as data protocols.

Adjustable transmit power
Flexible reading range, adjustable according to requirements.

Power over Ethernet (PoE)
Savings potential by using PoE within the network infrastructure, relief of the cost budget by less power supplies and less cabling.

Polling mode adjustable for each antenna
Automated reading processes simplify operations and control efforts.

Configurable test mode with visual display
Visual monitoring of read characteristics through configurable test mode by means of DIP switches.

Part number	Description			
	Interfaces	Protocol	Antennas	I/Os
HRF.R.HFM.6S.AA.10.20A	Ethernet, RS232	ASCII	SMA	Without
HRF.R.HFM.6L.AA.10.20A	Ethernet, RS232	ASCII	LEMO	Without
HRF.R.HFM.6S.SA.10.20A	Ethernet, RS232	SECS	SMA	Without
HRF.R.HFM.6L.SA.10.20A	Ethernet, RS232	SECS	LEMO	Without

HFM Generation 20A readers are 100% compatible with Generation 10A.

(Further variants and customer-specific configurations available on request)

IO modules with part number, interface, protocol and number of antennas can be found on the following pages.

Technical data

Interface:	**RS232, Ethernet**
Protocols:	**ASCII; SECS/HSMS**
Antenna port:	**6**
Frequency:	**13.56MHz, ISO15693**
Transmit power:	**1 W**
Dimensions:	**130 x 124 x 45 mm**
Weight:	**590 g**
Housing material:	**aluminum black/nature anodized**
Protection class:	**IP40**
Operating temperature:	**0 °C to 50 °C**
Storage temperature:	**-25 °C to 70 °C**
Permissible humidity:	**at 50°C 25% to 80%**
Current consumption:	**60 mA (passive)**
	140 mA (read/write pulse)
Voltage:	**18 - 30 V**
Conformity:	**CE, RoHS, REACH**



IO Modul RJ12

HFM 6X

Part number	Description			
	Interfaces	Protocol	Antennas	I/Os
HRF.R.HFM.6S.SA.1E.20A	Ethernet, RS232	SECS	SMA	I/O RJ12 6 In/12 Outputs
HRF.R.HFM.6S.SU.1E.20A	USB	SECS	SMA	I/O RJ12 6 In/12 Outputs
HRF.R.HFM.6S.AA.1E.20A	Ethernet, RS232	ASCII	SMA	I/O RJ12 6 In/12 Outputs
HRF.R.HFM.6L.SA.1E.20A	Ethernet, RS232	SECS	LEMO	I/O RJ12 6 In/12 Outputs

(Further variants and customer-specific configurations available on request)



IO Modul LEMO 3

HFM 6X

Part number	Description			
	Interfaces	Protocol	Antennas	I/Os
HRF.R.HFM.6L.SA.14.20A	Ethernet, RS232	SECS	LEMO	I/O (Lemo 0S 3polig)
HRF.R.HFM.6S.SA.14.20A	Ethernet, RS232	SECS	SMA	I/O (Lemo 0S 3polig)

(Further variants and customer-specific configurations available on request)



IO Modul LEMO 4

HFM 6X

Part number	Description			
	Interfaces	Protocol	Antennas	I/Os
HRF.R.HFM.6S.SA.1C.20A	Ethernet, RS232	SECS	SMA	I/O (Lemo 0S 4polig) 4 In/8 Outputs
HRF.R.HFM.6L.SA.1C.20A	Ethernet, RS232	SECS	LEMO	I/O (Lemo 0S 4polig) 4 In/8 Outputs

(Further variants and customer-specific configurations available on request)



IO Modul PHOENIX

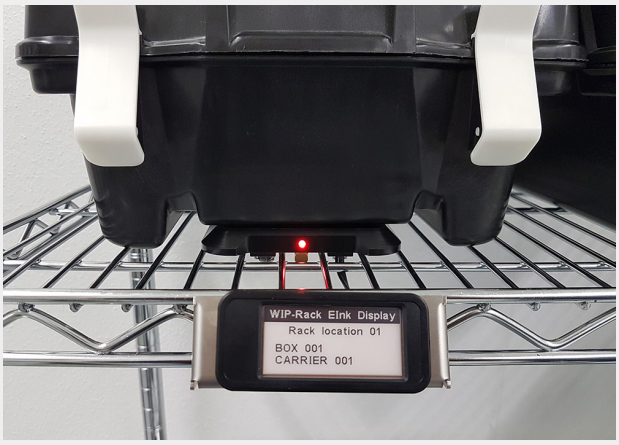
HFM 6X

Part number	Description			
	Interfaces	Protocol	Antennas	I/Os
HRF.R.HFM.6S.AA.1S.20A	Ethernet, RS232	ASCII	SMA	I/Os (6 In-, 8 Outputs) 24V(Phoenix MC 1,5/3,81 mm)

HFM Generation 20A readers are 100% compatible with Generation 10A.
(Further variants and customer-specific configurations available on request)







HFM WIP-Rack

The RFID WIP Rack solution from HERMOS offers the possibility to equip lattice shelves with RFID functionality. This solution is applicable for all common shelf types and sizes and allows the retrofitting of existing shelves. The antenna heads are mounted directly on the shelf and connected to a central reader unit. The occupancy of a shelf location is detected by an integrated light sensor and an identification is performed automatically. Visualization at the shelf locations is provided by a multicolor LED or an E-Ink display. The shelf status and stock changes can be displayed on a panel PC.

Technology
RFID-HF Frequency 13.56 MHz (ISO 15693)

Components
» Central reading unit, up to 32-fold
» Special antenna heads, max. 32 pieces
» Integrated antenna sensor and LED
» E-Ink display (optional)

Functions
» Detection of shelf occupancy by optical sensor
» Automatic reading function and data transfer
» Visualization by multicolor LEDs at the shelf location
» Configurable test mode with optical display
» Level detection can be implemented

Features
» Easy RFID integration into existing shelves
» independent of shelf type and size
» LAN/WLAN interface
» supports SEMI Equipment Communication Standard (SECS)

The highlights

Touch panel PC (optional)
Status information, rack occupancy and other details can be displayed directly on the touch panel PC or transferred to the host.

Flexible configuration
The system is suitable for existing lattice racks and other rack types. It can be expanded modularly at any time. The number of rack locations and levels is flexible.

Ethernet and USB interface
Easy and uncomplicated integration due to the Ethernet interface.

Process integration
Easy integration due to the support of the SEMI Equipment Communication Standard (SECS/HSMS).

Automatic data acquisition
Continuous inventory is maintained through automatic reading and data forwarding.

Event-controlled processes
ensure long component life.

E-Ink Displays
Detailed information can be displayed directly on an e-ink display.

Optimize your workflows with RFID!

» **Automatic inventory recording**
» **Recording of the production processes**
» **Optimization of the material stocks and thus the storage areas**

Available variants and offers on request.

As standard, our HFM WIP racks are designed for 16, 32 and 40 rack locations.
Other variants and customer-specific configurations are available on request.

