MRU-F5100US User's manual

This document describes the operation of the application to perform standard operations on the MRU-F5100US (hereinafter called "MRU").

1. Preparation

1.1. Preparation (Hardware)
- PC installed Windows7 or later
- LAN cable
- MRU-F5100US
- Antennas and cables

1.2. Connection
- **Connecting power source to the MRU.(DC12, DC24, PoE)**
- **Connect the antenna cable and antenna to the antenna port**
- **Connect the MRU to the PC with a LAN cable**

MRU-F5100US and Antenna connection example
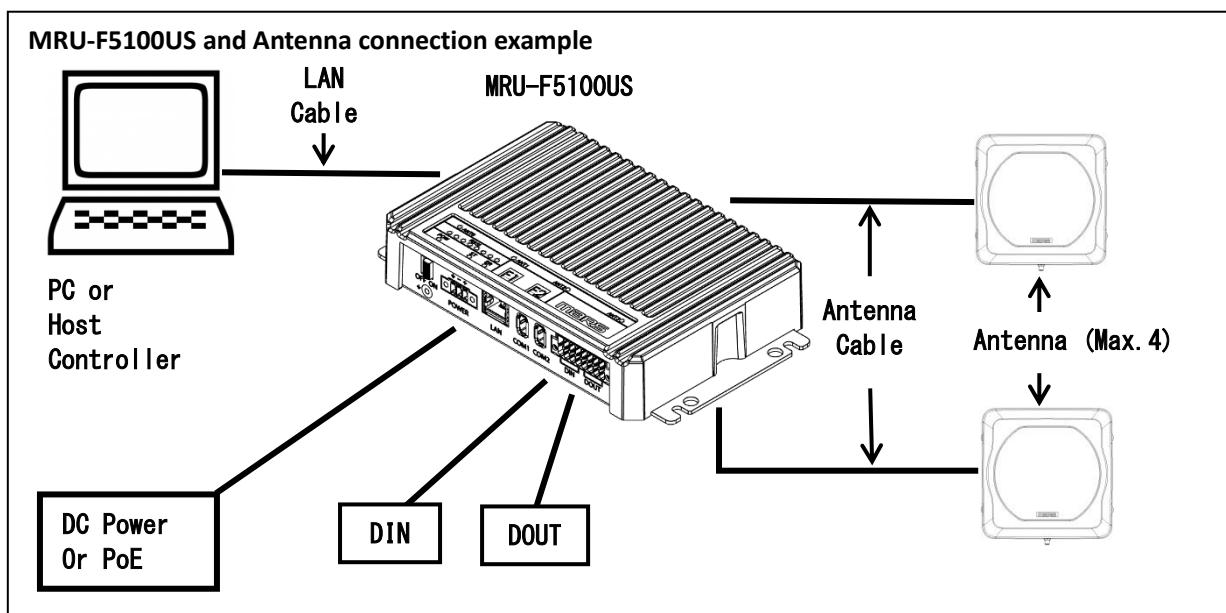
2. Power on the MRU

Slide the power switch of the MRU to the ON side.
Wait until the buzzer sounds three times in a row.
It takes about 20 seconds to completely start up after the power is turned on.

3. Launch "FRUSample.exe"

Double-click "FRUSample.exe".
When "FRUSample.exe" starts, following screen is displayed.
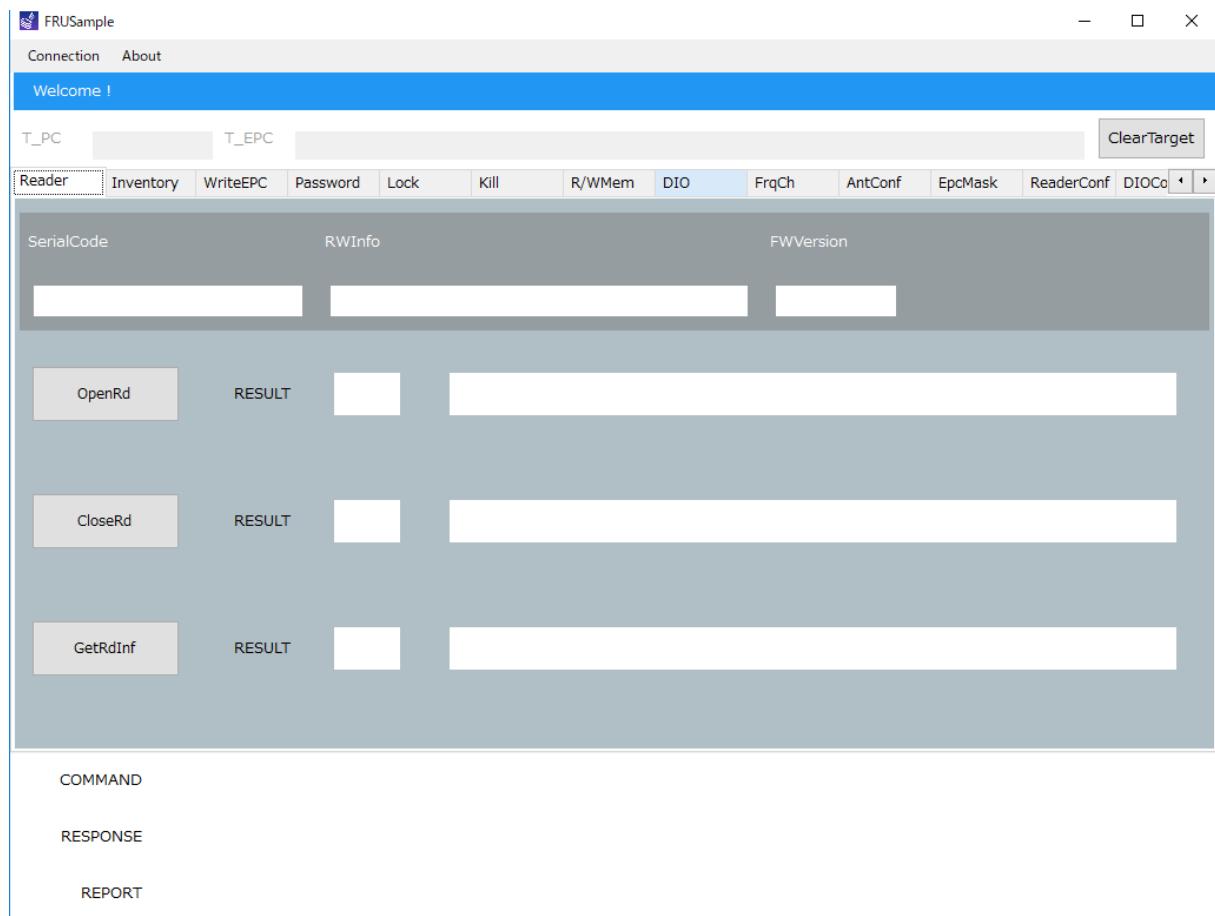
4. Connection with MRU

