

**ID Access 1500 Demo**

**Demo and Test Software Manual**

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## 1 Installation

### 1.1 Mechanics

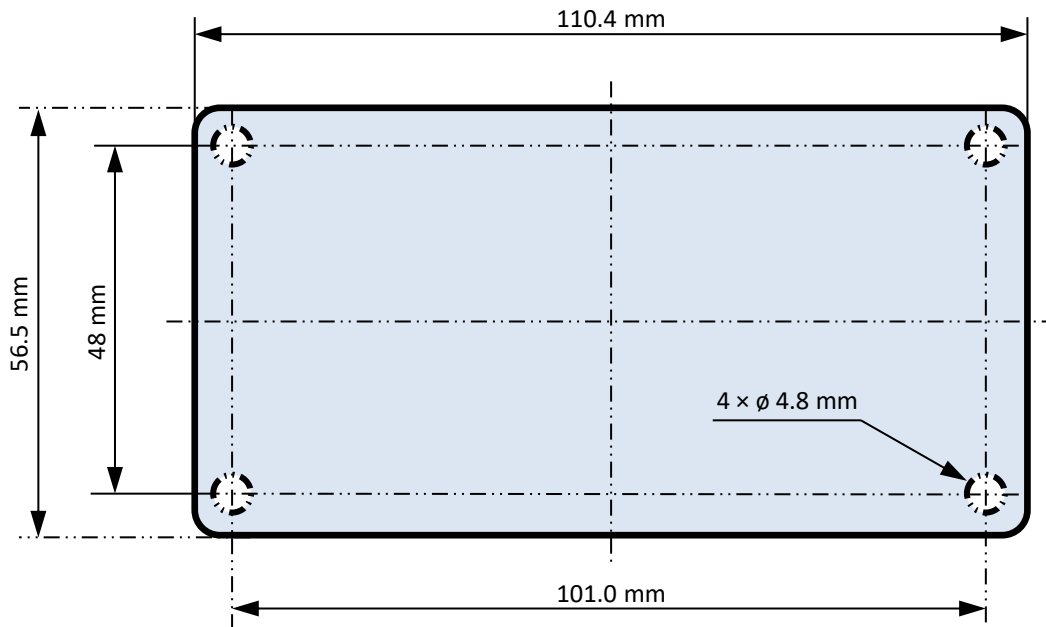


Figure 1 dimensional drawing of the electronics OEM-HF-R845-ET

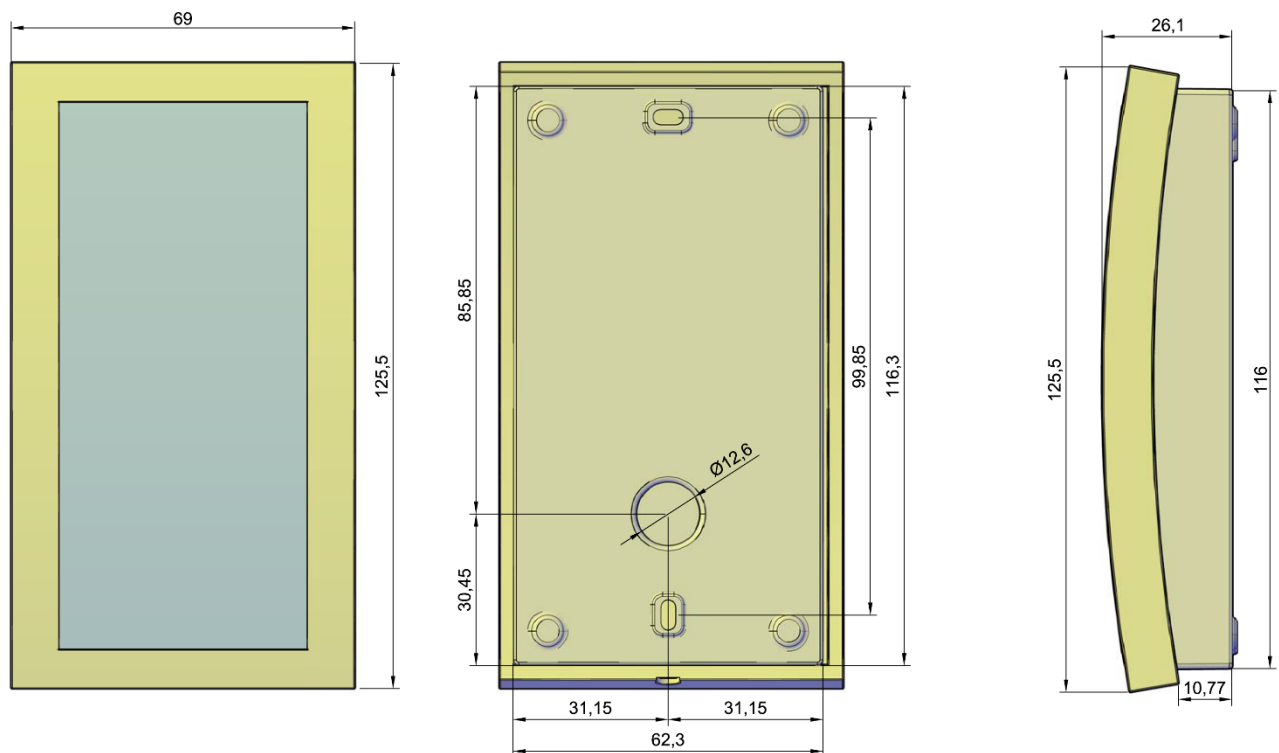


