



# User Guide

## M1200

Smart Industrial IoT Gateway

2 SIM + 2 DI + 1 DO + 1 RS-232 + 1 RS-485 + 1 Mini USB



robustOS

Guangzhou Robustel LTD  
[www.robustel.com](http://www.robustel.com)

## About This Document

This document provides hardware and software information of the Robustel M1200, including introduction, installation, configuration and operation.

**Copyright©2020 Guangzhou Robustel LTD**

**All rights reserved.**

## Trademarks and Permissions

 **robustel**, **robustOS** are trademarks of Guangzhou Robustel LTD. All other trademarks and trade names mentioned in this document are the property of their respective owners.

## Disclaimer

No part of this document may be reproduced in any form without the written permission of the copyright owner. It is the customer's responsibility to review the advice provided in this document and its suitability for the system. Robustel makes no representations about the specific knowledge of the customer's system or the specific performance of the system. The contents of this document are subject to change without notice due to continued progress in methodology, design and manufacturing. Robustel shall have no liability for any error or damage of any kind resulting from the use of this document.

## Technical Support

Tel: +86-20-29019902

Fax: +86-20-82321505

Email: [support@robustel.com](mailto:support@robustel.com)

Web: [www.robustel.com](http://www.robustel.com)

**Important Notice**

Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the gateway is used in a normal manner with a well-constructed network, the gateway should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Robustel accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the gateway, or for failure of the gateway to transmit or receive such data.

**Safety Precautions****General**

- The gateway generates radio frequency (RF) power. When using the gateway, care must be taken on safety issues related to RF interference as well as regulations of RF equipment.
- Do not use your gateway in aircraft, hospitals, petrol stations or in places where using cellular products is prohibited.
- Be sure that the gateway will not be interfering with nearby equipment. For example: pacemakers or medical equipment. The antenna of the gateway should be away from computers, office equipment, home appliance, etc.
- An external antenna must be connected to the gateway for proper operation. Only uses approved antenna with the gateway. Please contact authorized distributor on finding an approved antenna.
- Always keep the antenna with minimum safety distance of 20 cm or more from human body. Do not put the antenna inside metallic box, containers, etc.
- RF exposure statements
  1. For mobile devices without co-location (the transmitting antenna is installed or located more than 20cm away from the body of user and nearby person)
- 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 FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and human body.

**Note:** Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Gateway may be used at this time.

**Using the gateway in Vehicle**

- Check for any regulation or law authorizing the use of cellular devices in vehicle in your country before installing the gateway.
- The driver or operator of any vehicle should not operate the gateway while driving.
- Install the gateway by qualified personnel. Consult your vehicle distributor for any possible interference of electronic parts by the gateway.
- The gateway should be connected to the vehicle's supply system by using a fuse-protected terminal in the vehicle's fuse box.
- Be careful when the gateway is powered by the vehicle's main battery. The battery may be drained after extended period.

### **Protecting Your Gateway**

To ensure error-free usage, please install and operate your gateway with care. Do remember the following:

- Do not expose the gateway to extreme conditions such as high humidity / rain, high temperature, direct sunlight, caustic / harsh chemicals, dust, or water.
- Do not try to disassemble or modify the gateway. There is no user serviceable part inside and the warranty would be void.
- Do not drop, hit or shake the gateway. Do not use the gateway under extreme vibrating conditions.
- Do not pull the antenna or power supply cable. Attach/detach by holding the connector.
- Connect the gateway only according to the instruction manual. Failure to do it will void the warranty.
- In case of problem, please contact authorized distributor.

## Regulatory and Type Approval Information

**Table 1:** Directives

|            |                                                                                                                                                                                                                               |                                                                                     |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 2011/65/EU | The European RoHS2.0 2011/65/EU Directive was issued by the European parliament and the European Council on 1 July 2011 on the restriction of the use of certain Hazardous substances in electrical and electronic equipment. |  |
| 2012/19/EU | The European WEEE 2012/19/EU Directive was issued by the European parliament and the European Council on 24 July 2012 on waste electrical and electronic equipment.                                                           |  |
| 2013/56/EU | The European 2013/56/EU Directive is a battery Directive which published in the EU official gazette on 10 December 2013. The button battery used in this product conforms to the standard of 2013/56/EU directive.            |                                                                                     |

**Table 2:** Standards of the electronic industry of the People's Republic of China

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| SJ/T<br>11363-2006 | <p>The electronic industry standard of the People's Republic of China SJ/T 11363-2006 "Requirements for Concentration Limits for Certain Toxic and Hazardous Substances in Electronic Information Products" issued by the ministry of information industry of the People's Republic of China on November 6, 2006, stipulates the maximum allowable concentration of toxic and hazardous substances in electronic information products.</p> <p>Please see <b>Table 3</b> for an overview of toxic or hazardous substances or elements that might be contained in product parts in concentrations above the limits defined by SJ/T 11363-2006.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| SJ/T<br>11364-2014 | <p>The electronic industry standard of the People's Republic of China SJ/T 11364-2014 "Labeling Requirements for Restricted Use of Hazardous Substances in Electronic and Electrical Products" issued by the ministry of Industry and information technology of the People's Republic of China on July 9, 2014, stipulates the Labeling requirements of hazardous substances in electronic and electrical products, environmental protection use time limit and whether it can be recycled. This standard is applicable to electronic and electrical products sold within the territory of the People's Republic of China, and can also be used for reference in the logistics process of electronic and electrical products.</p> <p>The orange logo below is used for Robustel products:</p>  <p>Indicates its warning attribute, that is, some hazardous substances are contained in the product. The "10" in the middle of the legend refers to the environment-friendly Use Period (EFUP) * of electronic information product, which is 10 years. It can be used safely during the environment-friendly Use Period. After the environmental protection period of use, it should enter the recycling system.</p> <p>*The term of environmental protection use of electronic information products refers to the term during which the toxic and hazardous substances or elements contained in electronic information products will not be leaked or mutated and cause serious pollution to the environment or serious damage to people and property under normal conditions of use.</p> |  |

**Table 3:** Toxic or Hazardous Substances or Elements with Defined Concentration Limits

| Name of the Part                                                                                                                                                                                                                                                                                                                                                                                                                                   | Hazardous Substances |      |      |          |       |        |        |       |       |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------|------|----------|-------|--------|--------|-------|-------|--------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                    | (Pb)                 | (Hg) | (Cd) | (Cr(VI)) | (PBB) | (PBDE) | (DEHP) | (BBP) | (DBP) | (DIBP) |
| Metal parts                                                                                                                                                                                                                                                                                                                                                                                                                                        | o                    | o    | o    | o        | -     | -      | -      | -     | -     | -      |
| Circuit modules                                                                                                                                                                                                                                                                                                                                                                                                                                    | o                    | o    | o    | o        | o     | o      | o      | o     | o     | o      |
| Cables and cable assemblies                                                                                                                                                                                                                                                                                                                                                                                                                        | o                    | o    | o    | o        | o     | o      | o      | o     | o     | o      |
| Plastic and polymeric parts                                                                                                                                                                                                                                                                                                                                                                                                                        | o                    | o    | o    | o        | o     | o      | o      | o     | o     | o      |
| <p>o:<br/>Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in RoHS2.0.</p> <p>X:<br/>Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials for this part <i>might exceed</i> the limit requirement in RoHS2.0.</p> <p>-:<br/>Indicates that it does not contain the toxic or hazardous substance.</p> |                      |      |      |          |       |        |        |       |       |        |

**Document History**

Updates between document versions are cumulative. Therefore, the latest document version contains all updates made to previous versions.

| Date           | Firmware Version | Document Version | Change Description                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------|------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12 Mar., 2018  | 1.0.0            | v.1.0.0          | Initial release                                                                                                                                                                                                                                                                                                                                                                                       |
| 4 Apr., 2018   | 1.0.0            | v.1.0.1          | Updated product name                                                                                                                                                                                                                                                                                                                                                                                  |
| 9 Apr., 2018   | 1.0.0            | v.1.0.2          | Updated EMI information                                                                                                                                                                                                                                                                                                                                                                               |
| 16 Apr., 2018  | 1.0.0            | v.1.0.3          | Added certification and VPN information                                                                                                                                                                                                                                                                                                                                                               |
| 23 Apr., 2018  | 1.0.0            | v.1.0.4          | <ul style="list-style-type: none"> <li>Updated Key Features</li> <li>Updated USB information</li> <li>Updated PC configuration</li> </ul>                                                                                                                                                                                                                                                             |
| 29 Jun., 2018  | 1.0.0            | v.1.0.5          | Revised the company name                                                                                                                                                                                                                                                                                                                                                                              |
| 20 Sept., 2018 | 1.0.1            | v.1.0.6          | <ul style="list-style-type: none"> <li>Rectified the contents of Configure PC</li> <li>Added AT Over COM</li> <li>Added Work Mode</li> <li>Added Chapter 4</li> </ul>                                                                                                                                                                                                                                 |
| 12 Dec., 2018  | 1.0.3            | v.1.0.7          | Added the description of the BG96 module                                                                                                                                                                                                                                                                                                                                                              |
| 30 Jan., 2019  | 1.0.3            | v.1.0.8          | Revised the approvals                                                                                                                                                                                                                                                                                                                                                                                 |
| 27 Mar., 2019  | 1.0.3            | v.1.0.9          | <ul style="list-style-type: none"> <li>Revised the Regulatory and Type Approval Information</li> <li>Revised the Disclaimer</li> <li>Revised the description of PIN in Chapter 2.1</li> <li>Added the description of DIOD, RS232 and RS485 in Chapter 2.1</li> <li>Revised the Configure the PC in Chapter 3.1</li> <li>Revised the Dial Configuration of PC under Modem Mode in Chapter 5</li> </ul> |
| 28 May., 2019  | 1.0.3            | v.1.1.0          | Revised the approvals                                                                                                                                                                                                                                                                                                                                                                                 |
| 14 Jun., 2019  | 1.0.3            | v.1.1.1          | Revised the related picture in chapter 2.1.2 DI/DO                                                                                                                                                                                                                                                                                                                                                    |
| 1 Apr., 2020   | 1.0.3            | V.1.1.2          | <ul style="list-style-type: none"> <li>Revised the description of LED in Modem mode</li> <li>Revised the Regulatory and Type Approval Information</li> <li>Deleted some redundant descriptions in product specifications</li> <li>Revised the key features</li> </ul>                                                                                                                                 |

## Contents

|                  |                                          |           |
|------------------|------------------------------------------|-----------|
| <b>Chapter 1</b> | <b>Product Overview .....</b>            | <b>10</b> |
| 1.1              | Key Features.....                        | 10        |
| 1.2              | Package Contents.....                    | 10        |
| 1.3              | Specifications .....                     | 12        |
| 1.4              | Dimensions .....                         | 13        |
| <b>Chapter 2</b> | <b>Hardware Installation.....</b>        | <b>13</b> |
| 2.1              | PIN Description .....                    | 13        |
| 2.1.1            | PIN Assignment .....                     | 13        |
| 2.1.2            | DI/DO .....                              | 15        |
| 2.1.3            | RS-232 .....                             | 15        |
| 2.1.4            | RS-485 .....                             | 16        |
| 2.2              | LED Indicators .....                     | 16        |
| 2.3              | USB interface .....                      | 17        |
| 2.4              | Insert or Remove SIM Card .....          | 18        |
| 2.5              | Attach External Antenna (SMA Type) ..... | 19        |
| 2.6              | Mount the Gateway .....                  | 19        |
| 2.7              | Connect the Gateway to a Computer .....  | 21        |
| 2.8              | Power Supply .....                       | 21        |
| <b>Chapter 3</b> | <b>Initial Configuration .....</b>       | <b>22</b> |
| 3.1              | Configure the PC .....                   | 22        |
| 3.2              | Factory Default Settings.....            | 31        |
| 3.3              | Log in the Gateway .....                 | 31        |
| 3.4              | Control Panel .....                      | 32        |
| 3.5              | Status .....                             | 34        |
| 3.6              | Interface > Link Manager .....           | 36        |
| 3.7              | Interface > Cellular.....                | 41        |
| 3.8              | Interface > DIDO .....                   | 46        |
| 3.9              | Interface > Serial Port .....            | 50        |
| 3.10             | Services > Syslog .....                  | 55        |
| 3.11             | Services > Event .....                   | 56        |
| 3.12             | Services > NTP.....                      | 58        |
| 3.13             | Services > SMS .....                     | 59        |
| 3.14             | Services > Email .....                   | 60        |
| 3.15             | Services > WakeUp.....                   | 61        |
| 3.16             | Services > DDNS.....                     | 62        |
| 3.17             | Services > SSH .....                     | 64        |
| 3.18             | Service > AT Over COM .....              | 65        |
| 3.19             | Services > Web Server .....              | 65        |
| 3.20             | Service > Work Mode.....                 | 66        |
| 3.21             | Services > Advanced .....                | 67        |
| 3.22             | System > Debug .....                     | 68        |
| 3.23             | System > Update .....                    | 69        |
| 3.24             | System > App Center.....                 | 69        |



|                      |                                                        |           |
|----------------------|--------------------------------------------------------|-----------|
| 3.25                 | System > Tools.....                                    | 70        |
| 3.26                 | System > Profile .....                                 | 73        |
| 3.27                 | System > User Management.....                          | 74        |
| <b>Chapter 4</b>     | <b>Dial Configuration of PC under Modem Mode .....</b> | <b>76</b> |
| 4.1                  | Window System .....                                    | 76        |
| 4.2                  | Linux System .....                                     | 90        |
| 4.3                  | CLI to Change the Configuration of Modem .....         | 91        |
| <b>Glossary.....</b> |                                                        | <b>93</b> |

# Chapter 1 Product Overview

## 1.1 Key Features

The Robustel Smart Industrial IoT Gateway M1200 is a compact cellular gateway based on 2G/3G/4G networks. This dual-SIM gateway enables remote data transmission of local serial ports and I/O, and supports multiple interfaces such as RS-232, RS-485 and mini-USB. It can be used in a variety of applications such as energy, transportation, municipal, and agriculture.

## 1.2 Package Contents

Before installing your M1200, verify the kit contents as following.

**Note:** The following pictures are for illustration purposes only, not based on their actual sizes.

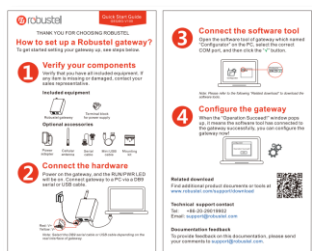
- 1 x Robustel Smart Industrial IoT Gateway M1200



- 1 x 10-pin 3.5 mm RP male terminal block with lock for DI/DO connections



- 1 x *Quick Start Guide* with download link of other documents or tools



**Note:** If any of the above items is missing or damaged, please contact your Robustel sales representative.

**Optional Accessories** (sold separately)

- 3G/4G SMA cellular antenna (stubby/magnet optional)

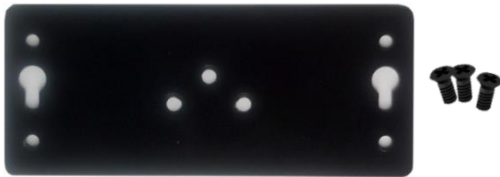
Stubby antenna 1



Stubby antenna 2



- Wall mounting kit



- 35 mm DIN rail mounting kit



- Mini USB converter



- AC/DC power adapter (12V DC, 1.5 A; EU/US/UK/AU plug optional)



## 1.3 Specifications

### Cellular Interface

- Number of antennas: 1
- Connector: SMA-K
- SIM slot: 2 (3.0 V & 1.8 V)

### Serial Interface

- Number of ports: 1 x RS-232 + 1 x RS-485
- Connector: 10-pin 3.5 mm RP female socket with lock
- Baud rate: 300 bps to 115200 bps
- RS-232: TxD, RxD, GND
- RS-485: A (Data+), B (Data-)

### Digital Input / Digital Output

- Number of ports: 2 x DI (wet contact) + 1 x DO (wet contact)
- Connector: 10-pin 3.5 mm RP female socket with lock
- ESD withstand level: contact:  $\pm 6$  K, air:  $\pm 8$  K
- Absolute maximum VDC: “V+” +5V DC (DI), 30V DC (DO)

### USB Port

- Number of ports: 1 x Mini USB for configuration
- Connector: Mini Female
- Speed: 2.0 high speed up to 480 Mbit/s

### Others

- LED indicators: 1 x RUN + 1 x RSSI (red/green bi-color light)
- Built-in: RTC, Watchdog, Timer

