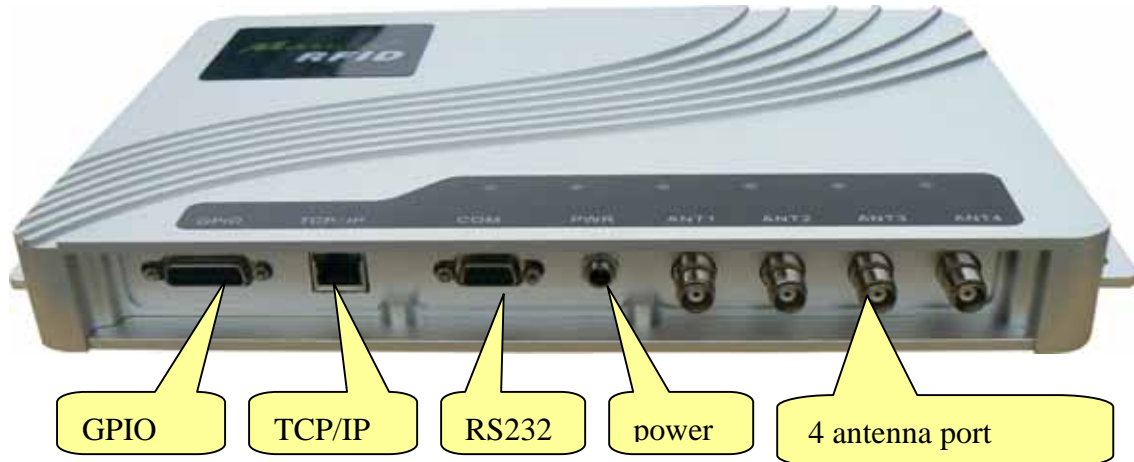


UHF-RW-MP-232-4A

4 port UHF RFID reader/writer

User manual

Connection diagram



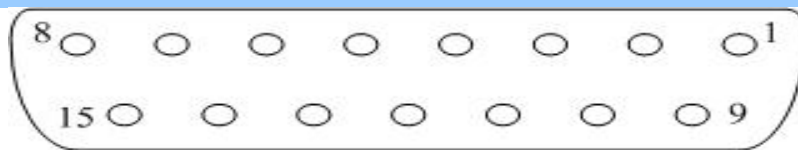
RS232

The reader provides RS232 communication interface to communicate with PC. The data format of RS232 is 8 data bits, one start bit, one stop bit and no parity bit; Data rate can be 9600, 19200, 57600 and 115200.

TCP-IP

This reader supports RJ45 (Ethernet) interface.

DB15 definition :



DB15 pin assignment								
Pin	1	2	3	4	5	6	7	8
function	Output 2	Output 1	GND	Output 4	Output 3	GND	Input 1	Input 2
Pin	9	10	11	12	13	14	15	
function	GND	A+(RS485)	B-(RS485)	GND	spare	spare	spare	

RS485 :

RS485 can be connected with PC interface using the RS232-RS485 converter. With this mode, RS485 interface supports all the functions as RS232 .

GPIO Port :

This reader support 4 output port (0-3) , user can set it to high or low level : (when power up default is high level output)

Head	Addr	Len	Cmd	Parameter	Parameter	Check
0x0A		0x04	0x2D	Num	level	cc

Num : IO port number (0~3)

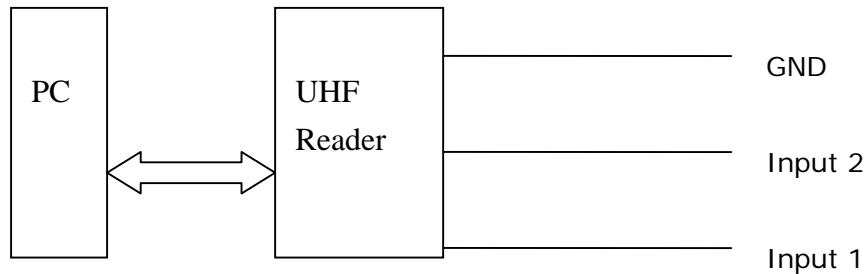
Level : output level : 0 is low level, 1 is high level.