Figure 2 dimensional drawing of housing of ID Access 1500 + R-EA-WR-ET-HF-RO

## 1.2 Electrical Connection

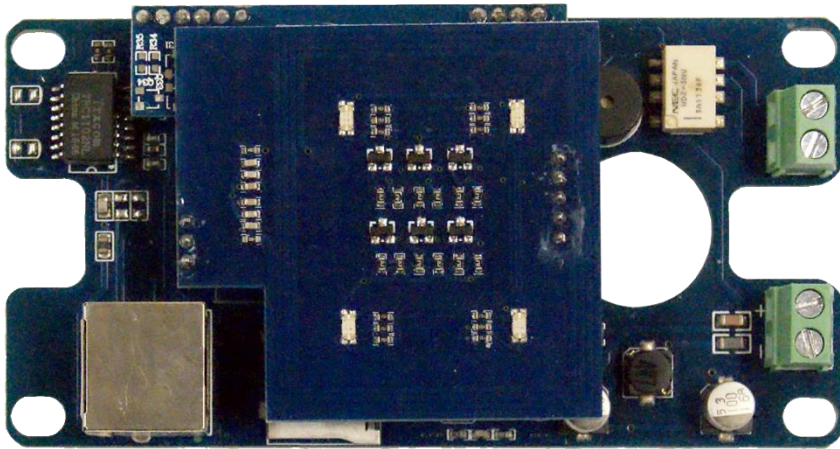


Figure 3 the antenna PCB on top can be removed

Remove the antenna PCB to gain an easy access to the Ethernet connector below.