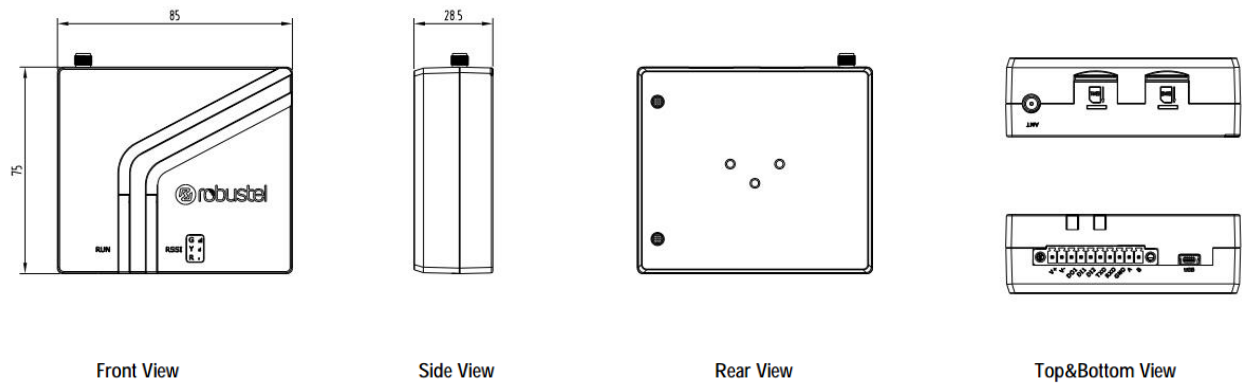
### Power Supply and Consumption

- Connector: 10-pin 3.5 mm RP female socket with lock
- Input voltage: 9 to 36V DC
- Power consumption: Idle: 50 to 70 mA@12 V  
Data link: 300 mA (peak) @12 V

### Physical Characteristics

- Ingress protection: IP30
- Housing & Weight: Plastic, 106 g
- Dimensions: 85 x 75 x 28.5 mm
- Installations: Desktop, wall mounting and 35 mm DIN rail mounting

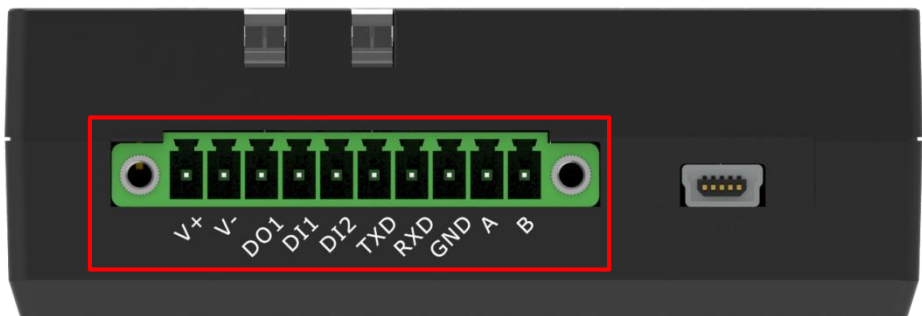
## 1.4 Dimensions



# Chapter 2 Hardware Installation

## 2.1 PIN Description

### 2.1.1 PIN Assignment



| PIN | Power | Function | RS-232 | RS-485 | Direction      |
|-----|-------|----------|--------|--------|----------------|
| 1   | V+    | --       | --     | --     | M1200 ← Device |
| 2   | V-    | --       | --     | --     | M1200 ← Device |
| 3   | --    | DO1      | --     | --     | M1200 → Device |
| 4   | --    | DI1      | --     | --     | M1200 ← Device |
| 5   | --    | DI2      | --     | --     | M1200 ← Device |
| 6   | --    | --       | TXD    | --     | M1200 ← Device |

|    |    |    |     |           |                |
|----|----|----|-----|-----------|----------------|
| 7  | -- | -- | RXD | --        | M1200 → Device |
| 8  | -- | -- | GND | --        | M1200 ↔ Device |
| 9  | -- | -- | --  | Data+(A)  | M1200 ↔ Device |
| 10 | -- | -- | --  | Data- (B) | M1200 ↔ Device |

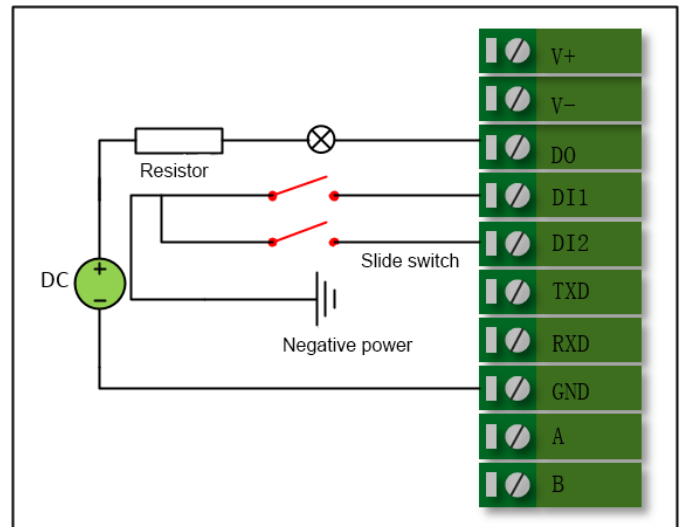
## 2.1.2 DI/DO

The M1200 has two digital input connectors and one digital output connector. Please refer to the wiring diagram on the right

DI supports two inputs, the default state is 1.

- (1) NPN sensor open collector (OC) input, the emitter of the NPN sensor must be connected to the V- of the M1200.
- (2) Switch signal input, one end of the switch is connected to DI, and the other end must be connected to V- of M1200.

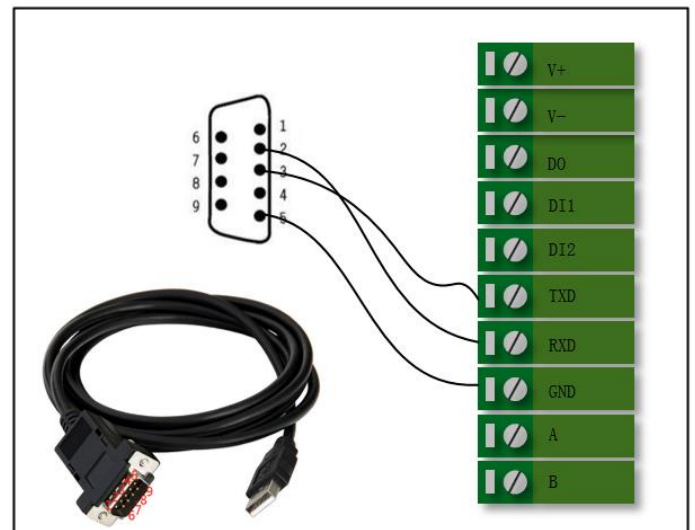
DO is an open collector (OC) output and must limit the current on DO to no more than 10 mA. The negative pole of the DC power supply should be connected to the “GND” port.



## 2.1.3 RS-232

The M1200 supports an RS-232 serial communication.

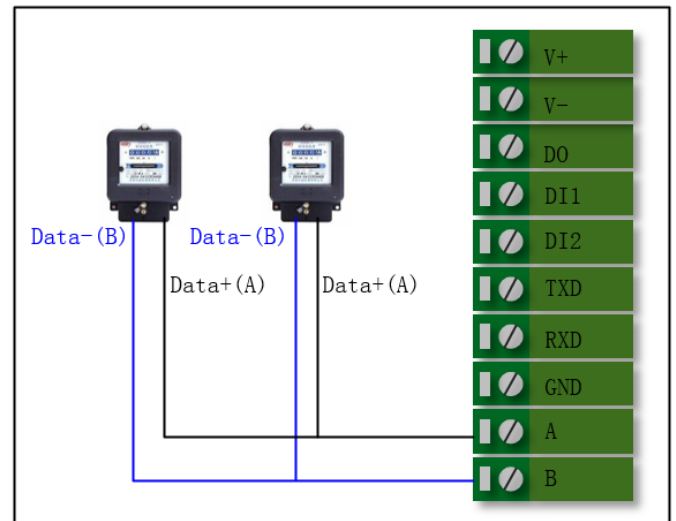
Please refer to the wiring diagram on the right.



## 2.1.4 RS-485

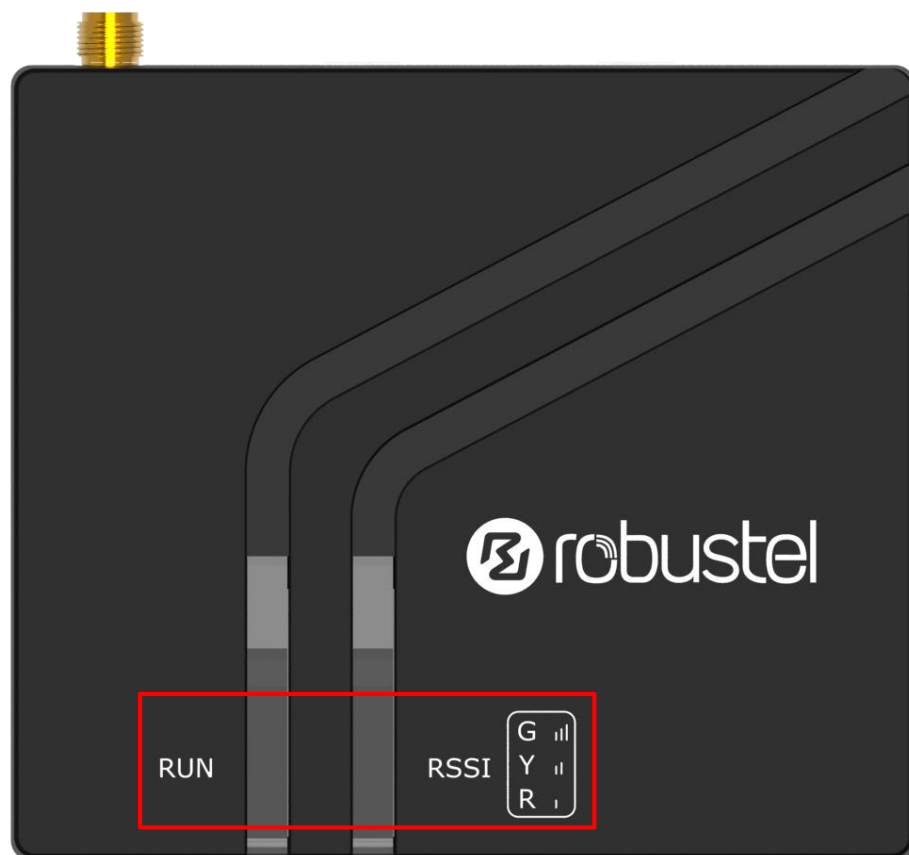
The M1200 supports an RS-485 serial communication.

Please refer to the wiring diagram on the right.



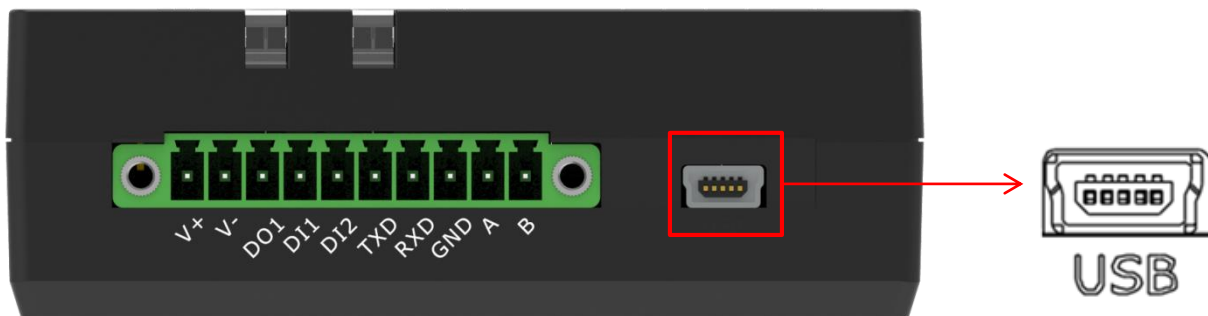


## 2.2 LED Indicators



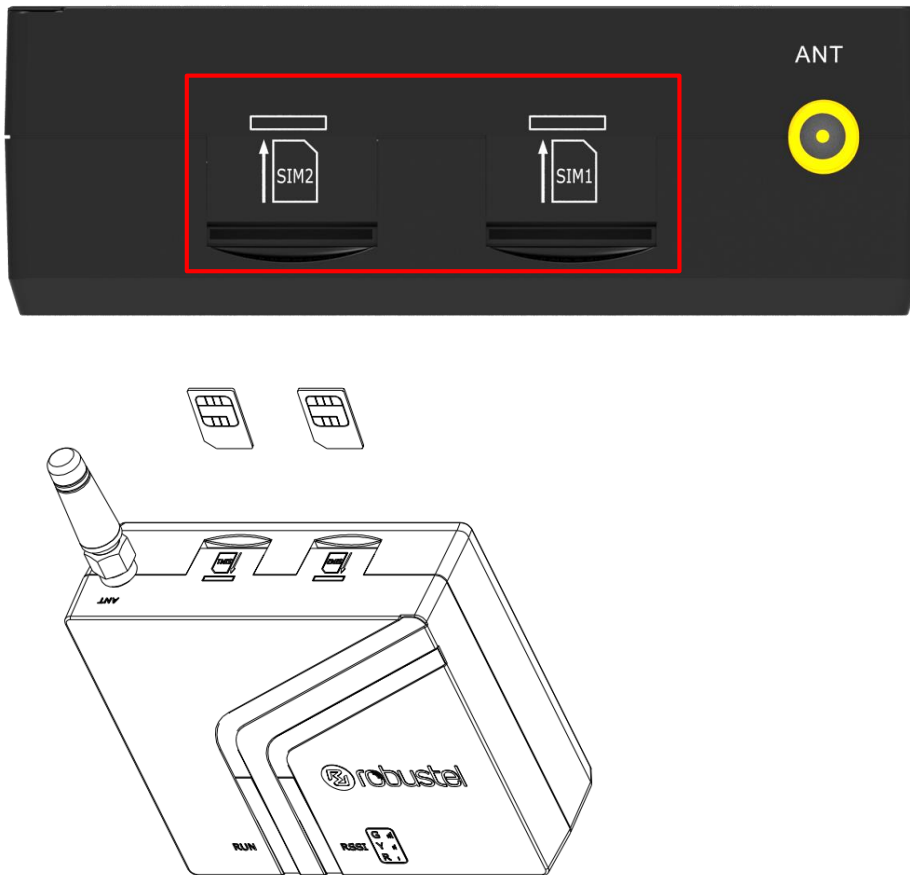
| Name | Color  | status              | Description in DTU mode                             | Description in Modem mode                           |
|------|--------|---------------------|-----------------------------------------------------|-----------------------------------------------------|
| RUN  | Yellow | On, solid           | Power on                                            | Power on                                            |
|      | Yellow | Fast blinking (2Hz) | System initializing                                 | System initializing                                 |
|      | Yellow | On, blinking (1Hz)  | Initialization completed, device operating normally | Initialization completed, device operating normally |
|      | Green  | On, blinking        | Device operating normally, GPRS connected           | Device operating normally, GPRS connected           |
|      | Red    | Fast blinking       | Device in abnormal state                            | Device in abnormal state                            |
| RSSI | None   | Off                 | CSQ value 0 or 99, not registered on the network    | off ( The RSSI LED status is off )                  |
|      | Red    | On, solid           | CSQ 1-10, poor signal                               |                                                     |
|      | Yellow | On, solid           | CSQ 11-20, normal signal                            |                                                     |
|      | Green  | On, solid           | CSQ 21-31, good signal                              |                                                     |

## 2.3 USB interface



| Function           | Operation                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------|
| Data communication | Use a USB cable to connect the gateway's mini USB interface to an external communication device. |

## 2.4 Insert or Remove SIM Card



Please confirm before inserting the SIM card. When the SIM card is turned on and the device is configured without the correct PIN, the SIM card is unavailable.

- **Insert SIM card**

1. Make sure gateway is powered off.
2. To insert SIM card, press the card with finger until you hear a click

- **Remove SIM card**

1. Make sure gateway is powered off.
2. To remove SIM card, press the card with finger until it pops out and then take out the card.

