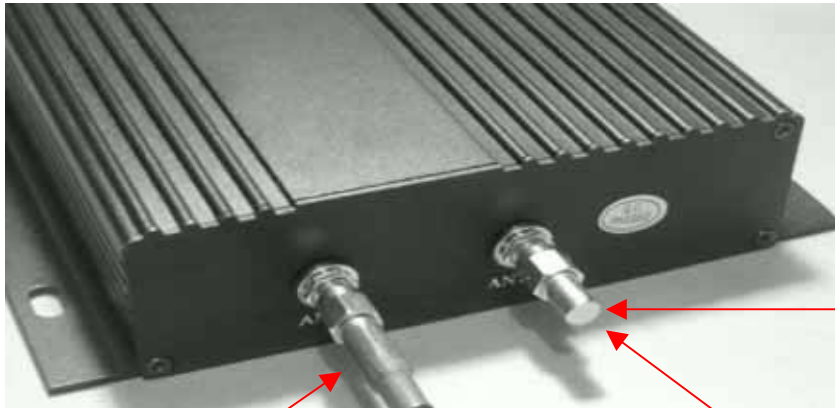


UHF-RW-MP-232-2A

UHF Reader/writer with 1-2 antennas support

Instruction manual

Antenna Side view



Loader

don't remove it if only one antenna is connected

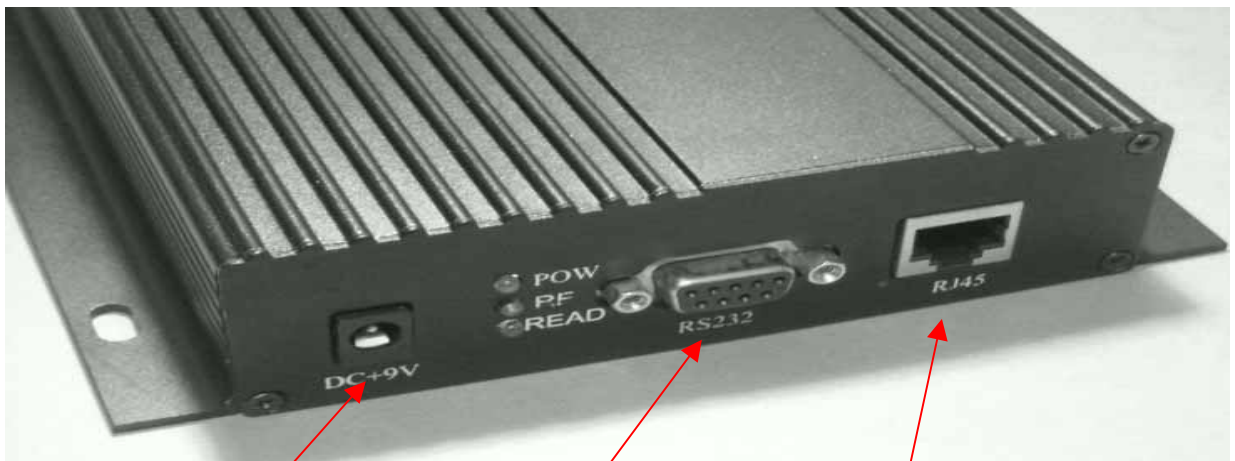
Antenna 1	Antenna 2
-----------	-----------

Remarks :

Power off before plug in/out the antenna

need connect ANT 1 and don't remove the ANT 2's loader if only one antenna is used

Connector



Power	RS232			RJ45
+ 9Vdc	Pin2	Pin 3	Pin 5	TCP/IP
	TX	RX	GND	

RS232 port

It is used to communicate with PC

RS232 format : 8 data bits, 1 start bit , 1 stop bit , none-parity bit

Baud rate : 9600,19200,38400,57600 and 115200

RJ45 port

It is used to communicate with PC and network system

- use patch Ethernet cable if connect the reader with Hub
- use crossover Ethernet cable if connect the reader with PC

