SL144 User Manual

Content

1 Operating instructions

1.1 Shape & Interface

The shape of SL144, please see the picture shown on the manual cover. The reader adopts aluminum alloy case; it can be fixed in indoor cabinet, or protective housing in outdoor environment. (Please note: Outdoor protective housing must be with good aeration, dustproof, rainproof status.)

Figure 1.1 SL144

SL144 Connection Ports (Shown on Figure 1.2): ANT1, ANT2, ANT3, ANT4 (Total: 4 SMA ports)

Figure 1.2 Antenna Connections Port Panel

SL144 Features for Communications Port Panel shown on Figure

Figure 1.3 Antenna Connections Port Panel

From left to right, in the order：

12 Needle interface：See table below

RJ45：TCP/IP Communications Port:

DB9（RS232）: Serial Communication

Red Light - power Indication. It shows that power supply connect well.

Green Light：lamp flashing，Reader is working with the PC communication

Yellow Light：lamp flashing，Reader are reading card

POWER：9～36VDC。

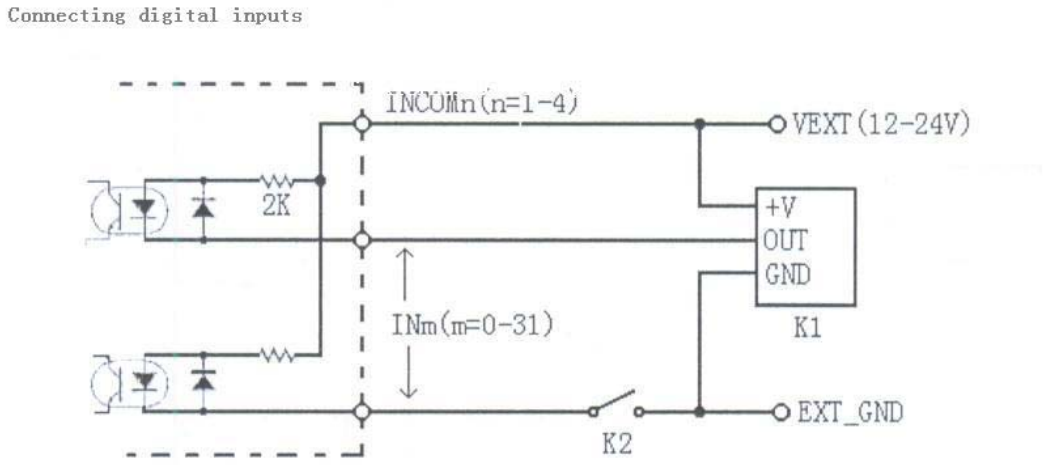
I/O port (12 Needle) – Reader interface panel（From left to righ）

NO	Name	signal direction	Introductions
1	FIN2	I	Input 2 (optoelectronic isolation)
2	GND	I/O	ground electrode
3	OUT1	O	output1 (optoelectronic isolation)
4	OUT2	O	output2 (optoelectronic isolation)
5	FIN1	I	Input1 (optoelectronic isolation)
6	485+	O	Relay 2
7	485-	O	Relay 2
8	GND	O	COM for all outputs O_COM
9	OUT3	O	output3 (optoelectronic isolation)
10	OUT4	O	output4 (optoelectronic isolation)
11	D0	O	Relay 1/ input common I_COM
12	D0	O	Relay 1

The input and output interface adopts photoelectric isolation, method of use as follows：

input control signal：input common I_COM（11 pin）external power source Vcc

（9～24VDC），input connectLL LowLevel（0VDC），or high level（external power source Vcc）. As shown in figure 1.4



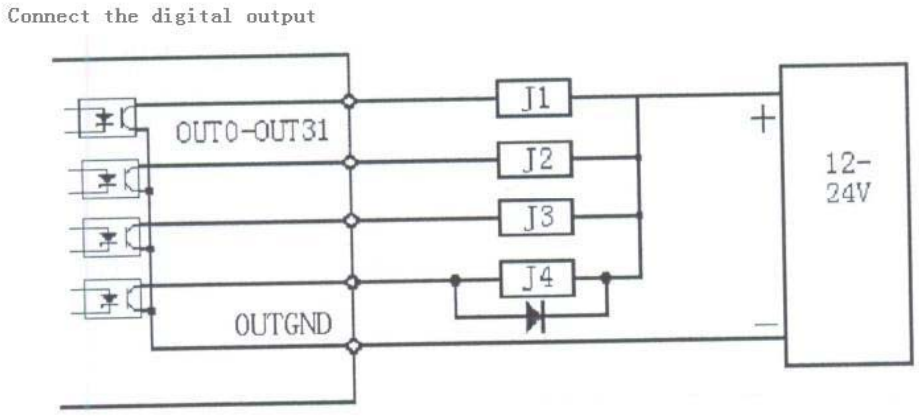
K1 as proximity switches or photoelectric switch connection

K2 ordinary mechanical switch connection

Figure 1.4 input terminal connection

Note： When using the input, relay 1 can't use

output control signal：As shown in figure 1.5，J1～J4 Can be 4.7K～10KΩ。



If inductive loads, such as relays, etc. should be installed across the load freewheeling diode.

Figure 1.5 Output connection

1.2 Performance Index

（1） Operation Frequency:860～928MHz（Can be adjusted for different

country or different area）

（2） Work model：Command，Continue，Trigger

（3） Frequency Hopping：50

（4） RF output Power： 12.5～30dBm

（5） Communications Speed：serial port speed 9600～115200bps，RJ45 speed 10Mbps

（6） Reading / writing Range：reading range>8m; writing range >3m (Actual reading / writing range is also influenced by tag, antenna, cable, surroundings)

（7） Power supply：110~220V AC, +12V DC

（8） Power consumption：The average power<20W

（9） Weight：<1Kg

（10） Operating Temperature：－10℃～＋55℃。

（11） Buzzer：Built-in buzzer inside，and it sounds when reader read tag.

Functions

（1）Can read / write tag. (Tag protocol: EPC CLASS1 Gen 2，ISO18000-6C)

（2）Can read many different length EPC number(16、32、48、64、80 or 96bits) at the same time

（3）Can read selected EPC number of the tag

（4）Can read data of selected tag in user memory

（5）Can read data of selected tag in TID memory

（6）Can read access password and kill password of tag (access password, kill password , both of them are 32bits)

（7）Can write different length EPC number(16、32、48、64、80 or 96bits)

（8）Can write data in user memory

（9） Can modify access password and kill password of tag (access password, kill password , both of them are 32bits)

（10）EPC、TID、User memory can be set for write–protection.

（11）Can set read-protection and write-protection for password memory

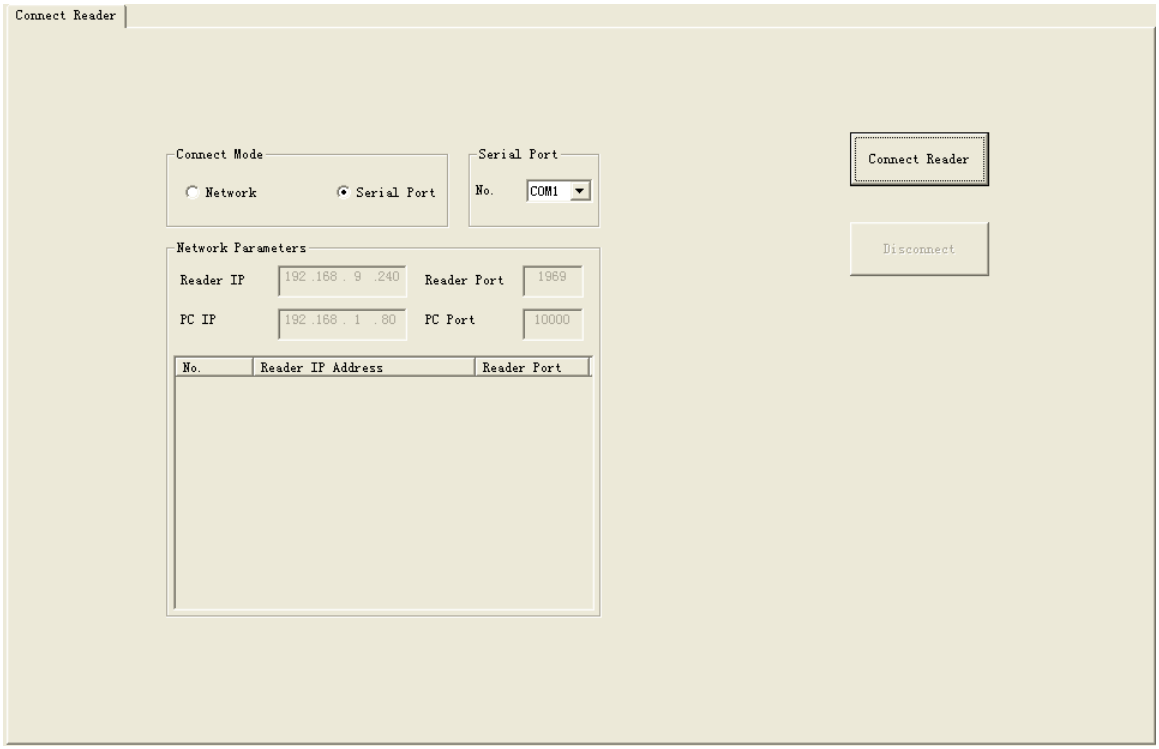
（12）EAS read-write

（13）User area read-write protection

2 Setting Reader Parameters

2.1 Start to use software

Double-click “Reader2004DEMO.exe” Start to use software.Interface shown as follows on the screen.

