



User Manual

HF-1356-CAN-M

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Revision History

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1 General information

This manual is the original operation instruction for the high frequency RFID reader device HF-1356-CAN-M.

The declaration of conformity of the product is included in the appendix of this manual.

The operating instructions should allow the operator the proper and safe operation and warn of foreseeable misuse. It is intended for the professional staff of the operator.

These instructions must be retained for future reference!

CAUTION	
	Keep these instructions! Access to the operating instructions by the operator and maintenance personnel must be ensured at all times during installation, operation and trouble-shooting!

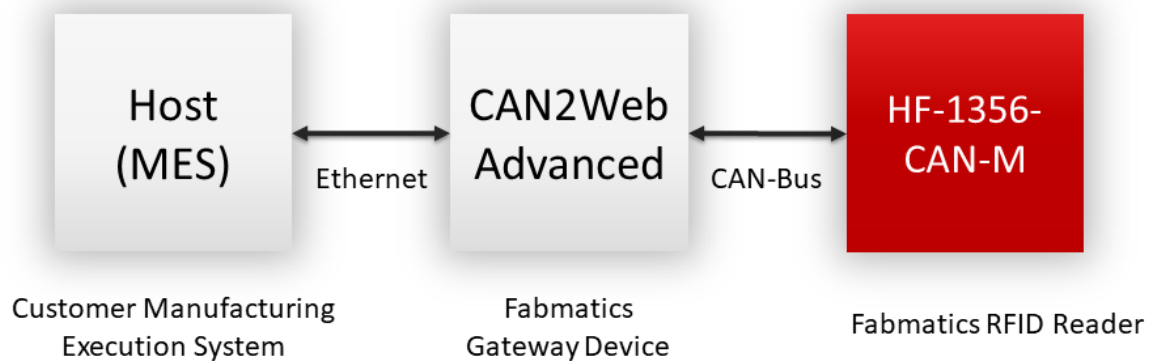
A copy of the instructions must therefore be stored in a suitable and accessible location!

The explanation of hazard symbols is contained in section **Fehler! Verweisquelle konnte nicht gefunden werden..**

2 Product Revision

2.1 General Function

The HF-1356-CAN-M reader is designed for operation in CAN based ID Reader networks. The connection between the CAN Network and a host system (MES) is accomplished through one of Fabmatics' Gateway devices (CAN2WEB).



The HF-1356-CAN-M reader is an RFID module which supports ISO 15963, I-code transponders and Infineon transponders my-d vicinity version 2.0. The module contains a CAN Interface for establishing the connection to the CAN-bus controller and connecting more ID readers (and other Fabmatics CAN components).

Features:

- CAN interface
- Reads and writes ISO 15963, I-code transponders and my-d vicinity version 2.0 transponders
- Powerful and efficient output stage

2.2 Operational description

2.2.1 How does the device operate?

The HF-CAN reader slave device reads ISO15693 (same as ISO18000-3 mode 1) transponder on request from a master device (CAN2Web box).

2.2.2 How are the signals modulated?

The reader sends out a charge burst of 13.56MHz as long as needed to read the transponder (depending on command). The answer to and from transponder is ASK or FSK depending on selected RF mode.

The modulation follows ISO18000-3 mode 1 (ISO15693).

2.2.3 Short description of the device

- RFID reader for ISO18000-3 Mode 1 HF transponders

2.2.4 Pulse rate

- See ISO18000-3 Mode 1

2.2.5 Signal type

- ASK or FSK signal from transponder
- ASK signal from reader

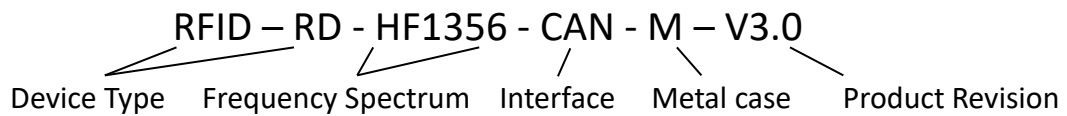
2.2.6 Information being sent

- 8bytes of data + status + CRC

2.3 Product Revision

Product Code	Product Revision	Hardware Revision (PCB)
RFID-RD-HF1356-CAN-M-V3.0	3.0	2.0a

Product Code Description:



Available Software Versions:

Software Code	Description
SDO-S	Device will be controlled completely by CAN2Web Box or CAN-Controller using SDO CAN protocol.

NOTE!	
	The product revisions are expressed by revision numbers. Each product revision comprises three revisions of the following product components: - Hardware - Software - Design Changes in design necessitate a new product revision number. Changes in the two product components hardware and software may, but don't have to result in a new product revision number.

3 Safety Instructions

There are dangers associated with the use of the equipment even when used for its intended purpose. For this reason you should read the following safety information carefully. Install and operate this equipment only if it is in perfect condition and with reference to this manual. Do not use the equipment if it is damaged!

3.1 Symbol and Tags

Special tags are used in this document to alert technicians to personal- and equipment safety hazards. Before using this document, a thorough understanding of specific safety issues de-tailed in the manual must be understood. The following types of safety tags appear in this document. Note that the following are only examples that do not indicate a specific hazard associated with the product.

WARNING!	
	Flammable Material Flames – Risk of fire
DANGER!	
	Electricity; Electrical Hazard Lightning bolt – Dangerous voltage
DANGER!	
	Explosive Material; Explosion Hazard Object exploding – Risk of explosion
WARNING!	
	Non-Ionizing Radiation; Radio Frequency Abstract radiation transmitter – indicates electromagnetic radiation
CAUTION!	
	General Warning Important instructions

3.2 General

Read and understand all safety and operating instructions before installing and operating the device.

This manual, installation, operation and error handling of the device shall be carried out by trained personnel only. This device is NOT intended for use by untrained staff and in an uncontrolled environment.