Baud rate is : 9600 ,

If success will return: 0x0B AA 02 00 09

Input Port :

This reader support 2 input port (1-2), please refer to below:



Specification: PC enquiry Reader input, Input status command as below: :

Head	Addr	Len	Cmd	Check
0x0A	FF	0x02	0x2E	C7

When reader received, it will get response as below:

(1) When 2 Input are suspend (Input 1 and Input 2 are high level) , return

Head	Addr	Len	Status	Parameter	Check
0x0B		0x03	0x00	03	cc

(2) When Input 1 in low level, Input 2 will be in high level, return

Head	Addr	Len	Status	Parameter	Check
0x0B		0x03	0x00	01	cc

(3) When Input 2 in low level, Input 1 will be in high level, return

Head	Addr	Len	Status	Parameter	Check
0x0B		0x03	0x00	02	cc

(4) When Input 1 and Input 2 are in low level, return

Head	Addr	Len	Status	Parameter	Check
0x0B		0x03	0x00	00	cc

Remark : Input default is suspend status and is high level (5V)

Tag operate

ISO18000-6B Tag :

- Multi-tag identification: search all the tags in the detection range and read the UID of 8 bytes.
- Multi-tag reading: search all the tags in the detection range and read the 8 bytes data of the appointed address
- Single tag writing: write one byte data in the appointed tag address.
- Single tag locking: lock the data of the appointed tag address. After that, it can not rewrite.
- Single tag locking and inquiring: inquiry the locking state of the appointed address.

EPC GEN2 (ISO18000-6C) tag

- Multi-tag identification: search all the tags in the detection range and read the EPC. (supports 96 bits EPC)
- Single tag initialization: define the length of EPC, generally 96 bits.
- Single tag writing: write the EPC of tag, one block (16 bits) one time.
- Single tag locking: lock the EPC of tag. After that, the EPC of tag can not be rewrite.
- Single tag killing: kill tag. After that, the tag can not be used again.

Operation mode

Command operation mode:

The reader and the controller can communicate through RS232, RS485 or Ethernet. This working mode supports all the functions that secondary development provides.

Demo Program Guide

[1] connected the reader with PC via RS232 or RJ45

[2] Run demo program from path: \\CONFIG\UHF reader demo.exe



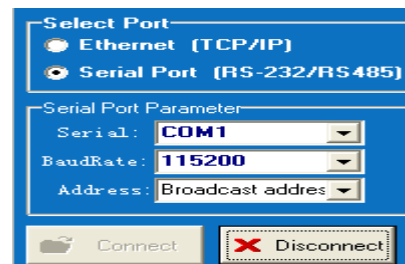
Close DEMO software

Click on "EXIT " to close the program

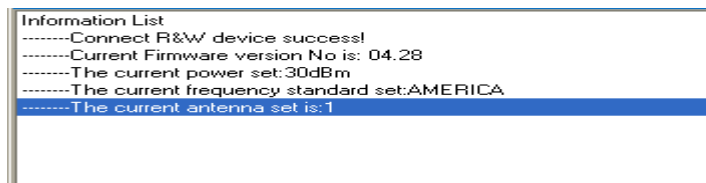
DEMO reader operation

Connect Reader with PC through RS232 cable

a) **Serial Port connection** : select the correct Com Port and Baud rate (9600~115200 optional) .