Select "Connection" – "LAN" in the menu.
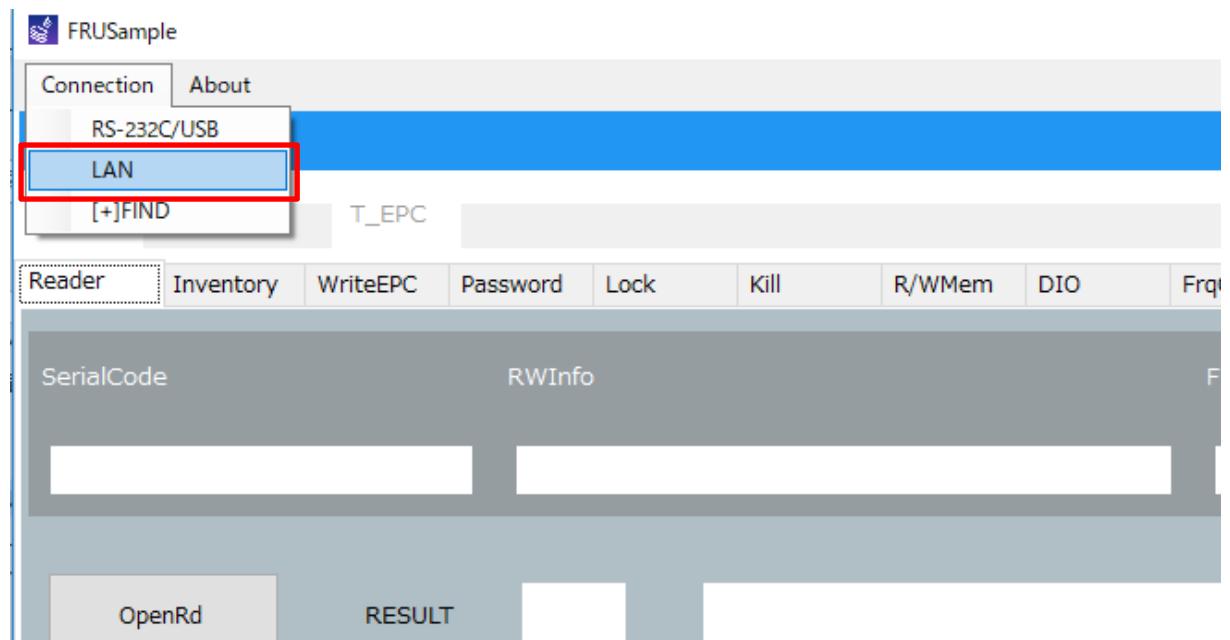
Then following screen is displayed.
And enter the IP address of the MRU in "IPAddress".

　※　When the software starts, the default IP address is displayed.
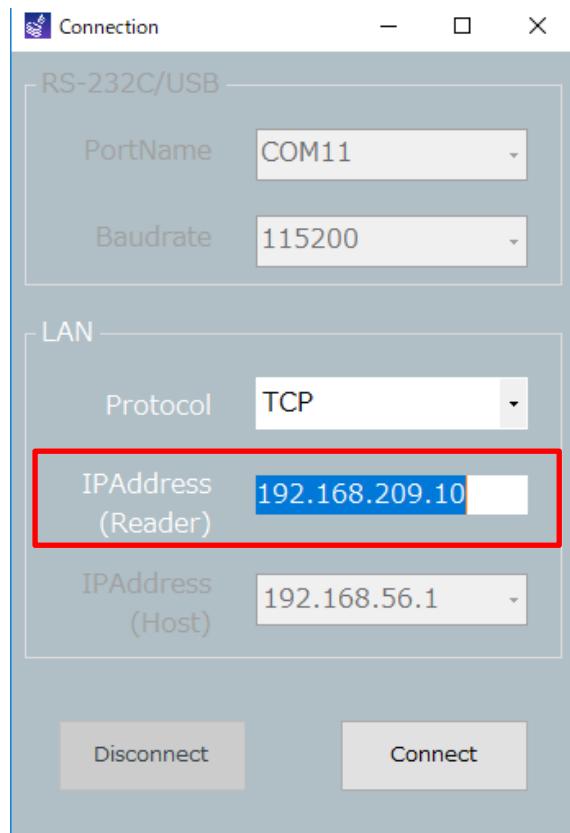
Click the "Connect" button to connect to MRU.
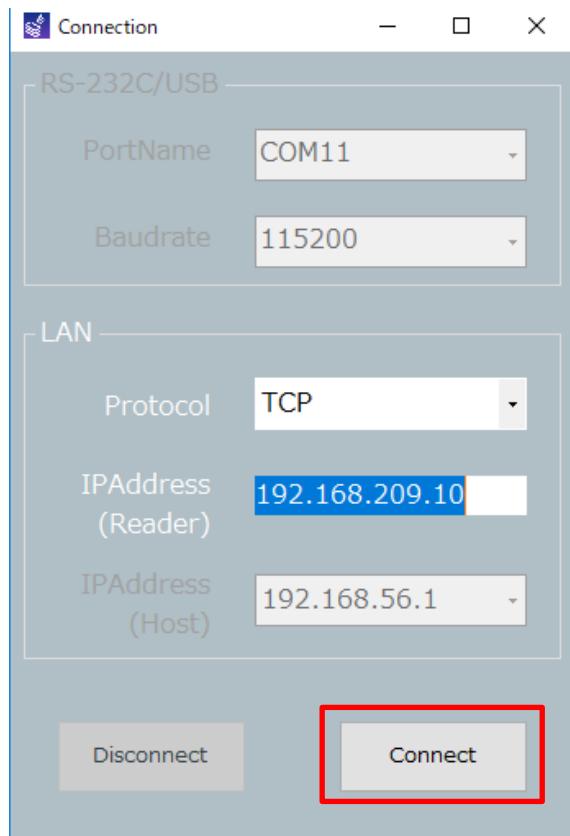
When the "Connect" is completed successfully, IP address is displayed in the title area and "Successed to Connect to FRU" is displayed in the status area.
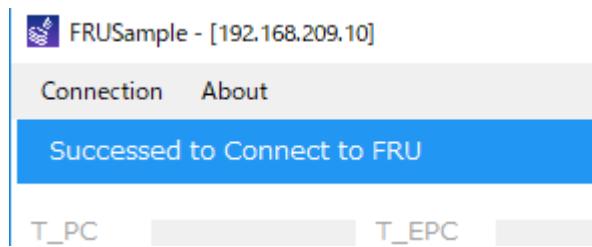
5. MRU Settings

Set the necessary settings in advance to read UHF tags with the MRU.

