

UHF-RW-G2-232

Embedded UHF Reader/writer with RS232 interface

Instruction manual

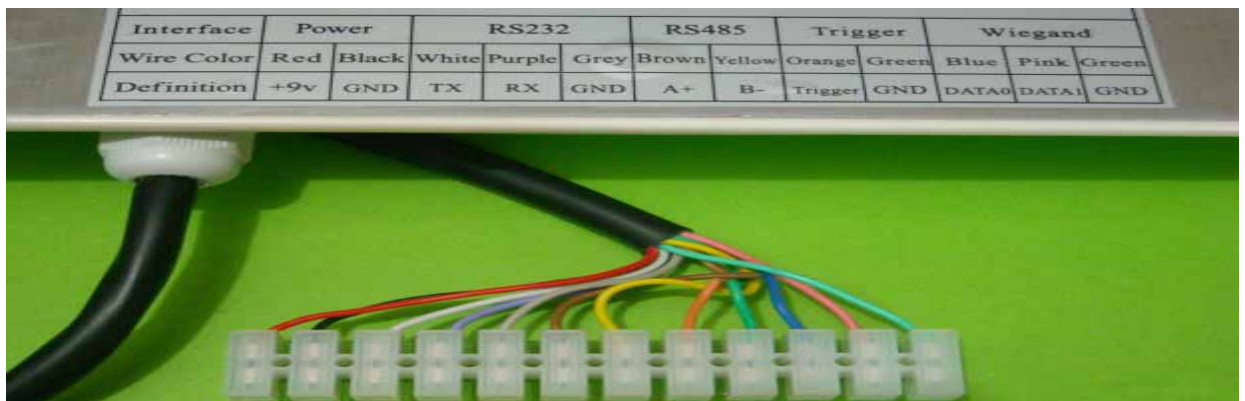
Front Side View



Rear Side View



Wire assignment



	Power		RS232			RS485		Trigger		Wiegand		
Color	Red	Black	White	Purple	Gray	Brown	Yellow	orange	Green	Blue	Pink	Green
Assign- ment	+9Vdc	GND	TX	RX	GND	A+	B-	Trigger	GND	DATA0	DATA1	GND

RS232

- 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

RS485 (optional)

RS485 interface – optional interface

Wiegand

Support Wiegand 26 or wiegand 34.

Wiegand26 format

PO	12 bits	12 bits	P1
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PO - even parity for first 12 bits, P1 - odd parity for second 12 bits

Wiegand 34 format

PO	16 bits	16 bits	P1
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PO - even parity for first 16 bits, P1 - odd parity for second 16 bits

Tag operation – ISO18000-6B

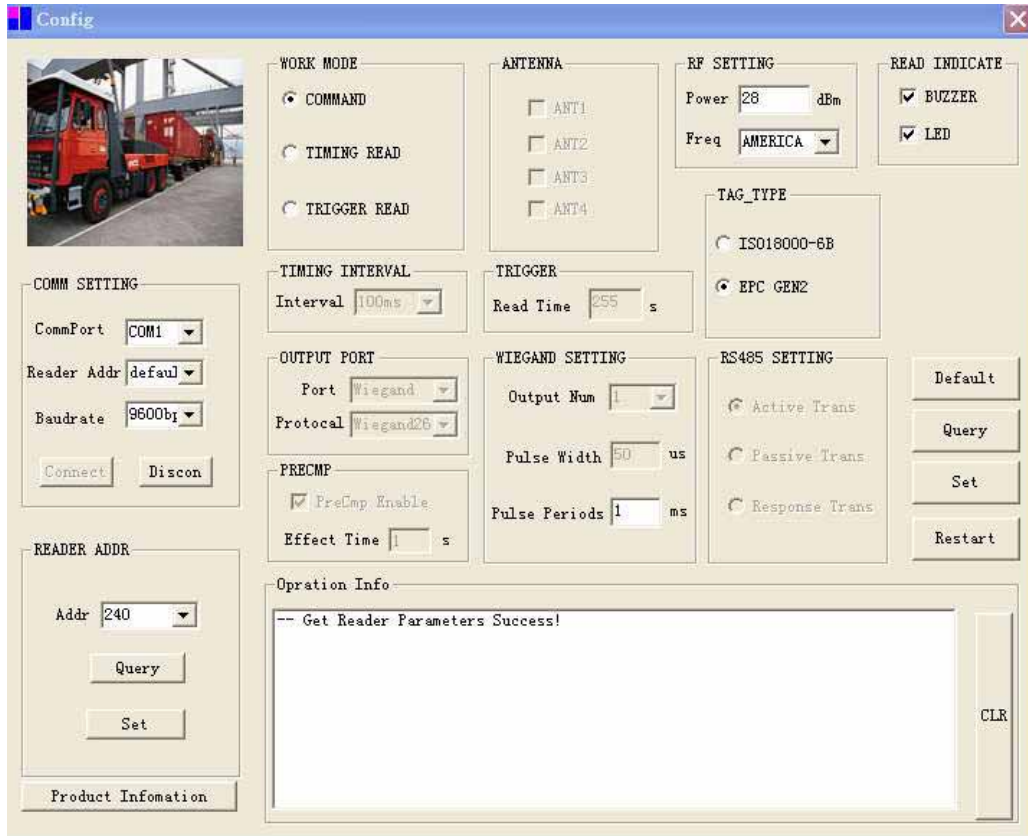
- **multi-tag identification :**
search all the tags in the reading range to read the 8 byte UID
- **multi-tag reading:**
search all the tag in the reading range to read the 8byte data from the beginning of the defined address
- **single tag writing:**
write one byte data on the defined tag's address
- **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] Connected the reader with PC through RS232 .
- [2] Run config program from path: \\CONFIG\\config.exe
- [3] select the com port setting and click on "Connect"