Click "Connect" button . If success , connect button will change to be gray color and the information list will be shown as follow :



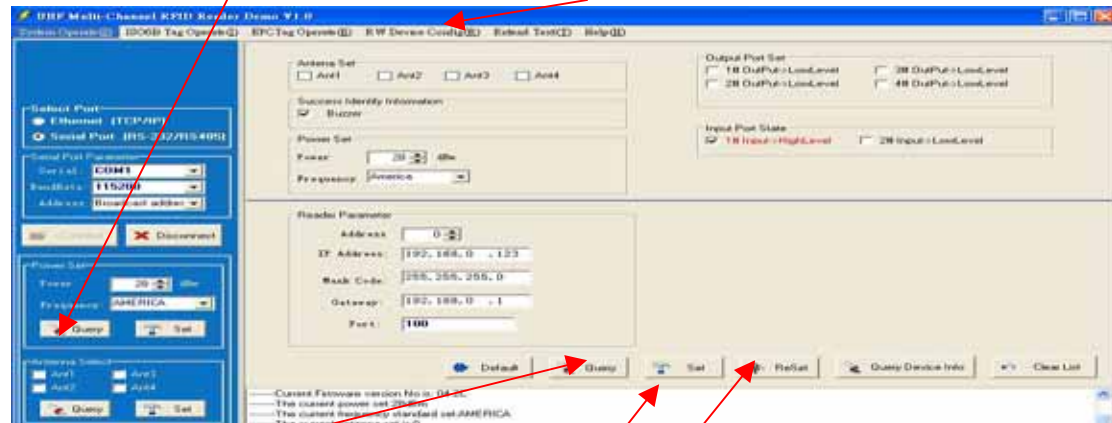
b) TCP/IP – Setting

Before run with TCP/IP connection, pls make sure the IP address can match with your network.

The IP address can be set through RS232 by following steps :

[1] Connect the reader with PC through RS232 .

[2] click on “connect” and select “R/W device config” as below :



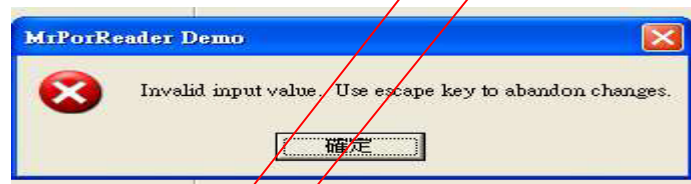
[3] click “Query” to check the current IP address setting .

[4] If it is not match with your network setting, you can change the IP Address , Mask code & gateway

e.g 196.168.000.001 for Gateway

(need input 3 digit value / section e.g. “000”)

Below error message will be found , if input an incorrect format (e.g. “0” or “00”)

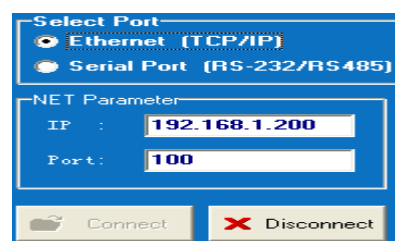
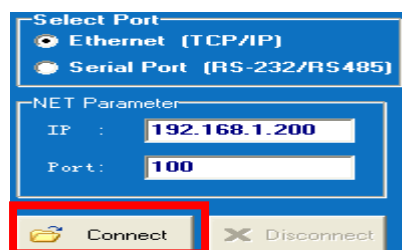


[5] click on “Set” to save after input the correct setting

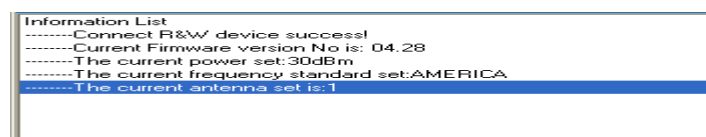
[6] click on “Reset” to reset the reader to active the new setting

TCP/IP - connection

Connect the reader with the network hub through TCP/IP , then input the reader’s IP address and port number (default 100).