Keep these instructions. Store this manual in a place that can be accessed at any time by all persons involved in installing, operating and error handling the device.

Heed all warnings. Follow all warnings and operating instructions on and inside the device.

Install in accordance with the manufacturer's instructions only.

Only use attachments, accessories and connecting cables supplied by the manufacturer.

All error handling except the error handling listed in this manual must be carried out by the manufacturer.

People with hearing aids should remember that radio signals transmitted by the device might cause a very unpleasant buzzing noise in their hearing aids.

Do not connect the device to any kind of power supply such as a standard household power supply. The device should be connected to a power supply of the type described in this manual only.

When you disconnect a cable, pull on its connector and not on the cable itself. Keep the connector evenly aligned to avoid bending any connector pins. When you connect a cable, ensure that the connector pins are positioned correctly.

Never over bend the antenna cable or expose it to mechanical loads.

When replacement parts are required, use the replacement parts specified by the manufacturer only. Unauthorized substitutions may result in fire, electric shock, or other hazards.

WARNING!	
	All antenna resonant circuit components carry high voltage!
	The installer is responsible for installing the device to comply with FCC requirements of human exposure to radio frequency.
	To prevent fire, shock hazard, or annoying interference, use recommended accessories only.
	When removing the housing lid, note that the housing lid is connected to the case with a cable. Remove the lid carefully to prevent damage – do not pull it! Do not operate the device when the housing lid is removed!
	Do NOT operate this device without a proper antenna attached. Proper antennas are antennas supplied by the manufacturer and listed in section „Antennas“.
	Never locate the antenna so that it is very close to or touching parts of the body while transmitting.
	Never locate the antenna so that it is very close to or touching parts of the body while transmitting.

3.3 ESD Instructions

Static electricity can harm electronic components inside the device. All persons who install or maintain the device must be trained in ESD protection. ESD protection measures must be observed when opening the device.

Before removing or inserting components, disconnect the power supply.

To prevent electrostatic damage, static electricity must be discharged from the body and tools before touching components inside the device.

Touch electro sensitive components carefully at their edges only.

3.4 Proper Use

This product was developed for reading and writing HF Transponders only. Any other use of this device would constitute abuse. All antenna resonant circuit components carry high voltage! To prevent fire, shock hazard, or interference, use recommended accessories only. Do not operate the device when the housing is removed! Never locate the antenna so that it is very close to or touching parts of the products body while transmitting. This product is designed to be mounted and operated in an industrial environment as a built-in-device only. It is not designed to be used as a stand-alone or a portable device in a non-industrial environment, such as a household, automotive or open-air environment.

3.5 Qualified Personnel

This manual is designed for specially trained personnel only. This device must be installed and maintained by the manufacturer or its specially trained representatives. Intervention or error handling not expressly approved in this manual must be carried out by the manufacturer's personnel only. If you are unsure about the qualifications that are actually required, contact the manufacturer.

DANGER!	
	Unqualified interventions may result in personal injury or damage to the device!

3.6 General Installation Notes

WARNING!	
	This device is designed for use in an indoor industrial environment only. Installation is only permitted in an environmental indoor climate with a constant temperature of between 0°C and +50°C / 32°F and 122°F, humidity between 25% and 80%, and a maximum temperature of +50°C / 122°F.
	Do not install or use this device in or near water. Never spill liquids of any kind onto the device. Should spillage occur, unplug the device and let a technician perform a check.
	Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not install the device in a flammable environment.

	Never expose the device to intense changes in temperature, otherwise condensation can develop inside the device and cause damage.
	Do not install or bring the device near overhead power lines, electric lights, power circuits. When installing the device, take extreme care not to encounter such circuits as they can cause serious injury or death.
	The device should not be used in the immediate vicinity of electrical units (such as medical units, monitors, telephones, televisions and energy-saver lamps), magnetic data carriers, metallic objects or water. This could result in reduced reading/writing ranges.
	Never use the device in potentially explosive areas (such as paint shops).
	Do not position the device in a location where it can suffer from vibration or shock.
	When the device is installed, the installation location must be adequately illuminated.
	Do not install the device during periods of lightning.

4 Compliances

ATTENTION!	
	Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority to operate the equipment.

4.1 Europe CE-Conformity

This device has been tested and shown to conform to the relevant european standards/norms regarding electromagnetic emissions and immunity as described in EN 61000-6-2 and EN 55032.

4.2 USA Federal Communications Commission (FCC)

HF-1356-CAN-M is a Part 15 Low Power Communication Device Transmitter (DXX) and a Part 15 Class B Computing Device Peripheral (JBP). It is a device that is marketed for use in industrial or business environment, exclusive of a device which is marketed for use by the general public or is intended to be used in the home.

4.2.1 Compliance

The product complies with FCC Subpart C – Intentional Radiators § 15.207, § 15.209 and § 15.225 (a-e) and the product complies with Subpart B – Unintentional Radiators § 15.107 and § 15.109, when used for its intended purpose. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

4.2.2 Antenna Requirements

The antenna is removable and does not employ a unique connector; however, the device is professionally installed and maintained. Therefore, the described reader HF-1356-CAN-M complies with FCC Subpart C – Intentional Radiators § 15.203.