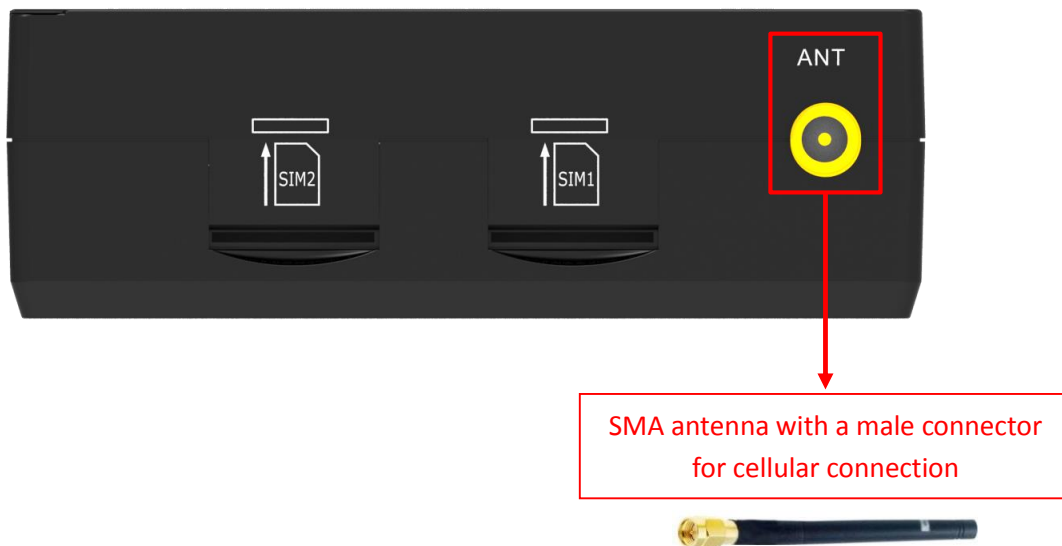
**Note:**

1. Recommended torque for inserting is 0.5 N.m, and the maximum allowed is 0.7 N.m.
2. Use the specific card when the device is working in extreme temperature (temperature exceeding 40 °C), because the regular card for long-time working in harsh environment will be disconnected frequently.
3. Do not touch the metal of the card surface in case information in the card will lose or be destroyed.
4. Do not bend or scratch the card.
5. Keep the card away from electricity and magnetism.
6. Make sure gateway is powered off before inserting or removing the card.

## 2.5 Attach External Antenna (SMA Type)

Attach an external SMA antenna to the gateway's antenna connector and twist tightly. Make sure the antenna is within the correct frequency range provided by the ISP and with 50 Ohm impedance.

**Note:** Recommended torque for tightening is 0.35 N.m.

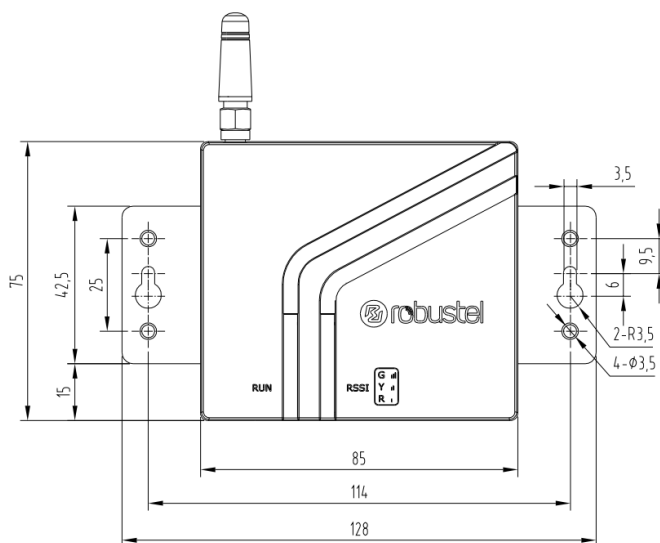


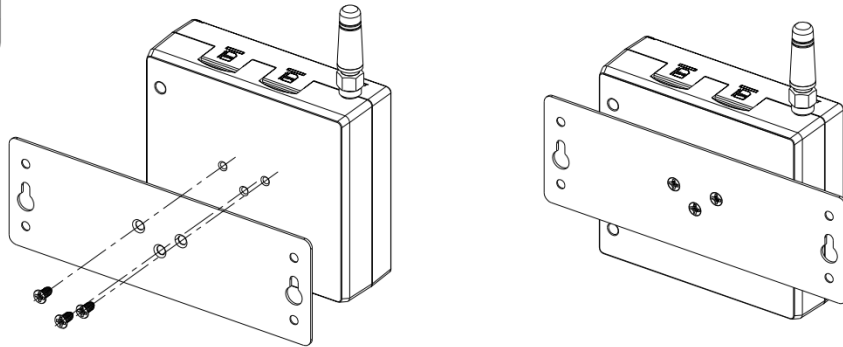
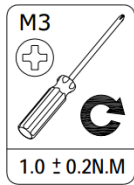
## 2.6 Mount the Gateway

The gateway can be placed on a desktop or mounted to a wall or a 35 mm DIN rail.

### Two methods for mounting the gateway

- Wall mounting (measured in mm)

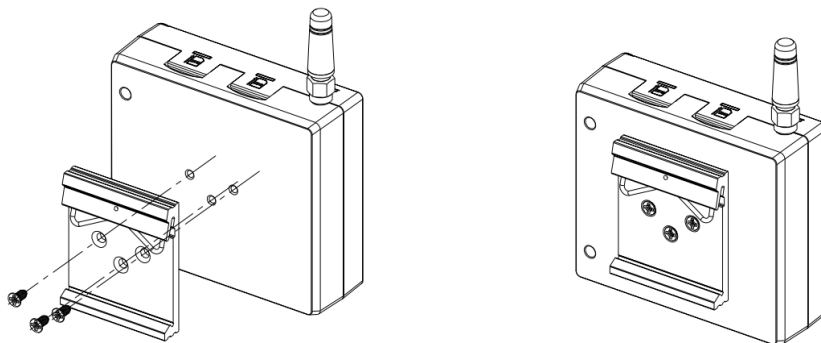
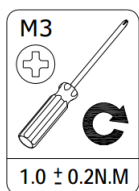
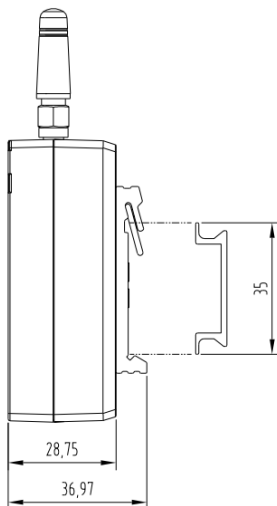




Use 3 pcs of ST2.9\*6 flat head self-tapping Phillips screws to fix the wall mounting kit to the gateway, and then use 2 pcs of M3 drywall screws to mount the gateway associated with the wall mounting kit on the wall.

**Note:** Recommended torque for mounting is 1.0 N.m, and the maximum allowed is 1.2 N.m.

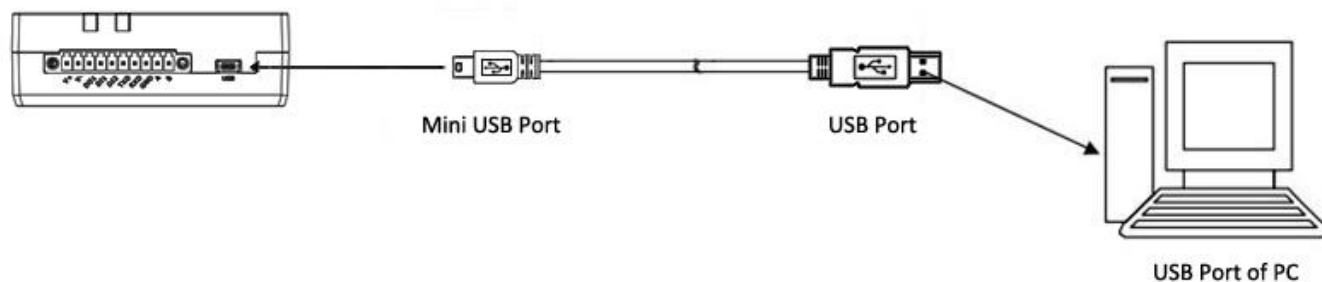
- DIN rail mounting (measured in mm)



Use 3 pcs of ST3\*8 flat head self-tapping Phillips screws to fix the DIN rail to the gateway, and then hang the DIN rail on the mounting bracket. It is necessary to choose a standard bracket.

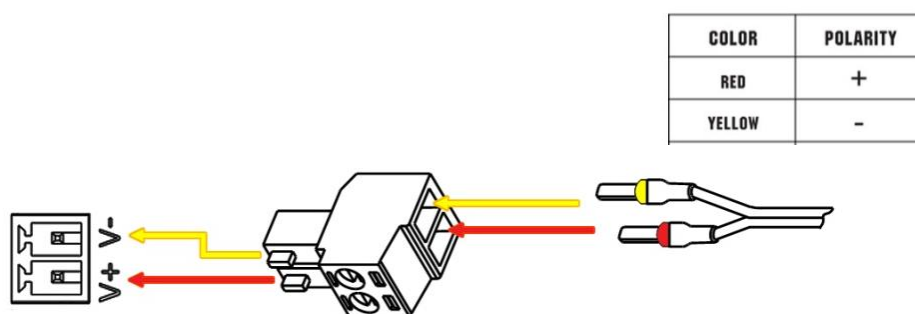
**Note:** Recommended torque for mounting is 1.0 N.m, and the maximum allowed is 1.2 N.m.

## 2.7 Connect the Gateway to a Computer



Connect a USB cable to the gateway's mini USB interface to an external controller or computer's USB port

## 2.8 Power Supply



M1200 supports reverse polarity protection, but always refers to the figure above to connect the power adapter correctly. There are two cables associated with the power adapter. Following to the color of the head, connect the cable marked red to the positive pole through a terminal block, and connect the yellow one to the negative in the same way.

**Note:** The range of power voltage is 9 to 36V DC.

## Chapter 3 Initial Configuration

The DTU supports webpage configuration. The supported browsers are IE8.0 or above, Google Chrome, Firefox, etc. The supported operating system is Windows 7 and Windows 10. For M1200, the method of connecting to the gateway is that the device connects to the PC through the USB port, so that users can configure it on the web page through the mini usb port.

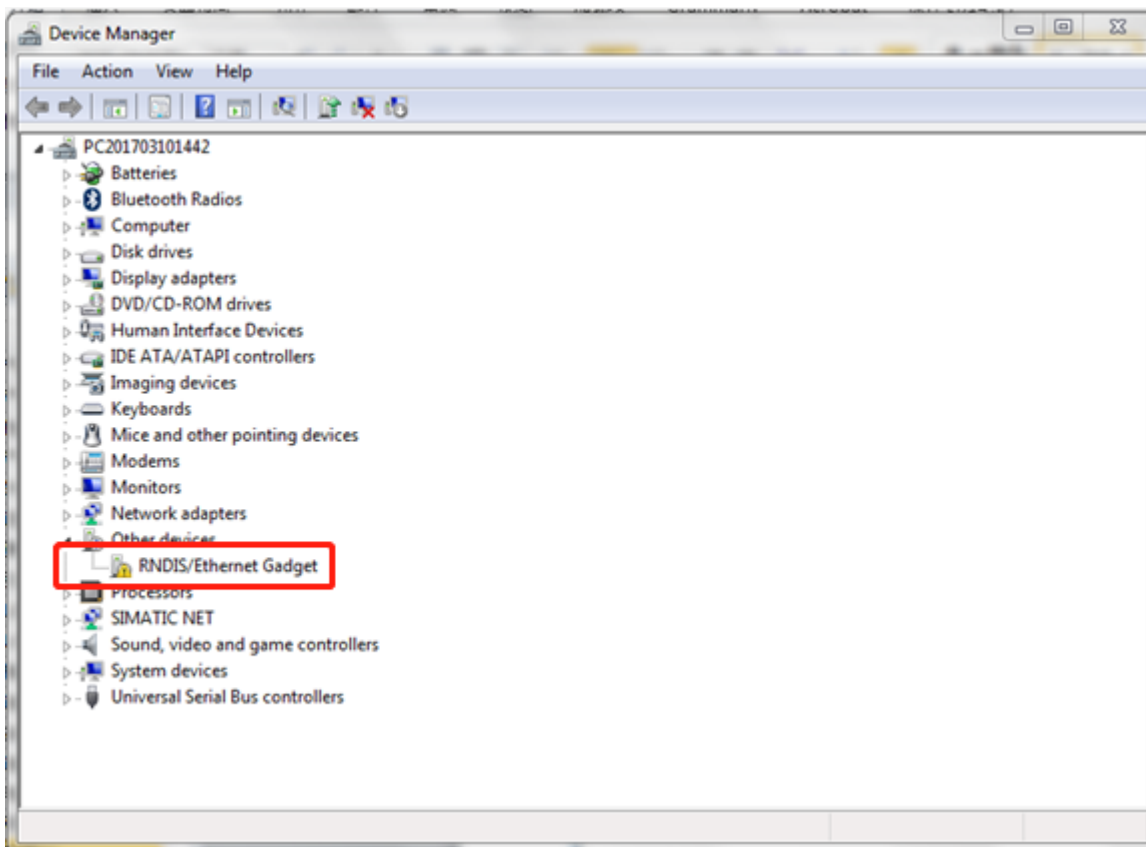
### 3.1 Configure the PC

M1200 connects to the PC through the USB port. The PC automatically obtains the IP address of the same network segment as the M1200 to access the device page.

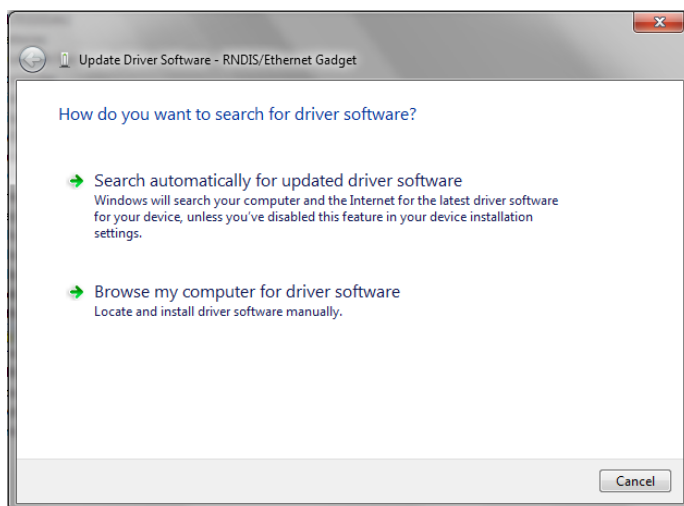
#### 3.1.1 Windows 7 System

This part takes **the Windows 7** as the example; the configuration of Windows system is similar.

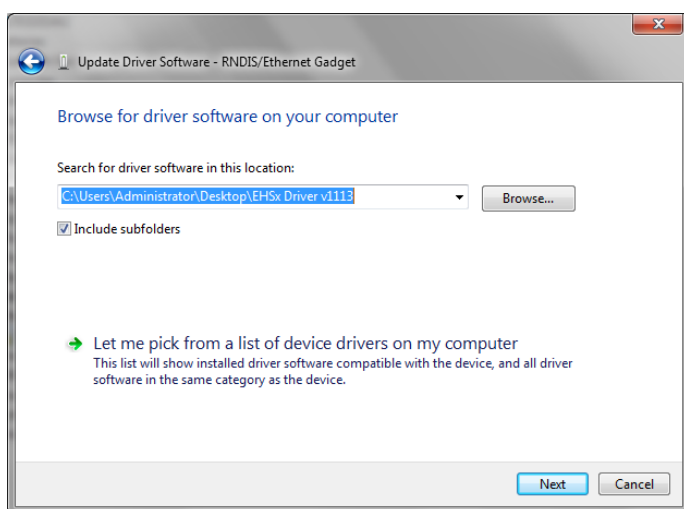
1. Click “Start > Control Panel > Device Manager”. After the device USB is connected to the computer, check the identified serial port and attempt to install the driver;



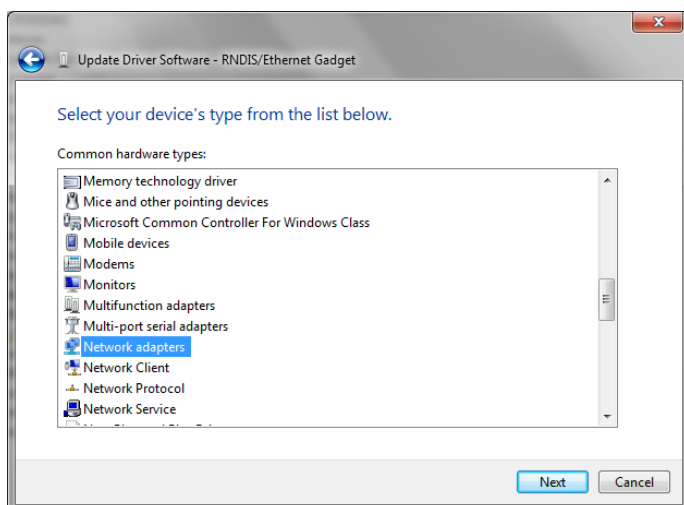
2. Press the right button to select “Update Driver Software”, and select “Browse my computer for driver software”;