Click “Connect” button . If success , connect button will change to be gray color and the information list will be shown as follow :



Setting (query) reader power and frequency

Query reader's power and frequency : click “Query” button, it will show the reader current power and frequency as chart A :

Set reader's power and frequency : first select power parameter and frequency (China: 902-928MHz, AMERICA: ISM902-928MHz, EUROPEAN: ISM865-868MHz) , then click “Set” button as chart B

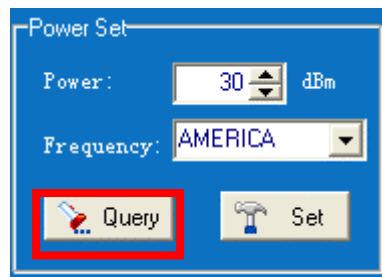


Chart A

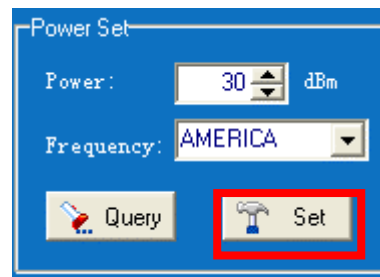
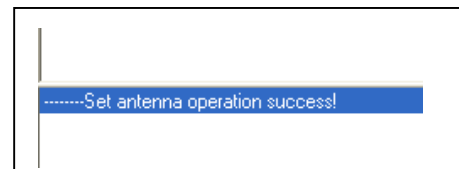
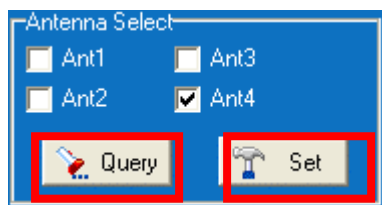


chart B

Antenna set and query

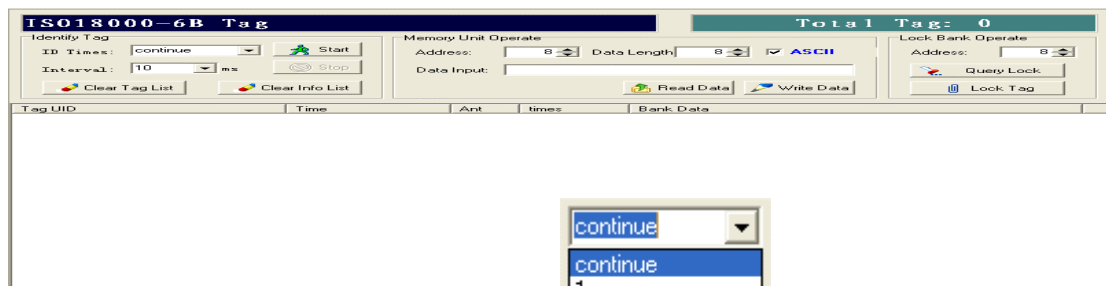
Query working antenna :click “Query” button, it show reader current working antenna ,

set working antenna :select working antenna, click “Set” button



ISO18000-6B tag operate

Click “ISO6B Tag operate” from menu as follow :



Identify Tag



Select identity tag times (default as continue) , tag identify the time (default is 10ms) then click “Start” button, reader get to tag identify status, when read the tag will show as below:

Tag UID	Time	Ant	times	Bank Data
E00400005B29FF01	16:16:51	3	42	0
E00400003F3C5302	16:16:50	3	38	0
E004000076660502	16:16:51	3	21	0

6B6B identify and details record

Total Tag : 3

Read the tag total numbers

Tag read and write

Tag read : Read ISO18000-6B tag's data

First select one tag(identify the tag first, and then select), select the tag's content start address (Address), data length(Data Length), then click “Read Data” button, if read success , the data will be shown in as below information bar :

Tag UID	Time	Ant	times	Bank Data
E00400005B29FF01	16:33:35	238	47	
E00400003F3C5302	16:33:44	3	51	UHF读写器
E004000076660502	16:16:51	3	21	0

Remark : ASCII option is valid, read the data is ASCII code, if not valid then it is hex data format.

Tag Write : write ISO180006B tag's Data

First must select one tag (identify the tag first, and then select) , select the tag's content start address (Address) , data length (Data Length) , in “Data Input” bar input the data want to write (can be Chinese character, number or letter) , then click “Write Data” button, after write success, successful information will be show in the bar as below :

```

-----Address : 42 write data success!
-----Address : 43 write data success!
-----Address : 44 write data success!
-----Write data operation complete!
  