Tag operation – ISO18000-6B

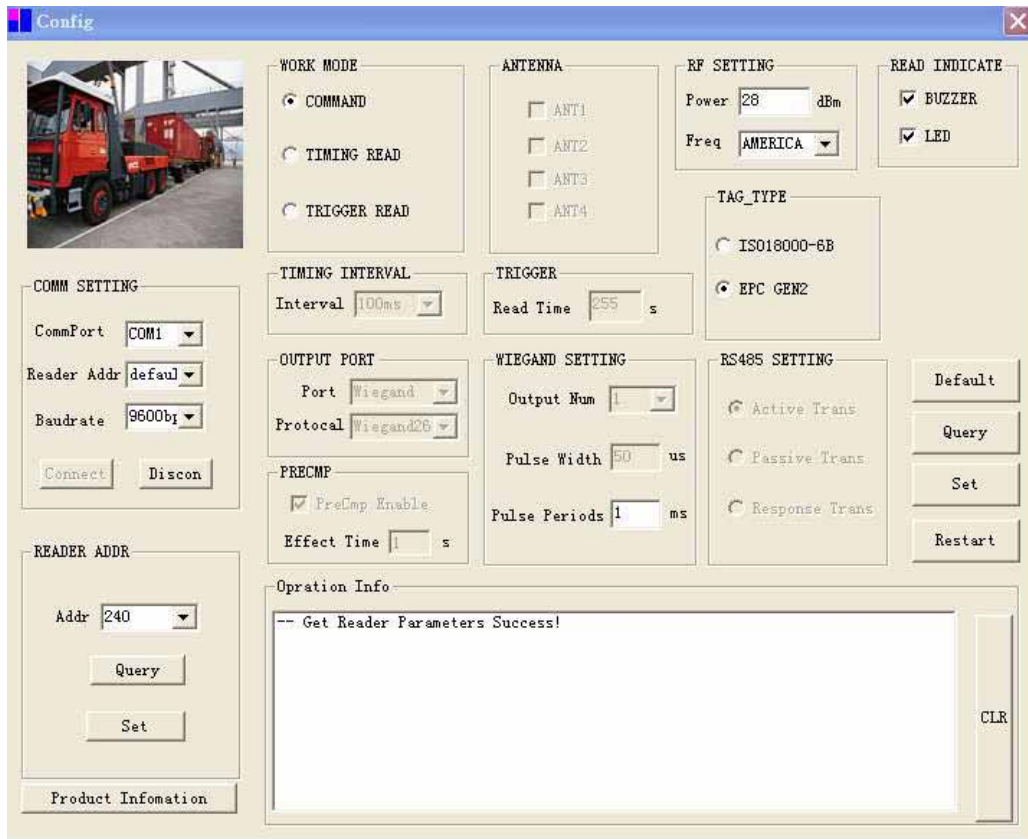
- **multi-tag identification :**
search all the tags in the reading range to read the 8 byte UID
- **multi-tag reading:**
search all the tag in the reading range to read the 8byte data from the beginning of the defined address
- **single tag writing:**
write one byte data on the defined tag's address
- **single tag Lock:**
lock up the data on the defined address to prevent over-written
- **Query Single tag locking :**
Query the locking state of the defined address.

Tag operation - EPC GEN2 (ISO18000-6C)

- **multi-tag identification:** search all the tags in the reading range to read the EPC data (96 bits)
- **Single tag initialization:** Initial the EPC data length of the tag (normally 96 bits)
(For a new EPC G2 tag, it must be initialized and pre-programmed to be read.)
- **Single tag writing:** read the EPC data of the tag, 16 bits for each time.
- **Single tag locking:** lock the EPC data of the tag to prevent data over-written.

Reader Parameter Configuration

- [1] connect the reader with PC through RS232 ,
- [2] connect external antenna with the reader
- [3] apply power and power on the reader
- [4] Run config program from path: \\CONFIG\\config.exe
- [5] select the com port setting and click on "Connect"



CONFIG MENU

Work mode



Timing read & Tgigger read is not available for this model

COMMAND read: reader works under the control of PC or other controller through RS232

COMM Setting

Com port : support com 1- com 9

Reader Addr : valid address from 1 to 240 , **Default** is suitable for single reader

Baud Rate : 9600,115200,19200,384000,576000

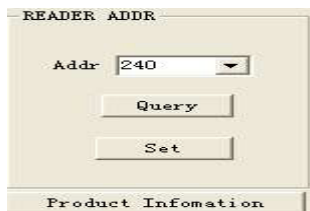
connect : click on to connect the reader with PC for communication



Reader address re-set

select a new address then click on the "set" button.