3. Select "Let me pick from a list of device drivers on my computer";

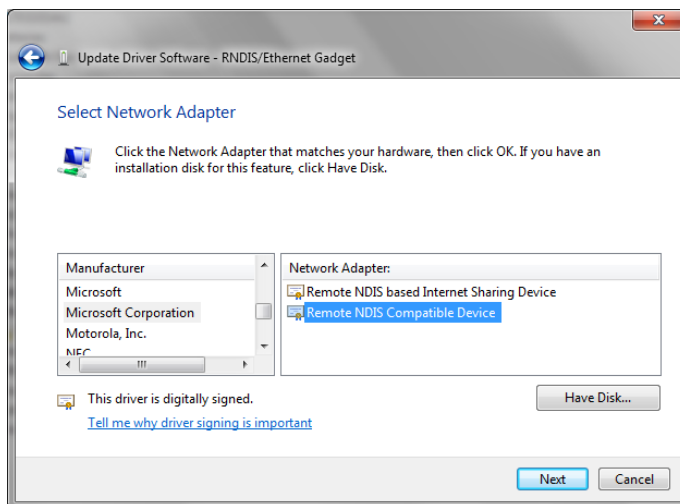


4. Select "Network Adapter" in the list and click "Next";

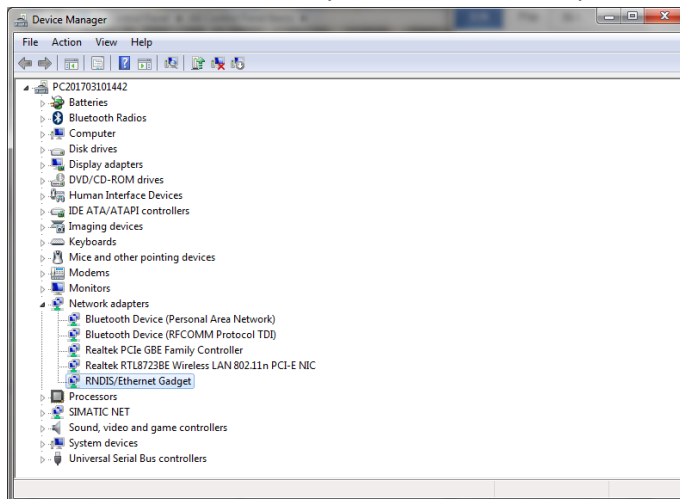


5. Find "Microsoft Corporation" on the left Manufacture, and select "Remote NDIS Compatible Device" on the right Network Adapter, then click "Next";

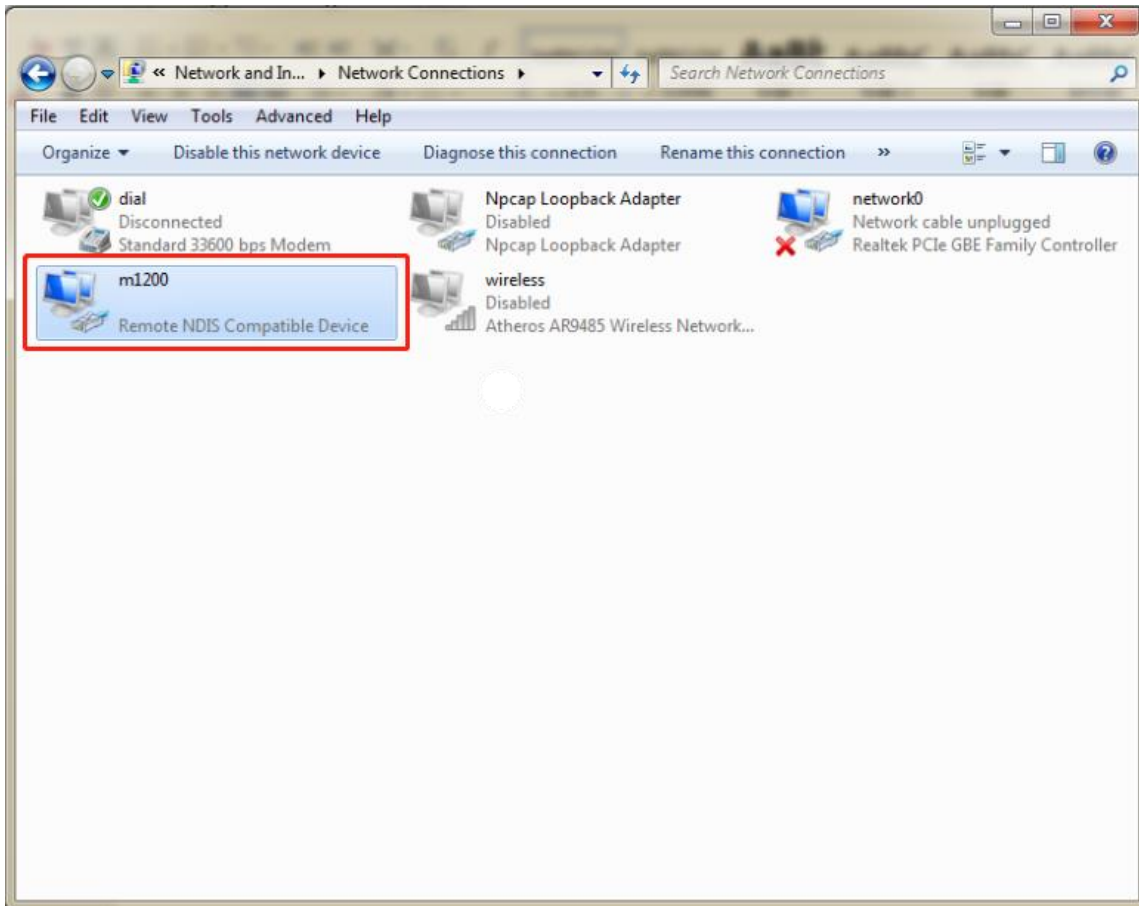




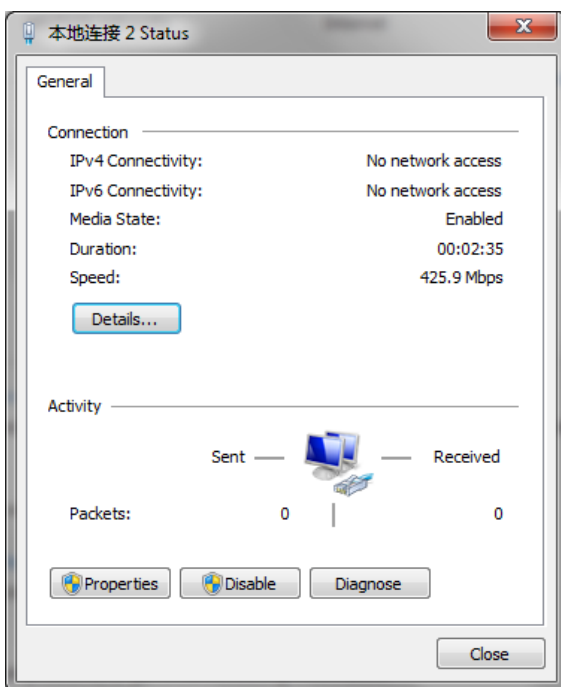
6. After installation, the newly added network adapter as shown below;



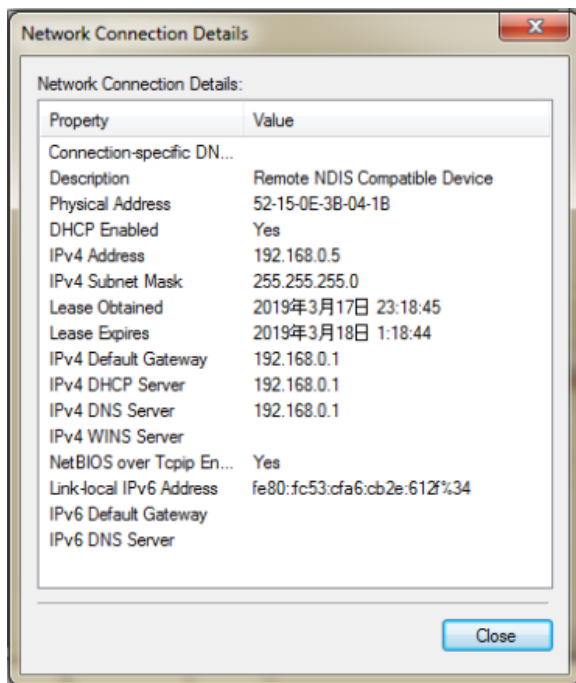
7. Click “Start > Control Panel > Network and Sharing Center> Change Adapter Settings” to view the new network;



8. Double-click on the newly added network to view the "Details";



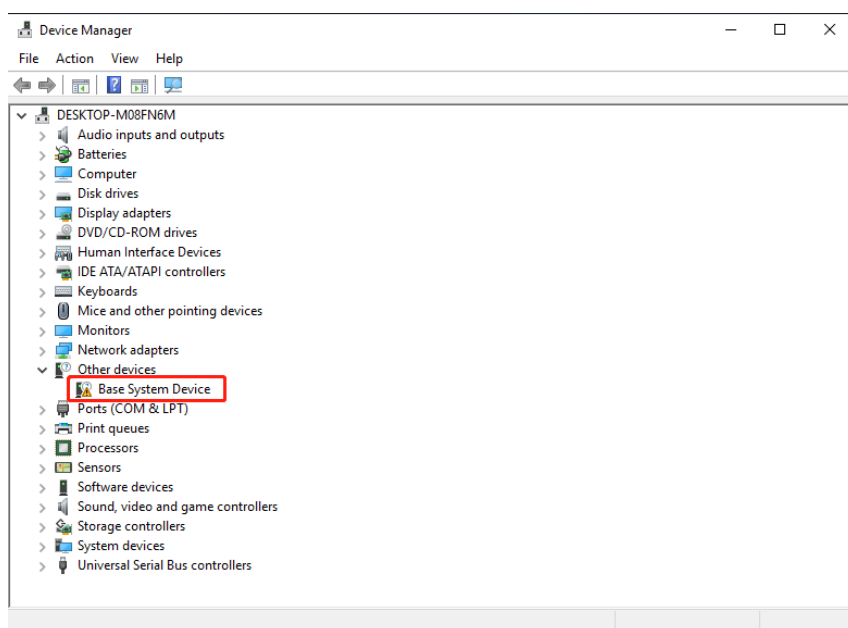
9. The default gateway is the device login page address when you see the automatically acquired IP address in network connection details (different MAC addresses get different IP addresses).



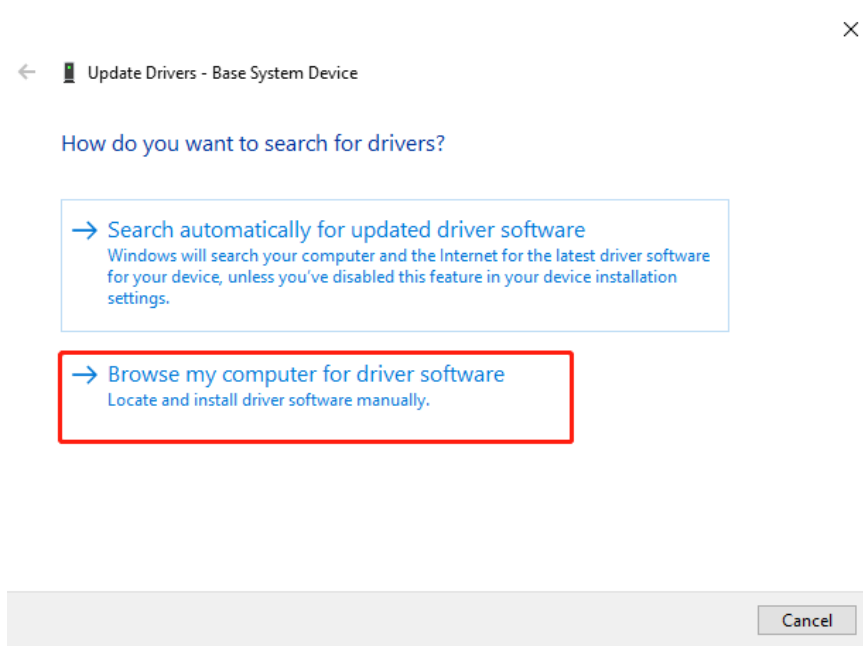
10. Open the browser and enter 192.168.0.1 to login to the device page for configuration.

### 3.1.2 Windows 10 System

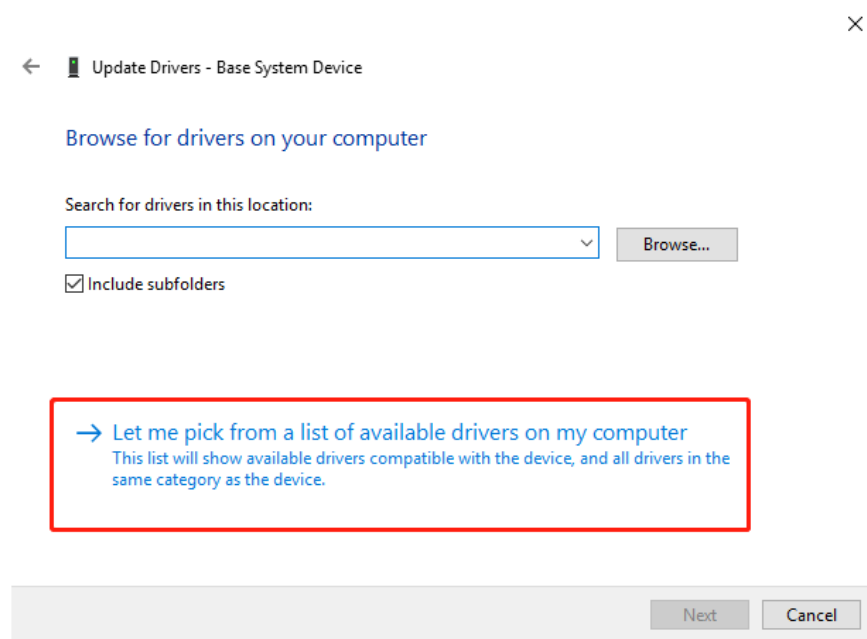
1. Click "Start > Control Panel > Device Manager". After the device is connected to the computer, the PC check the identified serial port and attempt to install the driver;



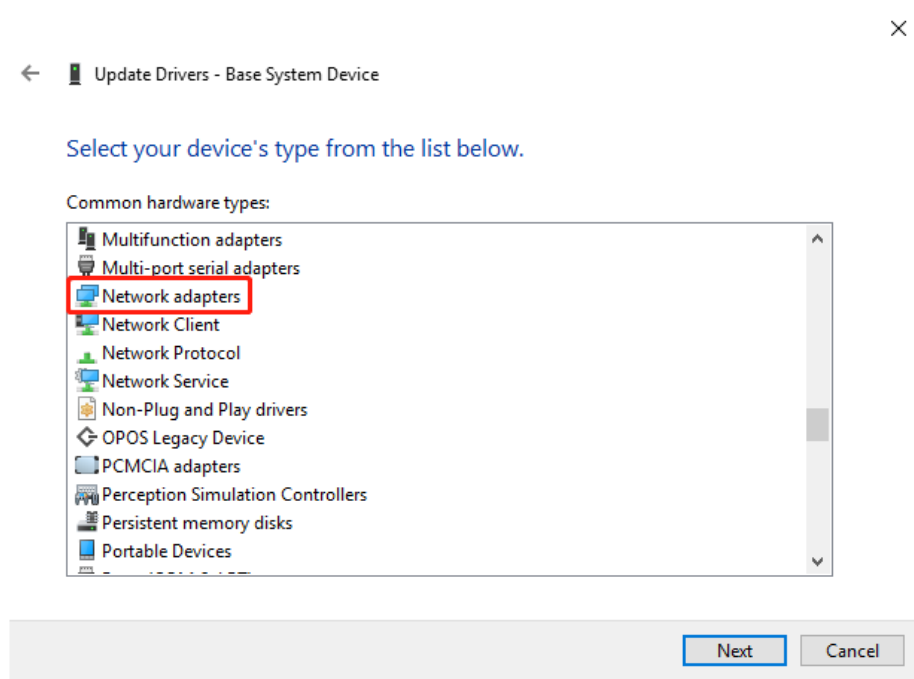
2. Press the right button to select "Update Driver Software", and select "Browse my computer for driver software";



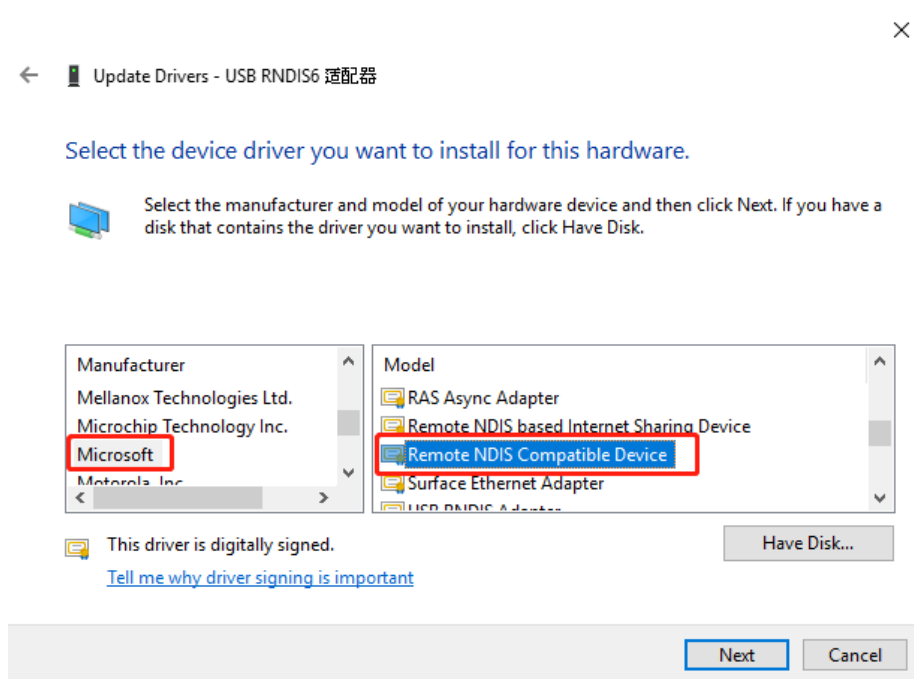
3. Select "Let me pick from a list of available drivers on my computer";