```

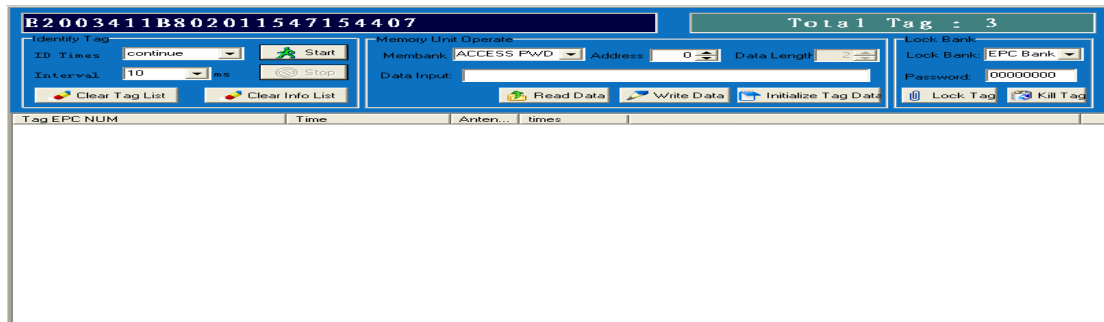
Tag lock operate

Query tag lock : select query address, then click “Query Lock” , if query success the information will show in the information bar ,

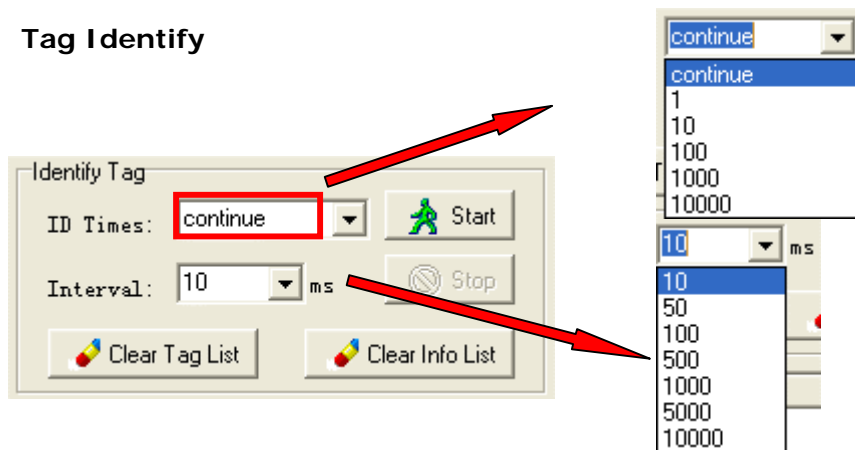
Lock tag operate : select the address that want to lock, then click “Lock Tag” , if lock success the information bar will show below ,

ISO18000-6C(EPC-G2) tag operate

Click "EPCTag operate" from menu as follow :



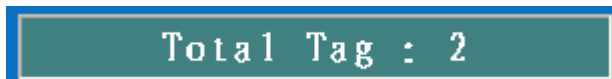
Tag Identify



Select identity tag times (default as continue) , tag identify the time (default is 10ms) then click "Start" button, reader get to tag identify status, when read the tag will show as below:

Tag EPC NUM	Time	Anten...	times	
E2003411B802011547154407	17:55:38	4	34	0
333333445566778899AAABCC	17:55:38	4	32	0

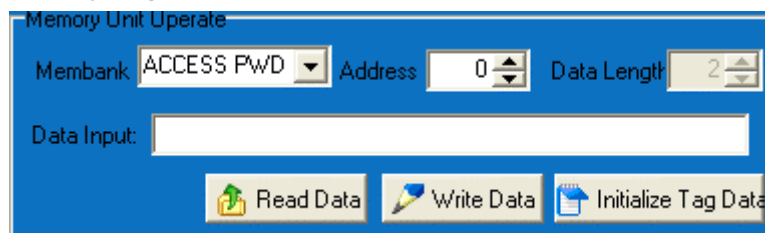
EPC multi tag identify success and detail record