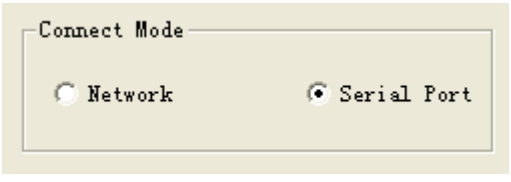


2.2 Connect Reader

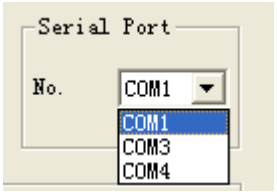
2.2.1 The serial communication

PC can commutate data to reader via serial port (RS232). User needs to do initialization setting for a new reader via RS232 (e.g. IP address), then the network communication can be used

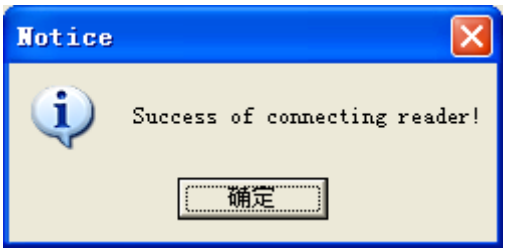
（1）Choose serial port connect mode, shown as follows:



（2）Choose one of Serial Port:



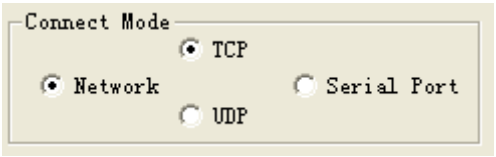
（3）ress the button of “ConnectReader” . If the connection is successful, will display below dialogue box on the screen:



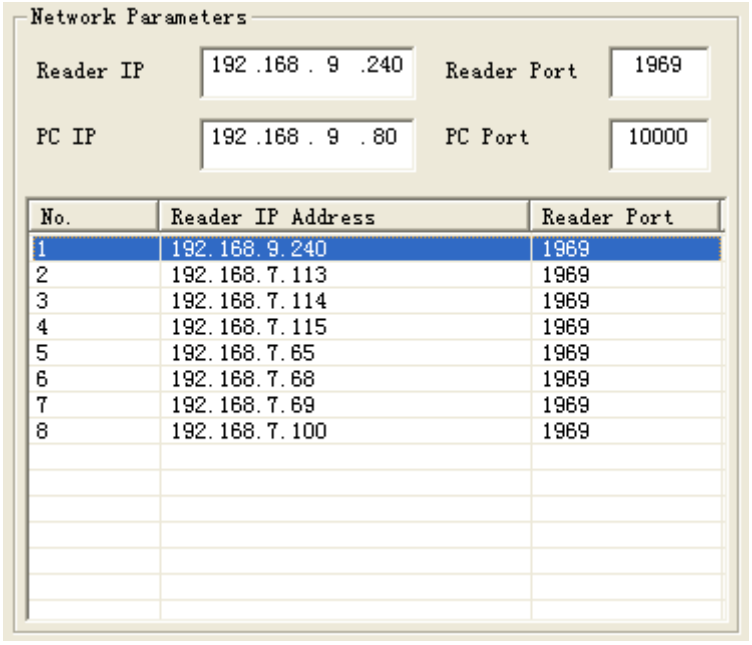
The connection will fail, if no reader is connected to host via the RS 232, or if the selected serial port is incorrect. On the screen, shown as follows:

2.2.2 The network communication

（1）Select TCP or UDP connection, as shown in Figure



（2）Enter or select the required connection of the reader IP, as shown in Figure



As the reader IP is 192.168.9.240

（3）Press the button of “ConnectReader” . If the connection is successful, it’s shown as follows on the screen.

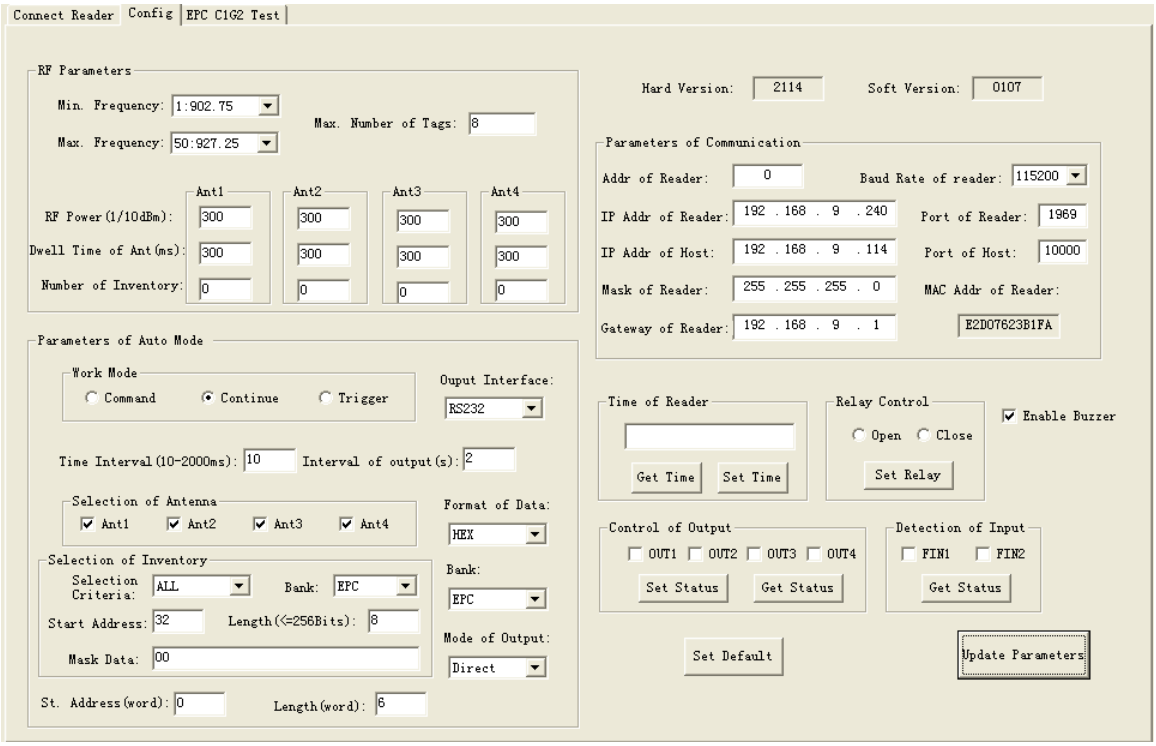
If the connection fails ,On the screen, it’s shown as follows:

2.3 Disconnect the reader

Click “disconnect”button,disconnect the PC and connect to the reader， Since PC will not be able to reader communicate

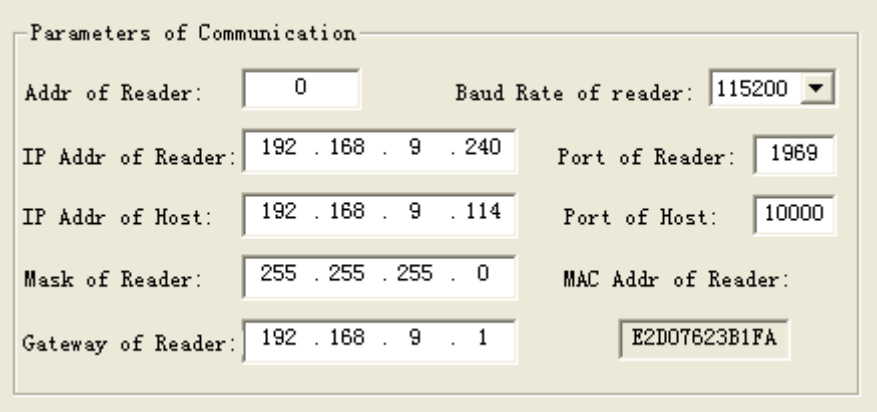
2.4 Setting Reader Parameters

Set reader operating parameters after user software startup. Press “Config” page, then operating parameters setting figure for reader shown as follows:



2.4.1 Parameters of Communication

After connection establishment, PC will automatic read current baud rate, IP address and port number parameters. As shown in the below, reader baud rate is 115200bps, storage of reader IP address is 192.168.9.240, the port number is 1969, the host IP address is 192.168.9.114, port Numbers for 10000.