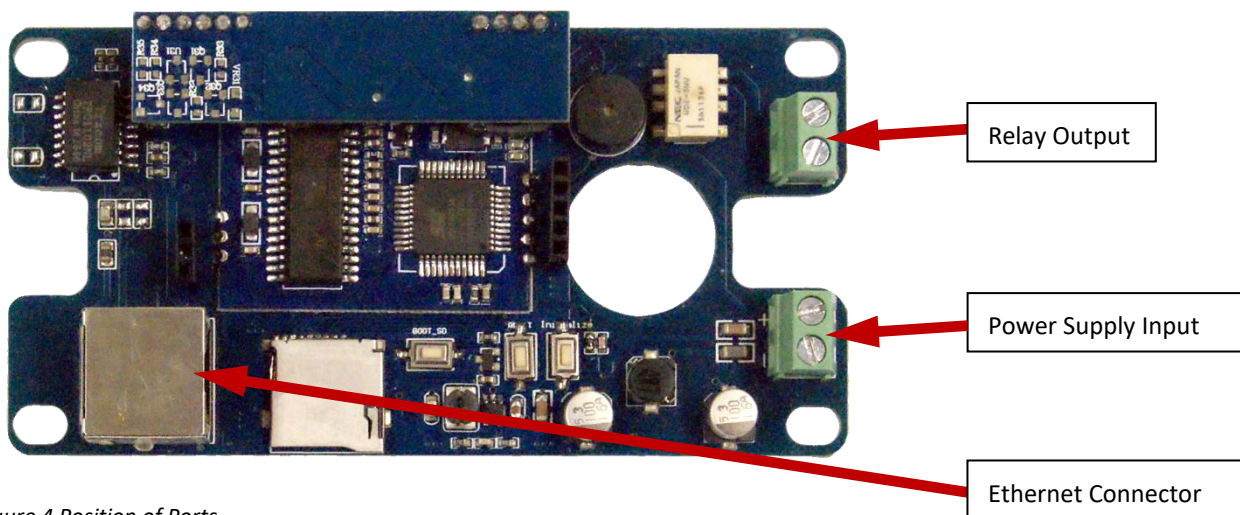


Figure 4 Position of Ports

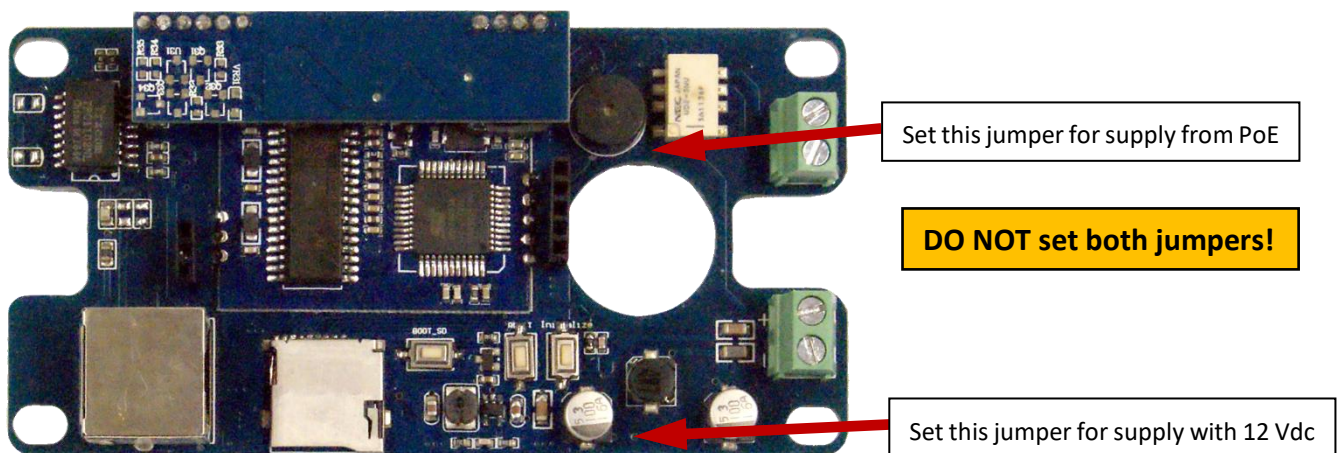


Figure 5 Position of Jumper for Power Supply Selection

### 1.3 Ethernet Connection · MAC Address

**Factory default MAC address is: 08:90:90:90:90:20**

#### Important Note

Each device can have the same MAC address on delivery. Every device in your network must have a unique MAC address. Before connecting it your network, check that the desired MAC address has been set. A device with the wrong settings may impede the functioning of your network.

### 1.4 Ethernet Connection · IP Address

**Factory default IP address is: 192.168.1.20**

#### Important Note

Do not connect any device to your network before it has been configured. Every device in your network must have a unique IP address. Before connecting it your network, check that the desired IP address has been set. A device may have any factory-set IP address. A device with the wrong settings may impede the functioning of your network.