CONFIG MENU

Work mode



COMMAND read: reader works under the control of PC or other controller through RS232
TIMING read : read Tag in interval time **TIME INTERVAL :** (10 ,50,100,200,500,1000)ms
TRIGGER READ : Trigger pin pull low to enable the reader for operation within the trigger read time

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

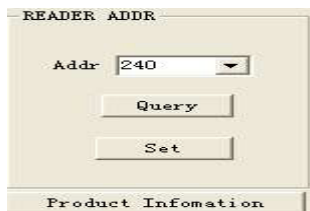
connect : click on to connect the reader with PC for communication



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)

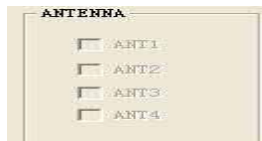
Freq. : China (920-925Mhz)

: America (902-928Mhz)

: Europe / unknown – can customize

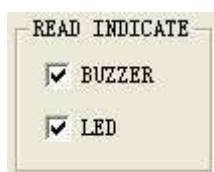
Antenna setting

Antenna selection is suitable for the multi-antenna model only



Read indicator

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

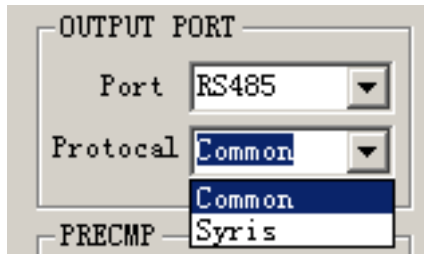


Output port Setting

RS485 – optional

Common – can be customize

Syris – refer to syris controller 485 protocol

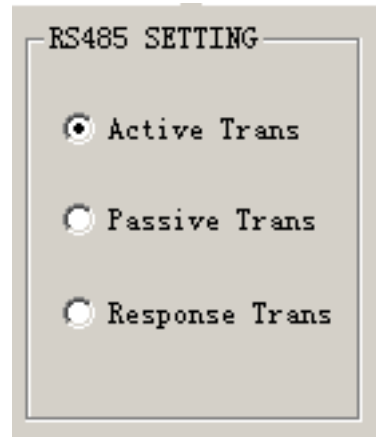


OUTPUT PORT

Port RS485

Protocol Common

PRECMP Syris



RS485 SETTING

Active Trans

Passive Trans

Response Trans

Three Mode data transfer – Active / Passive / Response / baud rate : 9600

When using Syris controller, select passive mode & 19200 bps

Wiegand interface

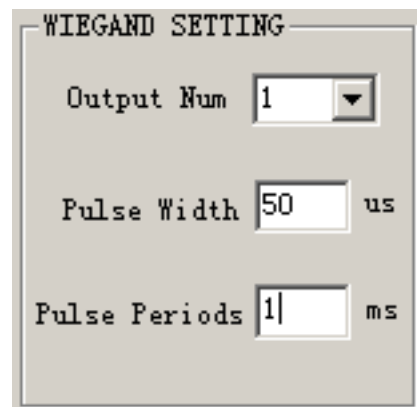


OUTPUT PORT

Port Wiegand

Protocol Wiegand26

PRECMP Wiegand34



WIEGAND SETTING

Output Num 1

Pulse Width 50 us

Pulse Periods 1 ms

Support wiegand 26 bit & wiegand 34 bits

Wiegand setting : Output Num : no. of the data output / Pulse width / pulse periods

Configuration Completed

Click on "SET" after completed the configuration.

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

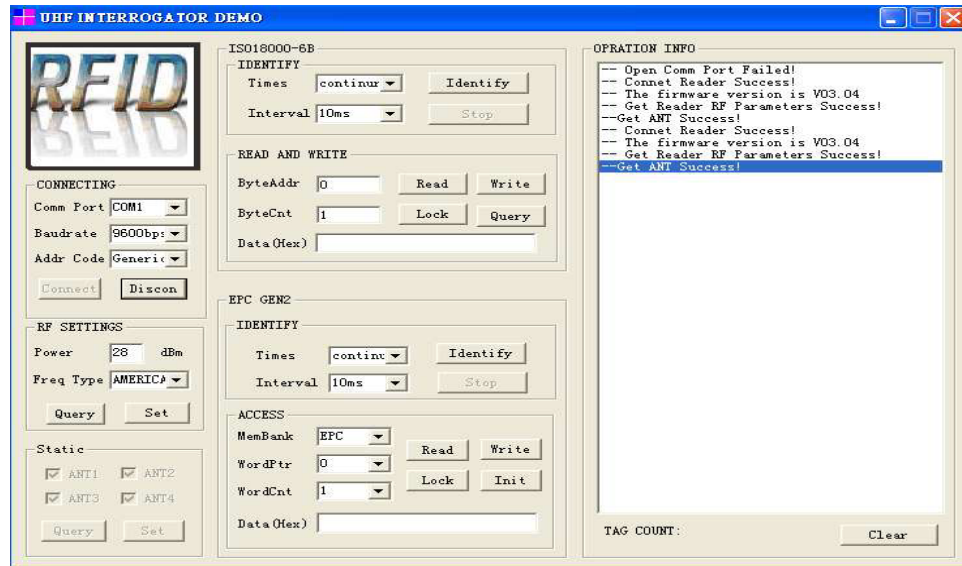
Demo Program Instruction

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

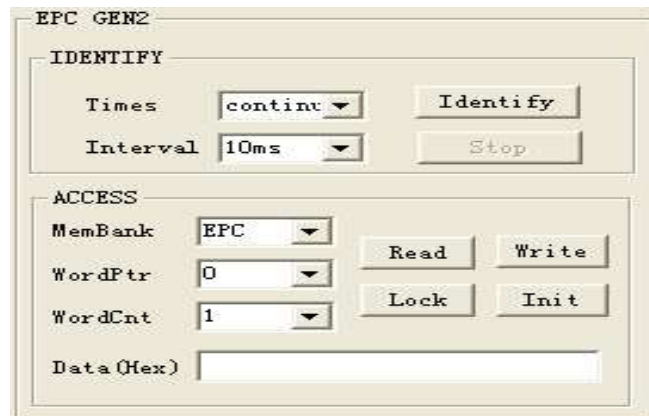
Select correct COM port , baud rate & address .

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

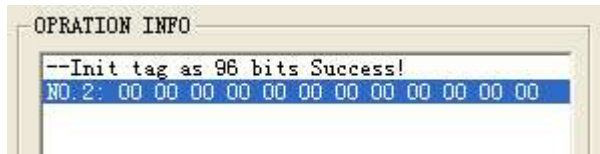
Write : write data according to the access parameter

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 .



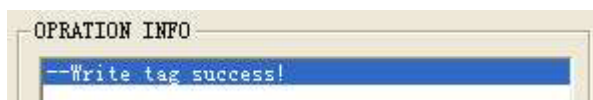
Write

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” .

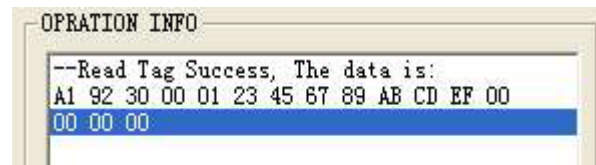
Below is the example to write 4 word “0123456789ABCDEF” data to the tag.
Set the data as follow, put the tag in front of the reader and Click on “Write”



Read

click on “Read” to read the EPC data

Below example to read all 96bits EPC data (WordPtr “0” and WordCnt “8”)



“A1 92 30 00” is the factory ID

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

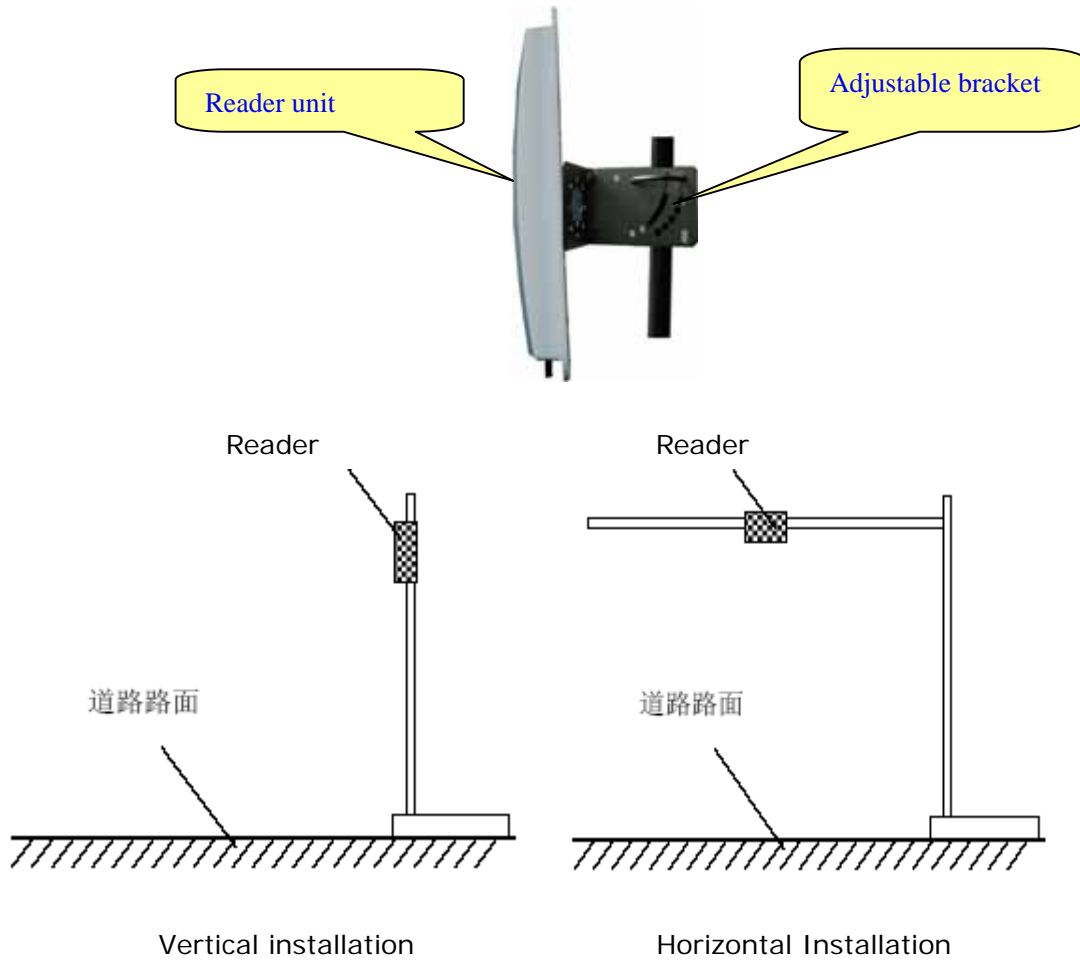
“00 00 00 00 ” is the last two word data

Remark :

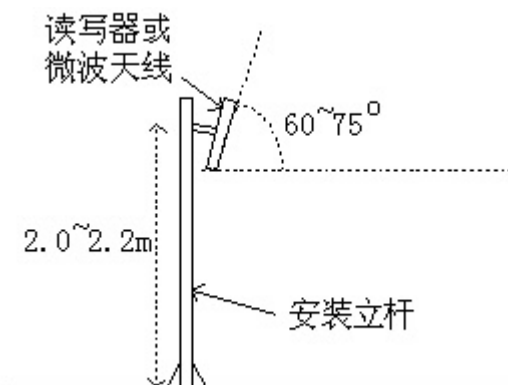
Each Tag should be written with a unique (1-6) word data.

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

Reader 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.