- Addr of Reader: Every reader has a contact address, PC give commands and instructions take with reader address, reader only receives the address of the instructionto to execute. All the reader perform the

broadcast address 255 instructions.

- Baud Rate of reader: Set reader RS232 port work communication rate, 9600bps,19200bps,38400bps,57600bps,115200bps has five optional.
- IP Addr of Reader: Reader IP address for network communication
- Port of Reader： Reader port number for network communication
- IP Addr of Host: Host IP Address for network communication
- Port of Host: The host port for network communication
- Mask of Reader: For network communication
- Gateway of Reader: For network communication
- MAC addr of Reader: Every reader has a unique MAC address

When setting up all of the communication parameters, click the "update parameters" button, the PC will be set reader communications parameters, and pop up the following prompts.

Since then, reader will be set up according to the communication parameters to work.

2.4.2 Parameters of Auto Mode

2.4.2.1 Work Mode

- Command mode： Reader Always in a status of receiving, Only receive the PC instructions can perform
- Continue mode： After reader power on, start to read the tag. Receive the upper machine stop continuous mode instructions, identification tag, to command mode.
- Trigger mode: after reader is powered on, when the I/O input FIN1 have low electricity at ordinary times, 1 and 3 start identification tag antenna; When the I/O input FIN1 have high electricity at ordinary times, 1 and 3 stop identification tag antenna. When the I/O input FIN2 have low electricity at ordinary times, 2 and 4 antenna start identification tag; When the I/O input

FIN2 have high electricity at ordinary times, 1 and 3 stop identification tag antenna. Receive the upper machine stop trigger mode of instruction, stop identification tag, to command mode.

2.4.2.2 Time interval

Reader under a status of continuous and trigger mode， reader Identification tag is intermittent, the intermittent time is working time intervals.

2.4.2.3 Output Interface

Reader is under a status of continuous and trigger mode，After reader identify the tag， Through the parameter selection of interface is sent to the PC

2.4.2.4 Selection of Antenna

Reader under a status of continuous and trigger mode， reader through the parameter selection of antenna identification tag.

2.4.2.5 Interval of output

Output mode to standard and timing, this parameter is effective.

2.4.2.6 Mode of Output

（1）direct output：Read the card number output immediately

（2）standard output：If continuous read one card number，reader only the output once the card number. Only when the tag from the time of rf field more than the interval of output (in seconds), the tag into the radio frequency (rf) field again, reader output the card number once again. If the card is different output immediately.

（3） regular output: If continuous read one card number, reader every " interval of output (in seconds), output the card at a time. If the card is the company the output immediately.

2.4.2.7 Format of Data

（1）HEX hexadecimal:The output data using hexadecimal number

Frame header：0A

Frame length： From the address to check and the number of bytes

Keep and frame head：00

Antenna：Read the data of antenna number1~4

Data length: read data length, unit; Bytes.

Data: read data

The checksum: from the frame to the data and complement.

Head	Frame size	address	Retention	state	antenna	data length	data	checksum
0A	12	00	00	00	00	0C	30 75 1F EB 70 5C 59 04 E3 D5 0D 70	CA

（2）ASCII：Output data using ASCII code

frame header：03

antenna：Read the data of antenna number1~4,adapt ASCII code

Data：Read data, USES the ASCII code

The checksum: from the frame to the data and complement.

Frame header	Antenna	Data	tail frame	Checksum
02	30 31	33 30 37 35 31 46 45 42 37 30 35 43 35 39 30 34 45 33 44 35 30 44 37 30	03	50

2.4.2.8 Data area

Need to read the data belongs to which area, eg: EPC area、TID area、USER area。

2.4.2.9 Start Address

（1）Need to read the data in the data source address，unit：bit. Only TID area and USER area are effective

（2）In reading the EPC data output, the wigan athletic and also specify the parameters EPC which part of the output. Such as card number to 30 75 1 f EB 75 5 c 59 04 E3 D5 0 d 70, the parameters of 2, the output Wiegand26 data for:

5 c 59 04. Output Wiegand34 data for: 70 5 c 59 04.

2.4.2.10 Data length

Need to read the data length, unit: words. Applies only to dar area and the USER area.

2.4.2.11 Identification condition

Reader under a status of continuous and trigger mode，reader can identify all the tags inside the rf field, can also according to some characteristics of the data, statusal identify relevant tags.

2.4.2.11.1 Selection condition

- ALL：readeridentify all tags in the rf field。
- SELECTED：readerOnly to identify qualified tags。
- UNSELECTED：readerOnly identification is not in conformity with the statuss of tags.

2.4.2.11.2 Storage area

Recognition criteria of mask which is located in the storage area, EPC, dar and USER area.

2.4.2.11.3 Conditions of the starting address

Recognition criteria mask the starting address of the store.

2.4.2.11.4 The length of the condition

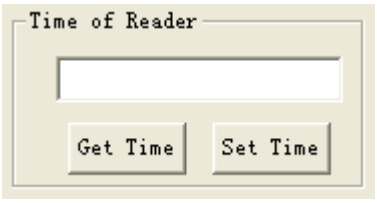
Recognition criteria mask length

2.4.2.11.5 Data condition

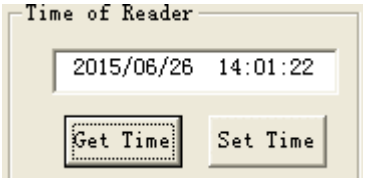
Recognition criteria mask

2.4.3 Other working parameters

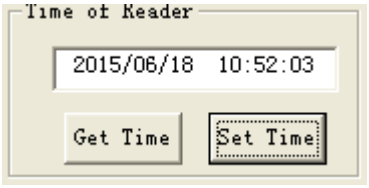
2.4.3.1 Time of Reader



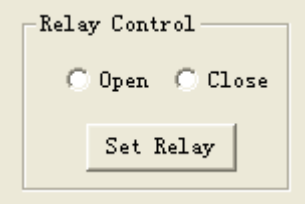
- Click the "Get time" button, can get the current time. As shown in the figure below.



- Click the "Set time" button, then put the PC system in the current time is set to the reader.As shown in the figure below.

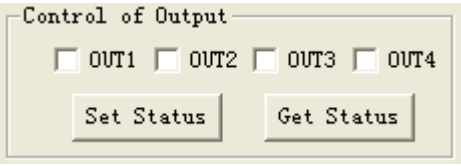


2.4.3.2 Relay Control



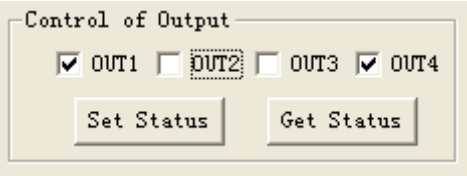
- Selected "Open" single box, click the "Set Relay", can realize the reader relay disconnect.
- Selected "Close" list box, click set " Set Relay ", and can realize the reader relay is closed

2.4.3.3 Control of Output



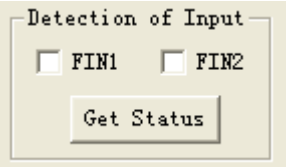
By selecting the OUT1 ~ 4 check box in front of, you can set the corresponding

output port level. Select the check box, the corresponding output is set to high level; When you don't select the check box, is set to low level. For example: the OUT1 and OUT4 set to high level, OUT2 and OUT3 set to low level. Select the check box in front of the OUT1 and OUT4, as shown in the figure below.

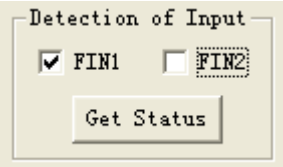


Click "Set Status" button, PC to reader accordingly the output Settings, and pop up the following prompts.