5.1. Start to MRU operation

Click "OpenRd" button in the "Reader" tab.
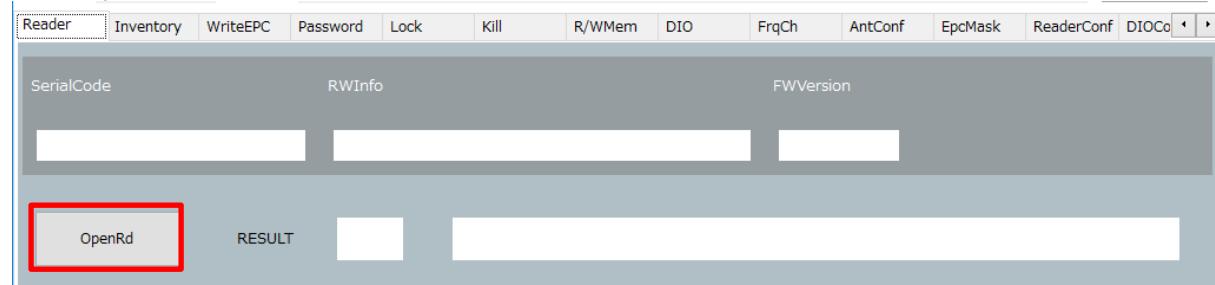
When the operation is successfully started, "00 Normal" is displayed in the RESULT area.
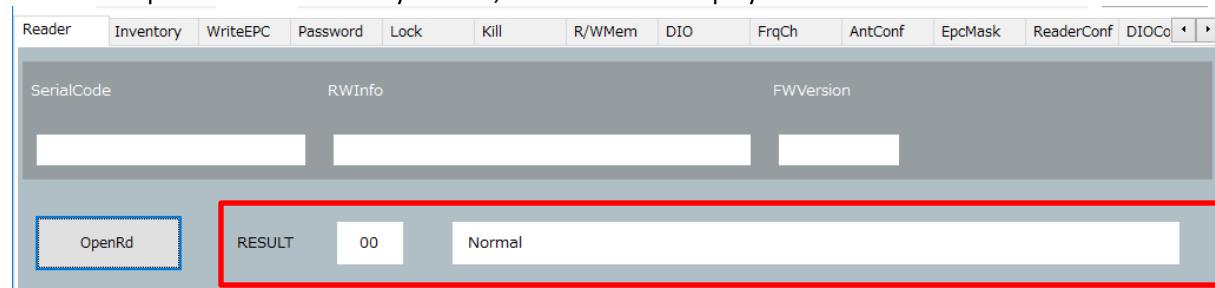
5.2. Antenna settings

Set the antenna to be used in the "AntConf" tab.

※ Change the current MRU antenna settings.
In the operation with multiple antennas enabled, use Antenna 0 first and when either Dwell or InvCnt reaches the maximum value, it switches to the next antenna.
When all antennas are used, return to Antenna 0 and continue to read.
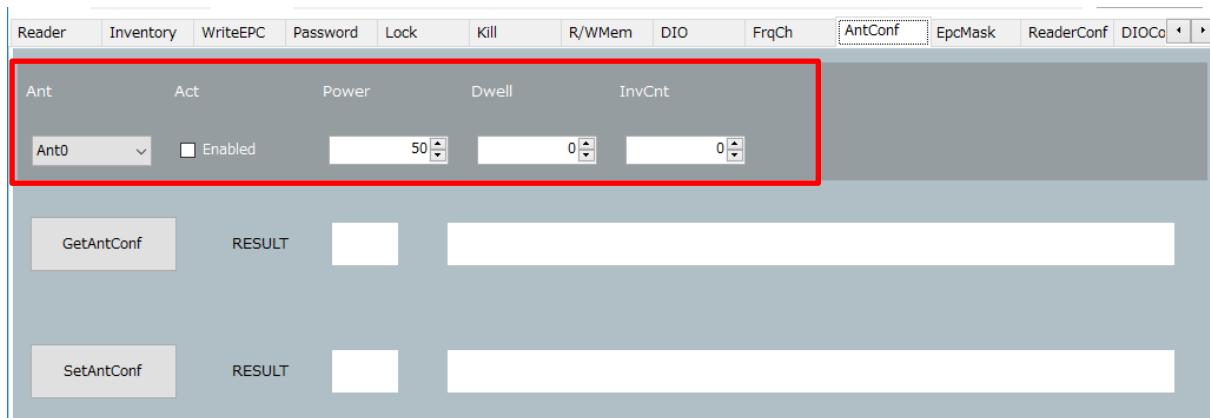
- **Ant**   (Antenna Number)
  - Ant0 ： Antenna 0
  - Ant1 ： Antenna 1
  - Ant2 ： Antenna 2
  - Ant3 ： Antenna 3
- **Act**   (Enable / Disable antenna selected by Ant)
  - Checked   : Enable the antenna
  - Unchecked   : Disable the antenna
- **Power**   (The output value of antenna selected by Ant.   Unit is 0.1dBm)
  - 50～300
- **Dwell**   (The maximum read time of antenna selected by Ant.   Unit is ms)
  - 0～65535
  - If InvCnt is 0, Dwell cannot be set to 0.
- **InvCnt**   (The maximum count of readings of antenna selected by ant)
  - 0～65535
  - If Dwell is 0, InvCnt cannot be set to 0.