The new address will be effective after reader reset



RF SETTING - set the power & frequency



Power : (0-30dbm) – to adjust the reading range (max. 30dbm)

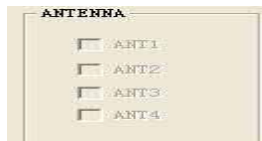
Freq. : China (920-925Mhz)

: America (902-928Mhz)

: Europe / unknown – can customize

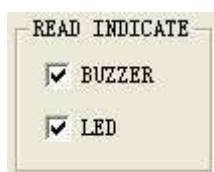
Antenna setting

Antenna selection is suitable for the multi-antenna model only



Read indicator

User define - Buzzer and LED ON/OFF when tag is detected



Below setting is not available for this model

TIMING INTERVAL Interval <input type="text" value="10ms"/>	TRIGGER Read Time <input type="text" value="10"/> s
OUTPUT PORT Port <input type="text" value="RS485"/> Protocal <input type="text" value="Common"/>	WIEGAND SETTING Output Num <input type="text" value="1"/> Pulse Width <input type="text" value="50"/> us Pulse Periods <input type="text" value="1"/> ms
PRECMP <input type="checkbox"/> PreCmp Enable Effect Time <input type="text" value="0"/> s	RS485 SETTING <input checked="" type="radio"/> Active Trans <input type="radio"/> Passive Trans <input type="radio"/> Response Trans

Remarks : This setting is for embedded antenna reader/writer model only

Configuration Completed

Click on "SET" after completed the configuration.

Then click on "Reset" to active the new configuration.

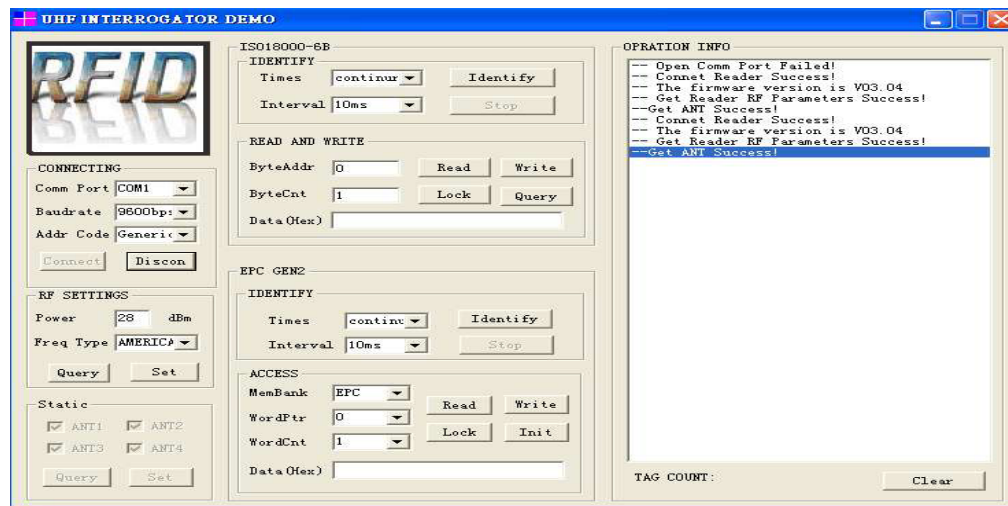
Demo Program Instruction

Run path: \\COM DEMO\demo.exe (MR915ApiV10.dll need in the same directory)

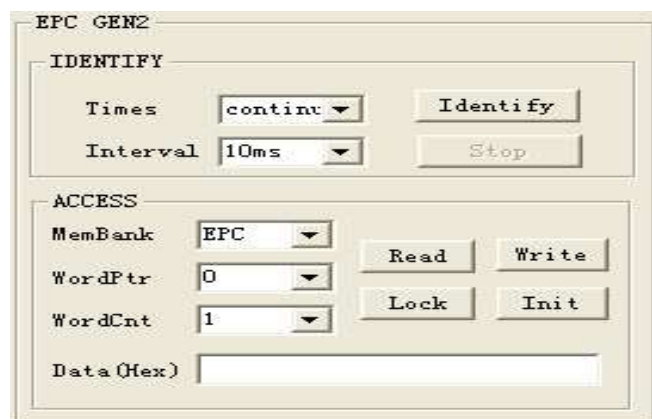
Select correct COM port , baud rate & address .

Click on “connect” to establish connection with the reader.

Below screen will be shown if the connection is successfully.