4.2.3 Labeling Requirements

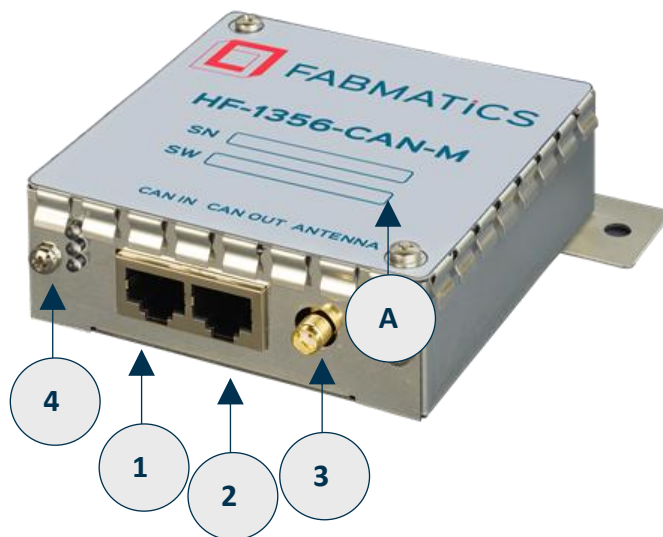
The described reader HF-1356-CAN-M is not large enough to accommodate a label with the standard FCC compliance statement. It is therefore provided here as follows:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired.

5 Construction Design

5.1 General Layout / Design

The following figure shows the RFID reader HF-1356-CAN-M with a description of its ports and LEDs. All versions of the HF-1356-CAN-M are built with a tin plated metal case.



No.	Description	Interface
1	CAN-Bus/Power In	RJ45
2	CAN-Bus/Power Out	RJ45
3	External Antenna	SMA
4	Operation LEDs: - Red: Error (short bursts: CAN RX/TX) - Orange: Busy - Green: Power OK	
A	Serial number and Software type & version	

5.2 Product Information Label

The product information label is located on the side (see also engineer drawing in chapter 5.3) and contains the product name (Model), product revision, serial number and year of production. The serial number format is FMXxxxxxx.

Product: RFID-RD-HF1356-CAN-M-V3.0

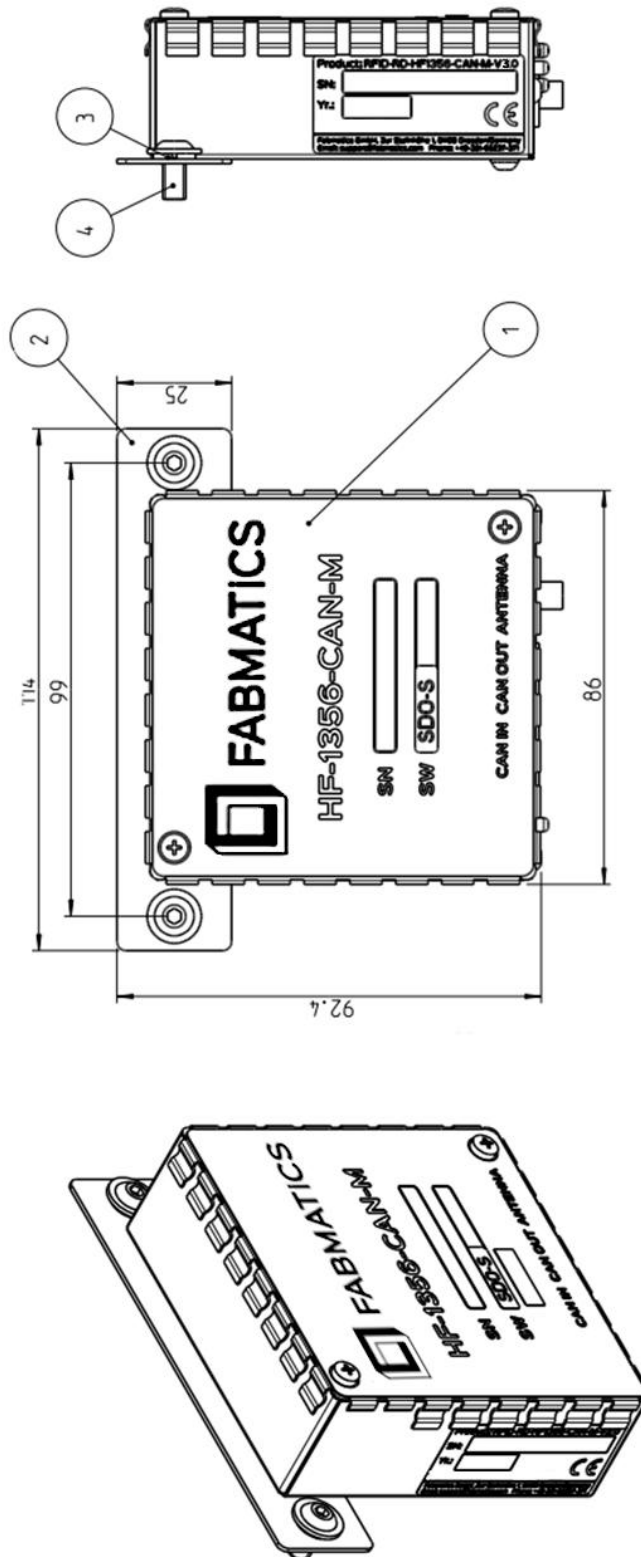
SN.:

Yr.:



Fabmatics GmbH, Zur Steinhöhe 1, 01109 Dresden/Germany
 Email: support@fabmatics.com Phone: +49-351-65237-371

5.3 Engineering Drawing of HF-1356-CAN-M-V3.0



6 Hardware Design

6.1 Technical Data

Feature	Description
Dimensions (w h d)	90 x 90 x 30 mm
Weight	185,4 g
Case Material	Tin plate
Shock resistance	150-m/s ² acceleration for 3 times each in X, Y, and Z directions (18 times in total)
Ambient operating temperature	0 to 50°C (duty cycle:<50%)
Ambient storage temperature	-25 to 50°C (with no icing)
Ambient operating humidity	35% to 65% (with no condensation)
Ambient storage humidity	35% to 65% (with no condensation)
Voltage power supply	24 V/DC ±3%
Power consumption Standard antenna	1.3W reading / 0.7W stand-by (typical)
Power consumption maximum	3.0W reading ANTD-HF-120-120E
Antenna	13,56 MHz 50 Ohm impedance 1 Watt
RFID frequency	13,56MHz
Readable transponder types	ISO 15963; ISO 18000-3 (e.g. card RI-TRP-W4FF; disk RF-PT-25-10) IFX SRF55V02P (e.g. card my-d vicinity)
MTBF	≥ 40,000 h
MCBF	≥ 1,000,000 reading cycles
CAN-Bus speed	adjustable up to 1 Mbit/s, typical 100 Kbit/s
Max. CAN cable length	100 m
Available CAN protocols	SDO
Available Connectors	CAN In (RJ45) CAN-Bus / power in CAN Out (RJ45) CAN-Bus / power out Antenna (SMA) 50 ohm impedance

6.2 Operation LEDs

Please find below a description of the meaning of each indicator LED..