The next chapter describes how to change the IP and MAC address to suit your needs.

## 2 Initial Operation

**Please set the MAC address *and* the IP address.**

This is described in chapter 4.5.

## 2.1 Web Interface

**TCP READER**

Reader Configure  
Software Update  
User Management

### RFID Reader Configure

**READER NETWORK**

Address: 192.168.1.20  
Netmask: 255.255.255.0  
Gateway: 192.168.1.13  
**SET**

Type in the network settings of the RFID device.  
Then click on SET.  
Please wait until a confirmation appears.

**SERVER NETWORK**

Sending Type: Code  
Address: 192.168.1.13  
Port: 8890  
**SET**

Select with/without CR at end of telegram.  
Type in the IP address and port of the server.  
Then click on SET.  
Please wait until a confirmation appears.

**TELEGRAM CONTENTS**

Encoding Type: UID  
Read Sector: Key A  
Key: \*\*\*\*\*  
Block: 4  
First Char: 1  
Last Char: 8  
**SET**

Select reading from the RFID tag without (UID only) or with data (UID + BLOCK).  
If you have selected UID + BLOCK, then specify this information. Block numbers start from "0" and are decimal. The maximum block number is 64, suitable for a Mifare 1 k tag type.  
Data from the RFID tag is read in the specified block starting the first character until the last character (up to 16).  
Then click on SET.  
Please wait until a confirmation appears.

**Factory default access name: smart**  
**Factory default access password: 123456**

Hint: If you open <http://192.168.1.20/index.html> directly, you don't have to authenticate.

### 3 Function Description

All data is ASCII encoded.

**Commands are received only on port 10001.**

#### 3.1 RFID Function

Read Mifare UID and send it to another Ethernet device. OR  
Read Mifare UID and send it + CR to another Ethernet device.

Additional: Read a memory block from a start address (first char) to a stop address (last char) and send it to another Ethernet device. The telegram can contain these configurable data information:

- UID
- UID + CR
- UID + BLOCK\_DATA
- UID + BLOCK\_DATA + CR

#### 3.2 Set Outputs

Send a command string as plain contents of an IP package to the device.  
The command sent must be composed of 9 or 16 characters:

LRRRBBB or  
LRRRBBBLLLTTT

The data fields in Detail

RRR Relay activation time (steps of 1s, binary value)  
BBB Buzzer activation time (steps of 1s, binary value)  
LLL RGB colour of LED  
TTT LED activation time (steps of 1s, binary value)

#### LED Colour Coding

000	OFF
001	blue
010	green
011	cyan
100	red
101	violet
110	yellow
111	white

#### Examples

L111001

- ⇒ Activate relay for 7 s (0b111)
- ⇒ Activate buzzer for 1 s (0b001)

L101001010011

- ⇒ Activate relay for 5 s (0b101)
- ⇒ Activate buzzer for 1 s (0b001)
- ⇒ Let LED light green for 3 (0b011)



## 4 Test Operation and Configuration

### 4.1 Software Screen Overview

The screenshot displays the 'ID Access 1500 Demo' application window. It features several functional areas:

- Top Bar:** Includes a title bar, window controls, and an 'INFO' button.
- IP Configuration:** A dropdown menu set to '192.168.1.20' and a 'SEARCH' button.
- PORT SERVER:** A dropdown menu set to '8890' and a 'LISTEN' button.
- PORT DEVICE:** A dropdown menu set to '10001'.
- DATA FROM RFID DEV:** A scrollable list of data entries, each containing a timestamp, IP address, and a hexadecimal ID (e.g., '13E107EA').
- COMMANDS TO RFID DEVICE:** A section with a checked 'LEADING "L"' option and two vertical sliders for 'RELAY TIME ON' and 'BUZZER TIME ON', both currently set to 0.
- MORE PARAMETERS:** A section with a checked 'MORE PARAMETERS' option, including 'LED COLOR' (with buttons for Red, Green, and Blue) and 'LED DURATION' (with a vertical slider).
- ADD:** A blue button to add new configurations.
- SEND:** A blue button to send commands, with a text input field containing 'L011001111010'.
- NETWORK INTERFACE SETTINGS:** A section for configuring network parameters:
 