When you click "GetAntConf" button, it reads and displays the antenna settings set in the MRU.
If reading of the antenna settings is successful, "00 Normal" is displayed in the RESULT area.
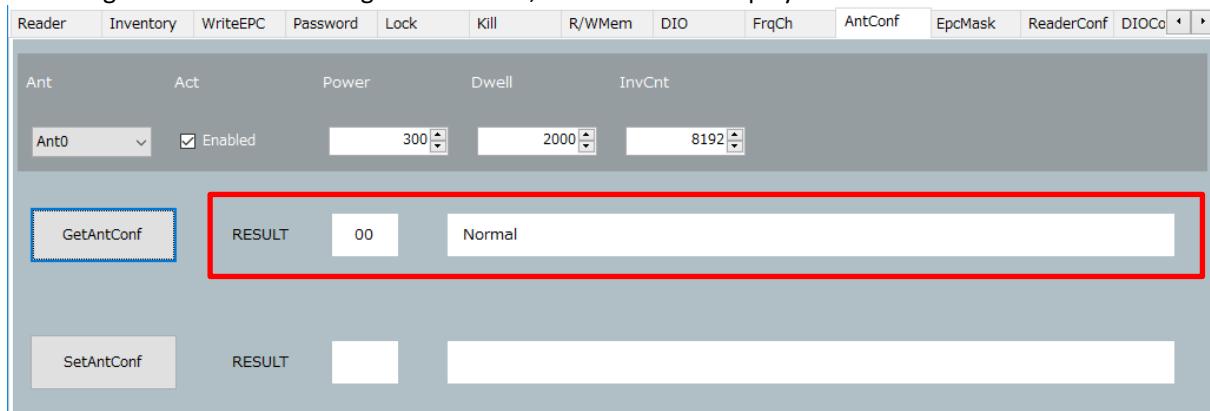
To change the antenna settings, enter the antenna settings and click the "SetAntConf" button.
If the antenna settings are successfully changed, "00 Normal" is displayed in the RESULT area.
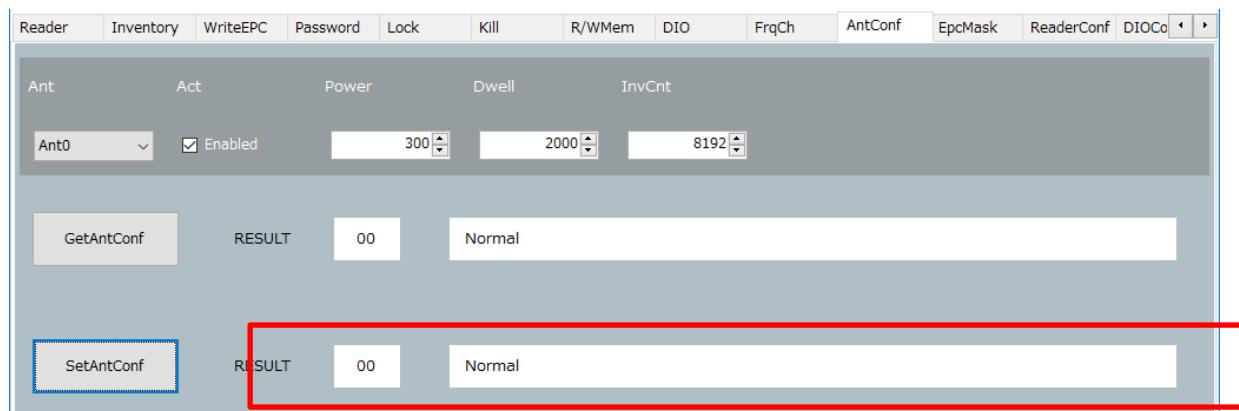
6. Tag Reading Operation