LED name	Color	Description
RX/TX	Yellow	Busy (Reading/Writing Tag)
Status	Red	Error (Short bursts: CAN RX/TX)
Power	Green	DC power ok

6.3 Reading and Writing Ranges

The provided reading ranges shown here and in their respective Antenna datasheets are measured under best conditions. In real environments the ranges can be lower due to disturbing material like metal or any kind of electro-magnetic fields near the Antenna location. Please thorough improve the conditions before making a final decision about the Antenna location.

Writing ranges for HF RFID Devices are generally the same as reading ranges.

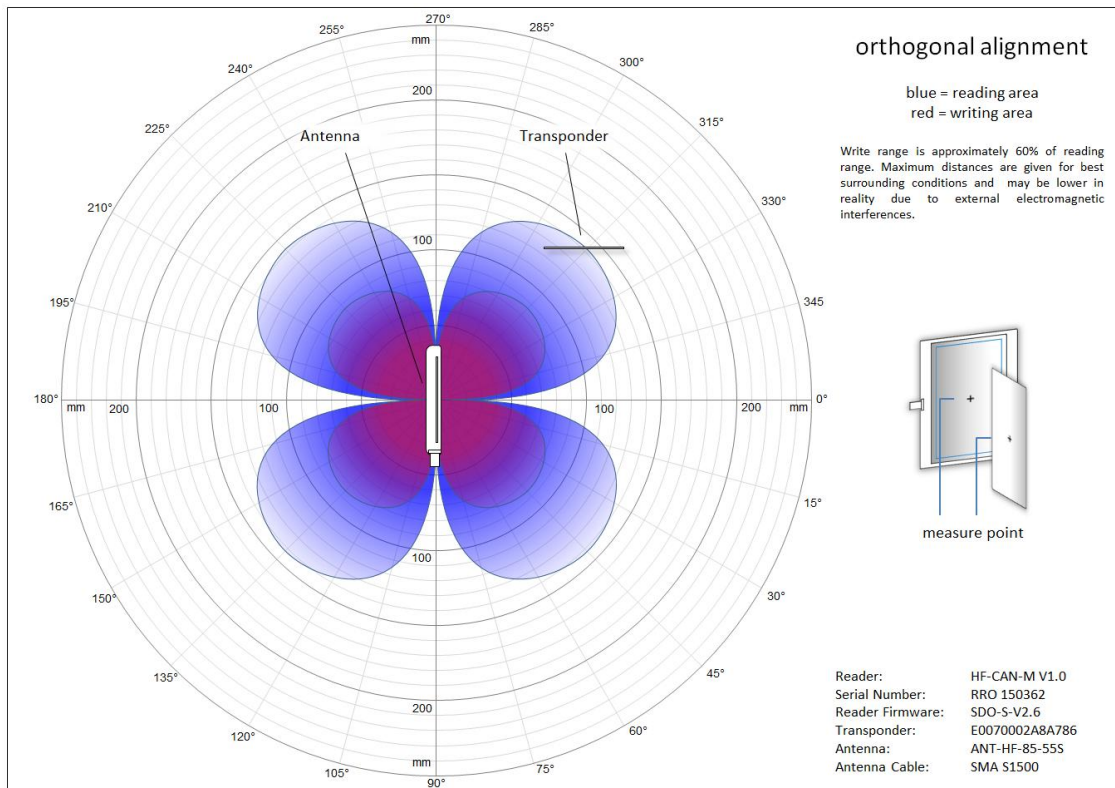
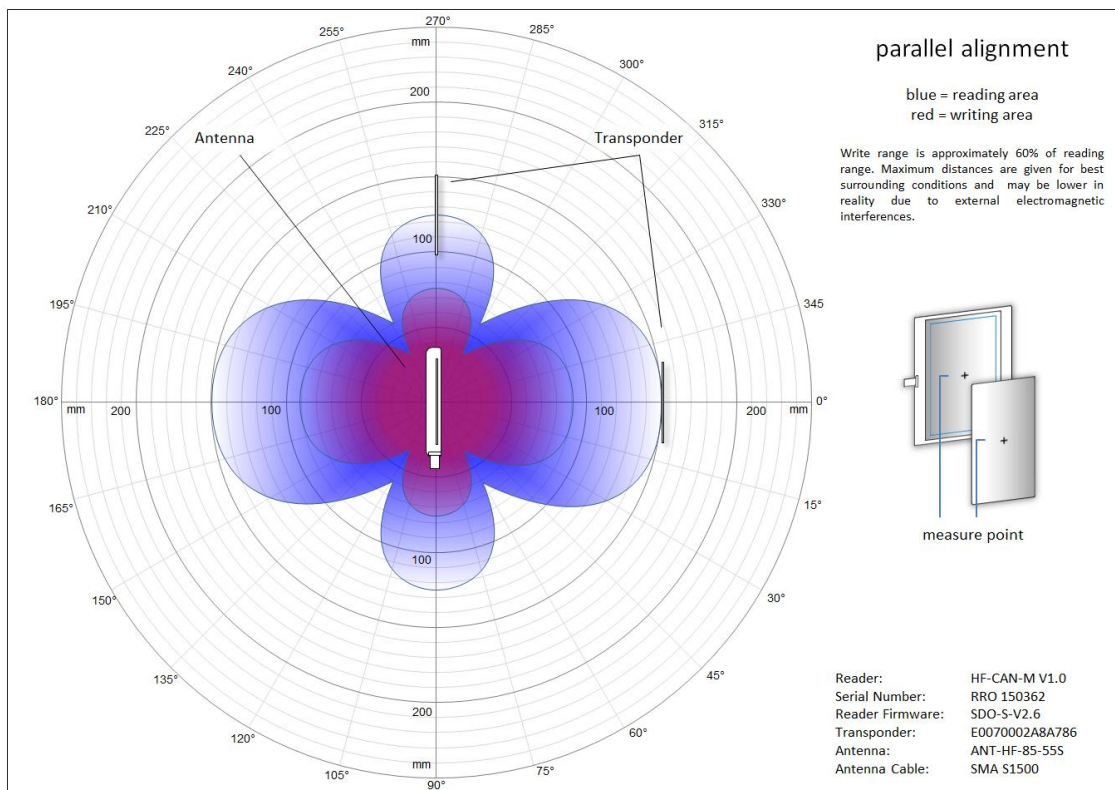
For detailed information about individual range characteristics of available Antenna-Types please refer to the respective antenna datasheets.