2.4.3.4 Detection of Input

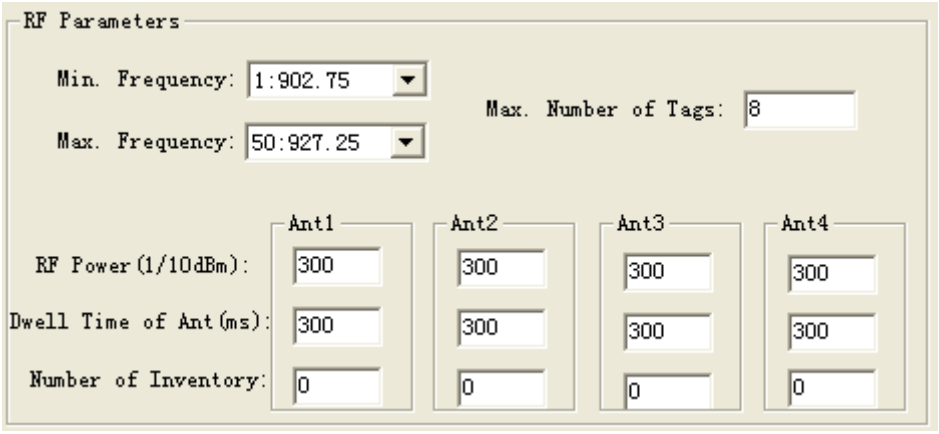


Click the "Get Status" button， PC will get input from read/write device level status of the port， and show to the check box. Check box is selected, the corresponding input port for high level; Check box is not selected, the corresponding input port for low level, eg: as shown in the figure below.



That input port FIN1 is high level， other input port FIN2 is low level

2.4.4 Radio Frequency（RF）parameters setting



2.4.4.1 RF Power

Set each antenna transmitted power, unit is dBm. Each antenna transmitted power can be different.

2.4.4.2 Dwell Time of Ant

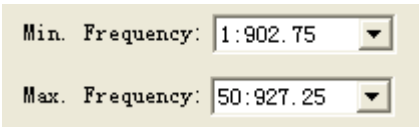
Set each antenna working time, unit is ms.Each antenna working time can be different

2.4.4.3 Max. Number of Tags

Set to reader up to count the number of tags. This parameter affects the efficiency of inventory tags.

2.4.4.4 Radio Frequency

Select the minimum operating frequency and maximum working frequency. Note: the maximum working frequency can not be less than the minimum working frequency.



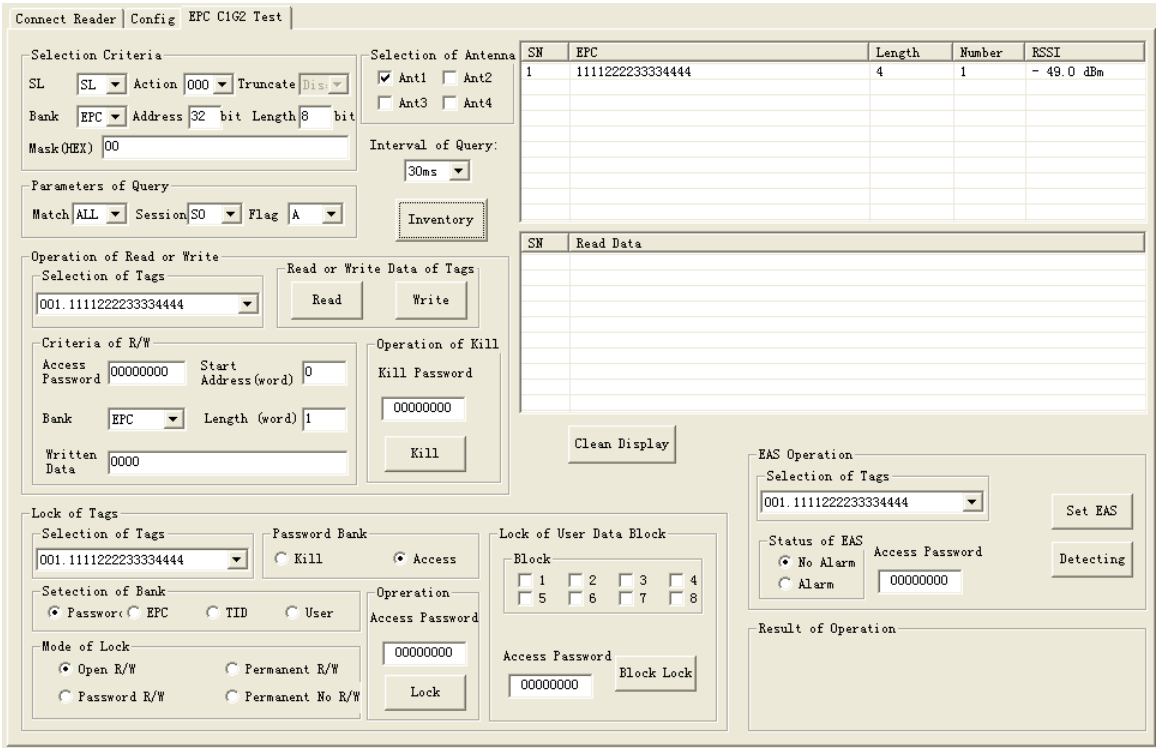
2.4.4.5 Updated parameter

When all working parameters have been set, click the "Update Parameters" button, the PC will be set for its parameter, and pop up the following prompts.

Since then, reader will work according to the set of parameters.

3 ISO18000-6C tag read and write test

3.1 Read and write demo interface



3.1.1 ISO18000-6C tag memory is divided into four areas:

(1) EPC: EPC code storage area, read and write.

(2) TID: store set by a tag manufacturer ID number read, and write.

(3) User: different manufacturers are not the same area, read and write.

(4) Password: There 32Bits access code and password 32Bits destruction Readable and writable.

Four storage areas can be write-protected. Write protection means that the region will never be written, or in non-secure status can not write; read-only means password protected area unreadable.

3.1.2 ISO18000-6CTag reading and writing step of three steps：

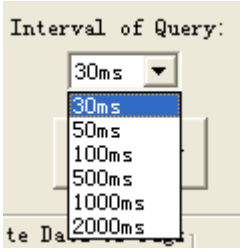
(1) Choice: first select one of the four areas, in the choose a group of tags according to the specified data segment.

(2) The polling: on the basis of the choice, to identify each of the group of tags.

(3) Access: a visit to recognized tags. Four areas such as, speaking, reading and writing data, protection and modify the password Settings, speaking, reading and writing, etc

3.1.3 Read the tag interval choice

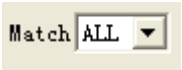
Selected reader interval of Query: There 30,50,100,500,1000 and 2000ms optional, the default is 50ms.



3.2 Unstatusal read the tag EPC number

Steps are as follows：

Step 1, "Parameters of query" in the "match" Select ALL, see below.



Step 2, press the "inventory " button, start reading tags EPC number. Identified the tag of

the EPC number displayed in the top right corner "show identified tag ID" dialog box, as shown in figure 4.1。

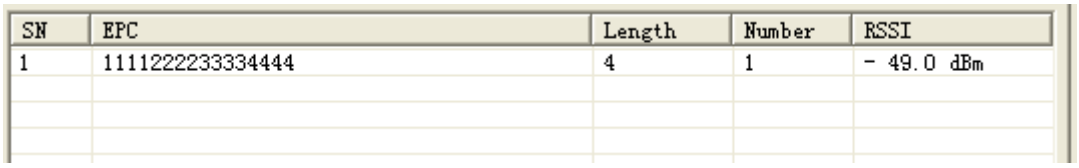


Figure 4.1

3.3 Statusal inventory tag EPC number

ISO18000-6 - c standard, the parameters related to inventory status, as shown in the figure below. The significance and function of these parameters, please refer to the ISO18000-6 - c standard, there is not much fat. In order to simplify the statusal inventory, do show here only the four parameters, other parameters using the default values.

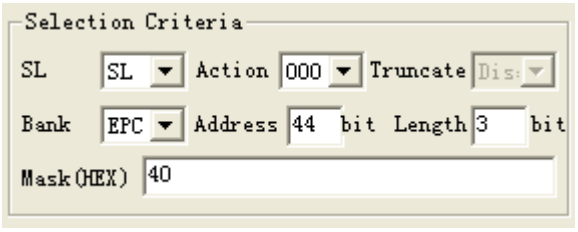
Steps as follows：

Step 1, select any area except the password area, such as selecting EPC area, see below.

Step 2, select the data start address to Bit as a unit, the starting address as long as the integers you can, as shown below.

Step 3 is to select the data length in Bit units, as shown below.

Step 4 is the selection mask data in hexadecimal HEX as a unit, as shown below. Here the so-called statuss for the tag data in an area of several consecutive bits (bit), who meet the statuss tags are read. When the status value length is not an integer multiple of 4Bits, low fill 0, as shown below.



Step 5, press the " Inventory " button, reader in accordance with the statuss set in the first four steps to start reading tags EPC number. For example: the radiation field has eight

electronic tags, to satisfy the status: the start address of the data area 12, the data length is 3 (that need to compare the three), the selected data is C, only the EPC number 555599998888777766663333 the card complies with the list display is shown in Figure 4.3 (since the start of the 12-bit card, the length of the comparison of the statuss required for 3, as long as the status is hexadecimal 4 or 5 (010 converted to a zero-fill low 0100 or 0101) can. be recognized EPC tag number is displayed in the upper right corner "shows the identified tag ID" dialog box, as shown below

SN	EPC	Length	Number	RSSI
1	555599998888777766663333	6	1	- 63.0 dBm

Figure 4.3

3.4 Statusal read tags based on EPC number TID data

According to a particular segment can TID area, select qualified tag, read their EPC number.

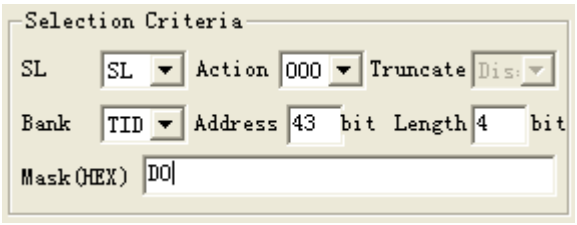
Follow these steps：

Step 1, in addition to select any one region coding region, such as selecting TID area, as shown below.

Step 2, select the data start address to Bit as a unit, the starting address as long as it can be an integer. Such as 43, as shown below.

Step 3 is to select the data length in Bit units, such as 4, as shown below.

Step 4 is to select the data in hexadecimal HEX as a unit, such as D0, as shown below. Here the so-called statuss for the tag data in an area of several consecutive bits (bit), who meet the statuss tags are read. When the status value length is not an integer multiple of 4Bits, low fill 0.



Step 5, press the "Inventory" button, reader in accordance with the statuss set in the first four steps to start reading tags EPC number. For example: the radiation field has eight electronic tags, to satisfy the status: the start address of the data area 43, a data length of 4 (that need to compare four), the selected data to D, then only ID number is 3005FB63AC1F3841EC880467 the card is E2006004009AE045 TID area is in line with the list displayed, as shown below.

SN	EPC	Length	Number	RSSI
1	3005FB63AC1F3841EC880467	6	1	- 49.0 dBm

3.5 Statusal read data based on user tag EPC number

According to a particular segment may be the user area, select qualified tag, read their EPC number.

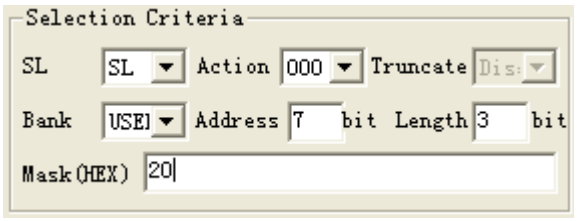
Follow these steps:

Step 1, select any area except the password area, such as selecting User area, as shown below.

Step 2, select the data start address to Bit as a unit, the starting address as long as it can be an integer. Such as 7, as shown below.

Step 3, select the data length in Bit units, such as 3, as shown below.

Step 4, select data, input hexadecimal number, such as 20, see below.Here so-called status for the tag data in an area of several consecutive bits (bit), All eligible are reading tags. Conditional value is not the integer times of 4 bits, add 0 in low digit



Step 5, press the " Inventory " button, reader in accordance with the statuss set in the first four steps to start reading tags EPC number. For example: There are a number of radiation field of electronic tags, to satisfy the status: the start address is 7, the data length is 3 (i.e., 3 to be compared), the selected data is 2, only the user ID number 053000000000000000000000 32454DAE card data are consistent with the list displayed in Figure 4.6 (since the start of the 7-bit card, the length of the comparison of the statuss required for 3, as long as the status is hexadecimal 2 (001 low fill a zero transition 0010) can be. recognized EPC tag number is displayed in the upper right corner "SN" dialog box, as shown below.

SN	EPC	Length	Number	RSSI
1	053000000000000000000000	6	2	- 62.0 dBm

Figure 4.6

3.6 Read selected area EPC tag data

ISO18000-6C EPC tag data area consists of three parts, in the following order:

(1) CRC-16 is the PC value and EPC numbers cyclic redundancy check code, CRC is 16Bits. The figure below 2730H.

(2) PC value by the length of EPC number and application category code components. PC value length 16Bits. The figure below 3000H.

(3) EPC is the EPC number. Figure 4.7 5555H (EPC number of the first word).

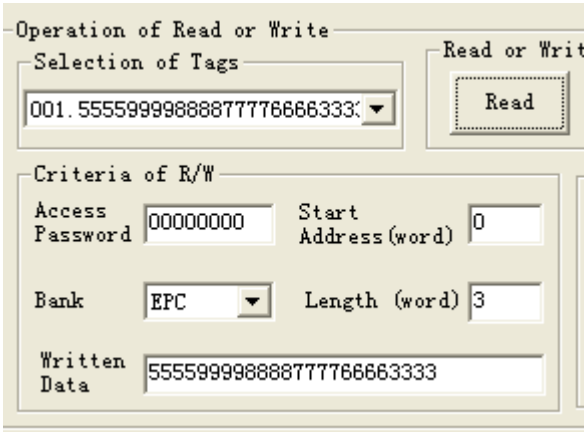
EPC can read any interception of a regional data. Follow these steps:

Step 1, select the EPC memory area, as shown below.

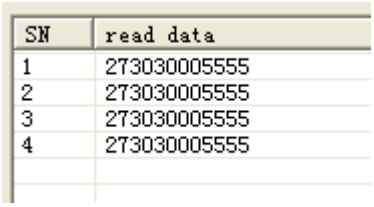
Step 2, select the tag, such as "555599998888777766663333", see below.

Step 3 is to select the data start address, in words, such as 0, as shown below.

Step 4 is to select the data length ", in words, such as 3, as shown below。



Step 5, press "Read " button, reader in accordance with the statuss set in the previous four steps to start reading EPC tag data area. Data is read is shown in the figure to the right into the boxes.



SN	read data
1	273030005555
2	273030005555
3	273030005555
4	273030005555

Figure 4.7

3.7 Selected tag read data TID area

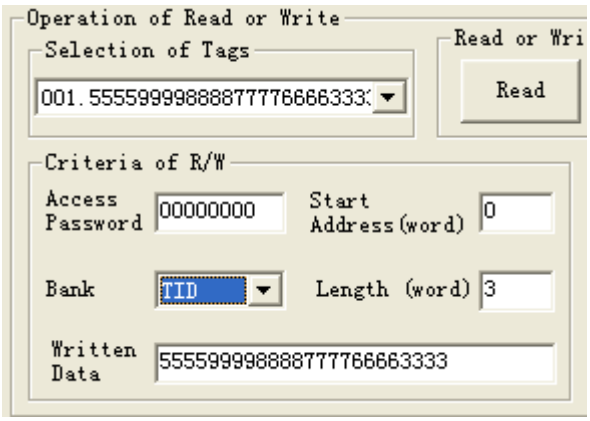
Read any interception of a TID area data. Follow these steps:

Step 1, select the TID storage area, as shown below.

Step 2, select the tag, such as "55559999888877776666333 3", see below.

Step 3 is to select the data start address, such as 0, as shown below.

Step 4 is to select the data length, such as 3, as shown below。



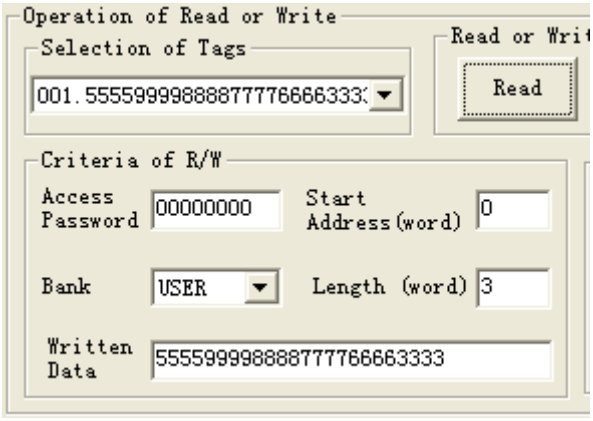
Step 5, press "Read " button, reader in accordance with the statuss set in the first previous steps to start reading the data tags TID area. Data is read is shown in the figure to the right into the boxes.

SN	read data
1	E20034120138
2	E20034120138
3	E20034120138
4	E20034120138
5	E20034120138

3.8 Read Data in User Memory of a Selected Tag

Steps as follows:

Step 1: Select User memory bank, see the figure as below:



Step 2: Select an individual tag from the box of “Selection of Tags” , e.g “55559999888877776663333” . See the figure as below.

Step 3: Input the value of “Start Address(word)” as the start address of read memory e.g. 0. See the figure as below.

Step 4: Fill the value of “Length (word)” as the length of read data, e.g. 3 words. See the figure as below.

SN	read data
1	000000000000
2	000000000000
3	000000000000
4	000000000000
5	000000000000
6	000000000000

Step 5: Press the button of “Read” , then the host sends reading command to reader with above criteria, the reader reads the data in the specified User memory range of an individual tag. The data which is read, is displayed in the

dialog box on the right, see the figure as below.

3.9 Read password area data for the selected tag

If the password area is not protected, read arbitrary (intercept) password area data. There are two parts in the password area, the order is as follows:

(1) Kill password: 32Bits

(2) Access password: 32Bits

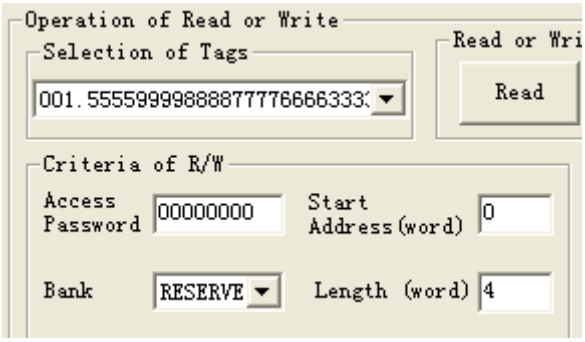
The operation steps are as follows:

Step 1, select the password area, as shown below.

Step 2, choose a tag, such as "555599998888777766663333", see below.

Step 3, select the starting address of the data area, such as 0, see chart below.

Step 4, select the data length, such as 4, see chart below.



Step 5, according to the “Read”button, reader according to the previous four step status, start reading the tag password area data. The displayed data is displayed in the right dialog box of the image above.. Among them, 11111111 for the destruction of passwords, 22222222 password for the visit.

SN	read data
1	1111111122222222
2	1111111122222222
3	1111111122222222
4	1111111122222222
5	1111111122222222
6	1111111122222222

3.10 Write data to the tag EPC

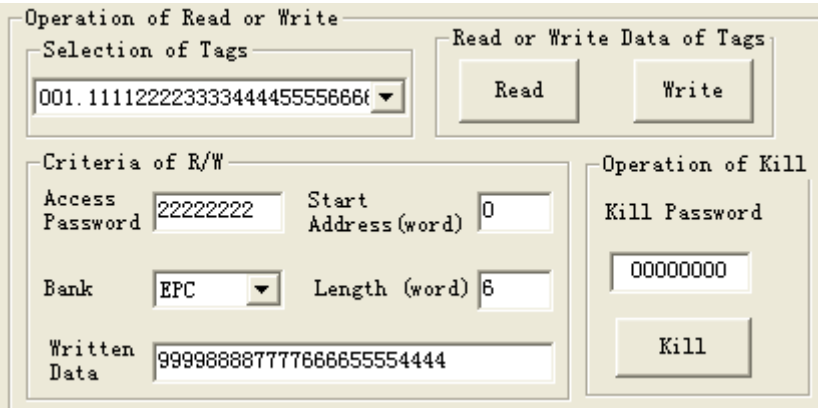
At present, you can write to the EPC area of 16, 32, 48, 64, 80 or EPC and so on 96Bits number. CRC-16 and PC values are generated automatically according to the EPC number. The operation steps are as follows:

Step 1, select the EPC area, as shown below.

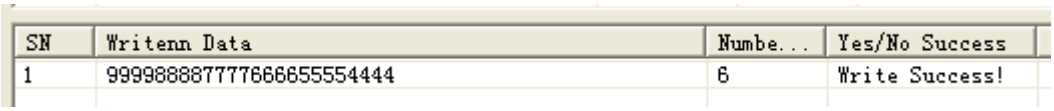
Step 2, choose the length of EPC, such as 6, that is, 96Bits, see chart.

Step 3, if the EPC district has set the password lock, you need input"Access Password", such as 22222222, see chart below.

Step 4, "Written Data (HEX)" fills in the EPC number, in order to sixteen HEX as the unit, such as 999988887777666655554444 ".



Step 5, according to the "Write " button, reader according to the first four step statuss, began to tag EPC number. The result is displayed in the right dialog box.



SN	Writenn Data	Numbe...	Yes/No Success
1	999988887777666655554444	6	Write Success!

Step 6, read EPC number, verify that the right to write.

Note:

(1) the tag can only be placed in the radio frequency field, or an EPC number can be written in the venue, because the EPC number is not selected for a particular tag. So, choose a tag no choice.

(2) EPC number is from the beginning of the 0 address, reader ignore the starting address of the data area, the content.

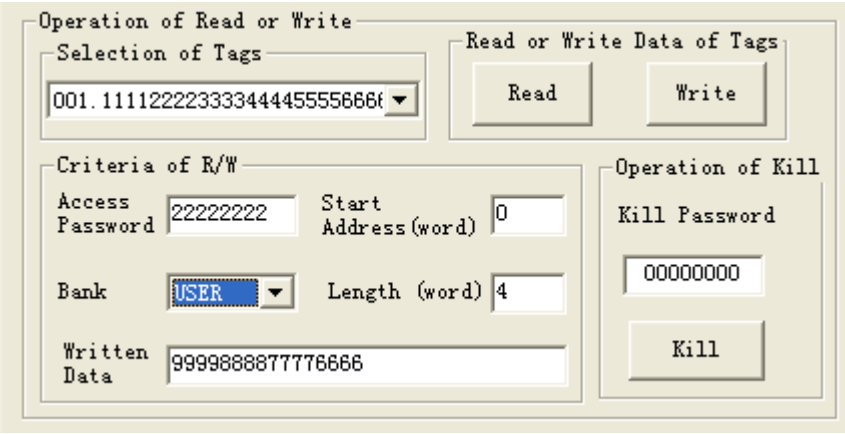
(3) when the data is written more than 2 bytes, suggesting that the error message, may

only be part of the byte not to write successfully.

3.11 Write Data to USER Memory of a Select tag

Steps as follows:

Step 1: Select USER memory, see the figure as below:



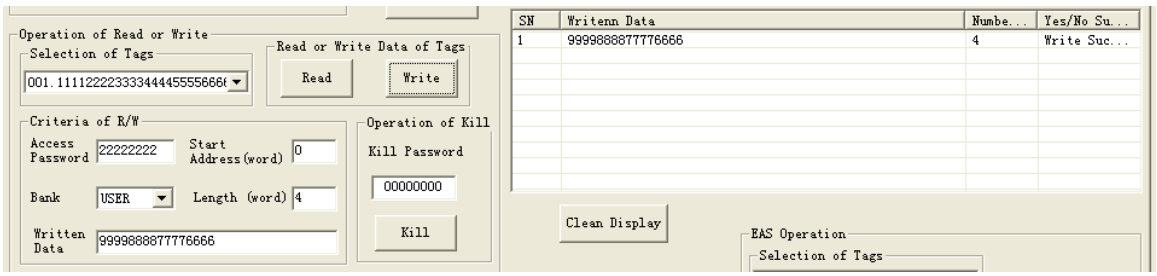
Step 2: Select an individual tag from the box of “Selection of Tags” , e.g.”111122223333444455556666” . See the figure as below.

Step 3: Input the value of “Start Address (word)” as the start address of read memory e.g. 0. See the figure as below.

Step 4: Fill the value of “Length (word)” as the length of USER, e.g. 4 words, See the figure as below.

Step 5: If USER memory is locked by access password, then input the access password to “Access Password”, e.g. 22222222. See the figure as below

Step 6: Input the data to “Written Data(HEX)” , e.g “9999888877776666” . See the figure as below.



Step 7: Press the button of “Write” , reader according to the six steps before setting conditions, began to write data to tag the users area. Write the result of the message displayed in the chart on the right side of the dialog box .

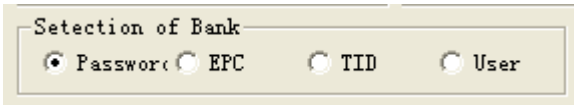
Step 8: Check whether the written data is correct based on the operation of reading data in USER memory bank.

Note: When writing the data of more than 2 bytes, prompt error message, probably just some bytes not write success

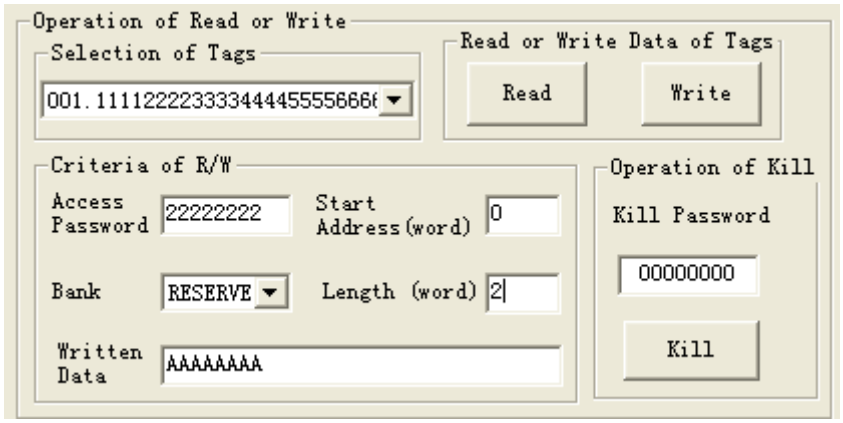
3.12 Change the passwords of an Individual tag

Steps as follows:

Step 1: Choose password memory, see the figure as below:



Step 2: Select an individual tag from the box of"Selection of Tags" , e.g."111122223333444455556666" . See the figure as below.

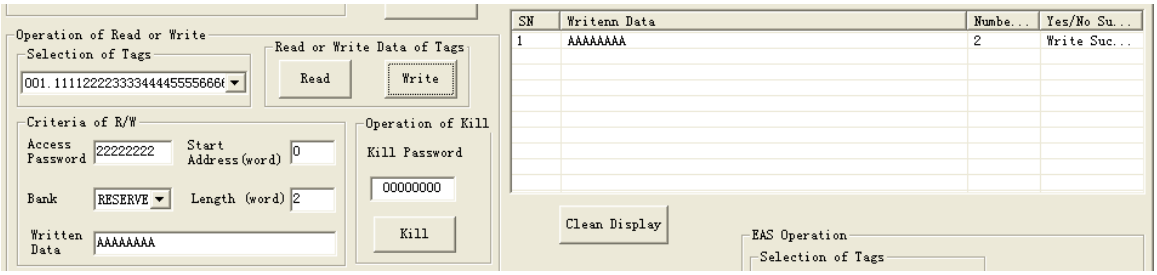


Step 3: Input "Start Address (word)" as the start address of written memory, e.g. 0. See the figure as below.

Step 4: Input"Length (word)" as the length of password， e.g. 2 words, See the figure as below.

Step 5: Input"Access Password" , e.g. 22222222. See the figure as below.

Step 6: Input"Written Data" , e.g."AAAAAAAA" . See the figure as below.



Step 7: Press the button of "Write" , reader according to the six steps before setting conditions, began to tag code, such as this example password write

destruction. Write the result of the message displayed in the chart on the right side of the dialog box

Step 8: Read the new password, verify that the writing is correct.

Note: When writing the data of more than 2 bytes, prompt error message, probably just some bytes not write success

3.13 G2 tag EPC area -TID area- Users area to write protection function

G2 tag TID area manufacturers have permanent lock, can read not write

G2 tag EPC area and user area read is unprotected, write protect function:

As a general rule cans wirte -- don't need to access the password can write, after can be installed into a combination lock or permanent writing or permanent lock;

Permanent writable - don't need to access the password can write, and later can't combination lock and the permanent lock;

Password protection to write - only in the case of know access password, can write; Later also can be set to permanent lock or any writing or permanent writing;

Never write - know access password cannot write, namely permanent can't write.

3.14 G2 tag password area read and write protection function

The password area of the G2 tag can be read and write, the read and write protection of the password area does not affect the use of the password. Protection function:

Generally, read and write, without the need to access the password, you can read and write, and then can be a password lock or permanent or permanent lock;

Always read and write - you can read and write without the need to access the password, and you can't do it later;

The password protection can be read and read - only in the case of access to the password, can read the password and password change; after it can be set to a permanent lock or read or write permanently read or write;

Never read and write - know that access code can not read and write, that is,

the permanent can not read the password and password change.

Note: set up the tag read and write protection, must be aware of the password in advance of the tag。

3.15 Writing-protection for EPC Memory

Step 1: Select EPC memory, see the figure as below:

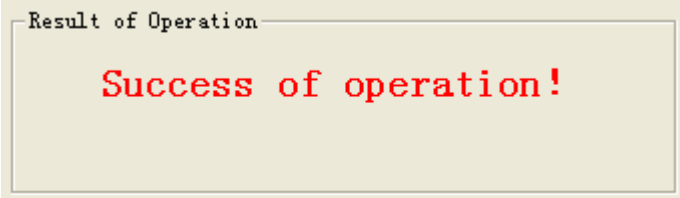
Step 2: Select an individual tag from the box of “Selection of Tags” , e.g”1111222233344445556666” . See the figure as below.

Step 3: Select Mode of Lock (Permanent Wri, Password Write, Permanent no Wri). See the figure as below.

Step 4: Input”Access Password” ,Tag”1111222233344445556666” access password is 00000000. See the figure as below.

Step 5: Press the button of “Lock”, then below dialog box appears:

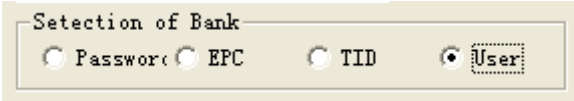
Step 6: Press the button of “否（N）” , then above operations are canceled. Press the button of “是（Y）” , then the host sends lock command to reader with above statuss, the reader locks EPC memory of the tag. On PC Screen, appears below dialogue box:



Step 7: Check whether the lock is successful, according to the operation of writing data to EPC memory bank.

3.16 Write-protection for User memory

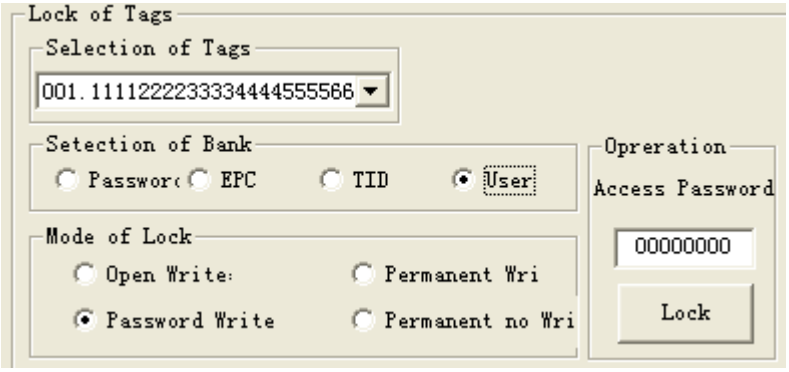
Step 1: Select User memory, see the figure as below:



Step 2: Select an individual tag from the box of “Selection of Tags” , e.g “111122223333444455556666” . See the figure as below.

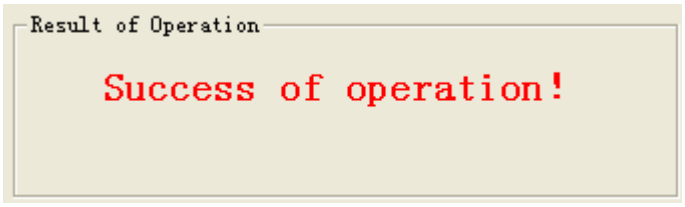
Step 3: Select Mode of Lock (Permanent Wri, Password Write, Permanent no Wri). See the figure as below.

Step 4: Input”Access Password” ,Tag”111122223333444455556666” access password is 00000000. See the figure as below.



Step 5: Press the button of “Lock”, then below dialog box appears:

Step 6: Press the button of “否（N）” , then above operations are canceled. Press the button of “是（Y）” , then the host sends lock command to reader with above statuss, the reader locks User memory of the tag. On PC Screen, appears below dialogue box:



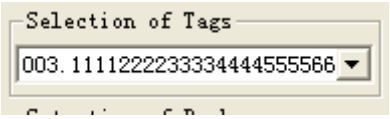
Step 7: Check whether the lock is successful, according to the standard operation of writing data to User memory bank.

3.17.Read-write Protection for Password Memory

Step 1: Select password, see the figure as below:

Step 2: Input Access or kill, See the figure as below.

Step 3: Select an individual tag from the box of “Selection of Tags” , e.g”111122223333444455556666” . See the figure as below.

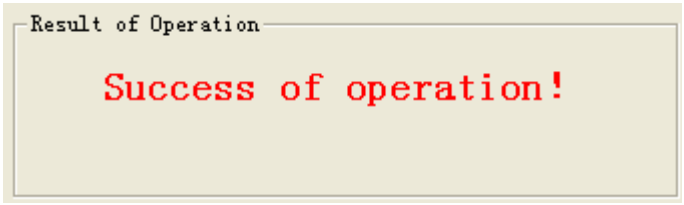


Step 4: Select Mode of Lock (Permanent R/W, Password R/W, Permanent no R/W). See the figure as below.

Step 5: Input Access Password to “Access Password(HEX)” , e.g“00000000” of the tag “111122223333444455556666” . See the figure as below:

Step 6: Press the button of “Lock” , then below dialog box appears:

Step 7: Press the button of “否（N）”, then above operations are canceled. Press the button of “是（Y）”, then the host sends lock command to reader with above statuss, the reader locks password memory of the tag. Below dialogue box will appear if the lock setting is successful:



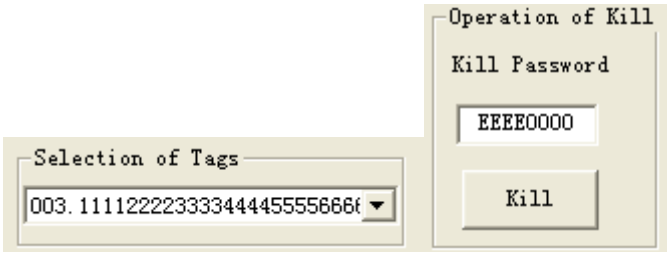
Step 8: Check whether the lock is successful, according to the standard operation of amending password.

3.18 Kill tag

When a tag is killed, the tag will never respond to any command of the reader. So, this functions to be used with cautions!

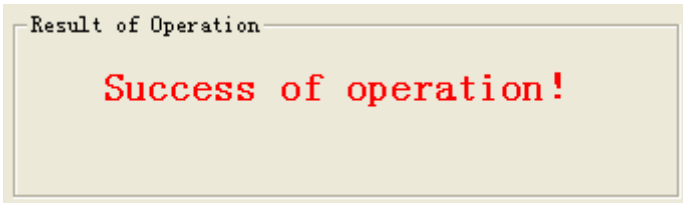
Step 1: Select an individual tag from the box of “Selection of Tags”, e.g “111122223333444455556666”. See the figure as below.

Step 2: Fill the kill password to “Password”, e.g “EEEE0000” of the tag “111122223333444455556666”. Unit for kill password is “HEX”. See the figure as below:



Step 3: Press the button of “Kill”, then below dialog box appears:

Step 4: Press the button of “否（N）”, then above operations are canceled. Press the button of “是（Y）”, then the host sends kill command to reader with above statuss, the reader will destroy the tag.



Step 5: Check whether destroy is successful, according to the standard operation of reading EPC code.

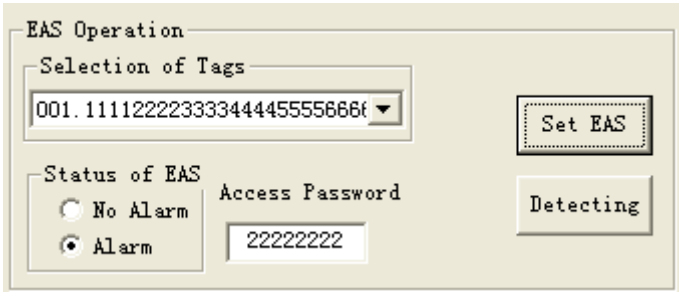
3.19 Alarm

Only the NXP Company tag SL3 - ICS - 10 UCODE EPC G2 has the alarm function, the function is similar to the library, supermarket use magnetic stripe. When the tag on the items in the alarm state, reader detected when the tag will give an alarm

3.19.1 Set alarm status

Step 1, “selection of Tags”, such as "111122223333444455556666”, see figure below.

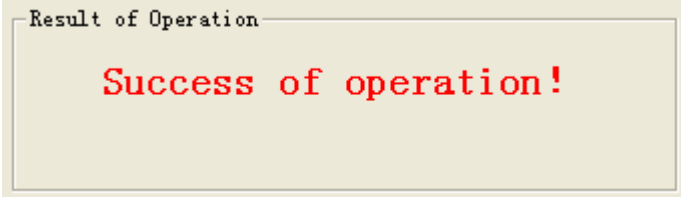
Step 2, fill in the Access Password, hexadecimal number, tag "111122223333444455556666 access password is 22222222, see figure below.



Step 3, select the "Alarm" state.

Step 4, press the "Set EAS" button, the reader send alarm set to tag instructions. If successful, the pop-up prompts the

Following:



If it fails, pop-up prompts. The cause of the failure may be the tag has left the

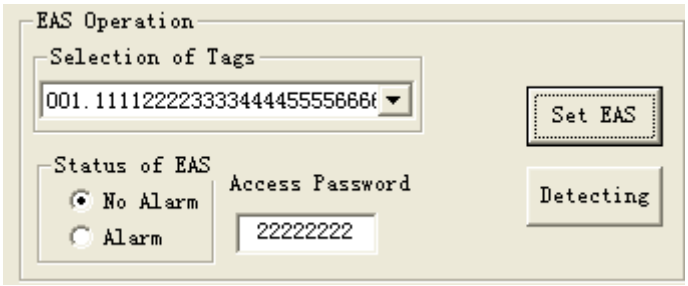
reader rf fields, or access password is not correct.

Whether set success, can press 3.19.3 section for validation.

3.19.2 Set no alarm status

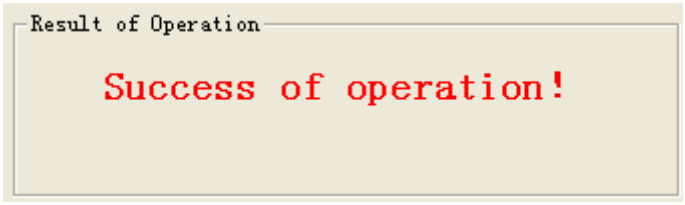
Step 1, “selection of Tags, such as "111122223333444455556666”, see figure below.

Step 2, fill in the Access Password, hexadecimal number, tag” 111122223333444455556666” access password is 22222222, see figure below.



Step 3, select the "No Alarm" state.

Step 4, press the "Set EAS" button, the reader send alarm set to tag instructions. If successful, the pop-up prompts the following:



If it fails, pop-up prompts. The cause of the failure may be the tag has left the reader rf fields, or access password is not correct.

Whether set success, can press 3.19.3 section for validation.

3.19.3 Detection alarm status

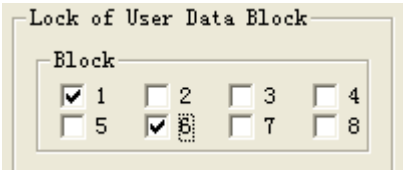
Press the “Detecting" button, the reader send tag detection alarm instructions. If detected have tag in the alarm state, PC interface with red lights flashing. As shown below.

If there is a tag was not detected in the alarm state, PC interface also no prompt

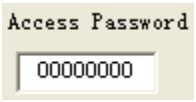
3.20 User area read and write protection

The Alien H3 chip can be read and written to the user area protected user area is divided into eight blocks, each block can be separately protected.

Step 1, select the data block, you can check, the following figure.



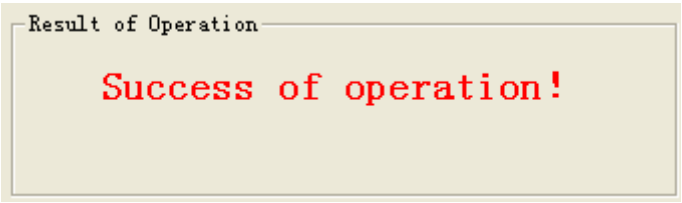
Step 2, fill in the tag access password, see below.



Step 3, select a tag, such as "E200818181080140271007 7D", see the following figure.

Step 4, press the "Lock" button, the pop-up dialog box：

Step 5, according to the "否（N）", then the above operation is invalid. Press "是（Y）", according to the statuss of the first four steps, if successful, the following dialog box appears, the tag user area has been set for the password to read and write.



Step 6, write data to the user area, verify that the write protect the success.