6.1. Start reading

Select "Report" in "Method" of "Inventory" tab and click "StartInv" button.
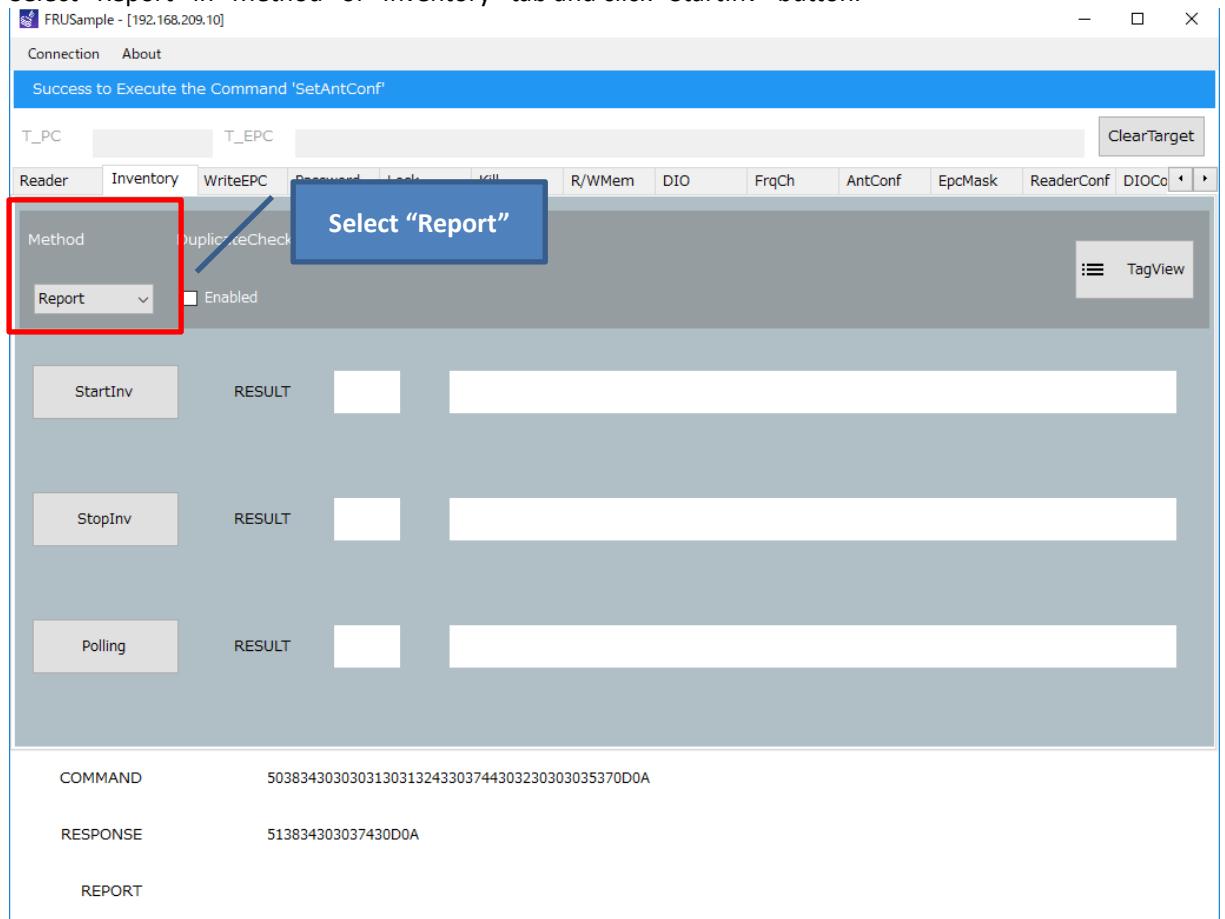
If "StartInv" is successful, "00 Normal" is displayed in the RESULT area.
While reading tags, the read tag information is displayed at the bottom of the screen.
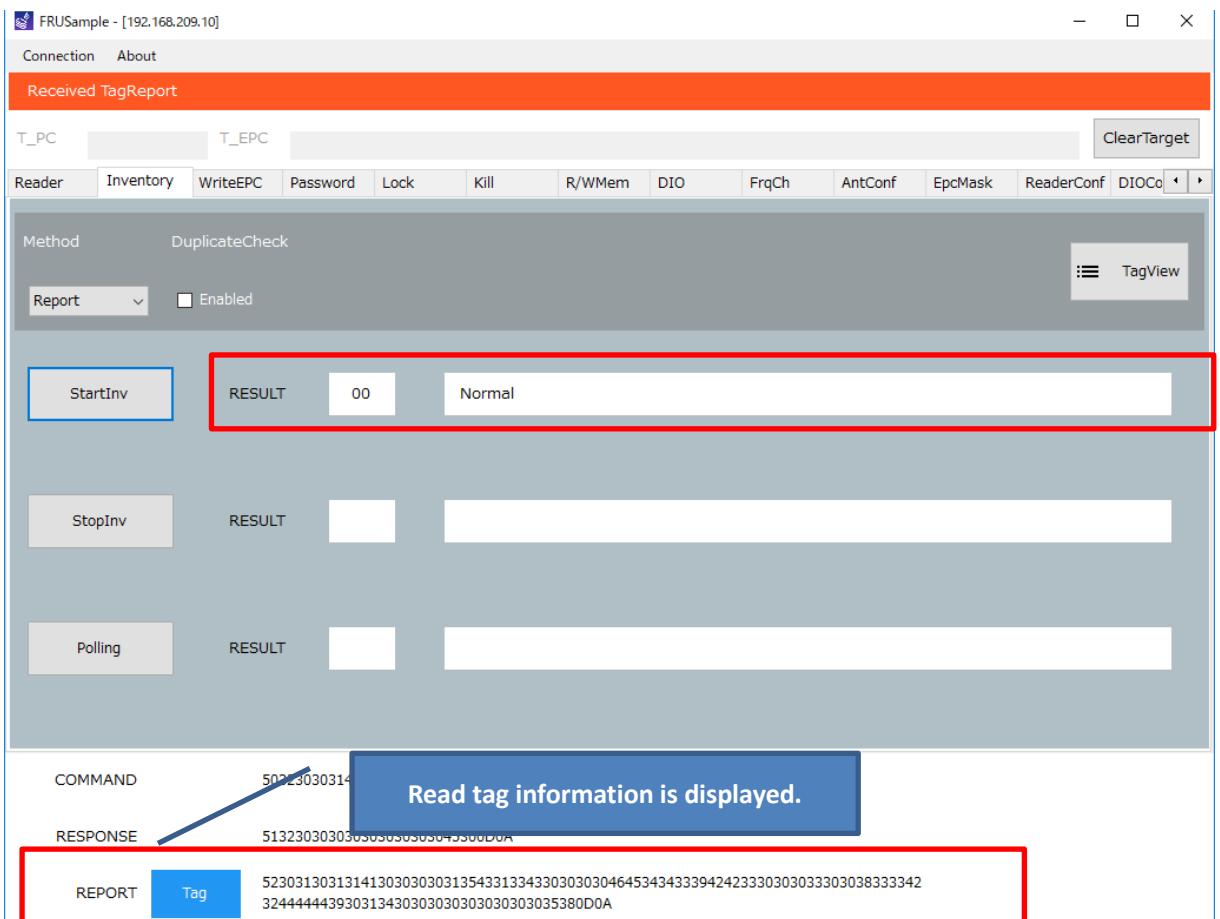
Click the "TagView" button to see the details of the read tag.

When you click the "TagView" button, the following screen is displayed, and the read tag information is updated in real time.
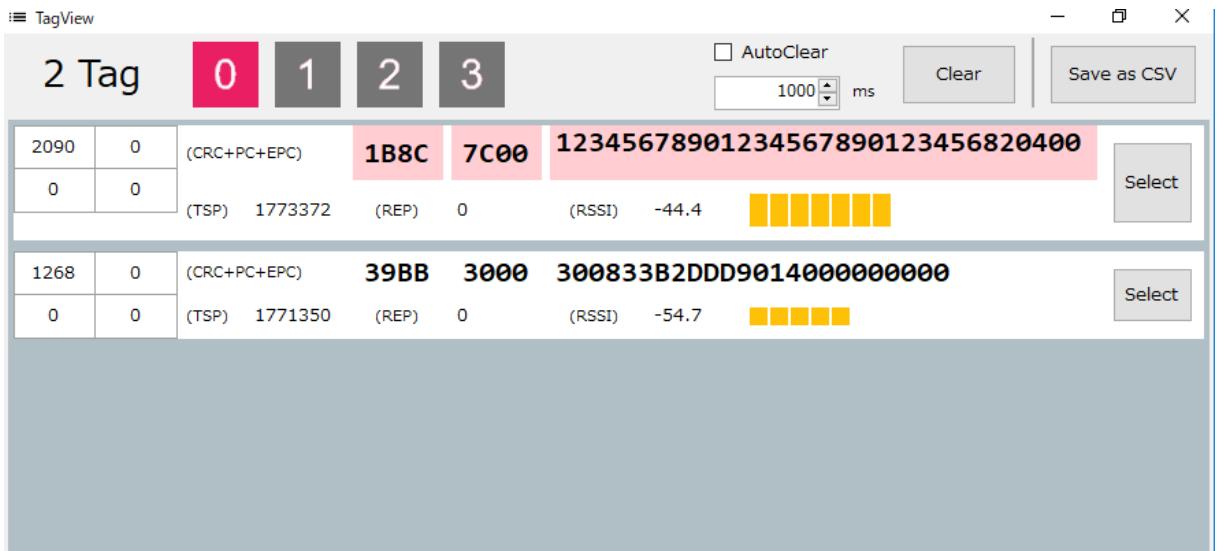
6.2. Stop reading