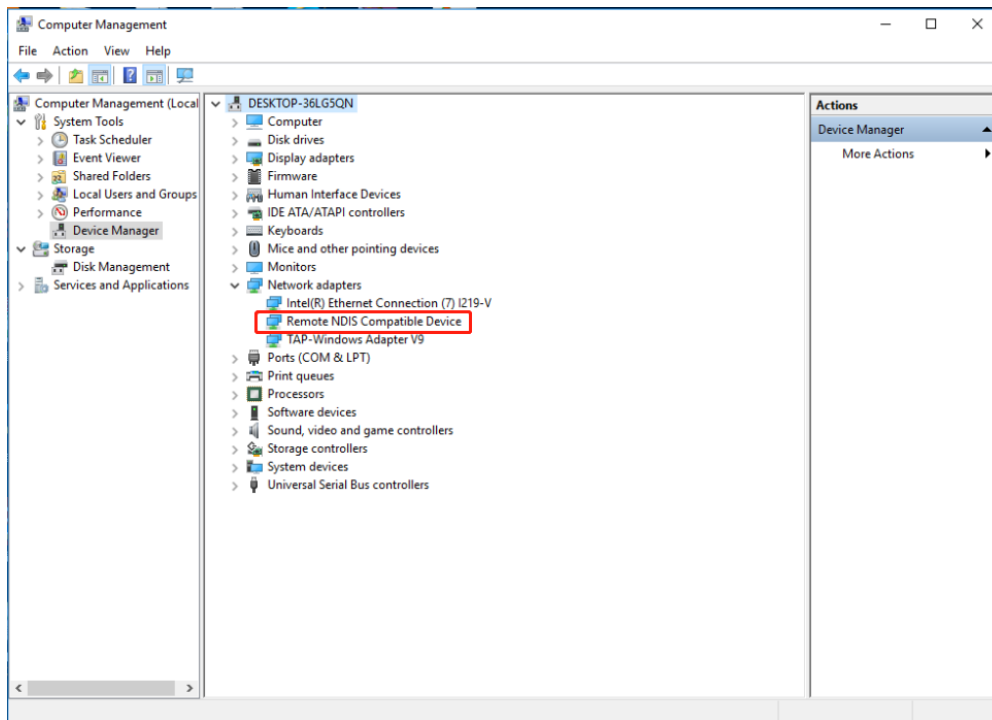
4. Select "Network Adapter" in the list and click "Next";



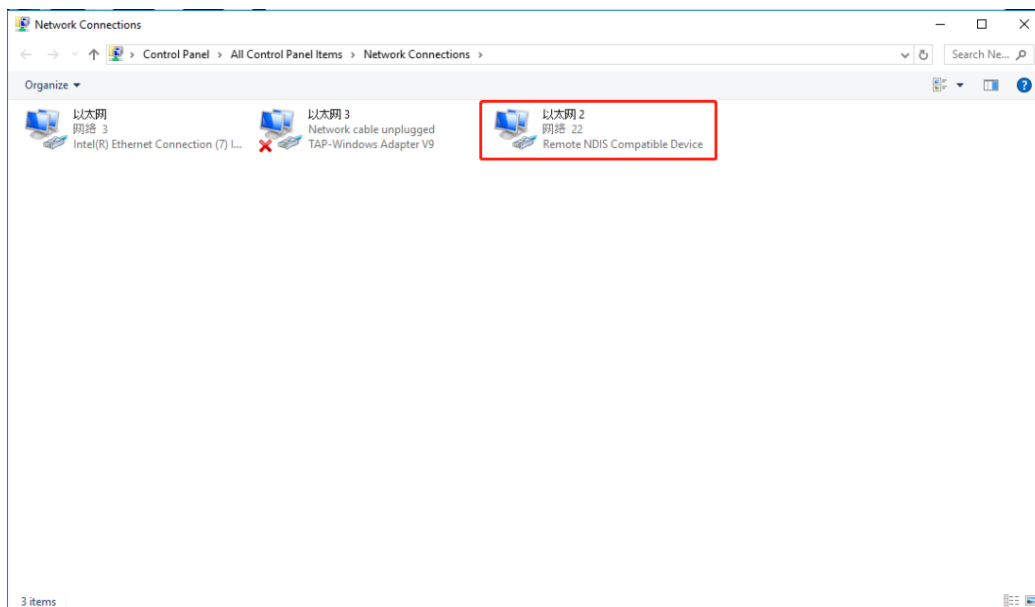
5. Find "Microsoft" in the manufacturer on the left, select "Remote NDIS compatible device" in the right network adapter, and click "Next";



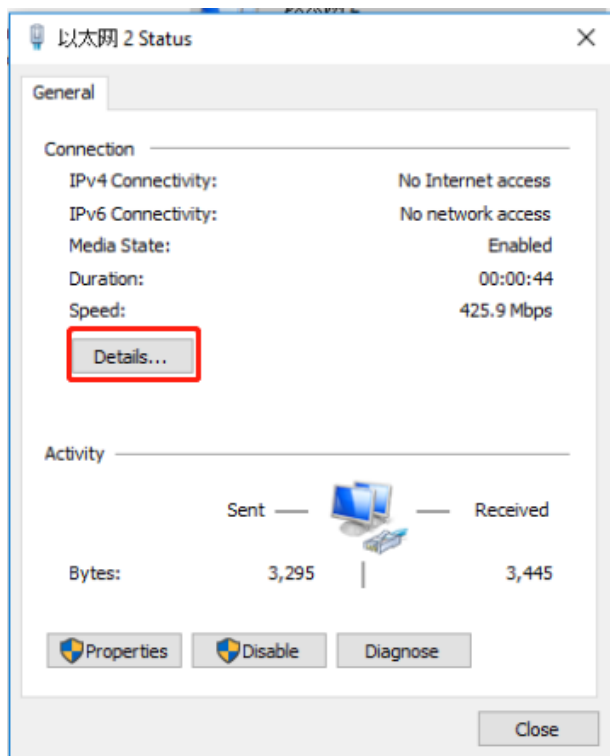
6. After installation, the new network adapter as shown below;



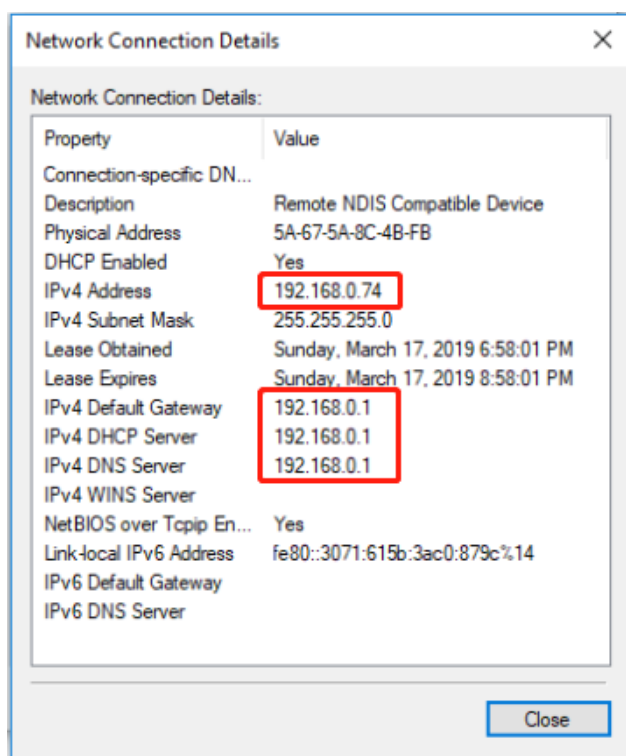
7. Click “Start > Control Panel > Network and Sharing Center” to view the new network;



8. Click “Ethernet 2” (the specific name is vary from the computer), and click “Details”;



9. The default gateway is the device login page address when you see the automatically acquired IP address in network connection details (different MAC addresses get different IP addresses);



10. Open the browser and enter 192.168.0.1 to login to the device page for configuration;

## 3.2 Factory Default Settings

Before configuring your gateway, you need to know the following default settings.

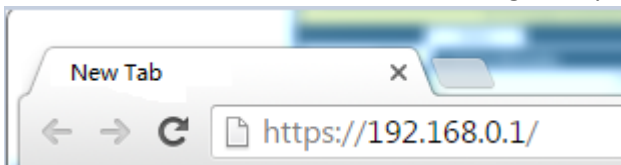
| Item     | Description |
|----------|-------------|
| Username | admin       |
| Password | admin       |

## 3.3 Log in the Gateway

To log in to the management page and view the configuration status of your gateway, please follow the steps below.

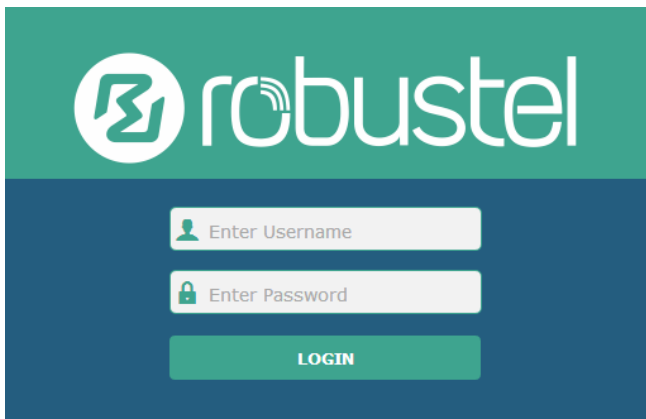
1. On your PC, open a web browser such as Internet Explorer, Google and Firefox, etc.
2. From your web browser, type the IP address of the gateway into the address bar and press enter. The default IP address of the gateway is [192.168.0.1](https://192.168.0.1/), though the actual address may vary.

**Note:** If a SIM card with a public IP address is inserted in the gateway, enter this corresponding public IP address in the browser's address bar to access the gateway wirelessly.



3. In the login page, enter the username and password, choose language and then click **LOGIN**. The default username and password are "admin".

**Note:** If enter the wrong username or password over six times, the login web will be locked for 5 minutes.



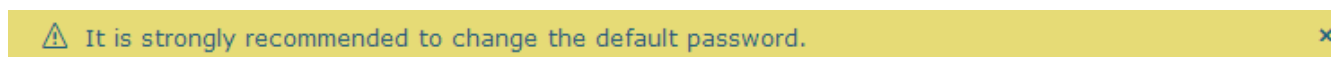


### 3.4 Control Panel

After logging in, the home page of the M1200's web interface is displayed, for example.



Using the original password to log in the gateway, the page will pop up the following tab



It is strongly recommended for security purposes that you change the default username and/or password. To change your username and/or password, see **3.25 System > User Management**.

| Control Panel |                                                                                                                                                              |                         |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Item          | Description                                                                                                                                                  | Button                  |
| Save & Apply  | Click to save the current configuration into gateway's flash and apply the modification on every configuration page, to make the modification taking effect. | <b>Save &amp; Apply</b> |
| Reboot        | Click to restart the gateway.                                                                                                                                | <b>Reboot</b>           |
| Logout        | Click to log the current user out safely.                                                                                                                    | <b>Logout</b>           |
| Submit        | Click to save the modification on current configuration page.                                                                                                | <b>Submit</b>           |
| Cancel        | Click to cancel the modification on current configuration page.                                                                                              | <b>Cancel</b>           |

**Note:** The steps of how to modify configuration are as bellow:

1. Modify in one page;
2. Click  under this page;
3. Modify in another page;
4. Click  under this page;
5. Complete all modification;
6. Click .

## 3.5 Status

This page allows you to view the System Information, Internet Status and LAN Status of your gateway.

### System Information

| ^ System Information |                                            |
|----------------------|--------------------------------------------|
| Device Model         | m1200                                      |
| System Uptime        | 0 days, 00:32:01                           |
| System Time          | Tue Feb 27 10:21:44 2018 (NTP not updated) |
| RAM Usage            | 28M Free/64M Total                         |
| Firmware Version     | 1.0.0_0205beta (Rev 74)                    |
| Hardware Version     | 1.0                                        |
| Kernel Version       | 3.10.106                                   |
| Serial Number        |                                            |

| System Information |                                                                 |
|--------------------|-----------------------------------------------------------------|
| Item               | Description                                                     |
| Device Model       | Show the model name of your device.                             |
| System Uptime      | Show the current amount of time the gateway has been connected. |
| System Time        | Show the current system time.                                   |
| RAM Usage          | Show the free memory and the total memory.                      |
| Firmware Version   | Show the firmware version running on the gateway.               |
| Hardware Version   | Show the current hardware version.                              |
| Kernel Version     | Show the current kernel version.                                |
| Serial Number      | Show the serial number of your device.                          |

### Internet Status

| ^ Internet Status |                                |
|-------------------|--------------------------------|
| Active Link       | WWAN1                          |
| Uptime            | 0 days, 01:12:38               |
| IP Address        | 10.230.111.211/255.255.255.255 |
| Gateway           | 10.64.64.64                    |
| DNS               | 120.80.80.80 221.5.88.88       |

| Internet Status |                                                              |
|-----------------|--------------------------------------------------------------|
| Item            | Description                                                  |
| Active Link     | Show the current active link.                                |
| Uptime          | Show the current amount of time the link has been connected. |
| IP Address      | Show the IP address of current link.                         |
| Gateway         | Show the gateway address of the current link.                |
| DNS             | Show the current primary DNS server and secondary server.    |

## 3.6 Interface > Link Manager

This section allows you to setup the link connection.

Link Manager

Status

^ General Settings

Primary Link

WWAN1

?

Backup Link

WWAN2

?

Backup Mode

Cold Backup

?

Revert Interval

0

?

Emergency Reboot

ON OFF

?

| General Settings @ Link Manager |                                                                                                                                                                                                                                                        |             |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Item                            | Description                                                                                                                                                                                                                                            | Default     |
| Primary Link                    | Select from "WWAN1" or "WWAN2". <ul style="list-style-type: none"> <li>WWAN1: Select to make SIM1 as the primary wireless link</li> <li>WWAN2: Select to make SIM2 as the primary wireless link</li> </ul>                                             | WWAN1       |
| Backup Link                     | Select from "WWAN1", "WWAN2", or "None". <ul style="list-style-type: none"> <li>WWAN1: Select to make SIM1 as backup wireless link</li> <li>WWAN2: Select to make SIM2 as backup wireless link</li> <li>None: Do not select any backup link</li> </ul> | WWAN2       |
| Backup Mode                     | Can only select from "Cold Backup". <ul style="list-style-type: none"> <li>Cold Backup: The inactive link is offline on standby</li> </ul>                                                                                                             | Cold Backup |
| Revert Interval                 | Specify the number of minutes that elapses before the primary link is checked if a backup link is being used in cold backup mode. 0 means disable checking.                                                                                            | 0           |
| Emergency Reboot                | Click the toggle button to enable/disable this option. Enable to reboot the whole system if no links available.                                                                                                                                        | OFF         |

**Note:** Click  for help.

**Link Settings** allows you to configure the parameters of link connection, including WWAN1/WWAN2, WAN and WLAN. It is recommended to enable Ping detection to keep the gateway always online. The Ping detection increases the reliability and also costs the data traffic.

| ^ Link Settings |       |             |                 |
|-----------------|-------|-------------|-----------------|
| Index           | Type  | Description | Connection Type |
| 1               | WWAN1 |             | DHCP            |
| 2               | WWAN2 |             | DHCP            |

Click  on the right-most of WWAN1/WWAN2 to enter the configuration window.

## WWAN1/WWAN2

| ^ Link Settings |       |             |                 |
|-----------------|-------|-------------|-----------------|
| Index           | Type  | Description | Connection Type |
| 1               | WWAN1 |             | DHCP            |
| 2               | WWAN2 |             | DHCP            |

The window is displayed as below when enabling the “Automatic APN Selection” option.

^ WWAN Settings

Automatic APN Selection

ON OFF

Dialup Number

\*99\*\*\*1#

Authentication Type

Auto

Switch SIM By Data Allowance

ON OFF ?

Data Allowance

0

Billing Day

1

The window is displayed as below when disabling the “Automatic APN Selection” option.