Identify tag total quantity

EPC GEN2 Read and Write

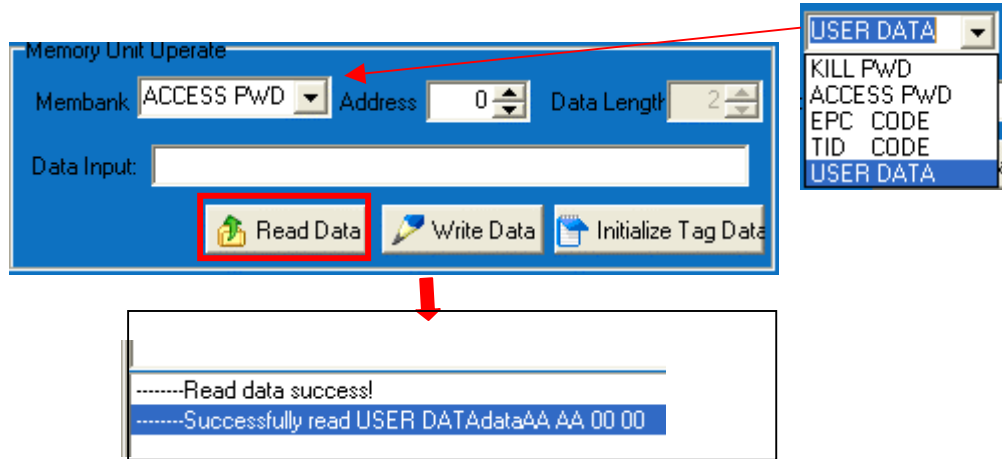
Need Stop "Identify Tag" operation before to read/write data to the tag



EPC-G2 read

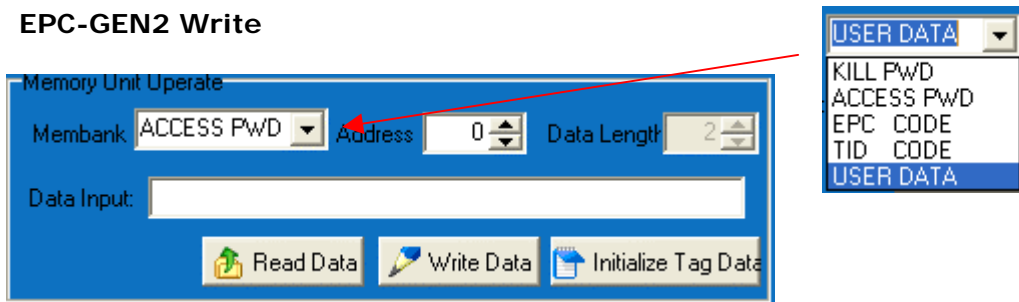
Select Membank (Membank) , option include “KILL PWD” , “ACCESS PWD” , “EPC CODE” , “TID CODE”

“USER DATA” , then select address “Address” and data length “Data Length” , click “Read Data” button, if read success the data will show in the information bar as below :