Click the "StopInv" button to stop reading tags.
If the stop is successful, "00 Normal" is displayed in the RESULT area.
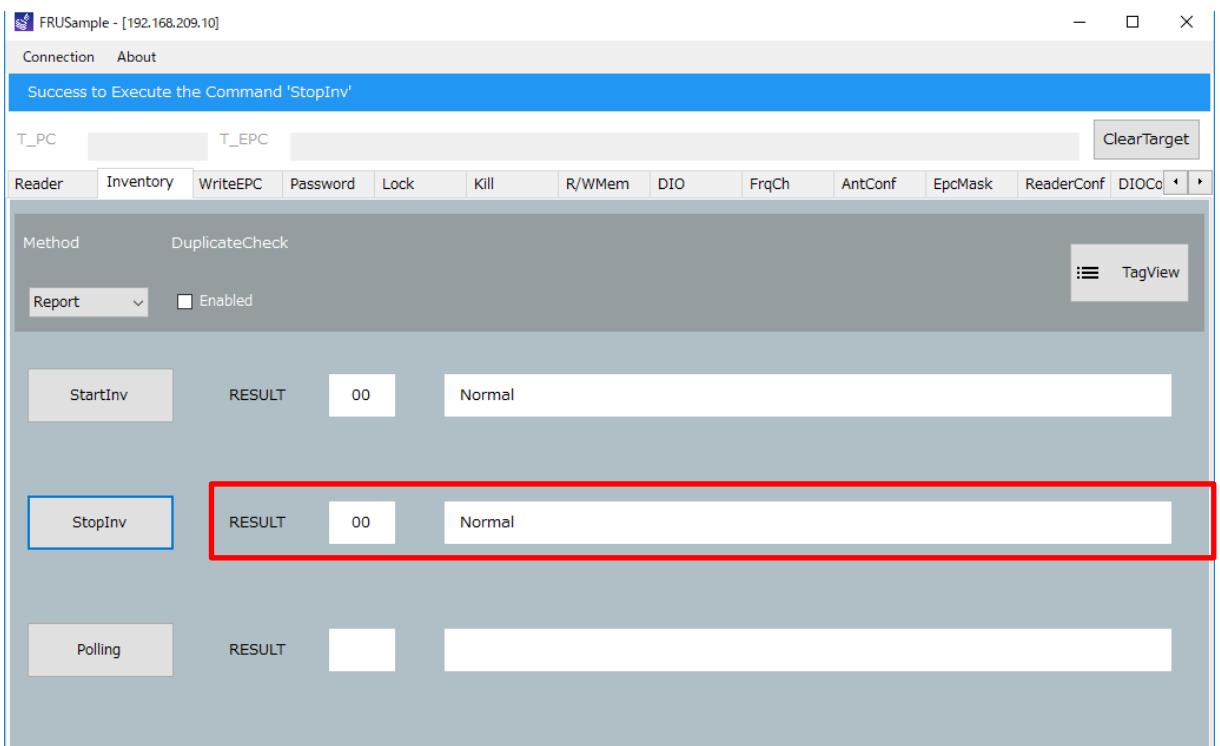
7. Stop to MRU operation

Click the "ClosedRd" button in the "Reader" tab.
If the operation of the MRU is successfully stopped, "00 Normal" is displayed in the RESULT area.
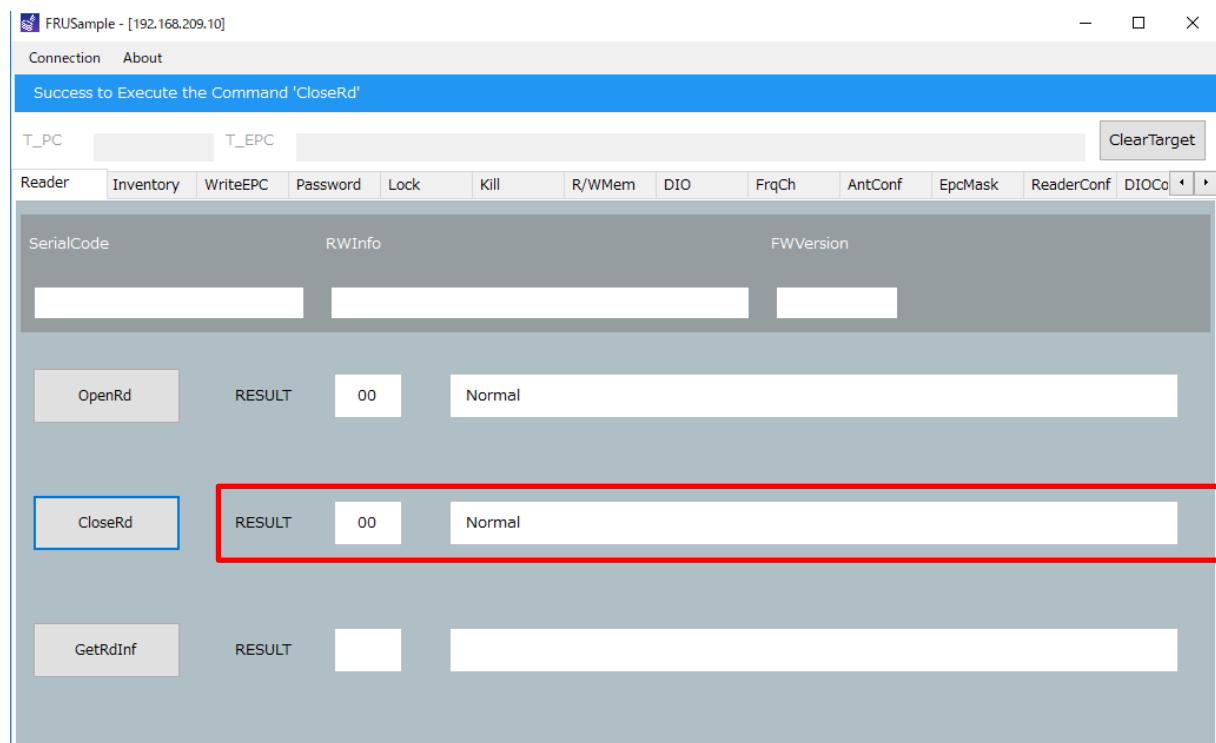
8. Quit the application