Read EPC G2 Tag



Times : default “Continuous read” or (1,10,100,1000,10000)

Interval : default “10ms” - set interval time to read Tag (10,50,100,500,1000)ms

Identify : Read the initialized EPC Tag data and show on message windows
(If the EPC Tag is not initialized , the data will be shown on message windows)

Stop : stop identify

Access parameter

MemBank : EPC/TID/USER memory (**pls refer to NXP EPC G2 datasheet in detail**)

WprdPtr : define start word to read/write (0-7)

WordCnt : define number of the word to read/write (1-8)

Data(Hex) : input Hex data

Read : read data according to the access parameter

Write : write data according to the access parameter

Lock : Lock data according to the access parameter

Init : to initial a new Blank EPC G2 tag

Instruction to Initial a New EPC G2 Tag

For a new EPC G2 tag , it must be initialized and pre-programmed to be read .

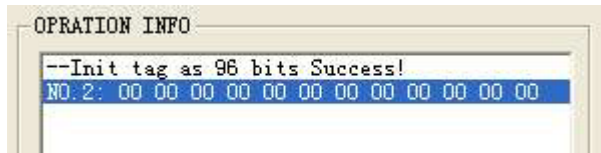
[1] connected the reader with PC through RS232

[2] click on “connect” to make sure the communication is successfully

[3] then place the new EPC TAG in front of the reader and will hear “beep” sound

[4] click on the “Init”

[5] after initialization, all the EPC data (6 word x 16 bits) will be 00 as follow .



Write

After initialization, you need write your own data to the tag .

EPC data – 96 bit (6 word x 16 bit) – **Pls refer to the NXP EPC G2 datasheet in detail**

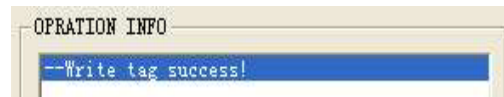
WordPtr “0” & “1” is the factory ID , it can’t re-written.

Therefore need start to write EPC data from **WordPtr** “2” .

WordCnt : max . 6 word can be written

Below is the example to write 4 word “0123456789ABCDEF” data to the tag.

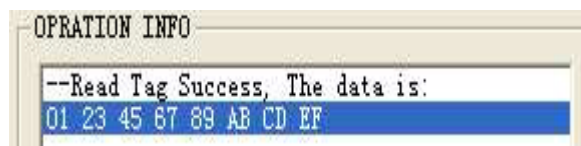
Set the data as follow, put the tag in front of the reader and Click on “Write”



Read

click on “Read” to read the EPC data

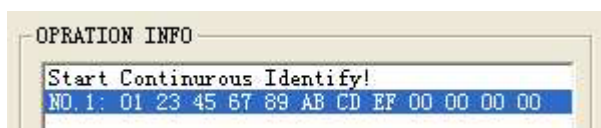
Below example to read the EPC data from WordPtr “2” and WordCnt “4”



“01 23 45 67 89 AB CD EF” is 4 word data – successfully read from the tag

After initialization and data writing, you can read the multi-tags by “Identify” command.

click on “Identify” , full 96 bit data will be shown as follow:



“01 23 45 67 89 AB CD EF” is 4 word data

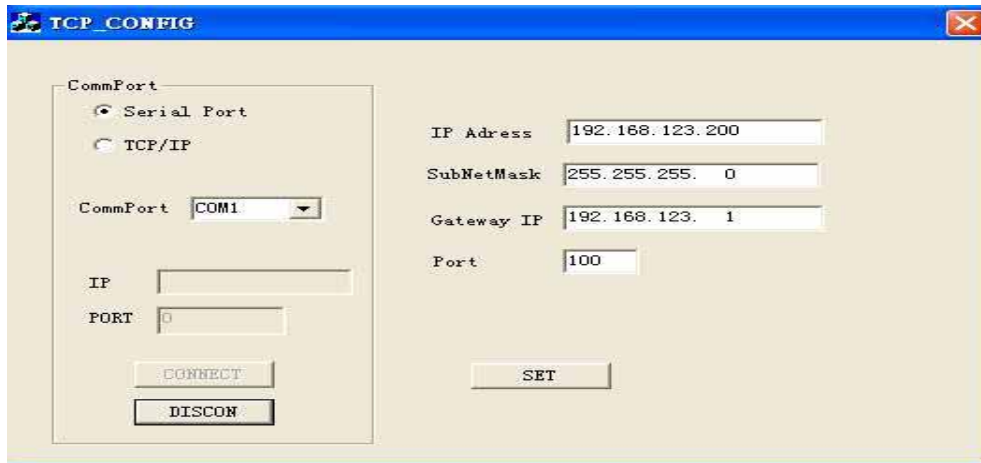
“00 00 00 00 ” is the last two word data