^ WWAN Settings

Automatic APN Selection

ON OFF

APN

Internet

Username

Password

Dialup Number

\*99\*\*\*1#

Authentication Type

Auto

Switch SIM By Data Allowance

ON OFF ?

Data Allowance

0

Billing Day

1

^ Ping Detection Settings

Enable

ON OFF

Primary Server

8.8.8.8

Secondary Server

114.114.114.114

Interval

300

Retry Interval

5

Timeout

3

Max Ping Tries

3

^ Advanced Settings

NAT Enable

ON OFF

Upload Bandwidth

10000

?

Download Bandwidth

10000

Overridden Primary DNS

Overridden Secondary DNS

Debug Enable

ON OFF

Verbose Debug Enable

ON OFF

| Link Settings (WWAN)         |                                                                                                                                                                                                                                                                                                            |          |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Item                         | Description                                                                                                                                                                                                                                                                                                | Default  |
| General Settings             |                                                                                                                                                                                                                                                                                                            |          |
| Index                        | Indicate the ordinal of the list.                                                                                                                                                                                                                                                                          | --       |
| Type                         | Show the type of the link.                                                                                                                                                                                                                                                                                 | WWAN1    |
| Description                  | Enter a description for this link.                                                                                                                                                                                                                                                                         | Null     |
| WWAN Settings                |                                                                                                                                                                                                                                                                                                            |          |
| Automatic APN Selection      | Click the toggle button to enable/disable the “Automatic APN Selection” option. After enabling, the device will recognize the access point name automatically. Alternatively, you can disable this option and manually add the access point name.                                                          | ON       |
| APN                          | Enter the Access Point Name for cellular dial-up connection, provided by local ISP.                                                                                                                                                                                                                        | internet |
| Username                     | Enter the username for cellular dial-up connection, provided by local ISP.                                                                                                                                                                                                                                 | Null     |
| Password                     | Enter the password for cellular dial-up connection, provided by local ISP.                                                                                                                                                                                                                                 | Null     |
| Dialup Number                | Enter the dialup number for cellular dial-up connection, provided by local ISP.                                                                                                                                                                                                                            | *99***1# |
| Authentication Type          | Select from “Auto”, “PAP” or “CHAP” as the local ISP required.                                                                                                                                                                                                                                             | Auto     |
| Switch SIM By Data Allowance | Click the toggle button to enable/disable this option. After enabling, it will switch to another SIM when the data limit reached.<br><b>Note:</b> Only used for dual-SIM backup.                                                                                                                           | OFF      |
| Data Allowance               | Set the monthly data traffic limitation. The system will record the data traffic statistics when data traffic limitation (MiB) is specified. The traffic record will be displayed in <b>Interface &gt; Link Manager &gt; Status &gt; WWAN Data Usage Statistics</b> . 0 means disable data traffic record. | 0        |
| Billing Day                  | Specify the monthly billing day. The data traffic statistics will be recalculated from that day.                                                                                                                                                                                                           | 1        |
| Ping Detection Settings      |                                                                                                                                                                                                                                                                                                            |          |
| Enable                       | Click the toggle button to enable/disable the ping detection mechanism, a keepalive policy of the gateway.                                                                                                                                                                                                 | ON       |
| Primary Server               | Gateway will ping this primary address/domain name to check that if the current connectivity is active.                                                                                                                                                                                                    | 8.8.8.8  |

| Link Settings (WWAN)     |                                                                                                                   |                 |
|--------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------|
| Item                     | Description                                                                                                       | Default         |
| Secondary Server         | Gateway will ping this secondary address/domain name to check that if the current connectivity is active.         | 114.114.114.114 |
| Interval                 | Set the ping interval.                                                                                            | 300             |
| Retry Interval           | Set the ping retry interval. When ping failed, the gateway will ping again every retry interval.                  | 5               |
| Timeout                  | Set the ping timeout.                                                                                             | 3               |
| Max Ping Tries           | Set the max ping tries. Switch to another link or take emergency action if the max continuous ping tries reached. | 3               |
| Advanced Settings        |                                                                                                                   |                 |
| Overridden Primary DNS   | Override primary DNS will override the automatically obtained DNS.                                                | Null            |
| Overridden Secondary DNS | Override secondary DNS will override the automatically obtained DNS.                                              | Null            |
| Debug Enable             | Click the toggle button to enable/disable this option. Enable for debugging information output.                   | ON              |
| Verbose Debug Enable     | Click the toggle button to enable/disable this option. Enable for verbose debugging information output.           | OFF             |

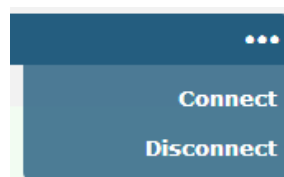


## Status

This page allows you to view the status of link connection and clear the monthly data usage statistics.

| ^ Link Status <span>...</span> |       |              |                  |                                |
|--------------------------------|-------|--------------|------------------|--------------------------------|
| Index                          | Link  | Status       | Uptime           | IP Address                     |
| 1                              | WWAN1 | Connected    | 0 days, 01:23:30 | 10.230.111.211/255.255.255.255 |
| 2                              | WWAN2 | Disconnected |                  |                                |

Click the right-most button ... to select the connection status of the current link.



Click the row of the link, and it will show the details information of the current link connection under the row.

| ^ Link Status <span>...</span>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |              |                  |                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------|------------------|--------------------------------|
| Index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Link  | Status       | Uptime           | IP Address                     |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | WWAN1 | Connected    | 0 days, 01:23:30 | 10.230.111.211/255.255.255.255 |
| <div> <div>Index</div>1           <div>Link</div>WWAN1           <div>Status</div>Connected           <div>Interface</div>wwan           <div>Uptime</div>0 days, 01:23:30           <div>IP Address</div>10.230.111.211/255.255.255.255           <div>Gateway</div>10.64.64.64           <div>DNS</div>120.80.80.80 221.5.88.88           <div>RX Packets</div>39           <div>TX Packets</div>41           <div>RX Bytes</div>2121           <div>TX Bytes</div>2181         </div> |       |              |                  |                                |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | WWAN2 | Disconnected |                  |                                |

| ^ WWAN Data Usage Statistics |                        |
|------------------------------|------------------------|
| WWAN1 Monthly Stats          | <button>Clear</button> |
| WWAN2 Monthly Stats          | <button>Clear</button> |

Click the Clear button to clear SIM1 or SIM2 monthly data traffic usage statistics. Data statistics will be displayed only if enable the Data Allowance function in **Interface > Link Manager > Link Settings > WWAN Settings > Data Allowance**.

### 3.7 Interface > Cellular

This section allows you to set the related parameters of Cellular. M1200 has two SIM card slots, but do not support two SIM cards online simultaneously due to its single-module design. If insert single SIM card at the first time, SIM1 slot and SIM2 slots are available.

| Cellular                     |          |              |              |                  |
|------------------------------|----------|--------------|--------------|------------------|
| Status                       |          |              |              |                  |
| AT Debug                     |          |              |              |                  |
| ^ Advanced Cellular Settings |          |              |              |                  |
| Index                        | SIM Card | Phone Number | Network Type | Band Select Type |
| 1                            | SIM1     |              | Auto         | All              |
| 2                            | SIM2     |              | Auto         | All              |

Click  of SIM 1 to edit the parameters.

Cellular

^ General Settings

Index

1

SIM Card

SIM1

v

Phone Number

PIN Code

?

Extra AT Cmd

?

Telnet Port

0

?

The window is displayed as below when choosing “Auto” as the network type.

^ Cellular Network Settings

Network Type

Auto

v

?

Band Select Type

All

v

?

^ Advanced Settings

Debug Enable

ON

OFF

Verbose Debug Enable

ON

OFF

The window is displayed as below when choosing “Specify” as the band select type.

^ Cellular Network Settings

Network Type

Auto

v

?

Band Select Type

Specify

v

?

^ Band Settings

GSM 850

ON OFF

GSM 900

ON OFF

GSM 1800

ON OFF

GSM 1900

ON OFF

WCDMA 800

ON OFF

WCDMA 850

ON OFF

WCDMA 900

ON OFF

WCDMA 1900

ON OFF

WCDMA 2100

ON OFF

^ Advanced Settings

Debug Enable

ON OFF

Verbose Debug Enable

ON OFF

**Note:** When the device selection module is BG96, the options in "Network Type" are as follows.

^ Cellular Network Settings

Network Type

Auto

?

Band Select Type

Auto

2G Only

M1 Only

NB Only

?

^ Advanced Settings

| Cellular                  |                                                                        |         |
|---------------------------|------------------------------------------------------------------------|---------|
| Item                      | Description                                                            | Default |
| General Settings          |                                                                        |         |
| Index                     | Indicate the ordinal of the list.                                      | --      |
| SIM Card                  | Show the currently editing SIM card.                                   | SIM1    |
| Phone Number              | Enter the phone number of the SIM card.                                | Null    |
| PIN Code                  | Enter a 4-8 characters PIN code used for unlocking the SIM.            | Null    |
| Extra AT Cmd              | Enter the AT commands used for cellular initialization.                | Null    |
| Telnet Port               | Specify the Port listening of telnet service, used for AT over Telnet. | 0       |
| Cellular Network Settings |                                                                        |         |

| Cellular             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Default |
| Network Type         | <p>Select the cellular network type, which is the network access order. Select from “Auto”, “2G Only”, “2G First”, “3G Only”, “3G First”.</p> <ul style="list-style-type: none"> <li>• Auto: Connect to the best signal network automatically</li> <li>• 2G Only: Only the 2G network is connected</li> <li>• 2G First: Connect to the 2G Network preferentially</li> <li>• 3G Only: Only the 3G network is connected</li> <li>• 3G First: Connect to the 3G Network preferentially</li> </ul> <p><b>Note:</b> When the device selection module is BG96, select from “Auto”, “2G Only”, “M1 only”, “NB Only”.</p> <ul style="list-style-type: none"> <li>• Auto: Connect to the best signal network automatically</li> <li>• 2G Only: Only the 2G network is connected</li> <li>• M1 Only: Only the CAT M1 network is connected</li> <li>• NB Only: Only the NB-IOT network is connected</li> </ul> | Auto    |
| Band Select Type     | Select from “All” or “Specify”. You may choose certain bands if choosing “Specify”.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | All     |
| Advanced Settings    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |
| Debug Enable         | Click the toggle button to enable/disable this option. Enable for debugging information output.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ON      |
| Verbose Debug Enable | Click the toggle button to enable/disable this option. Enable for verbose debugging information output.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | OFF     |

This section allows you to view the status of the cellular connection.

| Cellular | Status       | AT Debug    |                 |                            |
|----------|--------------|-------------|-----------------|----------------------------|
| ^ Status |              |             |                 |                            |
| Index    | Modem Status | Modem Model | IMSI            | Registration               |
| 1        | Ready        | UC20        | 460015896619780 | Registered to home network |

Click the row of status, the details status information will be displayed under the row.

| ^ Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |             |                 |                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|-----------------|---------------------------|
| Index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Modem Status | Modem Model | IMSI            | Registration              |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Ready        | UC20        | 460015896619780 | Registered to home net... |
| <b>Index</b> 1<br><b>Modem Status</b> Ready<br><b>Modem Model</b> UC20<br><b>Current SIM</b> SIM1<br><b>Phone Number</b><br><b>IMSI</b> 460015896619780<br><b>Registration</b> Registered to home network<br><b>Network Provider</b> CHN-UNICOM<br><b>Network Type</b> WCDMA<br><b>Signal Strength</b> 19 (-75dBm)<br><b>Bit Error Rate</b> 99<br><b>PLMN ID</b> 46001<br><b>Local Area Code</b> A507<br><b>Cell ID</b> 1476286<br><b>IMEI</b> 867060030689273<br><b>Firmware Version</b> UC20GQBR03A14E1G |              |             |                 |                           |

| Status           |                                                                                                                                                                                                                       |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Item             | Description                                                                                                                                                                                                           |
| Index            | Indicate the ordinal of the list.                                                                                                                                                                                     |
| Modem Status     | Show the status of the radio module.                                                                                                                                                                                  |
| Modem Model      | Show the model of the radio module.                                                                                                                                                                                   |
| Current SIM      | Show the SIM card that your gateway is using.                                                                                                                                                                         |
| Phone Number     | Show the phone number of the current SIM.<br><b>Note:</b> This option will be displayed if enter manually in <b>Cellular &gt; Advanced Cellular Settings &gt; SIM1/SIM2 &gt; General Settings &gt; Phone Number</b> . |
| IMSI             | Show the IMSI number of the current SIM.                                                                                                                                                                              |
| Registration     | Show the current network status.                                                                                                                                                                                      |
| Network Provider | Show the name of Network Provider.                                                                                                                                                                                    |
| Network Type     | Show the current network service type, e.g. WCDMA.                                                                                                                                                                    |

| Status           |                                                                                     |
|------------------|-------------------------------------------------------------------------------------|
| Item             | Description                                                                         |
| Signal Strength  | Show the signal strength detected by the mobile.                                    |
| Bit Error Rate   | Show the current bit error rate.                                                    |
| PLMN ID          | Show the current PLMN ID.                                                           |
| Local Area Code  | Show the current local area code used for identifying different area.               |
| Cell ID          | Show the current cell ID used for locating the gateway.                             |
| IMEI             | Show the IMEI (International Mobile Equipment Identity) number of the radio module. |
| Firmware Version | Show the current firmware version of the radio module.                              |

This page allows you to check the AT Debug.

Cellular

Status

AT Debug

^ AT Debug

Command

Result

Send

| AT Debug        |                                                                                 |         |
|-----------------|---------------------------------------------------------------------------------|---------|
| Item            | Description                                                                     | Default |
| Command         | Enter the AT command that you want to send to cellular module in this text box. | Null    |
| Result          | Show the AT command responded by cellular module in this text box.              | Null    |
| <div>Send</div> | Click the button to send AT command.                                            | --      |

## 3.8 Interface > DIDO

This section allows you to set the DI and DO parameters. Digital Input and Digital Output are the specific interfaces for M1200. The DI interface can be used for triggering alarm, while the DO can be used for controlling the slave device so as to realize real-time monitoring.

### DI

| DI            | DO     | Status |           |
|---------------|--------|--------|-----------|
| ^ DI Settings |        |        |           |
| Index         | Enable | Mode   | Inversion |
| 1             | false  | ON-OFF | false     |
| 2             | false  | ON-OFF | false     |

Click the right-most button of index 1 as below. The default mode is “ON-OFF”.

DI

^ General Settings

Index

Enable

Mode  v

Inversion

Alarm On Content

Alarm Off Content

The window is displayed as below when choosing “Counter” as the mode.

^ General Settings

Index

Enable

Mode  v

Inversion

Threshold Value

Alarm On Content

Alarm Off Content

| General Settings @ DI |                                                    |         |
|-----------------------|----------------------------------------------------|---------|
| Item                  | Description                                        | Default |
| Index                 | Indicate the ordinal of the list.                  | --      |
| Enable                | Click the toggle button to enable/disable this DI. | OFF     |
| Mode                  | Select from “ON-OFF” or “Counter”.                 | ON-OFF  |

| General Settings @ DI |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Item                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Default   |
|                       | <ul style="list-style-type: none"> <li>ON-OFF: DI interface support ON and OFF mode (high or low level electrical) trigger DI alarm. The mode default to ON, and OFF mode is available only when enabling the inversion feature<br/> ON—Under this mode, DI alarm status will be triggered to ON when DI interface open from GND or input a high level electrical (logic 1), on the contrary DI alarm status will be triggered to OFF when DI interface connect to GND or input a low level electrical (logic 0)<br/> OFF—Under this mode, DI alarm status will be triggered to ON when DI interface connect to GND or input a low level electrical (logic 0), on the contrary DI alarm status will be triggered to OFF when DI interface open from GND or input a high level electrical (logic 1)</li> <li>Counter: Event counter mode</li> </ul> |           |
| Inversion             | Click the toggle button to enable/disable this option. Enable to set DI mode as OFF mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | OFF       |
| Threshold Value       | Set the threshold vale. It will trigger alarm when event counter reaches this figure. After triggering alarm, DI will keep counting but not trigger alarm again. Enter 0 to 65535 digits. (0=will not trigger alarm)<br><b>Note:</b> This option is only available when DI under the “Counter” mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Null      |
| Alarm on Content      | When alarm is on, show its content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Alarm On  |
| Alarm off Content     | When alarm is off, show its content.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Alarm Off |

**Note:** It defaults as high alarm, while turns to low alarm after enabling the “Inversion” button.

## DO

| DI            | DO     | Status          |                  |               |              |
|---------------|--------|-----------------|------------------|---------------|--------------|
| ^ DO Settings |        |                 |                  |               |              |
| Index         | Enable | Alarm On Action | Alarm Off Action | Initial State | Alarm Source |
| 1             | false  | High            | Low              | Last          | DI1 Alarm    |

Click  to enter the DO configuration window.