Select "Connection" – "LAN" in the menu.
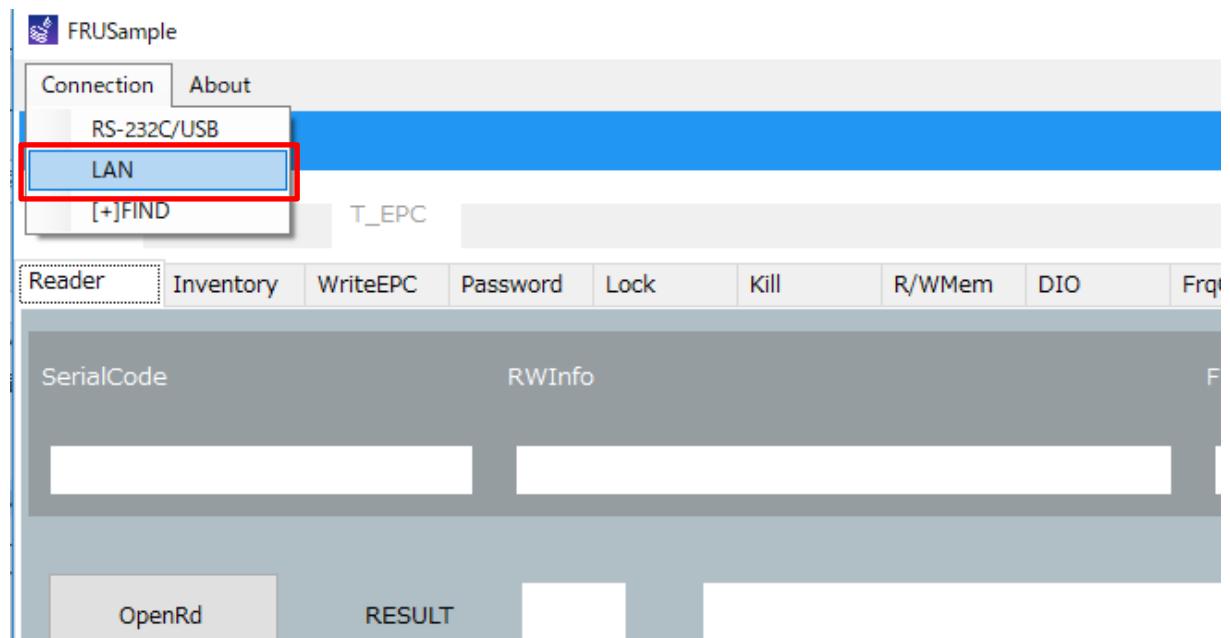
Then following screen is displayed.
And click "Disconnect" button.
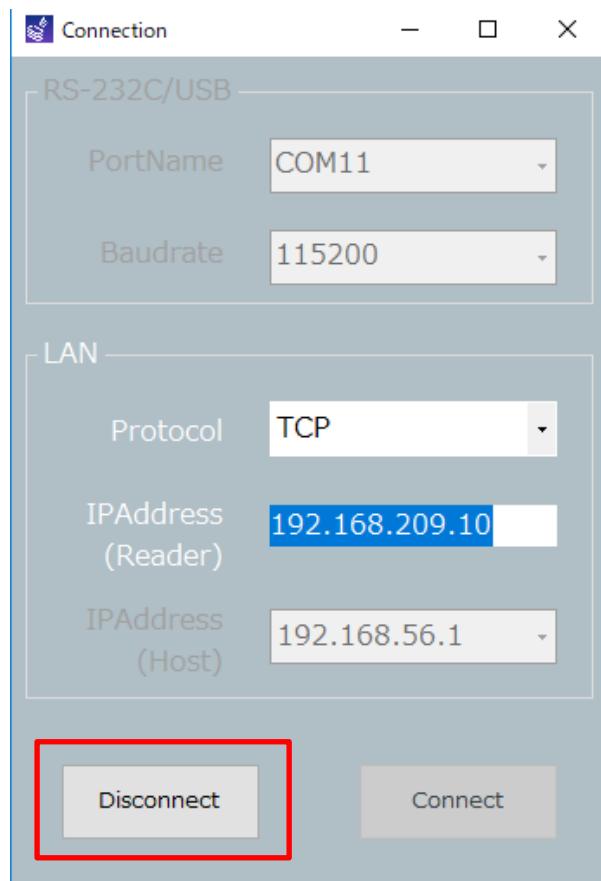
When the "Disconnect" is completed successfully, "[NotConnected]" is displayed in the title area.

Click "X" button to quit the application.
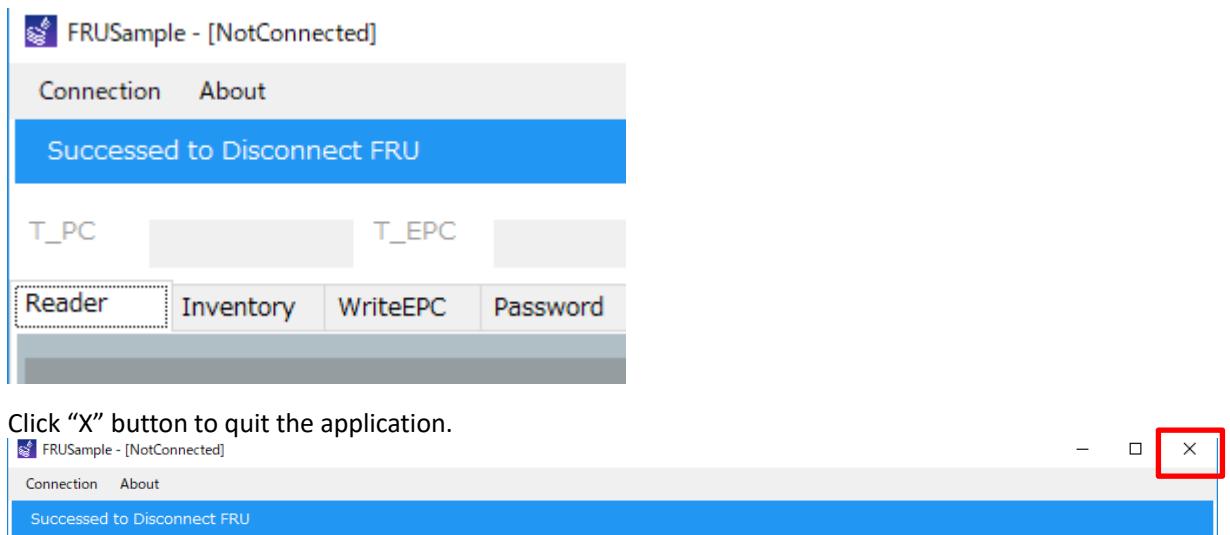
Appendix A
Connection with MRU by RS-232C

Connect PC to MRU as below.

MRU-F5100US and Antenna connection example for RS-232C

Select "Connection" – "RS-232C/USB" in the menu.
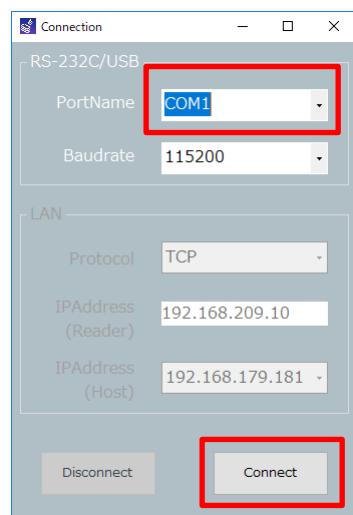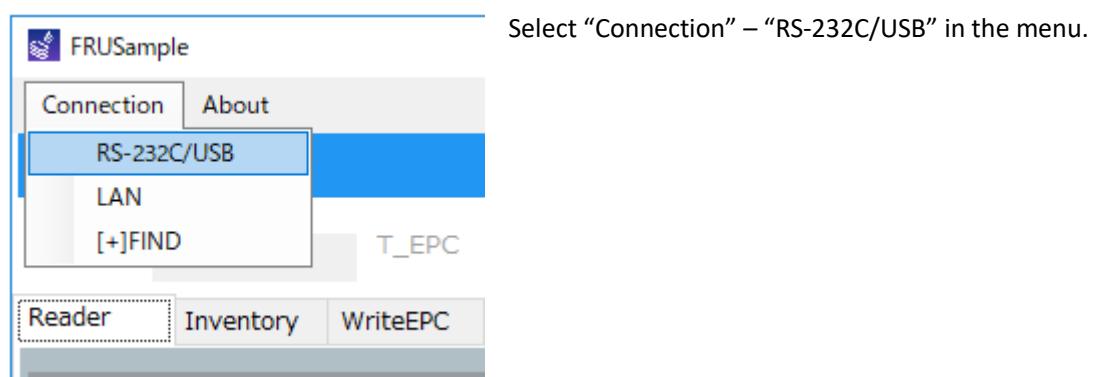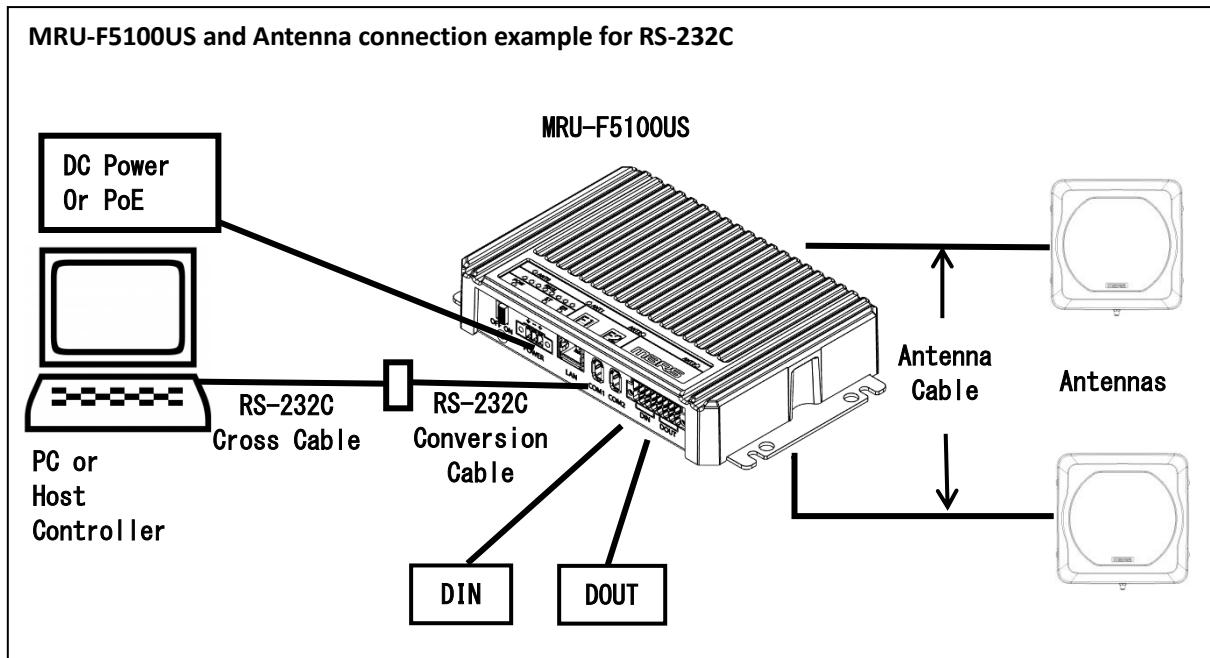
Then following screen is displayed.
And enter the PortName of the COM port
※Baudrate default is 115200

Click the "Connect" button to connect to MRU.

FCC

Federal Communications Commission (FCC) Statement

15.21
You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1) this device may not cause harmful interference and

2) this device must accept any interference received, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement:
1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.