Parameter	Field 1	Field 2	Field 3	Field 4
IP	192	168	1	20
Subnetmask	255	255	255	0
Gateway	192	168	1	1
DNS	0	0	0	0
MAC	08	90	90	99

 Additionally, there are 'GET NETCONF' and 'MODIFY NETCONF' buttons.

### 4.2 Search The Device

Click on the button [ SEARCH ] and wait until the list of IP addresses is refreshed.

This screenshot shows the same software interface as before, but with the 'SEARCH' button highlighted, indicating the next step in the process.

Now select the desired device from the list:

This screenshot shows the software interface with the 'LISTEN' button highlighted, indicating the final step in the search process.

Finally click on the button [ LISTEN ].

The screenshot shows the 'ID Access 1500 Demo' window. At the top, there is a title bar with standard window controls. Below it, the 'IP' field is set to '192.168.1.20' with a 'SEARCH' button to its right. The 'PORT SERVER' is set to '8890' with a 'LISTEN' button to its right. The 'PORT DEVICE' is set to '10001'. An 'INFO' button is located in the top right corner.

The button [ LISTEN ] changes the border colour to green. On a second click

Incoming telegrams will appear below. The date and time-stamp, IP address and Port is added by the demo software.

This screenshot shows the 'ID Access 1500 Demo' window after the 'LISTEN' button has been clicked. The 'LISTEN' button now has a green border. Below the configuration fields, there are three main sections:
 

- DATA FROM RFID DEV:** A list of received data entries, each with a timestamp, IP address, and port number. The entries are:
  - 13.03.2020 11:30:50, 192.168.1.20:33383, 13E107EA
  - 13.03.2020 11:30:51, 192.168.1.20:33384, 13E107EA
  - 13.03.2020 11:30:51, 192.168.1.20:33385, 0DA15B01
- COMMANDS TO RFID DEVICE:** A section with a checked 'LEADING "L"' checkbox. It contains two sliders: 'RELAY TIME ON' and 'BUZZER TIME ON', both currently set to 0.
- MORE PARAMETERS:** A section with a 'LED COLOR' dropdown menu (currently showing 'R') and three buttons labeled 'R', 'G', and 'B'. To the right of these is a 'LED DURATION' slider, currently set to 0.

#### 4.3 Send Standard Test Command

The demo software starts with a preconfigured test command. Click on the button [ SEND ] to transfer it to your RFID device. The standard test command shall have this result:

- The buzzer signals for 1 sec
- The LEDs are all light up (white color) for 2 seconds
- The relay will close after 3 seconds

This screenshot shows the 'ID Access 1500 Demo' window with the standard test command loaded. The 'DATA FROM RFID DEV' section is empty. The 'COMMANDS TO RFID DEVICE' section shows the 'LEADING "L"' checkbox checked and the 'RELAY TIME ON' and 'BUZZER TIME ON' sliders set to 0. The 'MORE PARAMETERS' section shows the 'LED COLOR' dropdown set to 'R' and the 'LED DURATION' slider set to 0. At the bottom, there is an 'ADD' button and a text field containing the command 'L011001111010'. A 'SEND' button is located to the right of the text field.

#### 4.4 Compose Your Own Test Command

Use the sliders to change the duration of the relay and buzzer.

Checkmark "More parameters", so you can set the LED colour and duration. Click on the buttons [ R ], [ G ] and [ B ] until your desired colour appears in the sample field left of the three colour buttons.

IP: 192.168.1.20 [SEARCH]

PORT SERVER: 8890 [LISTEN]

PORT DEVICE: 10001

DATA FROM RFID DEV

COMMANDS TO RFID DEVICE

✓ LEADING "L"

RELAY TIME ON: 5

BUZZER TIME ON: 1

✓ MORE PARAMETERS

LED COLOR: R, G, B

LED DURATION: [Slider]

[ADD]

L011001111010 [SEND]

[INFO]

Click on [ ADD ] to let the software compose your parameters to a command line.

[ADD]

L101001010011 [SEND]

Now you can click on [ SEND ] to transfer your command to the RFID device.

#### 4.5 Configure Ethernet Parameters

Click on the button [ GET NETCONF ] to readout the Ethernet parameters of the RFID device.

NETWORK INTERFACE SETTINGS

IP: 192, 168, 1, 20

Subnetmask: 255, 255, 255, 0

Gateway: 192, 168, 1, 1

DNS: 0, 0, 0, 0

MAC: 08, 90, 90, 99, 90, 20

[GET NETCONF]

[MODIFY NETCONF]

Change the settings to your desired values. Then program these into the RFID device with [ MODIFY NETCONF ].

#### Important Note

Each device can have the same MAC address on delivery. Every device in your network must have a unique MAC address. Before connecting it your network, check that the desired MAC address has been set. A device with the wrong settings may impede the functioning of your network.

## 5 Revision History

2017-04-04	0.1	Initial release.
2017-05-11	0.2	Value range of timing changed to 000...111 (app. up to 1.5 sec)
2017-05-12	0.3	Web interface access code added.
2017-05-26	0.4	Output Commands reworked.
2017-08-14	0.5	Output Commands updated, timing is now 4 digits
2017-09-21	0.6	Output Commands reworked.
2017-10-13	0.7	Output Commands reworked, FW V3.1
2018-03-01	0.8	Photos of real device, tiny text changes, test operation added
2018-08-02	0.9	Configure MAC address added.
2019-02-19	1.0	Warning to set the MAC address added
2010-10-08	1.1	Dimensional Drawings added
2020-03-13	2.0	New Demo and Configuration Software added, Technical Data Added
2020-07-16	2.1	Next complete version of demo software updated, old version removed. New hardware with jumper to select supply added.

## 6 Technical Specifications

Mechanical Specifications	
Dimensions	110 × 56 × 18 mm (without cabling, without housing)
Weight	6 g
PCB Material	FR4, blue
Electrical Specifications	
Power Supply	12 Vdc (±5 % regulated) or PoE
Power Consumption	< 180 mA (RFID active, relay ON)
Operating Frequency	13.56 MHz
Antenna	Internal
Interfaces	Ethernet TCP/IP
Output	Relay:      Max. switching power:      30W/37.5VA Max. switching voltage:      220Vdc/250Vac Max. switching current:      1A Max. carrying current:      1A Initial contact resistance:      Maximum 100 mΩ (initial) Contact material:      Silver alloy with gold overlay
Environmental Conditions	
Operating Temperature	-20 °C ... +80 °C
Storage Temperature	-40 °C ... +85 °C
Humidity	up to 95 %, non condensing
MTBF	200'000 h
Supported Standards / Tags	
ISO 14443 A and compatible	ISO 14443 A (NXP MIFARE Ultralight® / Ultralight® C, MIFARE® Classic Mini/1K/4K)
Environmental Conditions	
Operating Temperature	-10 °C ... +70 °C
Storage Temperature	-20 °C ... +80 °C
Humidity	up to 95 %, non condensing
MTBF	200'000 h
Applicable Standards	
EMC	EN 301489-1:2012-04 (v1.9.21) EN 301489-3:2013-12 (V1.6.1)
Radio Regulation	EN 300330-1:2015-08 (V1.8.1) EN 300330-2:2015-08 (V1.6.1)
Safety	EN 60950-1:2014-08 EN 62369-1:2010-03 EN 50364:2010-11
RoHS	EC Guideline 2011/65/EU and amendment 2015/863 EN 50581:2012 (valid till 2024-07-07) EN 63000:2018
REACH	EU Guideline 1907/2006, updated by 2018/2005/EU