DO

^ General Settings

Index   
Enable ☐ ON ☒ OFF  
Alarm On Action    
Alarm Off Action    
Initial State    
Delay    
Hold Time    
Alarm Source  



The window is displayed as below when choosing “Pulse” as the alarm on action.

**DO**

^ General Settings

Index

Enable ON OFF

Alarm On Action

Alarm Off Action

Initial State

Delay  ?

Hold Time  ?

Low-level Width  ?

High-level Width  ?

Alarm Source

The window is displayed as below when choosing “Pulse” as the alarm off action.

^ General Settings

Index

Enable ON OFF

Alarm On Action

Alarm Off Action

Initial State

Delay  ?

Hold Time  ?

Low-level Width  ?

High-level Width  ?

Alarm Source

| General Settings @ DO |                                                                                                                                                                                                                                                                                                                              |         |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                  | Description                                                                                                                                                                                                                                                                                                                  | Default |
| Index                 | Indicate the ordinal of the list.                                                                                                                                                                                                                                                                                            | --      |
| Enable                | Click the toggle button to enable/disable this DO.                                                                                                                                                                                                                                                                           | OFF     |
| Alarm On Action       | Digital Output initiates when there is an alarm. Selected from “High”, “Low” or “Pulse”. <ul style="list-style-type: none"> <li>High: a high electrical level output</li> <li>Low: a low electrical level output</li> <li>Pulse: Generates a square wave as specified in the pulse mode parameters when triggered</li> </ul> | High    |

| General Settings @ DO |                                                                                                                                                                                                                                                                                                                            |           |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Item                  | Description                                                                                                                                                                                                                                                                                                                | Default   |
| Alarm Off Action      | Digital Output initiates when alarm removed. Selected from “High”, “Low” or “Pulse”. <ul style="list-style-type: none"> <li>High: a high electrical level output</li> <li>Low: a low electrical level output</li> <li>Pulse: Generates a square wave as specified in the pulse mode parameters when triggered</li> </ul>   | Low       |
| Initial State         | Specify the Digital Output status when powered on. Selected from “Last”, “High” or “Low”. <ul style="list-style-type: none"> <li>Last: DO’s status will consist with the status of last power off</li> <li>High: DO interface is in high electrical level</li> <li>Low: DO interface is in low electrical level</li> </ul> | Low       |
| Delay                 | Set the delay time for DO alarm start-up. The first pulse will be generated after a “Delay”. Enter from 0 to 30000ms. (0=generate pulse without delay)                                                                                                                                                                     | 0         |
| Hold Time             | Set the hold time of DO status (Alarm On Action/Alarm Off Action). When the action time reach this specified time, DO will stop the action. Enter from 0 to 255 seconds. (0=keep on until the next action)                                                                                                                 | 0         |
| Low-level Width       | Set the low-level width. It is available when enabling Pulse as “Alarm On Action/Alarm Off Action”. In Pulse Output mode, the selected digital output channel will generate a square wave as specified in the pulse mode parameters. The low level widths are specified here. Enter from 1 to 300000 ms.                   | 10        |
| High-level Width      | Set the high-level width. It is available when enabling Pulse as “Alarm On Action/Alarm Off Action”. In Pulse Output mode, the selected digital output channel will generate a square wave as specified in the pulse mode parameters. The high level widths are specified here. Enter from 1 to 300000 ms.                 | 10        |
| Alarm Source          | Digital Output initiates according to different alarm source. Selected from “DI1 Alarm”, “DI2 Alarm”. DI1/DI2 Alarm: Digital Output triggers the related action when there is alarm from Digital Input.                                                                                                                    | DI1 Alarm |

## Status

This window allows you to view the status of DO and DI interfaces. It also can clear the counter alarm of DI in here. Click **Clear** button to clear DI1 or DI2 monthly usage statistics info for counter alarm.

| DI                | DO    | Status                |                  |
|-------------------|-------|-----------------------|------------------|
| ^ DI Status       |       |                       |                  |
| Index             | Level | Status                | Count            |
| 1                 | High  | Alarm off             |                  |
| 2                 | High  | Alarm off             |                  |
| ^ Action Of Clear |       |                       |                  |
|                   |       | Counter Alarm Of DI 1 | <div>Clear</div> |
|                   |       | Counter Alarm Of DI 2 | <div>Clear</div> |
| ^ DO Status       |       |                       |                  |
| Index             | Level | Low-level Width       | High-level Width |
| 1                 | Low   |                       |                  |

Click one row to view.

| ^ DI Status |       |           |                                                                                |
|-------------|-------|-----------|--------------------------------------------------------------------------------|
| Index       | Level | Status    | Count                                                                          |
| 1           | High  | Alarm off |                                                                                |
|             |       |           | <b>Index</b> 1<br><b>Level</b> High<br><b>Status</b> Alarm off<br><b>Count</b> |
| 2           | High  | Alarm off |                                                                                |

## 3.9 Interface > Serial Port

This section allows you to set the serial port parameters. M1200 supports one RS-232s and one RS-485. Serial port provides a way to transfer serial data to IP data, or vice versa, and transmit these data via wired or wireless network to achieve data transparent transmission.

| Serial Port            |      | Status |           |                  |                                                                                       |
|------------------------|------|--------|-----------|------------------|---------------------------------------------------------------------------------------|
| ^ Serial Port Settings |      |        |           |                  |                                                                                       |
| Index                  | Port | Enable | Baud Rate | Application Mode |                                                                                       |
| 1                      | COM1 | false  | 115200    | Transparent      |  |
| 2                      | COM2 | false  | 115200    | Transparent      |  |

Click the edit button of COM1.

**Serial Port**

**Serial Port Application Settings**

Index

1

Port

COM1

▼

Enable

☐ ON ☒ OFF

Baud Rate

115200

▼

Data Bits

8

▼

Stop Bits

1

▼

Parity

None

▼

Flow Control

None

▼

**Data Packing**

Packing Timeout

50

?

Packing Length

1200

**Server Setting**

Application Mode

Transparent

▼

Protocol

TCP Client

▼

Server Address

Server Port

- The window is displayed as below when choosing “Transparent” as the application mode and “TCP Client” as the protocol.

**Server Setting**

Application Mode

Transparent

▼

Protocol

TCP Client

▼

Server Address

Server Port

The window is displayed as below when choosing “Transparent” as the application mode and “TCP Server” as the protocol.

**Server Setting**

Application Mode

Transparent

▼

Protocol

TCP Server

▼

Local IP

Local Port

The window is displayed as below when choosing “Transparent” as the application mode and “UDP” as the

protocol.

The screenshot shows the 'Server Setting' window with a dark blue header. The 'Application Mode' dropdown is set to 'Transparent' and the 'Protocol' dropdown is set to 'UDP'. Below these are five empty input fields for 'Local IP', 'Local Port', 'Server Address', and 'Server Port'.

|                         |               |
|-------------------------|---------------|
| <b>^ Server Setting</b> |               |
| Application Mode        | Transparent v |
| Protocol                | UDP v         |
| Local IP                |               |
| Local Port              |               |
| Server Address          |               |
| Server Port             |               |

- The window is displayed as below when choosing “Modbus RTU Gateway” as the application mode and “TCP Client” as the protocol.

The screenshot shows the 'Server Setting' window with 'Modbus RTU Gateway' selected for 'Application Mode' and 'TCP Client' for 'Protocol'. There are three empty input fields for 'Server Address' and 'Server Port'.

|                         |                      |
|-------------------------|----------------------|
| <b>^ Server Setting</b> |                      |
| Application Mode        | Modbus RTU Gateway v |
| Protocol                | TCP Client v         |
| Server Address          |                      |
| Server Port             |                      |

The window is displayed as below when choosing “Modbus RTU Gateway” as the application mode and “TCP Server” as the protocol.

The screenshot shows the 'Server Setting' window with 'Modbus RTU Gateway' selected for 'Application Mode' and 'TCP Server' for 'Protocol'. There are two empty input fields for 'Local IP' and 'Local Port'.

|                         |                      |
|-------------------------|----------------------|
| <b>^ Server Setting</b> |                      |
| Application Mode        | Modbus RTU Gateway v |
| Protocol                | TCP Server v         |
| Local IP                |                      |
| Local Port              |                      |

The window is displayed as below when choosing “Modbus RTU Gateway” as the application mode and “UDP” as the protocol.

The screenshot shows the 'Server Setting' window with 'Modbus RTU Gateway' selected for 'Application Mode' and 'UDP' for 'Protocol'. There are five empty input fields for 'Local IP', 'Local Port', 'Server Address', and 'Server Port'.

|                         |                      |
|-------------------------|----------------------|
| <b>^ Server Setting</b> |                      |
| Application Mode        | Modbus RTU Gateway v |
| Protocol                | UDP v                |
| Local IP                |                      |
| Local Port              |                      |
| Server Address          |                      |
| Server Port             |                      |

- The window is displayed as below when choosing “Modbus ASCII Gateway” as the application mode and “TCP Client” as the protocol.

**^ Server Setting**

Application Mode

Modbus ASCII Gatew v

Protocol

TCP Client v

Server Address

Server Port

The window is displayed as below when choosing “Modbus ASCII Gateway” as the application mode and “TCP Server” as the protocol.

**^ Server Setting**

Application Mode

Modbus ASCII Gatew v

Protocol

TCP Server v

Local IP

Local Port

The window is displayed as below when choosing “Modbus ASCII Gateway” as the application mode and “UDP” as the protocol.

**^ Server Setting**

Application Mode

Modbus ASCII Gatew v

Protocol

UDP v

Local IP

Local Port

Server Address

Server Port

| Serial Port                      |                                                                                                                               |         |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                             | Description                                                                                                                   | Default |
| Serial Port Application Settings |                                                                                                                               |         |
| Index                            | Indicate the ordinal of the list.                                                                                             | --      |
| Port                             | Show the current serial's name, read only.                                                                                    | --      |
| Enable                           | Click the toggle button to enable/disable this serial port. When the status is OFF, the serial port is not available.         | OFF     |
| Baud Rate                        | Select from “300”, “600”, “1200”, “2400”, “4800”, “9600”, “19200”, “38400”, “57600”, “115200” or “230400”.                    | 115200  |
| Data Bits                        | Select from “7” or “8”.                                                                                                       | 8       |
| Stop Bits                        | Select from “1” or “2”.                                                                                                       | 1       |
| Parity                           | Select from “None”, “Odd” or “Even”.                                                                                          | None    |
| Data Packing                     |                                                                                                                               |         |
| Packing Timeout                  | Set the packing timeout. The serial port will queue the data in the buffer and send the data to the Cellular WAN/Ethernet WAN | 50      |

| Serial Port      |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Item             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          | Default     |
|                  | when it reaches the Interval Timeout in the field.<br><b>Note:</b> Data will also be sent as specified by the packet length even when data is not reaching the interval timeout in the field.                                                                                                                                                                                                                                                        |             |
| Packing Length   | Set the packet length. The Packet length setting refers to the maximum amount of data that is allowed to accumulate in the serial port buffer before sending. When a packet length between 1 and 3000 bytes is specified, data in the buffer will be sent as soon it reaches the specified length.                                                                                                                                                   | 1200        |
| Server Setting   |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |
| Application Mode | Select from “Transparent”, “Modbus RTU Gateway” or “Modbus ASCII Gateway”.<br><ul style="list-style-type: none"> <li>Transparent: gateway will transmit the serial data transparently</li> <li>Modbus RTU Gateway: gateway will translate the Modbus RTU data to Modbus TCP data and sent out, and vice versa</li> <li>Modbus ASCII Gateway: gateway will translate the Modbus ASCII data to Modbus TCP data and sent out, and vice versa</li> </ul> | Transparent |
| Protocol         | Select from “TCP Client”, “TCP Server” or “UDP”.<br><ul style="list-style-type: none"> <li>TCP Client: Gateway works as TCP client, initiate TCP connection to TCP server. Server address supports both IP and domain name</li> <li>TCP Server: Gateway works as TCP server, listening for connection request from TCP client</li> <li>UDP: Gateway works as UDP client</li> </ul>                                                                   | TCP Client  |
| Server Address   | Enter the address of server which will receive the data sent from gateway’s serial port. IP address or domain name will be available.                                                                                                                                                                                                                                                                                                                | Null        |
| Server Port      | Enter the specified port of server which is used for receiving the serial data.                                                                                                                                                                                                                                                                                                                                                                      | Null        |
| Local IP         | Enter the IP of TCP or UDP.                                                                                                                                                                                                                                                                                                                                                                                                                          | Null        |
| Local Port       | Enter the port of TCP or UDP.                                                                                                                                                                                                                                                                                                                                                                                                                        | Null        |

Click the “Status” column to view the current serial port type.

| Serial Port        |       | Status |    |                   |
|--------------------|-------|--------|----|-------------------|
| Serial Port Status |       |        |    |                   |
| Index              | Type  | TX     | RX | Connection Status |
| 1                  | RS232 | 0B     | 0B |                   |
| 2                  | RS485 | 0B     | 0B |                   |

### 3.10 Services > Syslog

This section allows you to set the syslog parameters. The system log of the gateway can be saved in the local, also supports to be sent to remote log server and specified application debugging. By default, the “Log to Remote” option is disabled.

The screenshot shows the 'Syslog Settings' window. At the top, there's a 'Syslog' tab. Below it, the 'Syslog Settings' section is expanded. It contains four settings: 'Enable' with a toggle switch set to 'ON', 'Syslog Level' with a dropdown menu set to 'Debug', 'Save Position' with a dropdown menu set to 'RAM', and 'Log to Remote' with a toggle switch set to 'OFF'. There are help icons (question marks) next to the 'Save Position' and 'Log to Remote' settings.

The window is displayed as below when enabling the “Log to Remote” option.

The screenshot shows the 'Syslog Settings' window with 'Log to Remote' enabled. The 'Enable' toggle is still 'ON'. The 'Syslog Level' is 'Debug' and 'Save Position' is 'RAM'. The 'Log to Remote' toggle is now 'ON'. Below it, the 'Add Identifier' toggle is 'OFF'. At the bottom, there are two input fields: 'Remote IP Address' (empty) and 'Remote Port' (set to '514'). Help icons are present next to 'Log to Remote' and 'Add Identifier'.

| Syslog Settings   |                                                                                                                                                                                                 |         |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item              | Description                                                                                                                                                                                     | Default |
| Enable            | Click the toggle button to enable/disable the Syslog settings option.                                                                                                                           | OFF     |
| Syslog Level      | Select from “Debug”, “Info”, “Notice”, “Warning” or “Error”, which from low to high.<br><b>Note:</b> The lower level will output more syslog in details.                                        | Debug   |
| Save Position     | Select the save position from “RAM”, “NVM” or “Console”. Choose “RAM”. The data will be cleared after reboot.<br><b>Note:</b> It's not recommended that you save syslog to NVM for a long time. | RAM     |
| Log to Remote     | Click the toggle button to enable/disable this option. Enable to allow gateway sending syslog to the remote syslog server. You need to enter the IP and Port of the syslog server.              | OFF     |
| Remote IP Address | Enter the IP address of syslog server when enabling the “Log to Remote” option.                                                                                                                 | Null    |
| Remote Port       | Enter the port of syslog server when enabling the “Log to Remote” option.                                                                                                                       | 514     |



### 3.11 Services > Event

This section allows you to set the event parameters. Event feature provides an ability to send alerts by SMS or Email when certain system events occur.

Event Notification Query

^ General Settings

Signal Quality Threshold  ?

| General Settings @ Event |                                                                                                                                                                      |         |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                     | Description                                                                                                                                                          | Default |
| Signal Quality Threshold | Set the threshold for signal quality. Gateway will generate a log event when the actual threshold is less than the specified threshold. 0 means disable this option. | 0       |

Event Notification Query

^ Event Notification Group Settings

| Index | Description | Send SMS | Send Email | Save to NVM |  |
|-------|-------------|----------|------------|-------------|--|
|-------|-------------|----------|------------|-------------|--|

+

Click button to add an Event parameters.

Notification

^ General Settings

Index

Description

Send SMS ☐ OFF

Send Email ☐ OFF

Save to NVM ☐ OFF ?

^ Event Selection ?

System Startup ☐ OFF

System Reboot ☐ OFF

System Time Update ☐ OFF

Configuration Change ☐ OFF

Cellular Network Type Change ☐ OFF

Cellular Data Stats Clear ☐ OFF

Cellular Data Traffic Overflow ☐ OFF

Poor Signal Quality ☐ OFF

Link Switching ☐ OFF

WWAN Up ☐ OFF

WWAN Down ☐ OFF

DDNS Update Success ☐ OFF

|                       |                              |
|-----------------------|------------------------------|
| DDNS Update Fail      | <input type="checkbox"/> OFF |
| Received SMS          | <input type="checkbox"/> OFF |
| SMS Command Execute   | <input type="checkbox"/> OFF |
| DI 1 ON               | <input type="checkbox"/> OFF |
| DI 1 OFF              | <input type="checkbox"/> OFF |
| DI 1 Counter Overflow | <input type="checkbox"/> OFF |
| DI 2 ON               | <input type="checkbox"/> OFF |
| DI 2 OFF              | <input type="checkbox"/> OFF |
| DI 2 Counter Overflow | <input type="checkbox"/> OFF |

| General Settings @ Notification |                                                                                                                                                                                                                                                               |         |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                            | Description                                                                                                                                                                                                                                                   | Default |
| Index                           | Indicate the ordinal of the list.                                                                                                                                                                                                                             | --      |
| Description                     | Enter a description for this group.                                                                                                                                                                                                                           | Null    |
| Sent SMS                        | Click the toggle button to enable/disable this option. When enabled, the gateway will send notification to the specified phone numbers via SMS if event occurs. Set the related phone number in "3.14 Services > Email", and use ';' to separate each number. | OFF     |
| Phone Number                    | Enter the phone numbers used for receiving event notification. Use a semicolon (;) to separate each number.                                                                                                                                                   | Null    |
| Send Email                      | Click the toggle button to enable/disable this option. When enabled, the gateway will send notification to the specified email box via Email if event occurs. Set the related email address in "3.14 Services > Email".                                       | OFF     |
| Email Address                   | Enter the email addresses used for receiving event notification. Use a space to separate each address.                                                                                                                                                        | Null    |
| Save to NVM                     | Click the toggle button to enable/disable this option. Enable to save event to nonvolatile memory.                                                                                                                                                            | OFF     |

In the following window you can query various types of events record. Click **Refresh** to query filtered events while click **Clear** to clear the event records in the window.

|       |              |       |
|-------|--------------|-------|
| Event | Notification | Query |
|-------|--------------|-------|

**^ Event Details**

Save Position

Filtering

```

Mar 14 09:36:31, system startup
Mar 14 09:37:48, switch link, from WWAN1 to WWAN2
Mar 14 09:39:13, switch link, from WWAN2 to WWAN1

```

Clear Refresh

| Event Details |                                                                                                                                                                                                                                  |         |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item          | Description                                                                                                                                                                                                                      | Default |
| Save Position | Select the events' save position from "RAM" or "NVM". <ul style="list-style-type: none"> <li>RAM: Random-access memory</li> <li>NVM: Non-Volatile Memory</li> </ul>                                                              | RAM     |
| Filtering     | Enter the filtering message based on the keywords set by users. Click the "Refresh" button, the filtered event will be displayed in the follow box. Use "&" to separate more than one filter message, such as message1&message2. | Null    |

## 3.12 Services > NTP

This section allows you to set the related NTP (Network Time Protocol) parameters, including Time zone, NTP Client and NTP Server.

NTP

Status

Timezone Settings

Time Zone

UTC+08:00

▼

Expert Setting

?

NTP Client Settings

Enable

ON

OFF

Primary NTP Server

pool.ntp.org

Secondary NTP Server

NTP Update Interval

0

?

NTP Server Settings

Enable

ON

OFF

| NTP                  |                                                                                                                                                   |              |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Item                 | Description                                                                                                                                       | Default      |
| Timezone Settings    |                                                                                                                                                   |              |
| Time Zone            | Click the drop down list to select the time zone you are in.                                                                                      | UTC +08:00   |
| Expert Setting       | Specify the time zone with Daylight Saving Time in TZ environment variable format. The Time Zone option will be ignored in this case.             | Null         |
| NTP Client Settings  |                                                                                                                                                   |              |
| Enable               | Click the toggle button to enable/disable this option. Enable to synchronize time with the NTP server.                                            | ON           |
| Primary NTP Server   | Enter primary NTP Server's IP address or domain name.                                                                                             | pool.ntp.org |
| Secondary NTP Server | Enter secondary NTP Server's IP address or domain name.                                                                                           | Null         |
| NTP Update interval  | Enter the interval (minutes) synchronizing the NTP client time with the NTP server's. Minutes wait for next update, and 0 means update only once. | 0            |
| NTP Server Settings  |                                                                                                                                                   |              |

|        |                                                                  |     |
|--------|------------------------------------------------------------------|-----|
| Enable | Click the toggle button to enable/disable the NTP server option. | OFF |
|--------|------------------------------------------------------------------|-----|

This window allows you to view the current time of gateway and also synchronize the gateway time. Click **Sync** button to synchronize the gateway time with the PC's.

NTP

Status

^ Time

System Time

2017-01-01 01:11:41

PC Time

2018-01-24 15:31:15

Sync

Last Update Time

Not Updated

### 3.13 Services > SMS

This section allows you to set SMS parameters. Gateway supports SMS management, and user can control and configure their gateways by sending SMS.

SMS

SMS Testing

^ SMS Management Settings

Enable

ON OFF

Authentication Type

Password

v

?

Phone Number

?

| SMS Management Settings |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Item                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Default  |
| Enable                  | Click the toggle button to enable/disable the SMS Management option.<br><b>Note:</b> If this option is disabled, the SMS configuration is invalid.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ON       |
| Authentication Type     | Select Authentication Type from "Password", "Phonenum" or "Both". <ul style="list-style-type: none"> <li>Password: Use the same username and password as WEB manager for authentication. For example, the format of the SMS should be "username: password; cmd1; cmd2; ..."</li> <li><b>Note:</b> Set the WEB manager password in <b>System &gt; User Management</b> section.</li> <li>Phonenum: Use the Phone number for authentication, and user should set the Phone Number that is allowed for SMS management. The format of the SMS should be "cmd1; cmd2; ..."</li> <li>Both: Use both the "Password" and "Phonenum" for authentication. User should set the Phone Number that is allowed for SMS management. The format of the SMS should be "username: password; cmd1; cmd2; ..."</li> </ul> | Password |
| Phone Number            | Set the phone number used for SMS management, and use ';' to separate each number.<br><b>Note:</b> It can be null when choose "Password" as the authentication type.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Null     |

User can test the current SMS service whether it is available in this section.

SMS

SMS Testing

^ SMS Testing

Phone Number

Message

Result

Send

| SMS Testing  |                                                                            |         |
|--------------|----------------------------------------------------------------------------|---------|
| Item         | Description                                                                | Default |
| Phone Number | Enter the specified phone number which can receive the SMS from gateway.   | Null    |
| Message      | Enter the message that gateway will send it to the specified phone number. | Null    |
| Result       | The result of the SMS test will be displayed in the result box.            | Null    |
| Send         | Click the button to send the test message.                                 | --      |

## 3.14 Services > Email

Email function supports to send the event notifications to the specified recipient by ways of email.

Email

^ Email Settings

Enable

ON OFF

Enable TLS/SSL

ON OFF ?

Outgoing Server

Server Port

Username

Password

From

Subject

| Email Settings  |                                                               |         |
|-----------------|---------------------------------------------------------------|---------|
| Item            | Description                                                   | Default |
| Enable          | Click the toggle button to enable/disable the Email option.   | OFF     |
| Enable TLS/SSL  | Click the toggle button to enable/disable the TLS/SSL option. | OFF     |
| Outgoing server | Enter the SMTP server IP Address or domain name.              | Null    |

| Email Settings |                                                                |         |
|----------------|----------------------------------------------------------------|---------|
| Item           | Description                                                    | Default |
| Server port    | Enter the SMTP server port.                                    | 25      |
| Username       | Enter the username which has been registered from SMTP server. | Null    |
| Password       | Enter the password of the username above.                      | Null    |
| From           | Enter the source address of the email.                         | Null    |
| Subject        | Enter the subject of this email.                               | Null    |

### 3.15 Services > WakeUp

Gateway supports a variety of wake-up dialing policies, including regular wake-up, interval wake-up, serial data wake-up, and SMS wake-up. Here, users can set different wake-up policies.

WakeUp

^ WakeUp Settings

Enable
ON OFF

^ Timing

Index
Enable
Timing
+

^ Periodical

Enable
ON OFF

Interval
5
?

^ Serial Data

Enable
ON OFF

^ SMS

Enable
ON OFF

Enable SMS Reply
ON OFF

Phonenum
?

Password

Click on the right side  of the Timing to add a wake-up time point. Up to 3 can be added.

WakeUp

^ General Settings

Index
1

Enable
ON OFF

Timing
?

| WakeUp |             |         |
|--------|-------------|---------|
| Item   | Description | Default |

| WakeUp                  |                                                                                                                                                                                            |         |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                    | Description                                                                                                                                                                                | Default |
| General Settings        |                                                                                                                                                                                            |         |
| Enable                  | Click the toggle button to enable/disable this option. When it is set to ON, the current link is disconnected, while set to OFF, the device restarts GPRS dial-up.                         | OFF     |
| Timing General Settings |                                                                                                                                                                                            |         |
| Index                   | Display number.                                                                                                                                                                            | --      |
| Enable                  | Click the toggle button to enable/disable this option. When it is set to ON, the gateway make GPRS dial-up on the set timing.                                                              | OFF     |
| Timing                  | Every day at the timing (HH:MM) the gateway makes GPRS dial-up.                                                                                                                            | Null    |
| Periodical              |                                                                                                                                                                                            |         |
| Periodical WakeUp       | Click the toggle button to enable/disable this option. When it is set to ON, the gateway will periodically make GPRS dial-up.                                                              | OFF     |
| Interval                | Set the interval time for Periodical WakeUp, ranging 3-720 min.。                                                                                                                           | 5       |
| Serial Data             |                                                                                                                                                                                            |         |
| Serial Data WakeUp      | Click the toggle button to enable/disable this option. When it is set to ON, while sending data to the serial port, the gateway make GPRS dial-up.                                         | OFF     |
| SMS                     |                                                                                                                                                                                            |         |
| SMS WakeUp              | Click the toggle button to enable/disable this option. When it is set to ON, while gateway receives SMS from the set phone number, the gateway make GPRS dial-up.                          | OFF     |
| Enable SMS Reply        | Click the toggle button to enable/disable this option. When it is set to ON, while the gateway makes GPRS dial-up via SMS WakeUp, it will send a reply message to the WakeUp phone number. | OFF     |
| Phonenum                | The phone number which is allowed to wake up the gateway, separated each number by a ';' character.                                                                                        | Null    |
| Password                | The phone number needs to send the password to the gateway. If the sent content and the set password do not match, the GPRS dial-up cannot be performed.                                   | Null    |

### 3.16 Services > DDNS

This section allows you to set the DDNS parameters. The Dynamic DNS function allows you to alias a dynamic IP address to a static domain name, allows you whose ISP does not assign them a static IP address to use a domain name. This is especially useful for hosting servers via your connection, so that anyone wishing to connect to you may use your domain name, rather than having to use your dynamic IP address, which changes from time to time. This dynamic IP address is the WWAN IP address of the gateway, which is assigned to you by your ISP. The service provider defaults to “DynDNS”, as shown below.

DDNS    **Status**

^ DDNS Settings

Enable

Service Provider DynDNS ▼

Hostname

Username

Password

When “Custom” service provider chosen, the window is displayed as below.

^ DDNS Settings

Enable

Service Provider Custom ▼

URL

| DDNS Settings    |                                                                                                                                                                           |         |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item             | Description                                                                                                                                                               | Default |
| Enable           | Click the toggle button to enable/disable the DDNS option.                                                                                                                | OFF     |
| Service Provider | Select the DDNS service from “DynDNS”, “NO-IP”, “3322” or “Custom”.<br><b>Note:</b> the DDNS service only can be used after registered by Corresponding service provider. | DynDNS  |
| Hostname         | Enter the hostname provided by the DDNS server.                                                                                                                           | Null    |
| Username         | Enter the username provided by the DDNS server.                                                                                                                           | Null    |
| Password         | Enter the password provided by the DDNS server.                                                                                                                           | Null    |
| URL              | Enter the URL customized by user.                                                                                                                                         | Null    |

Click “Status” bar to view the status of the DDNS.

DDNS    **Status**

^ DDNS Status

Status Disabled

Last Update Time

| DDNS Status      |                                                                       |
|------------------|-----------------------------------------------------------------------|
| Item             | Description                                                           |
| Status           | Display the current status of the DDNS.                               |
| Last Update Time | Display the date and time for the DDNS was last updated successfully. |



## 3.17 Services > SSH

Gateway supports SSH password access and secret-key access.

| SSH Settings            |                                                                                                                                                                                            |         |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                    | Description                                                                                                                                                                                | Default |
| Enable                  | Click the toggle button to enable/disable this option. When enabled, you can access the gateway via SSH.                                                                                   | ON      |
| Port                    | Set the port of the SSH access.                                                                                                                                                            | 22      |
| Disable Password Logins | Click the toggle button to enable/disable this option. When enabled, you cannot use username and password to access the gateway via SSH. In this case, only the key can be used for login. | OFF     |

| Import Authorized Keys |                                                                                                                                                                                                                     |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Item                   | Description                                                                                                                                                                                                         |
| Authorized Keys        | Click on “Choose File” to locate an authorized key from your computer, and then click “Import” to import this key into your gateway.<br><b>Note:</b> This option is valid when enabling the password logins option. |

### 3.18 Service > AT Over COM

This part is used for setting parameters in AT Over COM.

**AT Over COM**

**^ AT Over COM Settings**

Enable

ON OFF

Com Type

RS232

▼

Baud Rate

115200

▼

Data Bits

8

▼

Stop Bits

1

▼

Parity

None

▼

| Settings of AT Over COM |                                                                                                              |         |
|-------------------------|--------------------------------------------------------------------------------------------------------------|---------|
| Items                   | Description                                                                                                  | Default |
| Enable                  | Click switch button to enable/disable the AT Over COM function.                                              | OFF     |
| Com Type                | Select between "RS232" and "RS485".                                                                          | RS232   |
| Baud Rate               | Select among "300", "600", "1200", "2400", "4800", "9600", "19200", "38400", "57600", "115200" and "230400". | 115200  |
| Data Bits               | Select between "7" and "8".                                                                                  | 8       |
| Stop Bits               | Select between "1" and "2".                                                                                  | 1       |
| Parity                  | Select among "None", "Odd Parity" and "Even Parity".                                                         | None    |

### 3.19 Services > Web Server

This section allows you to modify the parameters of Web Server.

**Web Server**
**Certificate Management**

**^ General Settings**

HTTP Port

80

?

HTTPS Port

443

?

| General Settings @ Web Server |                                                                                                                                                                                                                                     |         |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                          | Description                                                                                                                                                                                                                         | Default |
| HTTP Port                     | Enter the HTTP port number you want to change in gateway's Web Server. On a Web server, port 80 is the port that the server "listens to" or expects to receive from a Web client. If you configure the gateway with other HTTP Port | 80      |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|            | number except 80, only adding that port number then you can login gateway's Web Server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |
| HTTPS Port | <p>Enter the HTTPS port number you want to change in gateway's Web Server. On a Web server, port 443 is the port that the server "listens to" or expects to receive from a Web client. If you configure the gateway with other HTTPS Port number except 443, only adding that port number then you can login gateway's Web Server.</p> <p><b>Note:</b> HTTPS is more secure than HTTP. In many cases, clients may be exchanging confidential information with a server, which needs to be secured in order to prevent unauthorized access. For this reason, HTTP was developed by Netscape corporation to allow authorization and secured transactions.</p> | 443 |

This section allows you to import the certificate file into the gateway.

Web Server

Certificate Management

^ Import Certificate

Import Type

CA

⌵

HTTPS Certificate

Choose File

No file chosen

Import

| Import Certificate |                                                                                                                                                                              |         |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item               | Description                                                                                                                                                                  | Default |
| Import Type        | Select from "CA" and "Private Key". <ul style="list-style-type: none"> <li>CA: a digital certificate issued by CA center</li> <li>Private Key: a private key file</li> </ul> | CA      |
| HTTPS Certificate  | Click on "Choose File" to locate the certificate file from your computer, and then click "Import" to import this file into your gateway.                                     | --      |

## 3.20 Service > Work Mode

This part is used for setting work mode, including DTU and Modem.

Mode

^ Device Work Mode Setting

Device Current Mode

DTU

⌵

Mode

^ Device Work Mode Setting

Device Current Mode

Modem

▼

AT Port

USB

▼

Baud Rate

115200

▼

Data Bits

8

▼

Stop Bits

1

▼

Parity

None

▼

Debug Enable

ON

OFF

| Settings of Work Mode |                                                                                                                                                                                                                                                                                   |         |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Items                 | Description                                                                                                                                                                                                                                                                       | Default |
| Device Current Mode   | Select between “DTU” and “Modem”.                                                                                                                                                                                                                                                 | DTU     |
| AT Port               | Select between “USB”, “RS232” and “RS485”. <ul style="list-style-type: none"> <li>USB: dial through USB, and configure CLI through RS232</li> <li>RS232: dial through RS232, configure CLI through USB</li> <li>RS485: dial through RS485, configure CLI through RS232</li> </ul> | USB     |
| Baud Rate             | Select between “300”, “600”, “1200”, “2400”, “4800”, “9600”, “19200”, “38400”, “57600”, “115200” and “230400”.                                                                                                                                                                    | 115200  |
| