

**ID Access 1000 / ID Module 1000  
13.56 MHz RFID Device  
Installation and Test Operation Manual**

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## 1 Introduction

### 1.1 Overview

The ID Access 1000 is an embedded RFID network module, which can be made up of one network system without stand-alone wire connection by using existing computer networks.

It is available with multiple mode of TCP/IP network and enables reader response immediately and timely when there is any card operation on remote computer, and realizing remote control and build up one system combining local system and different areas.

### 1.2 Key Features

- Plug and play networking
- TTL to TCP/IP POE embedding network module
- Support mode of TCP server, TCP client, UDP appointed, UDP normal , etc
- Compliant with ISO14443A/B, ISO15693
- Low power consumption, no heat cooler needed

### 1.3 Typical Application

- Industry control
- Access control
- Building automation system
- Remote control
- Network control system

### 1.4 Available Versions

- |   |                |               |
|---|----------------|---------------|
| • Device with housing for wall mounting | ID Access 1000 | R-EA-WR-ET-HF |
| • Module without housing                | ID Modul 1000  | R-OEM-ET-HF   |

### 1.5 The Test Software »RFID Reader«

This DEMO is just for testing used, other specific app or request on function button, please refer to API documents, demo code and other second development files for your own program, or contact our sales for customization.

### 1.6 Important Note

**If you operate several devices in a network using our DLL you have to configure each device not only to a *different IP address*, but also to a *different port number*.**

#### Example

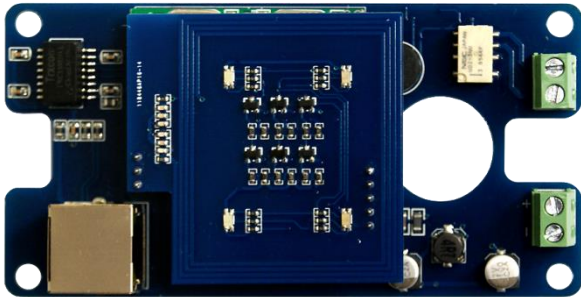
Device #1:	IP address: 192.168.178.100	Port number: 8000
Device #2:	IP address: 192.168.178.101	Port number: 8001
Device #3:	IP address: 192.168.178.102	Port number: 8002
Device #4:	IP address: 192.168.178.103	Port number: 8003

...

You can choose the port numbers freely, but having them in sync with the IP address helps to avoid confusion.

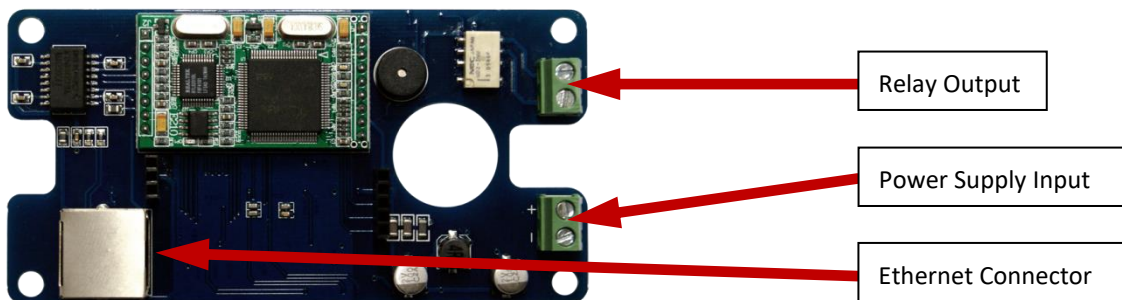
## 2 Electrical Connection

### 2.1 Preparation



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

### 2.2 Position of Ports



The relay is a closing contact (NO).

### 3 Ethernet Connection

**Factory default IP address range is: 192.168.1.xxx**

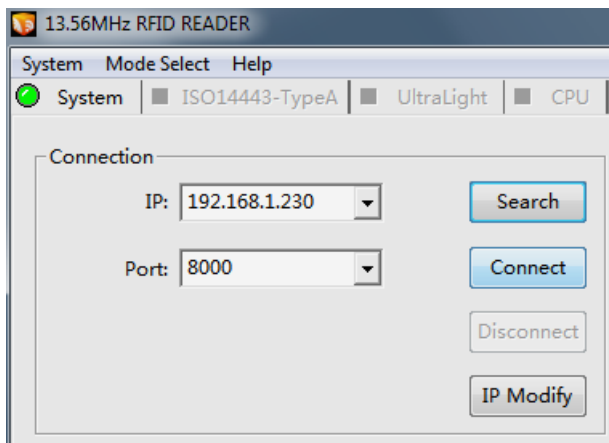
#### Important Note

Do not connect any device to your network before it has been configured. 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.

#### 3.1 Operation of Several Devices in the Same Network

In order to operate several devices via the DLL please set **each device** not only to a **different IP address**, but **also each device** to a **different port**!

#### 3.2 Connecting with The Device

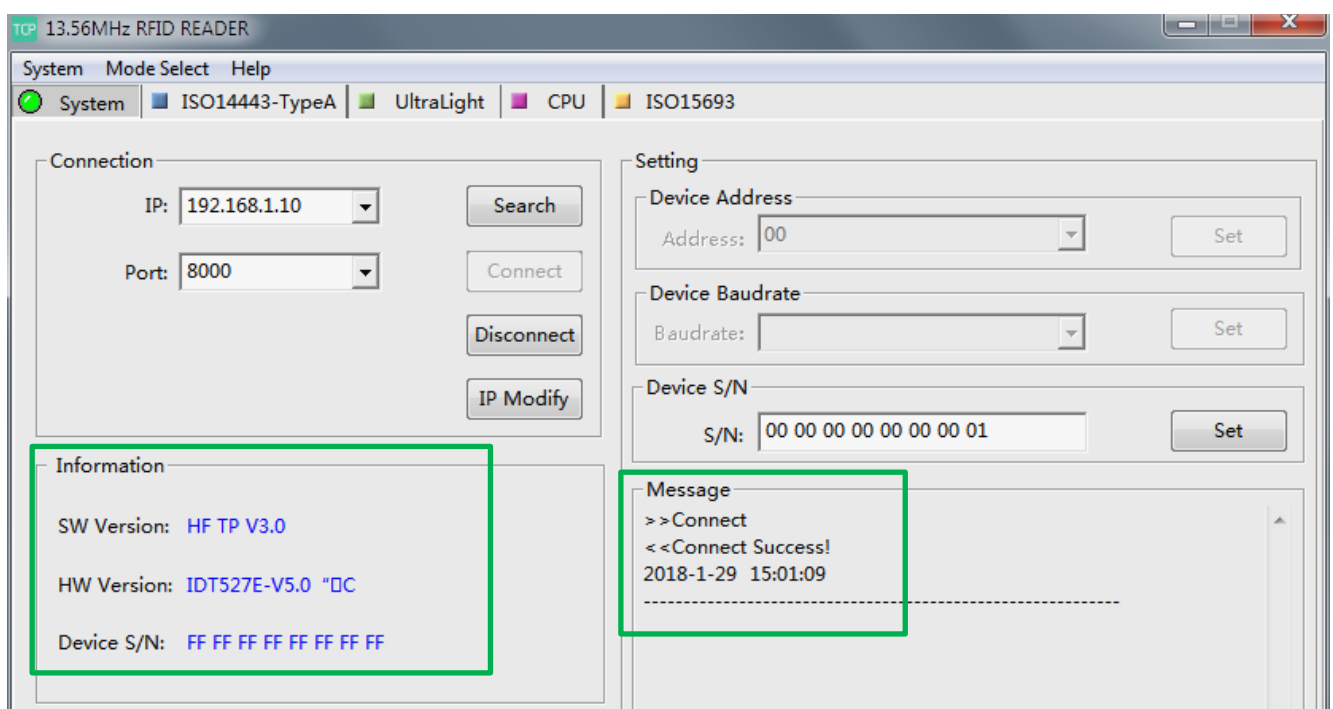


In case you don't know the IP address of the device, use the [search] function. This will take some time, so please be patient. This will only work in the same subnet, so set your service PC according in the suitable network address range.

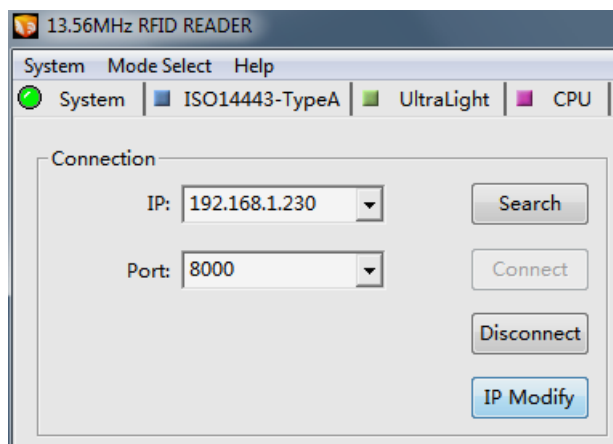
If the IP address is known, simply type it in.

Tip: Use copy & paste to reuse IP addresses from a text file.

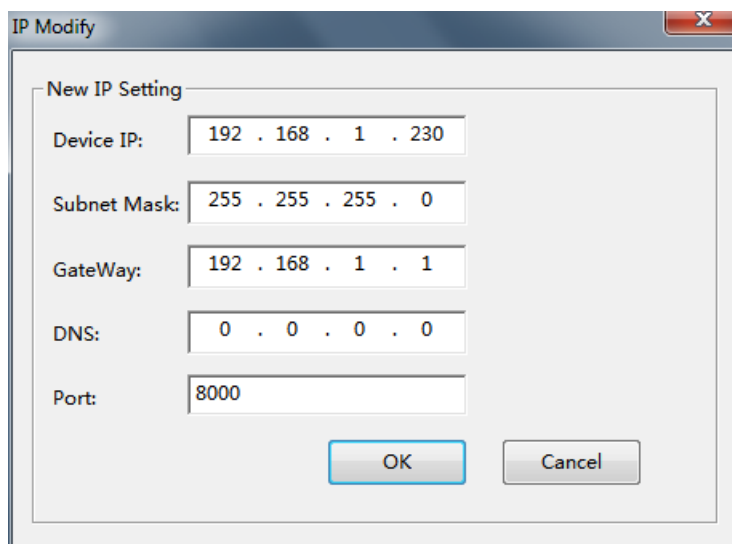
When the IP address is shown press [connect]. Now the software should connect to the device and show a brief version information gathered from the device:



### 3.3 Network Settings



Use [IP Modify] to open this dialog. Change the values as desired for your application.



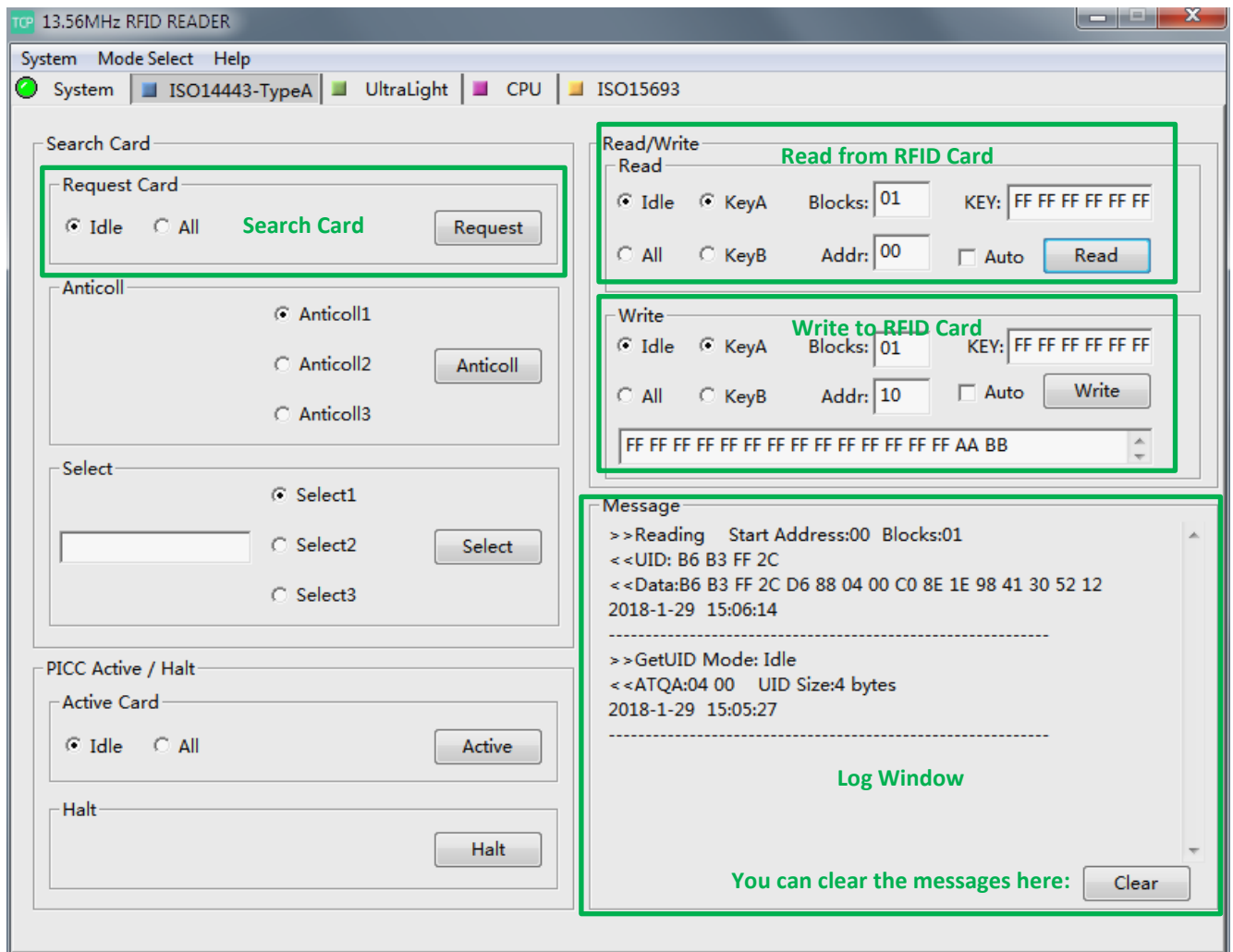
## 4 Test Operation

### 4.1 ISO14443 Type A operation

#### 4.1.1 ISO14443A Search card

Please enter to “ISO14443A Type A” operation interface, and click “Search” to look for cards in the reading field. This command replies with the ATQ bytes and the length of the UID.

In order to get the UID you can perform a Read Block #00 command.



#### 4.1.2 Read data of card blocks

To operate card blocks information reading, card supporting types can be Mifare 1K, Mifare 4K, and the working mode optional with Idle mode and All mode.

Remark:

- Under idle mode, all cards in the IDLE state shall respond synchronously with ATQA
- Under All mode, all the card in the IDLE or HALT state shall respond synchronously with ATQA.

“Blocks” dialog box stands for the blocks number to be read in one time, and the “Addr” is the start address of this reading, the “KEY” default is FF FF FF FF FF.



If the reading block/blocks is/are encrypted, please get and input the special key, see following:

If successfully, then Message box will return right information about the operation; if failed, then feedback with wrong code, please refer to Wrong code list to know their definition.

The settings shown mean this:

- Read using Key A
- Read 01 Blocks
- Reader starting block 0x00
- The Key is FF FF FF FF FF FF (RFID chip default)

#### **4.1.3 Write data into card blocks**

To operate card blocks information writing, card supporting types can be Mifare 1K, Mifare 4K, and the working mode optional with Idle mode and All mode.

If successfully, then Message box will return right information about the operation; if failed, then feedback with wrong code, please refer to Wrong code list to know their definition.

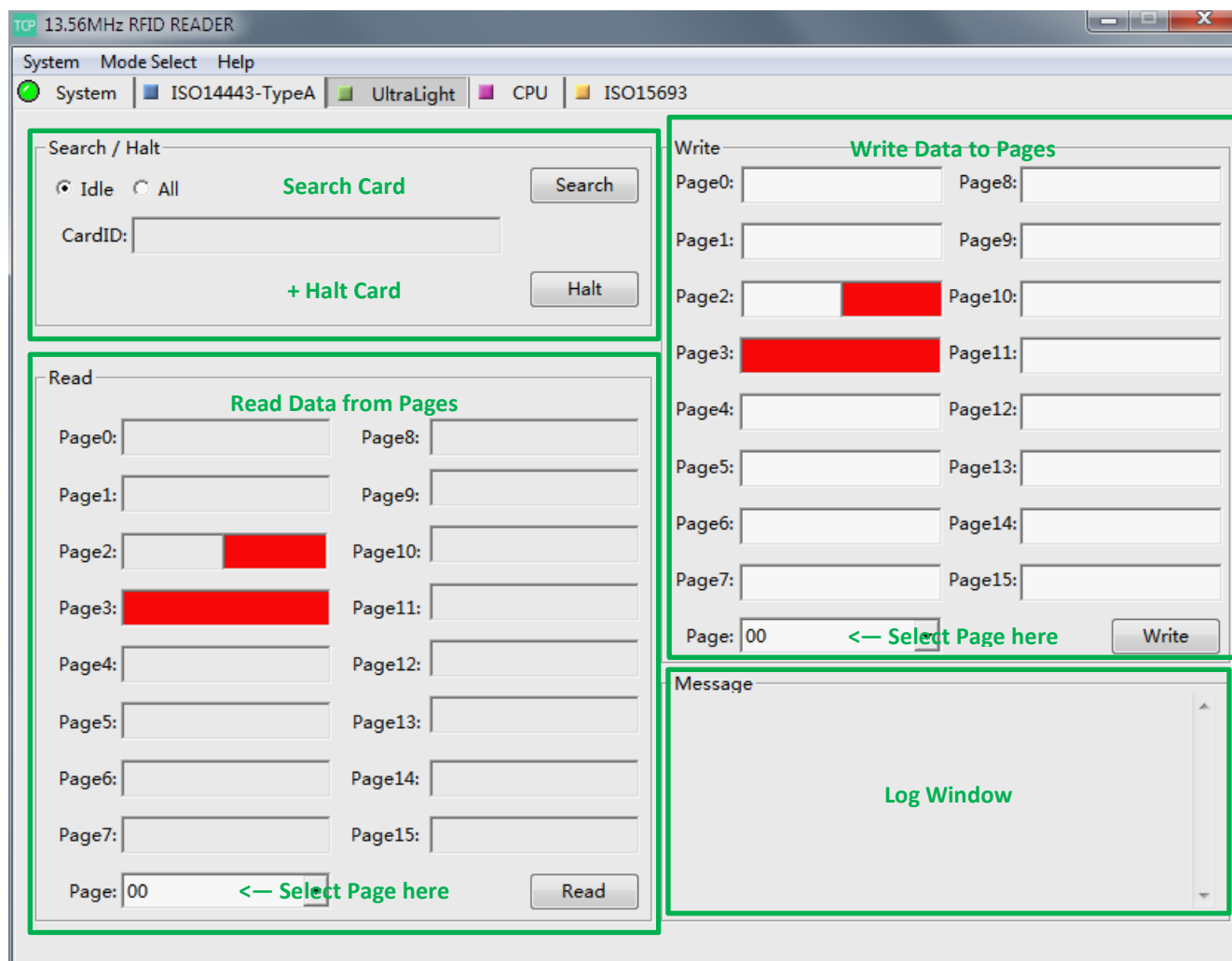
#### **Remark**

The Key (A or B) is always needed read or write data. If the Key has not been set to a different value than the factory default, the standard FF FF FF FF FF FF is automatically added in the demo software.

## 4.2 Ultralight operation

### 4.2.1 Search Mifare Ultralight

This procedure is need before reading or writing any specific page, just Click the “Search”, then you will get the CardID displaying in Message box, shown as below:



### 4.2.2 Read data from page

Please choose the page number in the drop-down list box, then click “Read”, then get the information of the paged chosen. You can only read one page at a time.

### 4.2.3 Write data to page

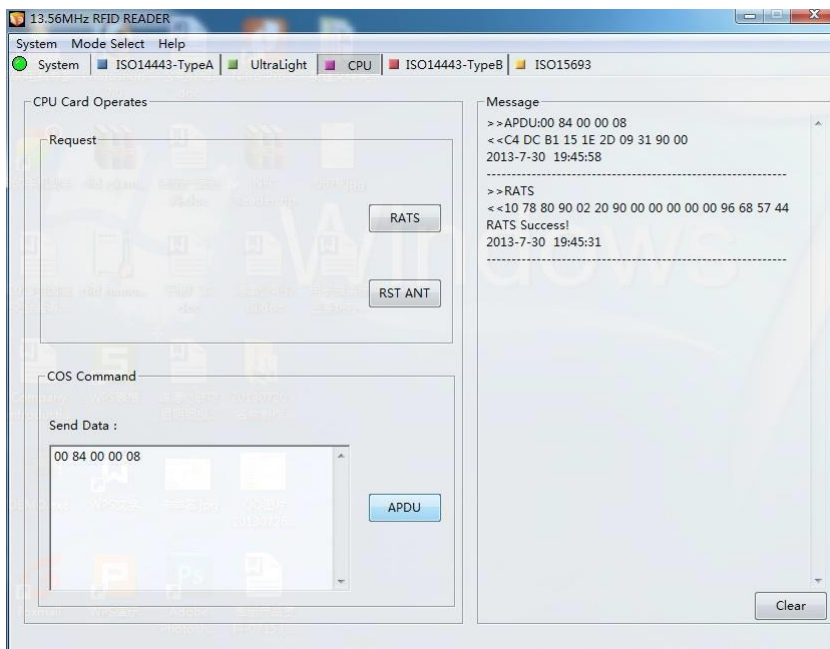
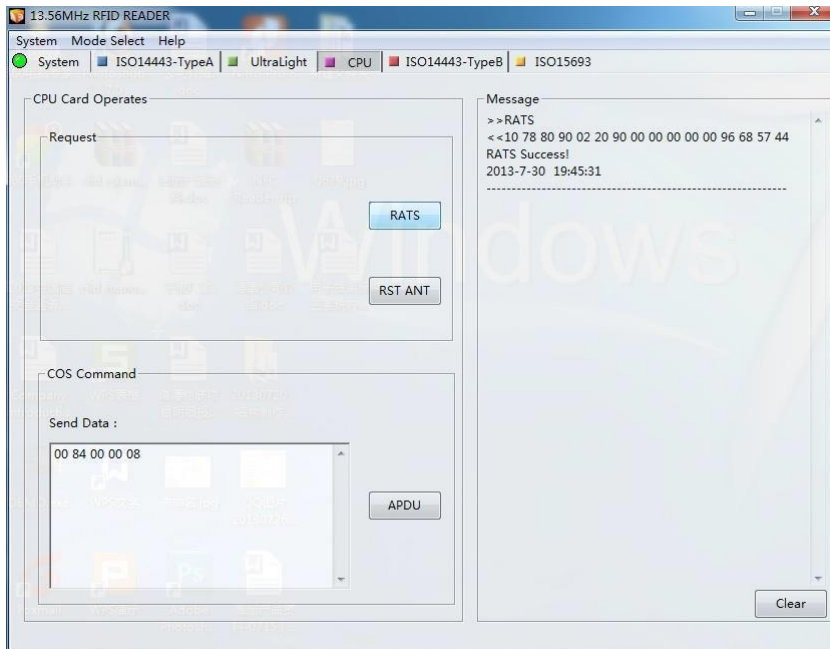
To write information to the page, select the page number to be written under drop-down list box, input data need to be written into (4 bytes), then click “Write”.

To check out if the writing success, you could see the information return in the Message box, also you could operate to read the page just wrote.

### 4.3 CPU card operation

This interface is used for contactless CPU cards compliant with ISO 14443A standard, here we provide three function button, including RATS (Request for Answer to Select), RST ANT (Reset Antenna) and Send APDU.

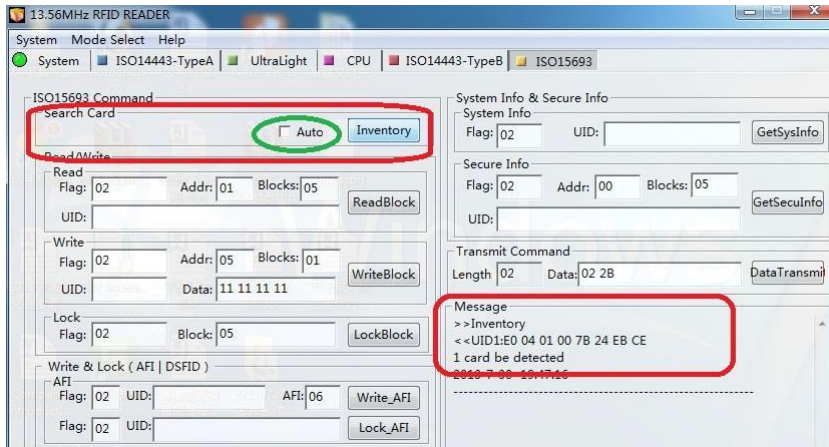
These three functions are fit for all common types of contactless CPU card.



## 4.4 ISO15693 Operation

### 4.4.1 Inventory

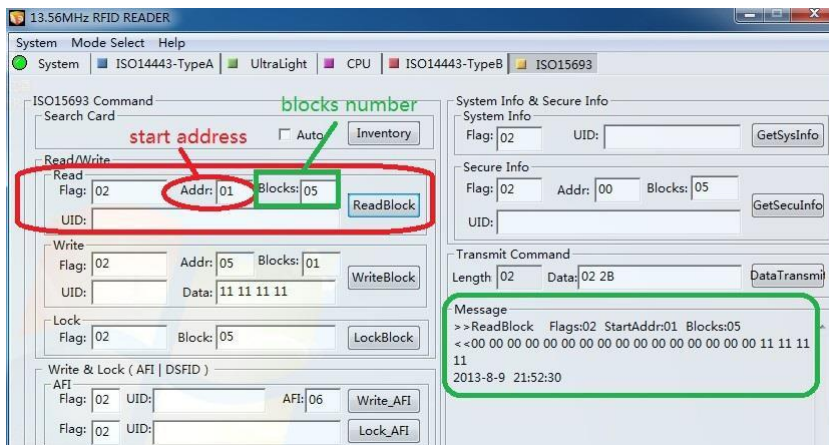
To search the card or cards in the reading field.



### 4.4.2 Read block from block

Please refer to user manual of different chip cards, to get the Flag value, then input the right one, and chose the start address and blocks number to be read.

Following is the example for the I CODE SLI chip cards, the Flag value is 02, as following:

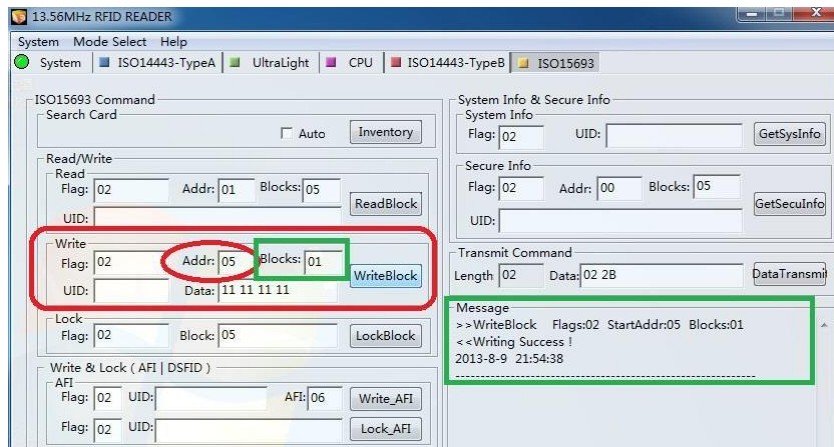


### 4.4.3 Write data to block

Please refer to user manual of different chip cards, to get the Flag value, then input the right one, and chose the start address and blocks number to be written.

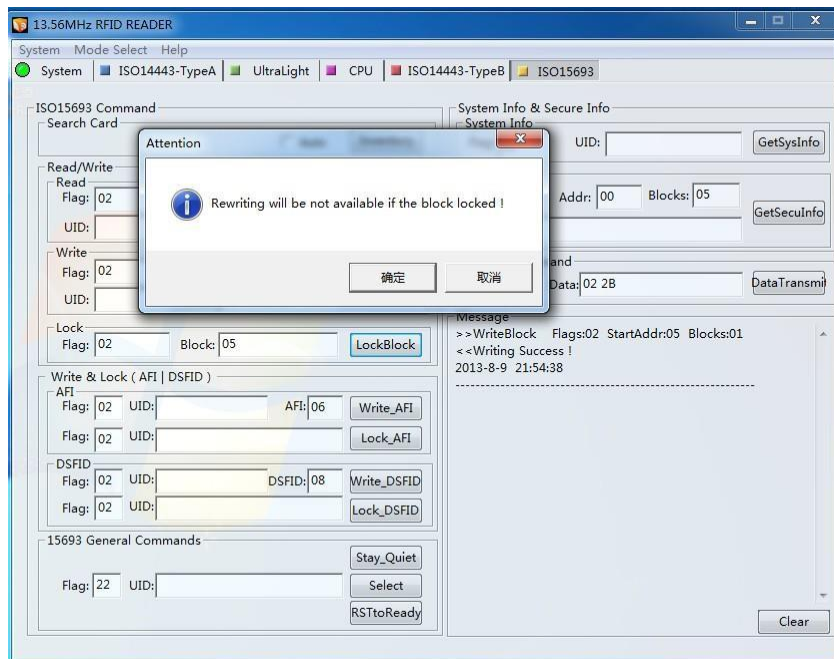
Following is the example for the I CODE SLI chip cards, the Flag value is 0x02\*

- Flag value 0x02 = non-addressed mode, every card shall react to this command
- Flag value 0x20 = addressed mode, the card must be addressed with its UID



#### 4.4.4 Lock block

Here needed to input the right Flag of the using card and choose the blocks number to be locked. Attention: if the block locked, rewriting for these blocks will be not available any more.



#### 4.4.5 Write & Lock (AFI/DSFID)

Please refer to the ISO15693 standard.

#### 4.4.6 ISO15693 General Commands

- Stay\_Quiet: To make the card to be slept
- Select To select the single card on the reading field
- RST to Ready To wake-up the single card

#### 4.4.7 System info & Secure info

This is to get the system & secure information of the card, here this testing demo is available with three buttons of "GetSysInfo", "GetSecurInfo" and "Data Transmit".

## 5 Technical Specifications

### Mechanical Specifications

Dimensions: 110 × 56 × 18 mm (without cabling, without housing)

### Electrical Specifications

Power Supply: 12 Vdc (±5 % regulated)

Power Consumption: < 180 mA (RFID active, relay ON)

Antenna: internal

Interface: Ethernet TCP/IP

Signals: Buzzer, LEDs,

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

### Supported Standards / Tags

- ISO 14443 A/B, ISO 15693
- NXP MIFARE Ultralight® / Ultralight® C
- MIFARE® Classic Mini / 1K / 4K
- MIFARE® DESFire, SmartMX
- NXP I-Code SLI, TI Tag-it HF-I, EM4135
- STM SRI-X 4K

### Environmental Conditions

Operating Temperature: –10 °C ... +70 °C

Storage Temperature: –20 °C ... + 80 °C

Humidity: 5 % to 95 %

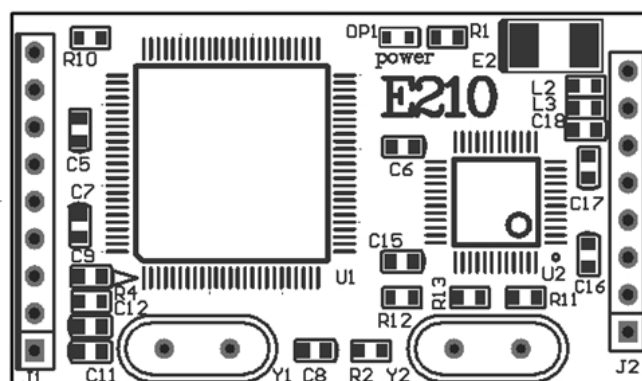
## 6 Troubleshooting

### 6.1 Reset Ethernet to Factory Defaults

#### Reset to Factory Defaults:

1. Power OFF
2. Short circuit J1 pin 5 to GND
3. Power ON
4. Remove short circuit

→  
The device should now  
operate in the IP address  
range: 192.168.1.xxx



### 6.2 Webinterface Settings of Internal Communication

**Welcome To C2000 Turbo**

配置网络参数	配置串口参数	修改密码	应用C2000设置
<div style="border: 1px solid green; padding: 5px; margin-bottom: 10px;">           选择串口: COM1 ▼            串口工作模式: RS232 ▼            SOCKET类型: TCP-SERVER ▼         </div> <div style="margin-bottom: 10px;">本地端口: 8000</div> <div style="border: 1px solid green; padding: 5px;">           使用虚拟串口或控件: <input type="checkbox"/> 是 <input checked="" type="checkbox"/> 否  <div style="margin-top: 5px;">对端IP: <input style="width: 100px;" type="text"/></div> <div style="margin-top: 5px;">对端端口: <input style="width: 100px;" type="text"/></div> <div style="margin-top: 5px;">是否使用对端域名: <input type="checkbox"/> 是 <input checked="" type="checkbox"/> 否</div> <div style="margin-top: 5px;">输入对端域名: <input style="width: 100px;" type="text"/></div> </div> <p style="color: green; font-weight: bold;">All these settings must be identical.</p>	<div style="border: 1px solid green; padding: 5px;">           串口波特率: 9600 ▼            串口数据位: 8 ▼            串口校验方式: 无 ▼            串口停止位: 1 ▼            串口流控方式: 无 ▼            间隔超时(ms): 20            最大帧长度(byte): 1000         </div> <div style="margin-top: 10px;">           主动上传串口编号: <input type="checkbox"/> 是 <input checked="" type="checkbox"/> 否            串口编号: <input style="width: 100px;" type="text"/> </div>		

提交

Web V2.0 E210

The settings in the green frame must be the same as in this example.

The port number (default value: 8000), the red value in the left column can be set to your desire.