Technical data

Interface:	**Ethernet**
Protocols:	**SECS, SECS1, HSMS, customer protocol**
Antenna port:	**Variant dependent**
Frequency:	**13.56MHz, ISO15693**
Transmitting power:	**1.1W**
Housing material:	**Stainless steel/PP**
Protection class:	**IP40**

Display:	**E-Ink display**
Operating temperature:	**0 °C to 50 °C**
Storage temperature:	**-25 °C to 70 °C**
Permissible humidity:	**at 50°C 25% to 80%**
Power consumption:	**80 mA / 300 mA (passive/active)**
Voltage:	**24 VDC and PoE**
Conformity:	**CE, RoHS, REACH**

HF Accessories Antenna Cable



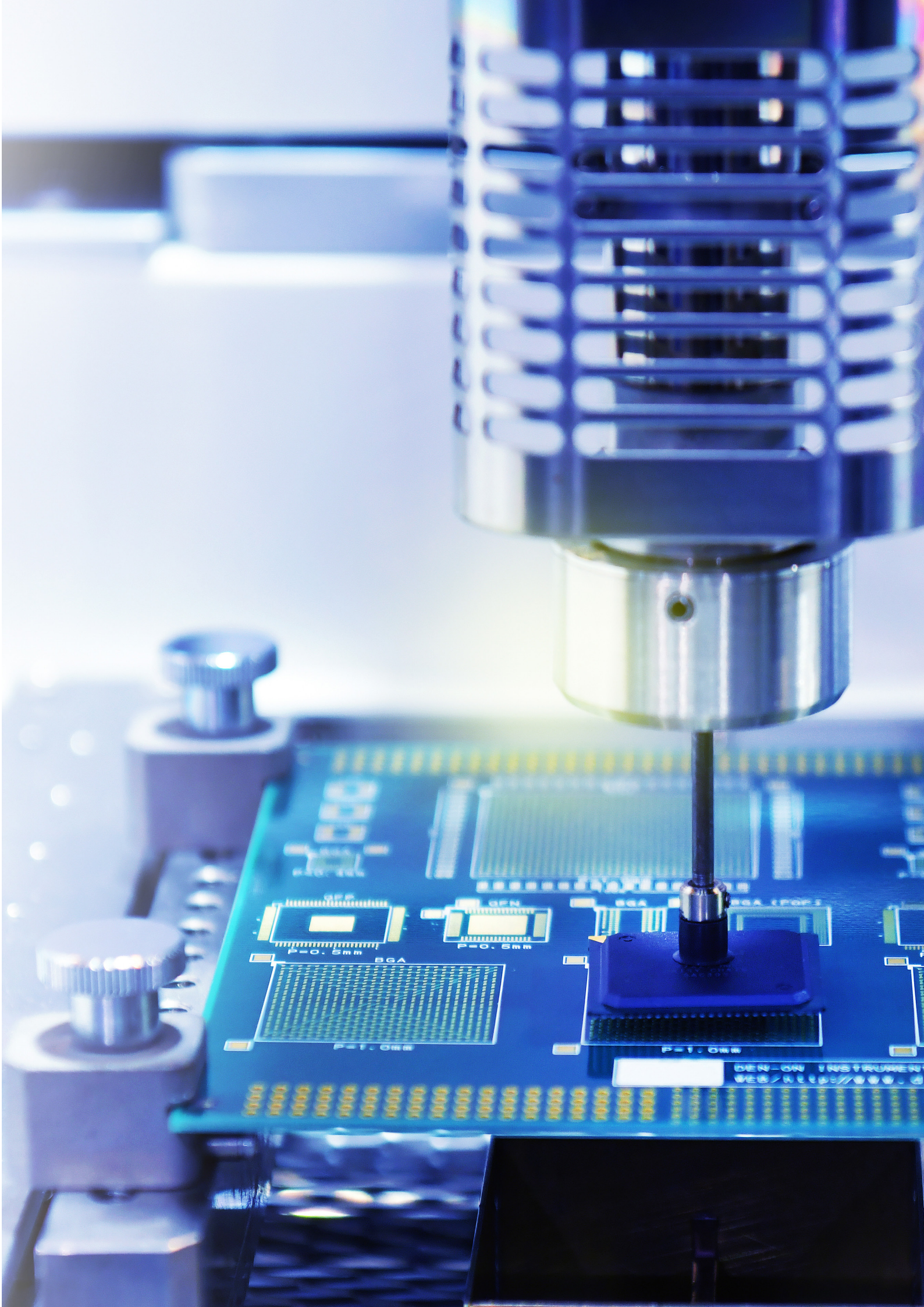
Part number	Antenna extension coax, LEMO male to LEMO male
HRF.C.CH1.LLMxx	RG174 xx = antenna length in dm (05 = 0.5m) Available lengths: 0.5m 1.0m 1.8m 3.0m 4.0m 6.0m 8.0m 10.0m
HRF.C.FH1.LLMxx	IGUS CFKOAX3.01, flex (suitable for drag chains) xx = antenna length in dm (05 = 0.5m) Available lengths: 0.5m 1.0m 1.8m 3.0m 4.0m 6.0m 8.0m 10.0m

Part number	Antenna extension coax, LEMO male to SMA male
HRF.C.CH1.SLMxx	RG174 xx = antenna length in dm (20 = 2.0m) Available lengths: 2.0m 4.0m 6.0m

Part number	Antenna extension coax, SMA male to SMA female
HRF.C.CH1.SSExx	RG174 xx = antenna length in dm (05 = 0.5m) Available lengths: 0.5m 1.0m 1.8m 3.0m 4.0m 6.0m 8.0m 10.0m

Part number	Antenna Extension Coax, SMA Plug to SMA Plug
HRF.C.CH1.SSMxx	RG174 xx = antenna length in dm (05 = 0.5m) Available lengths: 2.0m 3.0m 5.0m
HRF.C.FH1.SSMxx	IGUS CFKOAX3.01.flex (suitable for drag chain) xx = antenna length in dm (05 = 0,5m) Available lengths: 2.0m 3.0m 5.0m

(Further variants and customer-specific configurations available on request)


QFP
P=0.5mm
QFN
P=0.5mm
BGA
P=1.0mm
P=1.0mm



HF Block Antenna

Due to its design, the HF block antenna is particularly suitable for applications with limited space. It is designed as a frame antenna and is sealed watertight by a robust plastic housing. (Available in protection class IP65 and IP 30) It is suitable for use in metallic environments. To provide the optimal solution for each application, the RF block antenna is available with different cable outputs and different cable lengths. (Not listed sizes on request)

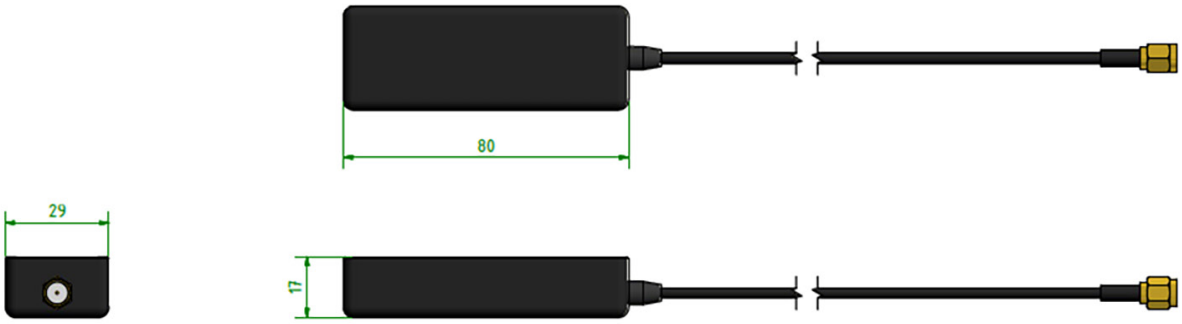
Technology
RFID Antennas Frequency: 13.56 MHz