IP Address Setting

- [1] connect the reader with PC through RS232 ,
- [2] connect the reader with Hub through RJ45 port using patch Ethernet cable or connect the reader with PC through RJ45 using crossover Ethernet cable
- [3] connect external antenna with the reader
- [4] apply power to turn on the reader
- [5] Run TCP config program from path: \\TCP CONFIG\TCP CONFIG.exe

Check IP address

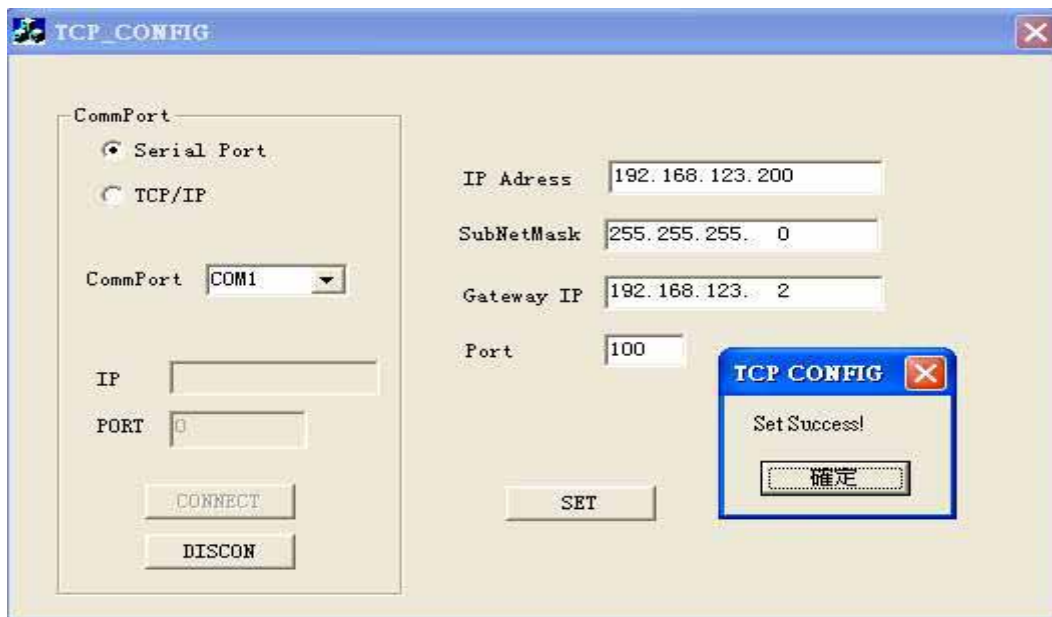
Click on "Serial Port" and "CONNECT" , the reader's IP setting will be shown as follow:



change IP address

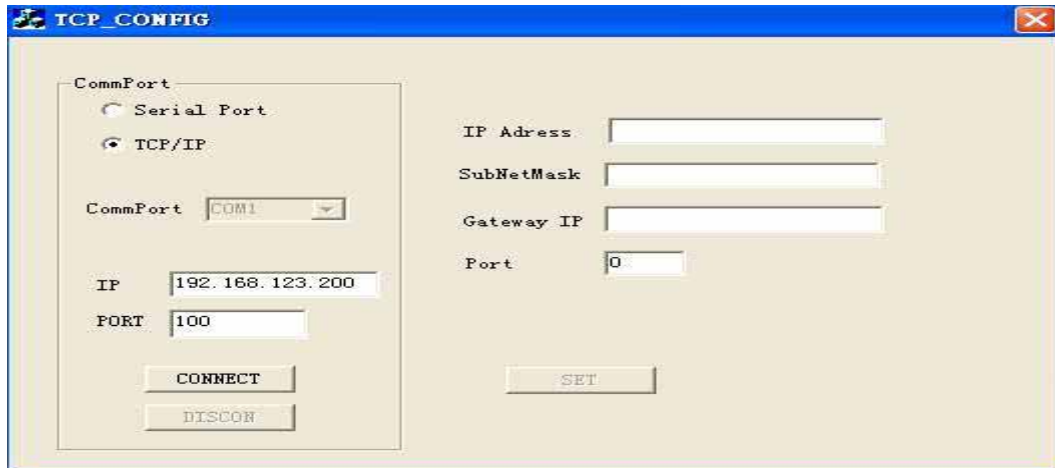
Changed IP Address , SubnetMask , Gateway IP & Port depend on your Network setup
Port : 100 (recommend)