6.3.1 Read ranges with RFID-ANT-HF-SQU-9673-SMA

The RFID-ANT-HF-SQU-9673-SMA is our standard HF antenna. It features a manual tuning circuit which can compensate detuning by the environment to a certain degree.



Please see the following two read range diagrams for read ranges under lab conditions.



7 Hardware Configuration

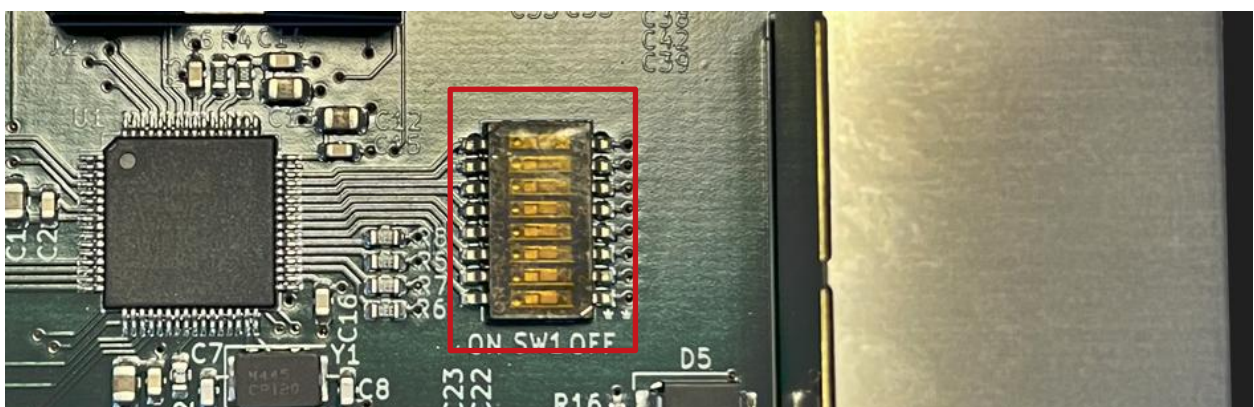
7.1 Address Configuration

The HF-1356-CAN-M will determine its CAN-ID only once directly after a power on from a dipswitch located on its PCB.

To change the CAN-Address it's necessary to open the device by removing the top cover.

The CAN-ID can be set to a value between 1 and 127 using the binary switches No. 1 to 7. of the DIP-Switch shown in the following image. The DIP-Switch No.8 has to be off at all times!

DIP-Switch No.								CAN-ID
1	2	3	4	5	6	7	8	
1	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	2
1	1	0	0	0	0	0	0	3
0	0	1	0	0	0	0	0	4
1	0	1	0	0	0	0	0	5
0	1	1	0	0	0	0	0	6
1	1	1	0	0	0	0	0	7
0	0	0	1	0	0	0	0	8
...								...
1	1	1	1	1	1	1	1	127



7.2 Pinout for CAN IN/OUT Connector

WARNING!	
	If custom accessories are to be connected, make sure this is carried out by qualified personnel only, to prevent electrical damage to the device!

Connector	PIN number	Description
8P8C (RJ45/48)	1	CAN high
	2	CAN low
	3,6,7	GND
	4,5,8	24 V/DC

8 General Connection Installation

8.1 Connection

All HF-1356-CAN-M readers will be connected through CAN-bus to the CAN2Web-Advanced gateway. Depending on your CAN2Web Version (MINI/MIDI/MAXI) a maximum number of 8 (MINI) or 25-50 (MIDI, MAXI) ID readers can be connected to one power section, without additional auxiliary power installation.

If more than 10 reader devices (MIDI, MAXI) need to be connected, a special CAN-bus power splitter needs to be installed (CAN-PWR-Supply).

Before powering the ID-Reader network, it is necessary to make sure that the CAN-ID (address) for each ID-Reader device is setup correctly as described in the following sections.