Features
» Convenient plug-in connections for immediate use (push-pull system)
» Robust connectors for secure connections
» Different types and cable lengths available
» Typical reading range < 100 mm (depending on transponder type)

Cable type
» RG 174/U black, 50 Ω, temperature range from -35 / +80°C

Connection options
» LEMO or SMA standard connector
Customized connections and cable lengths possible

Compatible with HERMOS RFID readers (base HF)



Part number	Description		
	Housing	Plug type	Length
HRF.A.HFX.BM.SU.xx	Block output rear	SMA	xx = antenna cable in dm (10 = 1m), Available lengths: 1,0 1,8 2,0 3,0 3,6
HRF.A.HFX.BM.SS.xx	Block output lateral	SMA	xx = antenna cable in dm (10 = 1m), Available lengths: 1,0 2,0 3,0 6,0
HRF.A.HFX.BM.LS.00	Block output lateral	LEMO	-
HRF.A.HFX.BM.LU.00	Block output rear	LEMO	-

(Further variants and customer-specific configurations available on request)

Technical data

Design:	**Block antenna**	**Cable length:**	**Variant dependent**
Dimensions:	**80 x 29 x 17 mm**	**Plug type:**	**depending on variant**
Antenna connector:	**SMA/LEMO**	**Protection class:**	**IP 30 (IP65 on request)**
Diameter antenna cable:	**3 mm**	**Operating temperature:**	**0 °C to 50 °C**
Antenna material:	**PP, black**	**Storage temperature: -**	**25 °C to 70 °C**
Frequency:	**13,56MHz, ISO15693**	**Permissible humidity:**	**at 50°C 25% to 80%**
Cable sheath:	**PVC**	**Conformity:**	**RoHS, REACH**



HF E-Sign Antenna

Due to its design, the HF E-Sign antenna is particularly suitable for applications with limited space. It is designed as a frame antenna with metal tuning and can be used for a wide range of applications in industrial and office applications. (Available in protection class IP65 and IP 30) In order to offer the optimal solution for every application, the HF E-Sign antenna is available with different antenna plugs and cable lengths. (Not listed sizes on request)

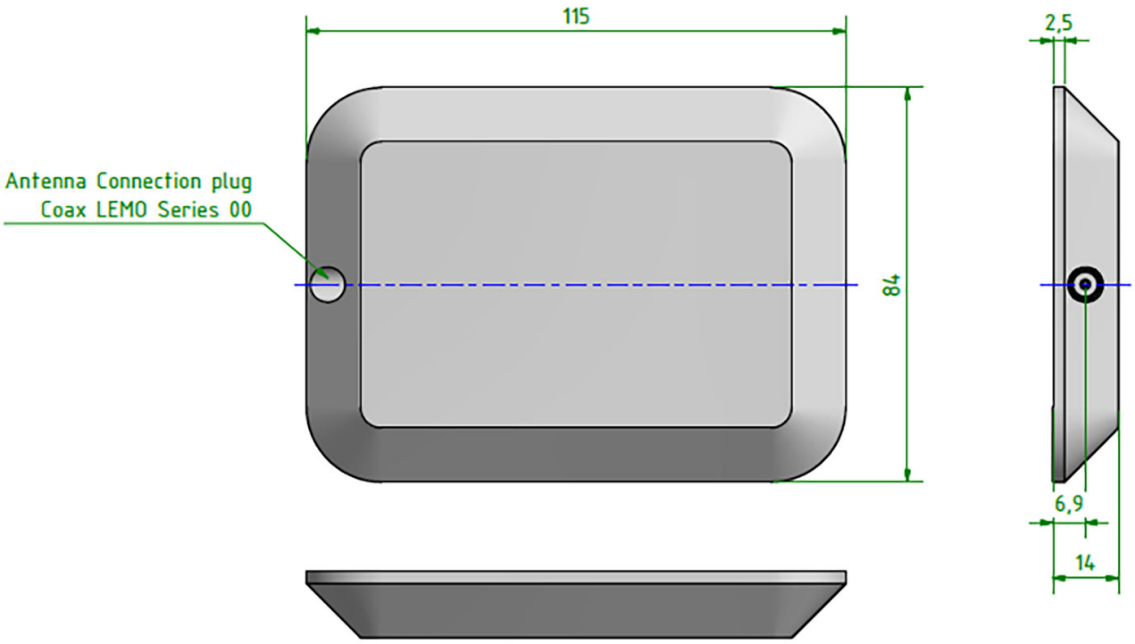
Technology
RFID Antennas Frequency: 13.56 MHz

Features
» Convenient plug-in connections for immediate use (push-pull system)
» Robust connectors for secure connections
» Different types and cable lengths available
» Typical reading range < 100 mm (depending on transponder type)

Cable type
» RG 174/U black, 50 Ω, temperature range from -35 / +80°C

Connection options
» LEMO or SMA standard connector
Customized connections and cable lengths possible

Compatible with HERMOS RFID readers (base HF)

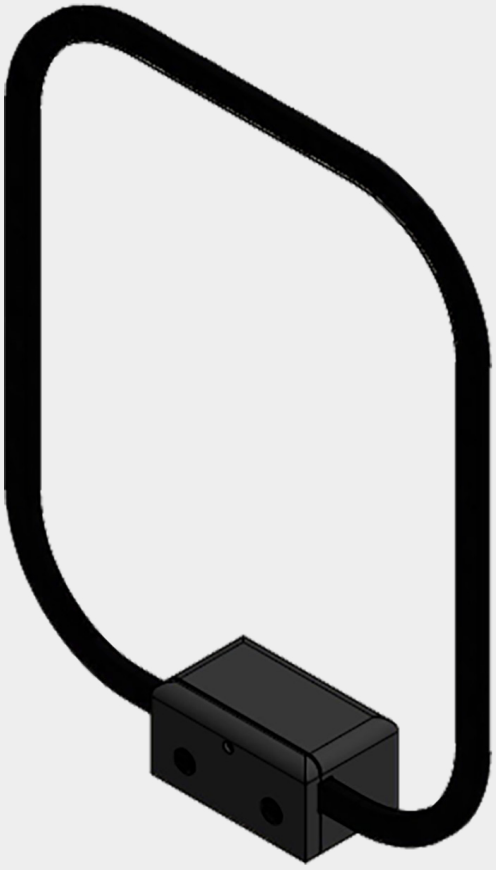


Part number	Description		
	Housing	Plug type	Length
HRF.A.HFC.ES.SS.XX	E-Sign output lateral	SMA	xx = antenna cable in dm (10 = 1.0 m) Available lengths: 1.0 1.8 2.0 3.0 3.6 m
HRF.A.HFC.ES.SS.KK.VG	E-Sign output lateral, IP65	LEMO	xx = antenna cable in dm (10 = 1.0 m) Available lengths: 1.0 1.8 2.0 3.0 3.6 m
HRF.A.HFC.ES.LS.00	E-Sign output lateral	LEMO	-
HRF.A.HFC.EK.LS.00	E-Sign plastic floor, output on the side	LEMO	-
HRF.A.HFC.EK.LU.00	E-Sign output bottom, plastic bottom	LEMO	-
HRF.A.HFC.ES.LU.00	E-Sign output bottom	LEMO	-
HRF.A.HFC.ESO.LS.00	Without housing	LEMO	-

(Further variants and customer-specific configurations available on request)

Technical data

Design:	**E-Sign**	**Cable length:**	**Variant dependent**
Dimensions:	**115 x 84 x 14 mm**	**Connector type:**	**depending on variant**
Antenna connector:	**SMA/LEMO**	**Protection class:**	**IP 30 (IP65 on request)**
Diameter antenna cable:	**3 mm**	**Operating temperature:**	**0 °C to 50 °C**
Antenna material:	**POM, white**	**Storage temperature:**	**-25 °C to 70 °C**
Frequency:	**13.56MHz, ISO15693**	**Permissible humidity:**	**at 50°C 25% to 80%**
Cable sheath:	**PVC**	**Conformity:**	**RoHS, REACH**



HF frame Antenna

The HF frame antenna is designed for the use of the RFID readers HFM. Due to its robust metal design, the antenna is also suitable for applications in harsh (industrial) environments. Due to its halar coating it is very robust and shows only a minimal particle emission. To offer the optimal solution for every application, the RFID frame antenna is available in different sizes and with various cable lengths. (Not listed sizes on request)

Technology
RFID Antennas Frequency: 13.56 MHz

Features
» Convenient plug-in connections for immediate use (push-pull system)
» Robust connectors for secure connections
» Different types and cable lengths available
» Typical reading range < 400 mm (depending on transponder type)
» Optimized tuning for metal environment available (Metal tuning variant)

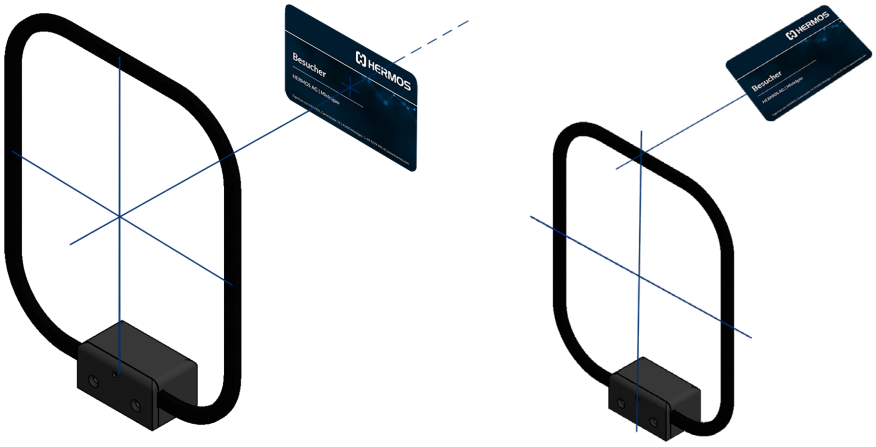
Cable type
» RG 174/U black, 50 Ω, temperature range from -35 / +80°C

Connection options
» LEMO or SMA standard connector
Customized connections and cable lengths possible

Compatible with HERMOS RFID readers (base HF)

The highlights

The two diagrams show the optimum alignment and position of the transponder to the antenna. The ranges depend on the ambient conditions and on the type and quality of the transponders used.

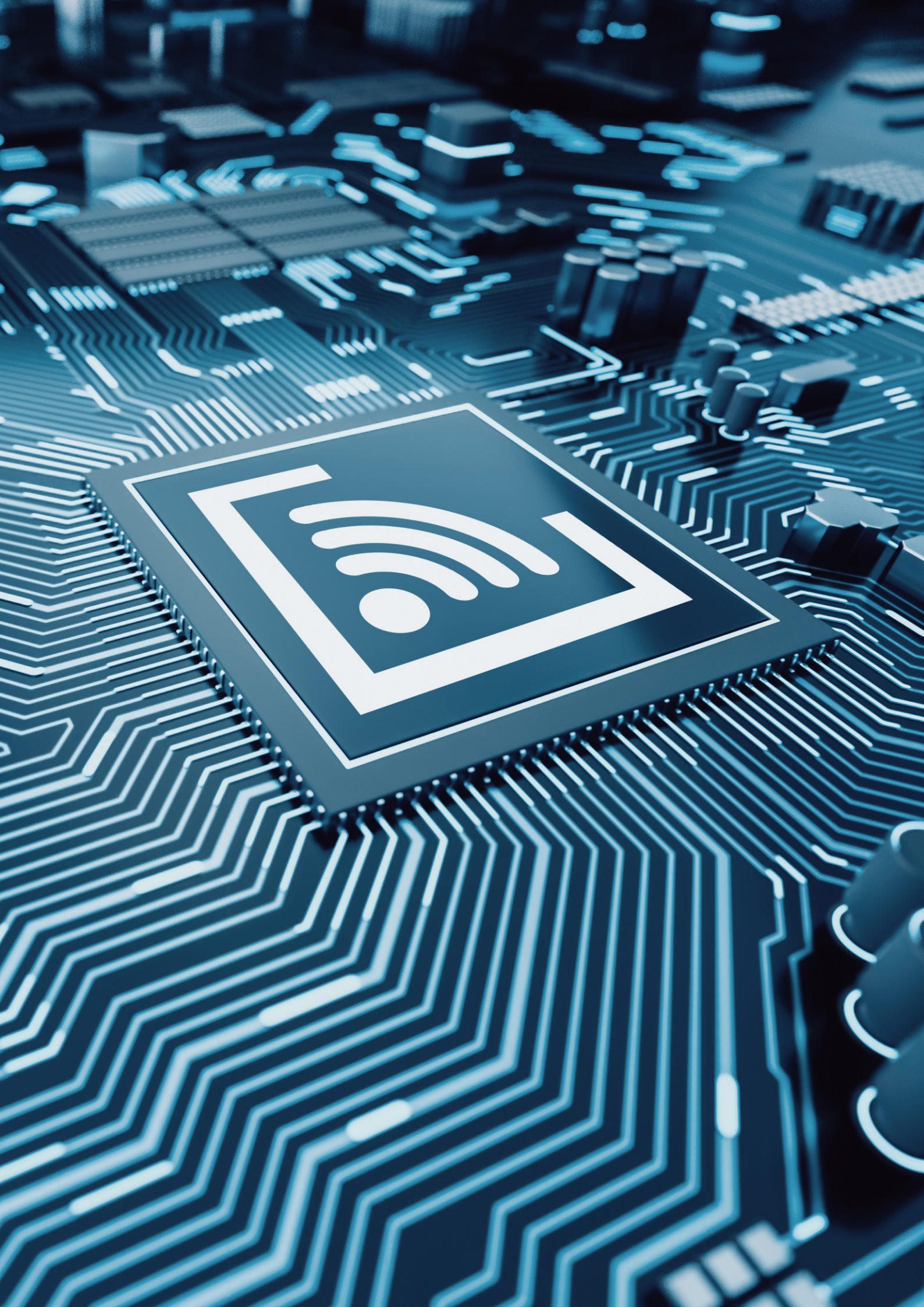


Part number	Description		
	Housing	Plug type	Length
HRF.A.HFX.R1915.SU.18	Frame 190x150	SMA	xx = antenna cable in dm (10 = 1.0 m) available lengths: 1.0 1.8 2.0 3.0 3.6 m
HRF.A.HFX.R1915.LU.00	Frame 190x150	LEMO	-
HRF.A.HFX.R1519.LU.00	Frame 150x190	LEMO	-
HRF.A.HFX.R1713.LU.00	Frame 170x130	LEMO	-
HRF.A.HFX.R1317.LU.00	Frame 130x170	LEMO	-
HRF.A.HFX.R1820.LU.00	Frame 180x120	LEMO	-
HRF.A.HFC.A1317.LU.00	Frame Eight 130x170	LEMO	-
HRF.A.HFX.RxxxxM.LU.00	Frame variable Metal tuning	LEMO	-

(Further variants and customer-specific configurations available on request)

Technical data

Design:	**Frame antenna**	**Cable length:**	**Variant dependent**
Dimensions:	**Depending on variant**	**Plug type:**	**Variant dependent**
Antenna connection:	**SMA/LEMO**	**Protection class:**	**IP 30**
Diameter antenna cable:	**3 mm**	**Operating temperature:**	**0 °C to 50 °C**
Antenna material:	**PC Makrolon**	**Storage temperature:**	**-25 °C to 70 °C**
Coating:	**Halar**	**Permissible humidity:**	**at 50°C 25% to 80%**
Frequency:	**13,56MHz, ISO15693**	**Conformity:**	**RoHS, REACH**
Cable jacket:	**PVC**		



4 RFID Produkte UHF









4.1 RFID UHF Reader 54

4.1.1 UHF Display Reader 54
4.1.2 UFS Compact Reader 56
4.1.3 UFC Kanban Roller Conveyor Reader 58
4.1.4 UFC Kanban Mailbox 60

4.2 RFID UHF Antennas 62

4.2.1 UHF Compact Antenna 62
4.2.2 UHF Mini Antenna 64
4.2.3 UHF Accessories - Antenna Cable 66

For more than 30 years we have been developing and manufacturing RFID readers and antennas with our own know-how. Our focus is on equipping and integrating equipment and processes in the semiconductor industry worldwide, but other industries also rely on our years of expertise.



UHF Display Reader

The HERMOS UHF Display Reader is designed for use in the intelligent handling of processes and procedures. Feedback signals or instructions for the operating personnel can be visualized. The easy integration of this reader via Ethernet (PoE) enables a customer-oriented application. The integration of a user interface and the use of the SD card data memory make this reader universally applicable.

Technology
UHF Reader

Components
» 3.5“ LCD display with touch
» 6 status LEDs and one buzzer
» PoE Ethernet data interface
» protected micro SD card slot
» integrated antenna

Functions
» configuration directly at the device via touch screen
» Status indication via LEDs, buzzer and display
» Micro SD slot for backup of configuration & log data
» Password protected display access

Features
» User-friendly due to easy handling
» Easy integration into existing processes
» Flexible parameterization and software updates via Ethernet or SD card
» Configuration as stand-alone or system solution
» Customer-specific user interface (GUI)

The highlights

Touch Display
Direct configuration via the built-in touch display.

Customized UI
Optional integration of a customer-specific user interface

Micro SD card slot
Backup of important data for configuration as well as log data.

Password security
Password protected access to the display, depending on the application.

Flexible configuration
Communication via Ethernet.
Parameterization data as well as software updates can be imported remotely or via the micro SD card.

Simple process integration
Easy integration of the RFID solution into existing processes.

Integrated antenna
The reader is already equipped with an integrated antenna. optionally with a remote antenna.

Item number	Description		
	Interfaces	Protocol	IOs
HRF.R.UFS.0I.AV.1D.10B	Ethernet, PoE	ASCII	Without
HRF.R.UFS.1I.AV.1D.10B	Ethernet, PoE	ASCII	Without Ext. antenna connection

(Further variants and customer-specific configurations available on request)

Technical data

Interface: Ethernet (PoE)
Protocols: ASCII
Antenna: integrated, optional external
Frequency: 865 - 868 MHz (Europe)
ISO 18000-6C (EPCglobal Class 1 Gen2)
Transmit power: 200 mW
Dimensions: 120 x 120 x 42 mm
Weight: 300 g
Pixel: 320x240 px
Protection class: IP40
Housing material: aluminum frame AlMgSi 0,5

Display: 3.5“ TFT, integrated touch, QVGA TFT LCD
Plastic cover: ASA+PC-FR black (RAL 9005)
Mounting: 2 flange plates (aluminum)
Total hole spacing: 136 mm
Operating temperature: -25 °C to 70 °C
Storage temperature: -40 °C to 85 °C
Permissible humidity: at 50°C 25% to 80%
Power supply: PoE
Conformity: CE, RoHS, REACH



UFS Compact Reader

The HERMOS UFS COMPACT READER is a read/write device for UHF transponders according to ISO 18000-6C. Due to its small design, the COMPACT Reader is ideally suited for direct operation at the reading point. It is equipped with an integrated antenna and can optionally be operated with 2 additional external antennas. A low installation and cabling effort is achieved by using Ethernet (PoE). The operating states are signaled by 3 integrated status LEDs. Optional 4 additional LEDs and a buzzer can be used by the user to visualize application states.

Technology
UHF Reader (ISO 18000-6C Class1 Gen2)

Components
» Rugged plastic housing
» PoE Ethernet data interface
» 3 status LEDs, optional 4 user LEDs and buzzer
» Sensor input (PNP, 12V,150mA)
» Optional 2 ext. antenna connectors

Functions
» Compact UHF reader with medium range
» Status indication via LEDs and buzzer
» External read and write function
» Automatic reading function (polling)
» Sensor-triggered reading
» Optical and acoustic display

Features
» Low cabling effort due to Ethernet (PoE)
» Typical reading range up to 50cm
» Easy integration into existing processes
» Flexible parameterization and software updates via Ethernet

The highlights

Compact housing
Compact design allows direct mounting at the reading point.

Integrated antenna
The reader is already equipped with an integrated antenna (optionally up to 2 remote antennas).

Flexible configuration
Parameterization data and software updates can be carried out remotely.

Minimal cabling effort
Minimized cabling effort due to the use of Ethernet (PoE) for power supply and as a data interface.

Simple process integration
Easy integration of the RFID solution into existing processes.

Customer-specific adaptations
Customer-specific functionalities can be implementable.

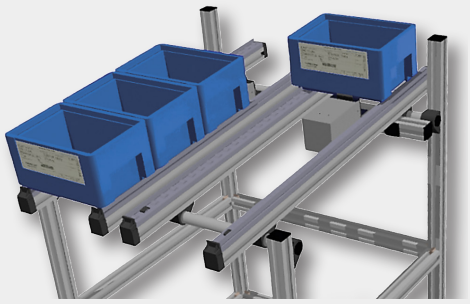
Item number	Description		
	Interfaces	Protocol	IOs
HRF.R.UFS.0I.AV.CP.10A	Ethernet, PoE	ASCII	Sensor connection PNP
HRF.R.UFS.0I.AV.CL.10A	Ethernet, PoE	ASCII	Without sensor connection 6x LEDs
HRF.R.UFS.2SI.AV.CPL.10A	Ethernet, PoE	ASCII	Sensor connection PNP 6x LED, 2x ext. antenna connection

(Further variants and customer-specific configurations available on request)

Technical data

Interface:	**Ethernet (PoE)**	**Housing material:**	**ABS, dark gray**
Protocols:	**ASCII**	**Protection class:**	**IP20**
Antenna:	**integrated, optional 2x external SMA**	**Operating temperature:**	**-10 °C to 50 °C**
Frequency:	**865 - 868 MHz (Europe)**	**Storage temperature:**	**-40 °C to 85 °C**
	ISO 18000-6C (EPCglobal Class 1 Gen2)	**Permissible humidity:**	**at 50°C 25% to 80%**
Transmit power:	**3 - 22 dBm (adjustable in 1dB steps)**	**Power supply:**	**PoE (48VDC)**
Dimensions:	**127 x 71 x 36 mm**	**Power consumption:**	**PoE class 1**
Weight:	**200 g**	**Compliance:**	**CE, RoHS, REACH**





UFC KANBAN roller conveyor reader

The Kanban flow-through rack solution is used for convenient monitoring of material stocks in flow-through warehouses and is based on innovative HERMOS RFID reader technology. The system checks every single storage and retrieval process with an integrated stop mechanism. This guarantees that only authorized material is fed and removals are automatically detected. Retrofitting RFID technology into existing Kanban roller conveyors is possible without any problems.

Technology
RFID-UHF (ISO 18000-6c EPC Class 1 Gen2)

Components
» RFID reader unit with integrated barrier and laser measurement at the roller conveyor entrance
» Panel PC for visualization at the shelf
» Cabling between panel PC and reader unit by PoE
» Signal tower module can be implemented

Prerequisite
Ethernet connection and 230V power supply

Functions
» Applicable to raw materials, auxiliary and operating materials, packing material
» Permanent visualization of the shelf status
Consolidation of information from all roller conveyors
» Use of the data for consumption data determination and automatic ordering
» Value added booking of the production areas

Features
» Integration into existing processes
» Independent of shelf size and type
» Individually adaptable and expandable

The highlights

Automatic interlocking & cycle security
Identification of the supplied Kanban boxes at the interlock. Rejection of the material not belonging to the shelf. Automatic registration of material withdrawals. Detection and prevention of incorrect returns.

Separate laser measurement within each roller conveyor.
Use of different container models, pack sizes and shapes within the rack through simple adjustment of parameters.

Touch panel PC
Direct display of rack occupancy, status information and stored goods details on the panel PC.

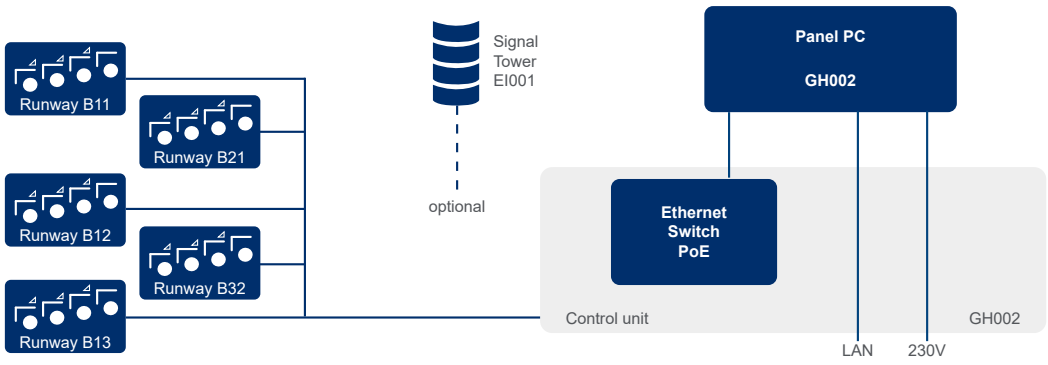
Data consistency
Recording of all stored goods on the shelf in a database
Automatic recognition of all removed goods after a power failure.

Customized sizes
Fast and easy implementation of the HERMOS solution for retrofits, new builds or extensions, regardless of rack manufacturer and type. Flexible design of rack expansion by changing the parameterization specifications. Fast and uncomplicated configuration of individual rack lanes.

Easy process integration via Ethernet/ FISApplicationServer
Integration of the RFID solution into the customer network via Ethernet and individual connection to the existing ERP system. Updates and parameter changes can be entered via remote maintenance. Further advantages bring the optional use of the FIS ApplicationServer (HERMOS-own software for the manufacturer-independent connection of technical systems).

Streamlined processes - automate your order processes!

- **Optimization of material stocks and thus storage areas**
- **Minimization of the administrative effort**
- **Secure cycle through avoidance of booking errors**



Technical data

Project dependent - technical data available on request.



UHF Compact Antenna

Due to its design, the UHF Compact Antenna is particularly suitable for applications with limited space. It is designed as a circular antenna and can be used for a wide range of applications in industrial and office environments.

The antenna can be easily integrated and is equally suitable for wall mounting or tabletop use. It is available in protection class IP20.

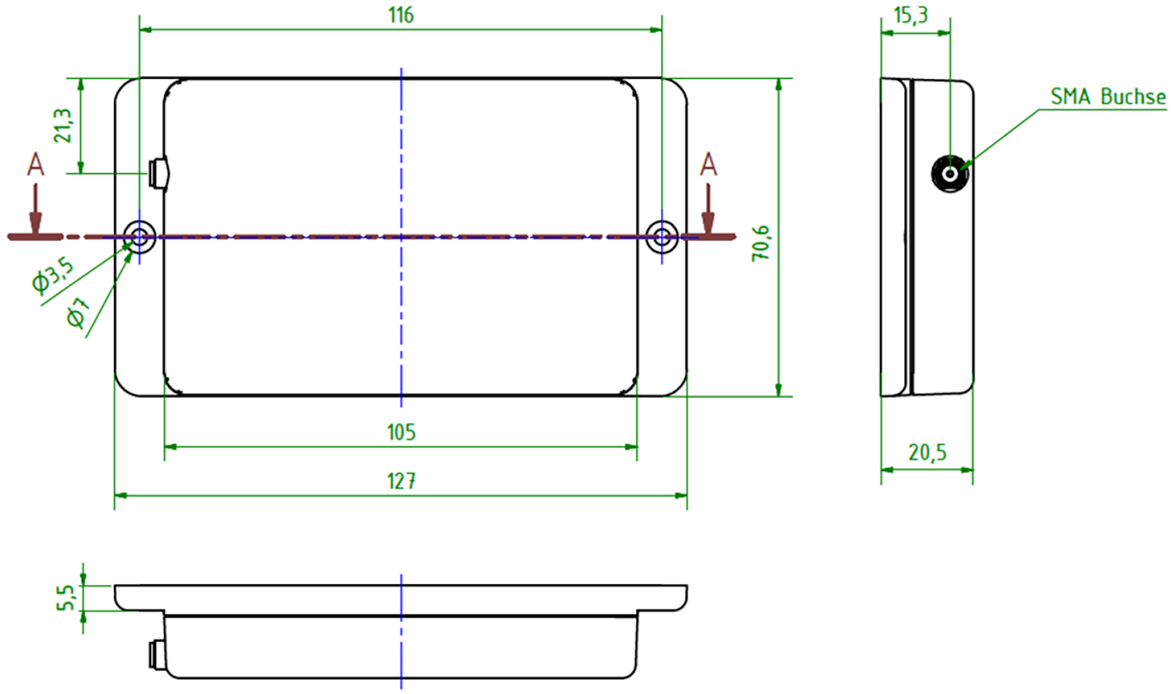
Technology
RFID Antennas Frequency: 865 - 868 MHz (Europe)

Features
» Robust connectors for secure connections
» Different types and cable lengths available
» Typical reading range < 500 mm
(depending on transponder type)

Cable type
» RG 58 black, 50 Ω, temperature range from -35 / +80°C

Connection options
» SMA standard connector
Customized connections and cable lengths possible

Compatible with HERMOS RFID readers (base UHF)



Item number	Description		
	Housing	Plug type	Length
HRF.A.UFX.CZ.SS.00	ABS dark gray	SMA	-

(Further variants and customer-specific configurations available on request)

Technical data

Design:	**Compact antenna**	**Connector type:**	**SMA**
Polarization:	**circular**	**Protection class:**	**IP20**
Dimensions:	**127 x 71 x 20 mm**	**Operating temperature:**	**-10 °C to 50 °C**
Weight:	**140 g**	**Storage temperature:**	**-40 °C to +85 °C**
Antenna material:	**ABS, dark gray**	**Permissible humidity:**	**25% to 80% at 50°C**
Frequency:	**865 - 868 MHz (Europe)**	**Conformity:**	**RoHS, REACH**



UHF Mini Antenna

Due to its design, the UHF Mini Antenna is particularly suitable for applications with limited space. It is designed as a circular antenna and can be used for a wide range of applications in industrial and office environments. The antenna can be easily integrated and is equally suitable for wall mounting or tabletop use. It is available in protection class IP20.

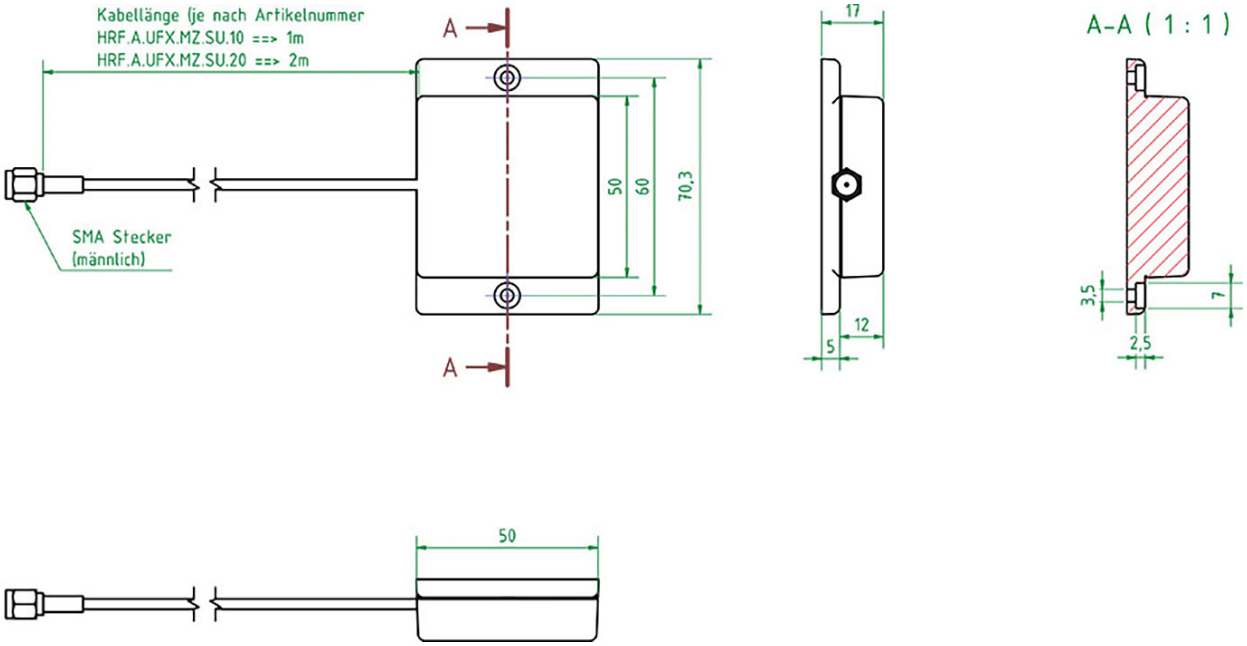
Technology
RFID Antennas Frequency: 865 - 868 MHz (Europe)

Features
» Robust connectors for secure connections
» Different types and cable lengths available
» Typical reading range < 300 mm
(depending on transponder type)

Cable type
» RG 174 black, 50 Ω, temperature range from -35 / +80°C.
» The cable is permanently connected.

Connection options
» SMA standard connector
Customized connections and cable lengths possible

Compatible with HERMOS RFID readers (base UHF)



Item number	Description		
	Housing	Plug type	Length
HRF.A.UFX.MZ.SU.10	ABS dark gray	SMA	1,0 m
HRF.A.UFX.MZ.SU.20	ABS dark gray	SMA	2,0 m

(Further variants and customer-specific configurations available on request)

Technical data

Type:	**mini antenna**	**Connector type:**	**SMA**
Polarization:	**circular**	**Protection class:**	**IP20**
Dimensions:	**70 x 50 x 19 mm**	**Operating temperature:**	**-10 °C to 50 °C**
Weight:	**140 g**	**Storage temperature:**	**-40 °C to +85 °C**
Antenna material:	**ABS**	**Permissible humidity:**	**25% to 80% at 50°C**
Frequency:	**865 - 868 MHz (Europe)**	**Conformity:**	**RoHS, REACH**

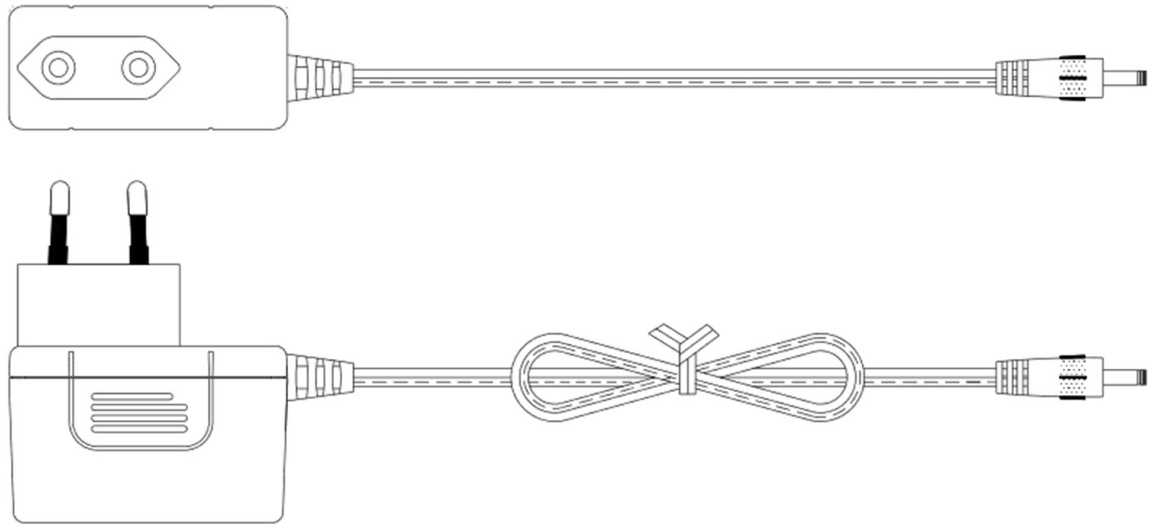
UHF Accessories Antenna Cable



Item number	Antenna extension coax, SMA male to SMA male
HRF.C.CH2.SSMxx	RG58 xx = antenna length in dm (05 = 0.5 m) Available lengths: 0.5m 1.0m 2.0m 3.0m 4.0m 5.0m 6.0m 8.0m 10.0m

(Further variants and customer-specific configurations available on request)

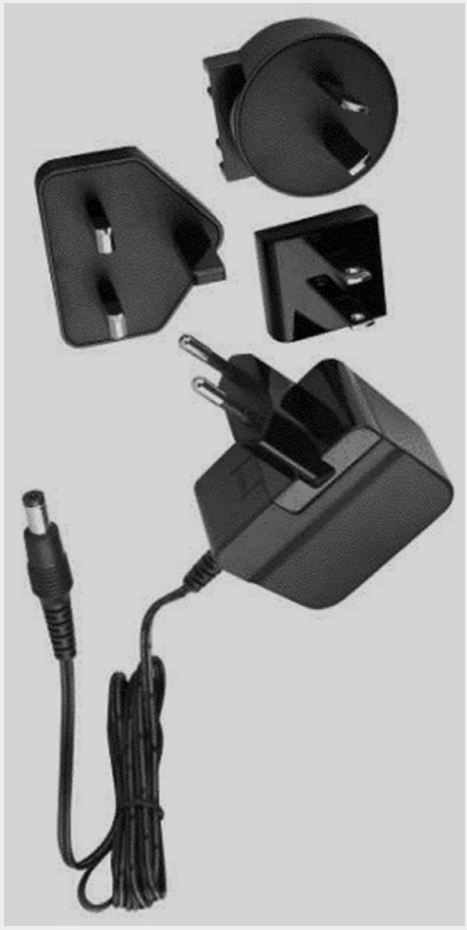
5 Accessories



5.1 Plug-in power supplies 12W 70

For more than 30 years we have been developing and manufacturing RFID readers and antennas with our own know-how. Our focus is on equipping and integrating equipment and processes in the semiconductor industry worldwide, but other industries also rely on our years of expertise.





Connector-Power supplies 12W

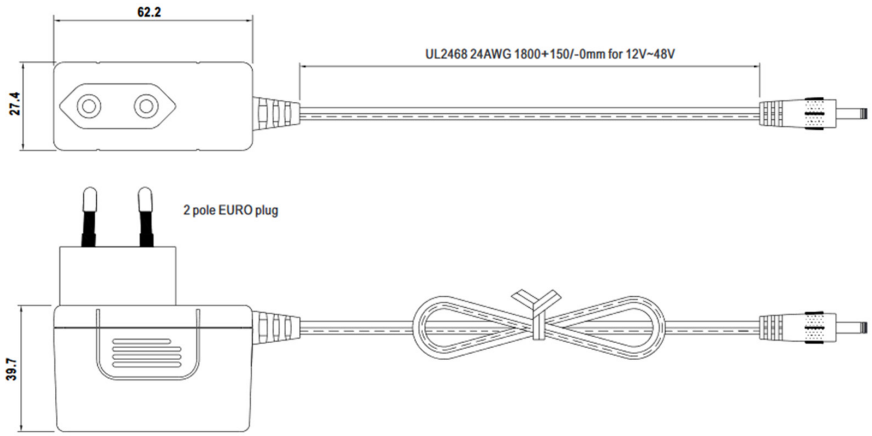
The plug-in power supplies with 12W output power are used for simple and cost-effective power supply of individual readers of different types at existing sockets. Different plug types, both on the input and output side, are available to suit the respective application.

Technology
DC plug-in power supply with 24V output voltage

Components
» Moulded cable (standard length 1.5m)
» Different connector types (input and output side)
» Compatible with HFM 6x, HFM WIP RACK, LFM 4x, LFM LP, UFM 5x ...

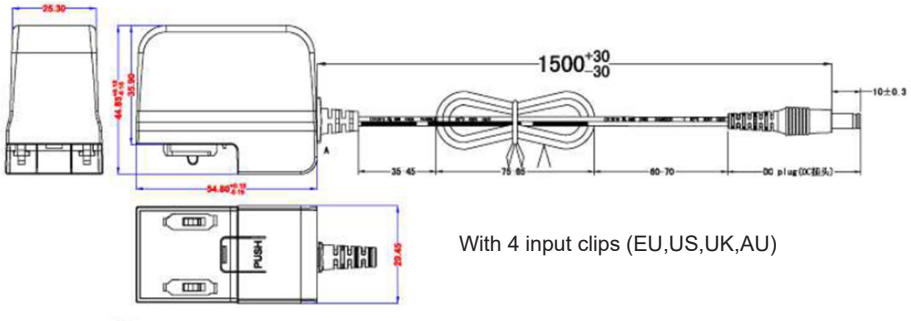
Features
» Compact plug-in power supply with small dimensions
» Fixed cable with approx. 1.5m length
» Wide range input for universal application
» Environmentally friendly „Energiy efficiency Level VI“ and only 0.075W in standby (Euro)
» Short circuit proof, overload and overvoltage protected
» Different output connector types suitable for all HERMOS readers

Dimensions (variant Euro plug fixed) P/N: HRF.Z.PSE.24.12.1x



Output side different versions available

Dimensions (Multiadapter variant) P/N: HRF.Z.PSM.24.12.0x



Output side different versions available

With 4 input clips (EU,US,UK,AU)

Item number		Description	
E ► Euro (fix)	M ► Multiadapter	Connection 24V (output)	For Reader Series
HRF.Z.PSE.24.12.10	HRF.Z.PSM.24.12.00	Open wires [flying wires]	HFM 6x; LFM 4x
HRF.Z.PSE.24.12.11	HRF.Z.PSM.24.12.01	Phoenix MSTB 2-PIN	HFM 6x
HRF.Z.PSE.24.12.12	HRF.Z.PSM.24.12.02	M12 socket 5-PIN A-coded [M12 plug female, A-coded].	LFM-LP
HRF.Z.PSE.24.12.13	HRF.Z.PSM.24.12.03	Phoenix MSTB 3-PIN	LFM 4x
HRF.Z.PSE.24.12.14	HRF.Z.PSM.24.12.04	M8 Buchse 3-PIN	HFM WIP RACK

(Further variants and customer-specific configurations available on request)

Technical data

Design:	**Plug-in power supply**	**Input:**	**90 ... 264V AC / 47 ... 63Hz**
Dimensions:	**62.2 x 27.4 x 39.7 mm (Euro)**	**Output:**	**24V DC, 12W**
	56 x 27 x 73 mm (Multi)	**Plug type:**	**Euro/Multiadapter (EU, UK,US,AU)**
Cable length:	**1.5 m**	**Efficiency (typ):**	**84%**
Housing material:	**plastic (ABS / PMMA)**		



HERMOS

MEMBER OF
ELEVION GROUP

www.hermos.com