Click on "SET" to save new setting , "Set success" will be shown as follow :



Set IP address by TCP/IP

If you know your reader's IP address , you can set the IP setting by TCP/IP .
Click on "TCP/IP" , enter the correct IP & Port ,then click on "CONNECT"

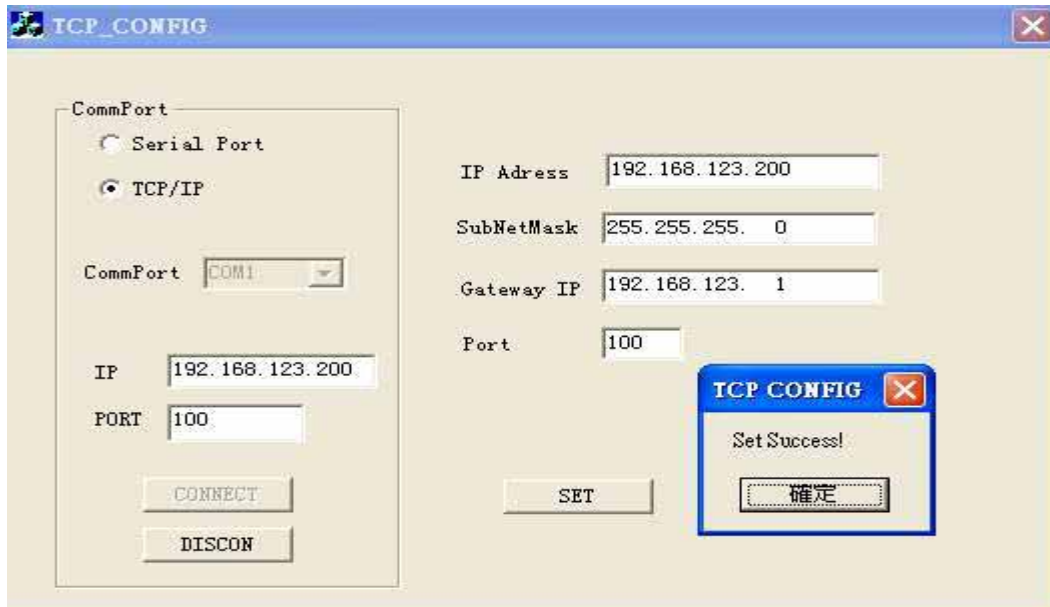


The screenshot shows the TCP_CONFIG window with the following fields and values:

- CommPort: Serial Port, TCP/IP
- CommPort: COM1 (dropdown)
- IP: 192.168.123.200
- PORT: 100
- IP Address: (empty)
- SubNetMask: (empty)
- Gateway IP: (empty)
- Port: 0

Buttons: CONNECT, DISCON, SET

If IP address is correct , the reader's IP setting will be shown as follow .
Changed IP Address , SubnetMask , Gateway IP & Port depend on your Network setup
Port : 100 (recommend)
Click on "SET" to save new setting . "Set success" message will be shown.



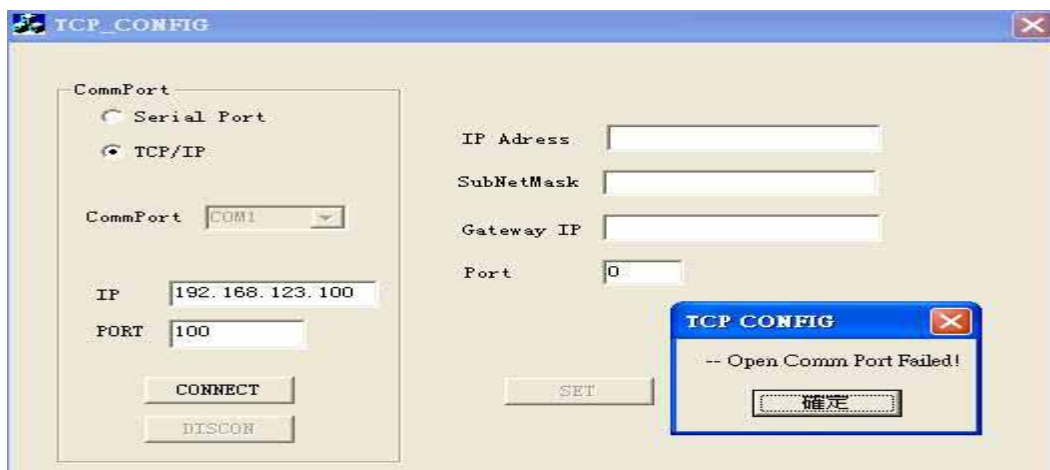
The screenshot shows the TCP_CONFIG window with the following fields and values:

- CommPort: Serial Port, TCP/IP
- CommPort: COM1 (dropdown)
- IP: 192.168.123.200
- PORT: 100
- IP Address: 192.168.123.200
- SubNetMask: 255.255.255.0
- Gateway IP: 192.168.123.1
- Port: 100

Buttons: CONNECT, DISCON, SET

Dialog Box: TCP CONFIG, Set Success!, 確定

If IP address is incorrect , the error message will be shown as follow :



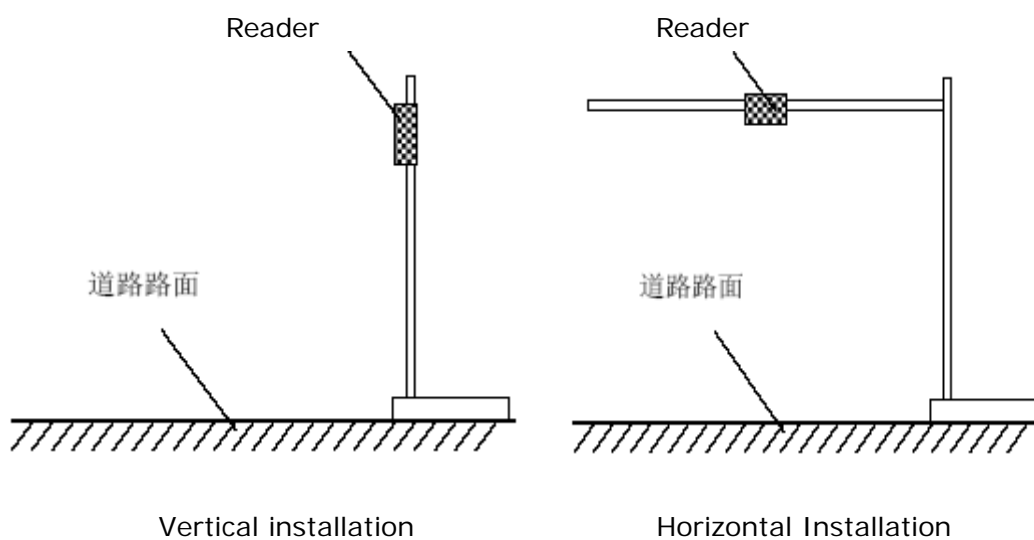
The screenshot shows the TCP_CONFIG window with the following fields and values:

- CommPort: Serial Port, TCP/IP
- CommPort: COM1 (dropdown)
- IP: 192.168.123.100
- PORT: 100
- IP Address: (empty)
- SubNetMask: (empty)
- Gateway IP: (empty)
- Port: 0

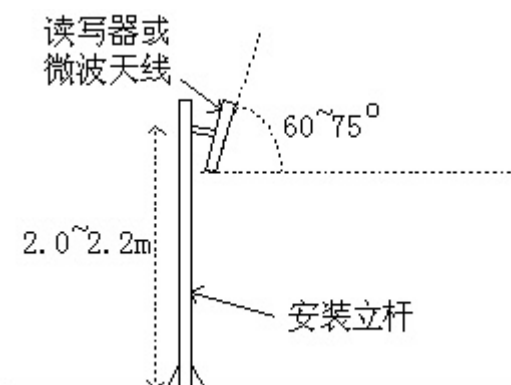
Buttons: CONNECT, DISCON, SET

Dialog Box: TCP CONFIG, -- Open Comm Port Failed!, 確定

External antenna installation



Adjust the reader to get the best detection performance



When measuring or testing the reader's read range, make sure that the tag is properly oriented to the reader antenna, and for optimum performance, be sure the operator's finger is not within three inches of the tag's antenna surface.

Environment Interference will affect the reading distance.