Changing the CAN-IDs of each ID reader is explained in section **Fehler! Verweisquelle konnte nicht gefunden werden..**

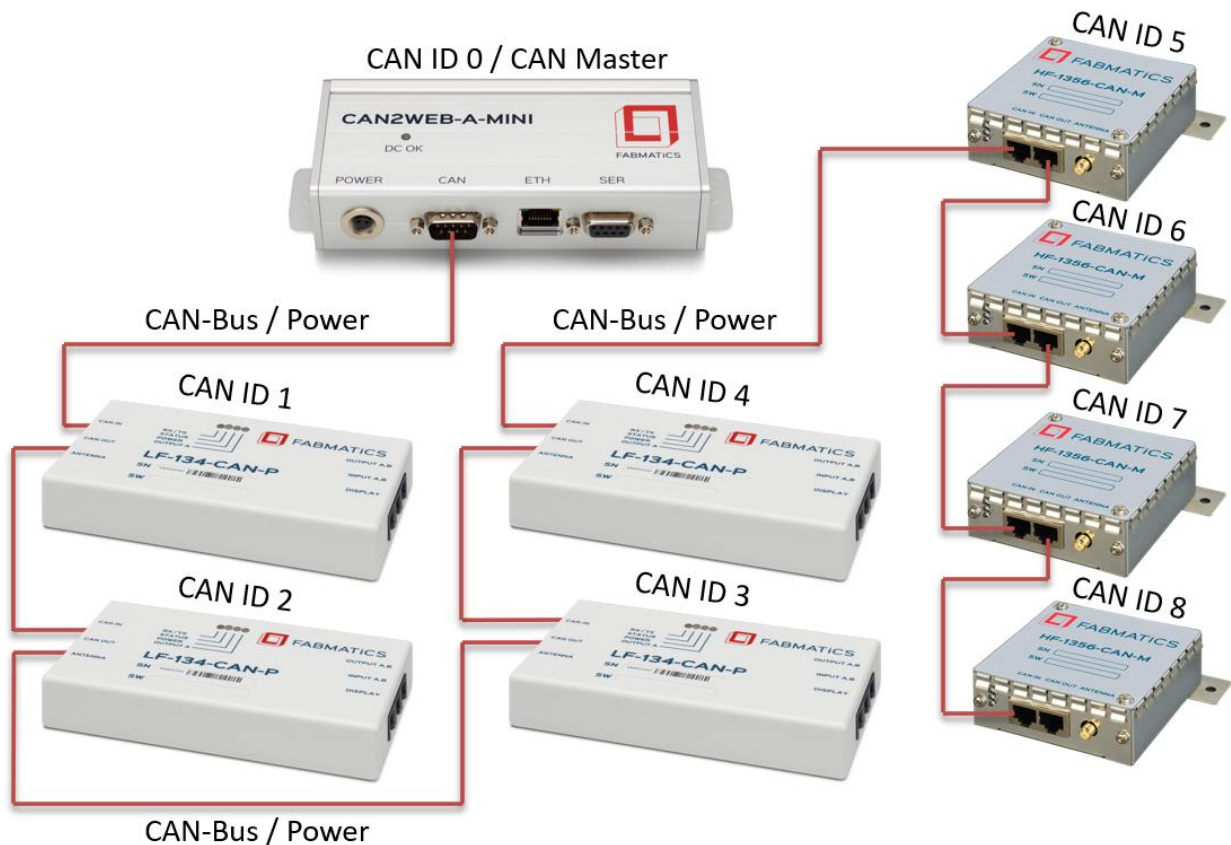
NOTE	
	The CAN2Web-Gateways CAN-ID is preconfigured to be 0 and usually stays that way. The readers will be delivered with preconfigured CAN-IDs depending on customer requests.

8.2 CAN-BUS / Power Connection Layout

The two following schematics show the potential setup of the ID-Reader network. You can use any combination of Fabmatics CAN ID Readers.

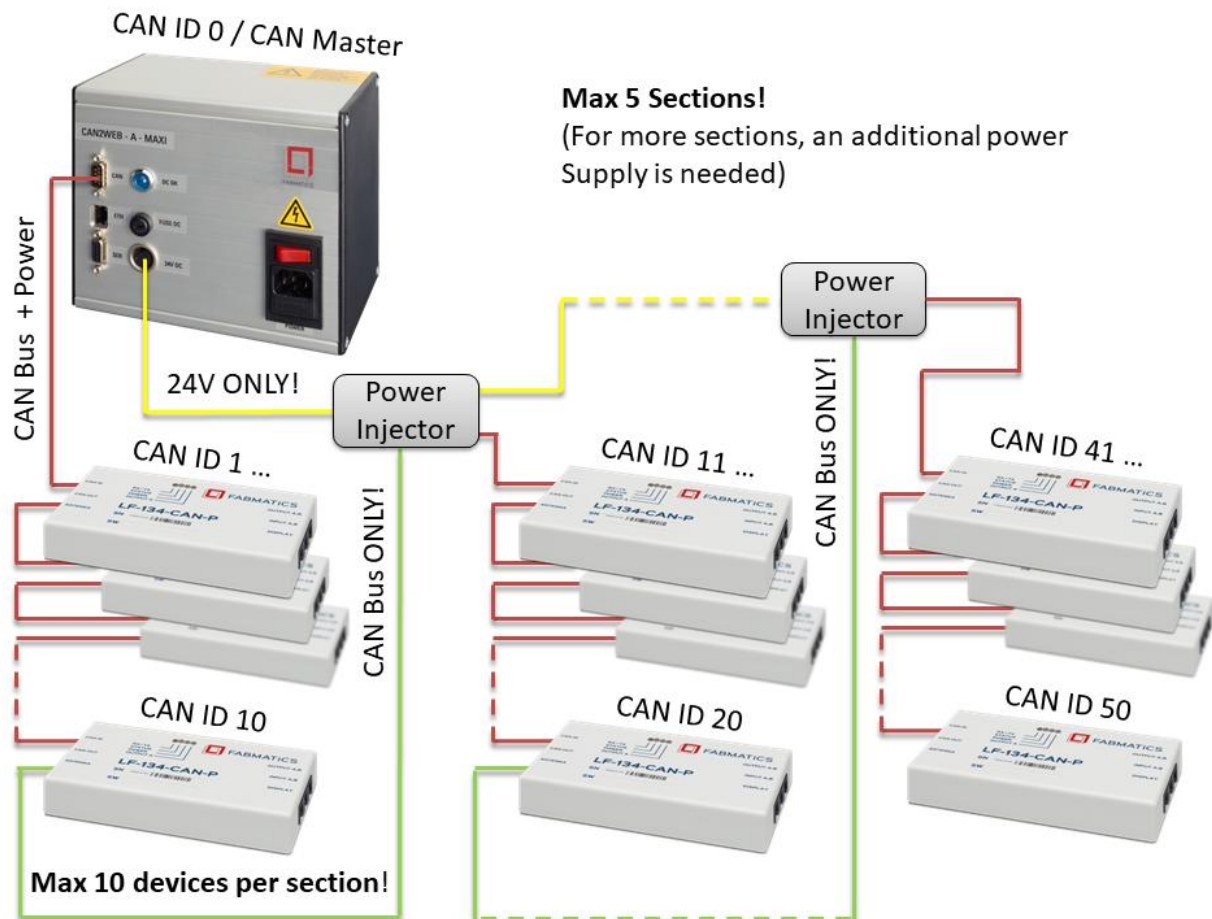
8.2.1 CAN2Web Advanced MINI configuration

Up to 8 CAN RFID-Readers can be connected, depending on the length of the CAN-Bus.



8.2.2 CAN2Web Advanced MAXI configuration

Up to 50 CAN RFID-Readers can be connected, depending on the cable length of the CAN-Bus.



9 Software Configuration

This chapter serves to familiarize the user with the software-related configuration of the IRG software on the CAN2Web the reader is connected to.

The exact software configuration depends on the software or interface package which has been ordered. Please refer to interface documentation for details.

9.1 Content of GLOBAL.CFG on the CAN2Web

```
//set globals for all gateways
```

```
offline_time 30
```

```
gateway_one_rs232 0
```

```
transponder_type 3
```

```
max_socket_server 1
```

```
accept_tcpip_connection 1
```

```
auto_adjustment 1
```

```
iso15693_rf_mode 0x2c
```

```
iso15693_inv_retry 1
```

```
// End of global.cfg
```

9.1.1 Parameter transponder_type

Transponder type	Value at global.cfg	Transponder example
LF_SINGLE	0	(for LF single page transponders)
LF_MULTI	1	(for LF multi page transponders)
HF_ISO_15693	2	TI card RI-TRP-W4FF
HF_IFX	3	IFX card my-d vicinity v2.0 (SRF55V02P)

9.1.2 Parameter iso15693_rf_mode

RF Mode	Value*	RF Mode	Value*
HF_1OF4_10_FM_LOW	0x20	HF_1OF4_100_AM_HIGH	0x2E
HF_1OF4_10_FM_HIGH	0x22	HF_1OF256_10_FM_LOW	0x30
HF_1OF4_10_AM_LOW	0x24	HF_1OF256_10_FM_HIGH	0x32
HF_1OF4_10_AM_HIGH	0x26	HF_1OF256_10_AM_LOW	0x34
HF_1OF4_100_FM_LOW	0x28	HF_1OF256_10_AM_HIGH	0x36
HF_1OF4_100_FM_HIGH	0x2A	HF_1OF256_100_FM_LOW	0x38
HF_1OF4_100_AM_LOW	0x2C	HF_1OF256_100_AM_LOW	

9.1.3 Parameter iso15693_inv_retry 1

parameter	Value at global.cfg	description
iso15693_inv_retry	0	Command "Inventory" is repeated as much as parameter read retries it defines, after first Inventory success there is no following command "Inventory"
iso15693_inv_retry	1	Command "Inventory" is repeated as much as parameter read retries it defines, independent of Inventory success or Inventory failed

10 Operation

10.1 Start-up procedure

The product is factory-tested as part of our quality assurance.

Start-up of the RFID system with HF-1356-CAN-M is carried out by trained personnel (see chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**) Requirements for the start-up by the customer are:

- The user manual of reader and of used CAN2Web Advanced is available to the start-up personnel.
- The mains supply is connected.
- The configuration in CAN2Web Advanced has been made.

Via the power switch on the CAN2Web gateway (or by connecting the CAN2WEB gateway to 24VDC in case of the CAN2WEB Mini), the overall system and all connected readers are supplied with the supply voltage (24 VDC) and the CAN bus signals.

NOTE	
	The system needs approx. 3 seconds to be ready for operation!

10.2 During operation

After completing the configuration and the start-up, the product is in operation and can be controlled by the host system. No manual intervention is required during operation.

10.3 Shutdown

The HF-1356-CAN-M can be shut down for a longer period of time without any additional risks. No special maintenance work is necessary during this period.

The decommissioning is performed by connecting off the CAN cable on the HF-1356-CAN-M.

The plant operator is responsible for the maintenance of all installed HF-1356-CAN-M readers.

10.4 Cleaning

It is ok to use Isopropanol (IPA) and a lint-free cloth, to clean the surfaces of the HF-1356-CAN-M.

DANGER!	
	Before using IPA (Isopropanol), shut down any electrical power to the system! Otherwise there is a potential high risk on fire outbreak, caused by short circuit or heated components.
CAUTION!	
	Isopropanol (IPA) vapors are anesthetic. The contact causes irritation of eyes and mucous membranes. Ensure adequate ventilation when using IPA.
ATTENTION!	
	Before starting to work on the system, always check for mechanical damage and pay attention to any unusual odors, discoloration and noises!

10.5 Repairs

WARNING	
	Repairs may not cause a change in function. The product must not be altered or manipulated.

The system must be shut down before each repair. The HF-1356-CAN-M must be disconnected from the CAN bus.

System maintenance and repairs are to be performed solely by Fabmatics specialists.

10.6 Error Handling

In case of serious system disorders please contact the Fabmatics Support (see section 11.2 for contact details).

11 Service Information

11.1 Contact

Fabmatics GmbH
R M A [Nummer]
Zur Steinhöhe 1
01109 Dresden
GERMANY

Phone: +49 351 652 37 0 (only daytime CET)
Fax: +49 351 652 37 190
Mail: sales@fabmatics.com
Web: www.fabmatics.com

11.2 Support

Fabmatics provides free phone and email support for all purchased RFID components. This includes support for components as well as support for integration and installation of components into customer equipment.

The phone support will be available between 8:00 am and 5:00 pm CET. Beyond, a voice mail box is available.

Phone: +49 351 652 37 371 (only daytime CET)
Fax: +49 351 652 37 190
Mail: support@fabmatics.com

11.3 Return Material Authorization (RMA)

Before returning a defective device to Fabmatics, it is necessary to request a RMA number. This process ensures the proper return of the product and enables a faster classification and repair or replacement of the defective device. Please adhere the following steps:

1. Customer contacts our support to get the RMA form and RMA number
2. Fabmatics generates a RMA number
3. Customer completes the RMA form by using the received RMA number
4. Customer ships the defective unit with attached RMA-Report to:

Fabmatics GmbH
 R M A [Nummer]
 Zur Steinhöhe 1
 01109 Dresden
 GERMANY

RMA 000-000-000

5. Fabmatics acknowledges the receipt and processes the RMA request
6. Return of the repaired or replaced device to the customer

ATTENTION!	
	Please prominently display the RMA number on the outside of the package to allow us to serve you faster.

11.4 Warranty

The warranty period is 24 months and begins with the moment of delivery of the device as indicated on an invoice or other documents. The warranty includes the repair of all damages to the device that occur within the warranty period and which were evidently caused by material- or production defects.

The warranty does not include damages caused by incorrect connection, inappropriate handling and non-observance of the technical reports

11.5 Disposal

Within the European Union Fabmatics will take back any delivered equipment for disposal. For further information on our return policy, please contact the Fabmatics Support

NOTE	
	For disposal of the equipment on your own, make sure to observe the local law.

11.6 Spare Parts

The products in our current product range are available as spare parts to our customers. In case of spare part requests for products which are no longer part of our product range, Fabmatics requires detailed product information of the defective unit. All components have an expected product lifetime of 10 year, during which we will be able to provide spare parts or equivalent parts.

NOTE	
	Before ordering spare parts, make sure to choose the right hard- and software combination of the part to be replaced. The required information is usually displayed somewhere on the part.

11.7 Accessories & Spare Part Overview

Fabmatics offers the following standard accessories for the HF-1356-SER-M. Custom and additional components (e.g. antennas) can be ordered on request!

Component	Description	Order Codes
Cable-ETH 	CAN-bus cable for direct connection between all variants of Fabmatics LF-/HF-CAN-RFID-Readers. RJ45 to RJ45. NOTE: The cable cannot be substituted with any standard Ethernet cable!	
	cable lengths will be customized	**)
Cable-CAN-SER 	CAN-bus cable for connecting all versions of a CAN2Web-gateway to the first RFID-reader in a CAN-bus network. DE9 to RJ45.	
	cable lengths will be customized	**
CAN2Web MINI 64 Advanced	Multifunctional CAN-bus to Ethernet gateway device to connect Fabmatics RFID-readers to a host system. Supplies up to 8 devices with power via the CAN-Bus cable.	
		
	CAN2Web-A-MINI w/o base plate	**
	CAN2Web-A-MINI-BP with base plate	**
CAN2Web MIDI 64 Advanced	Multifunctional CAN-bus to Ethernet gateway device to connect Fabmatics RFID-readers to a host system. With its integrated 50W wide range switched mode power supply, it is able to supply up to 25 devices with power via the CAN-Bus cable.	
		
	CAN2Web-A-MIDI	**
CAN2Web MAXI 64 Advanced	Multifunctional CAN-bus to Ethernet gateway device to connect Fabmatics RFID-readers to a host system. With its integrated 100W wide range switched mode power supply, it is able to supply up to 50 devices with power via the CAN-Bus cable.	
		
	CAN2Web-A-MAXI	**

Component	Description	Order Codes
Fabmatics Test Suite 	Comprehensive software tool for testing all Fabmatics CAN/Serial LF and HF ID-readers in conjunction with a CAN2Web gateway. For further information please contact our support: support@fabmatics.com	
RFID-ANT-HF-SQU-9673-SMA-V1.0 	External HF Antenna — dimensions: 73 × 96 x 10 mm — connector type: SMA female - available cable lengths: up to 3.6m	
	RFID-ANT-HF-SQU-9673-SMA-V1.0	**

* For custom configuration requests please contact us at: sales@fabmatics.com

** Please contact our sales team for Order codes, as they depend on multiple factors (software, cable length, options etc.)

12 Attachments

12.1 Glossary

ASCII	American Standard Code of Information Inter-exchange
CAN	Controller Area Network
RF	Radio Frequency
RFID	Radio Frequency IDentification
LF / HF	Low / High Frequency
HDX	Half Duplex
ISP	In-Circuit Programmer
FSK	Frequency Shift Keying
MPT / SPT	Multi / Single Page Transponder
RO / RW	Read Only / Read and Write
SAMPT	Selective Addressable Multi Page Transponder
ABS	Acrylonitrile Butadiene Styrene (plastic material)
POM	Polyoxymethylen (plastic material)
SMPS	Switched Mode Power Supply
MES	Manufacturing Execution System
SEMI	Semiconductor Equipment and Materials International
SECS	SEMI Equipment Communication Standard
MTBF	Mean Time Between Failures
MCBF	Mean Cycles Between Failures
TIRIS	Texas Instruments Registration and Identification System (RFID Standard)

12.2 Related documents

- UMA_CAN2Web-Advanced_Rev18_ENG.pdf

The documents apply in their respective current version.



A merger of HAP and ORTNER

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