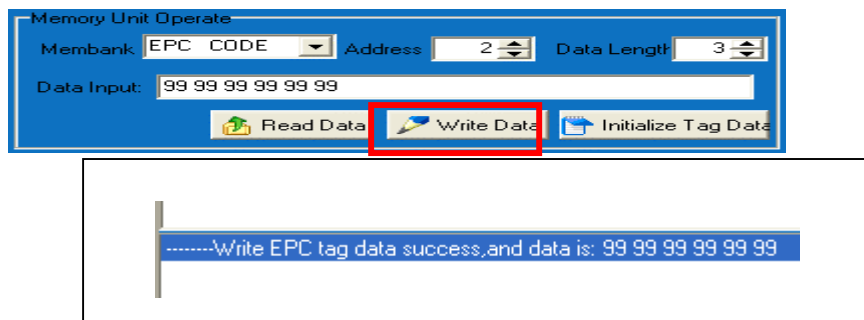
EPC read success

EPC-GEN2 Write



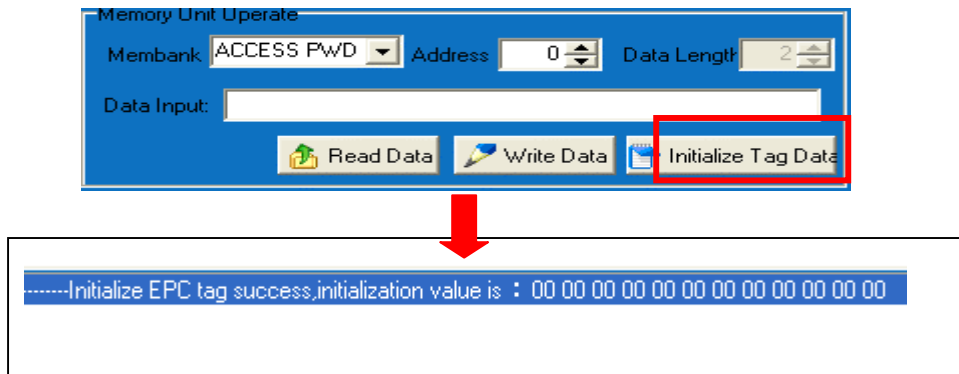
Select membank (Membank) , option include “KILL PWD” , “ACCESS PWD” , “EPC CODE” , “TID CODE”

“USER DATA” , (different tag with different memory) then select address “Address” and data length “Data Length” , in “Data Input” bar input the write data (HEX format) , click “Write Data” button, if write success the data will be show in the information bar (when write success the reader will send out short beep) as below :



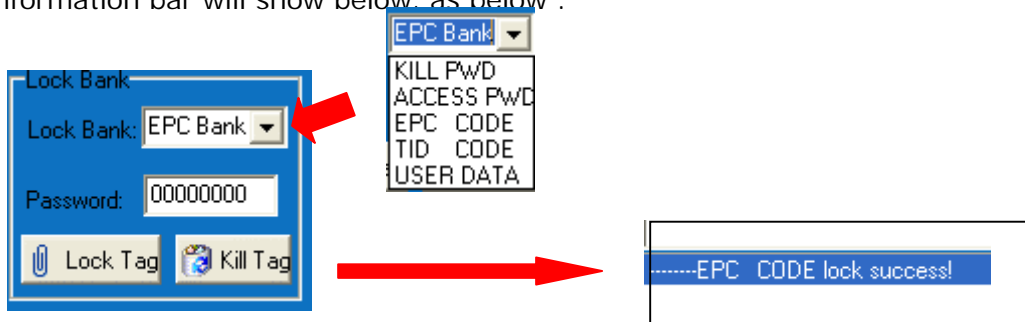
EPC-GEN2 Initialize

Put the tag in the reader reading range, then click “Initialze Tag Data” button, See below information bar to show the result :



PC-G2 tag lock

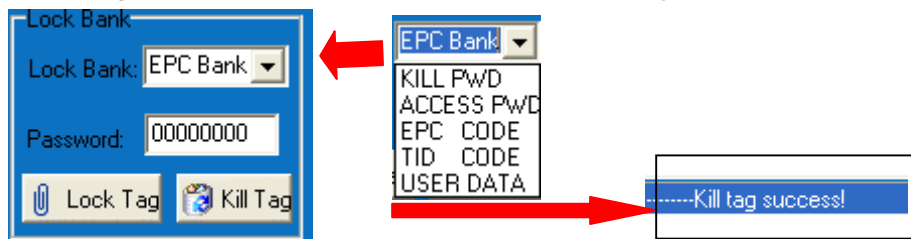
Select the write bank “Bank” , then click “Lock Tag” button, if lock success the information bar will show below. as below :



Note :once the tag locked, it can't unlock, only can lock the bank.

EPC-G2 KILL

Select bank “Bank” to [KILL PWD], in “Passeord” bar input kill password, then click “Kill Tag” button, if the kill success it will show you below information :



Remark : if the tag password is 0, it can't be kill, once the tag be kill it can't be use any more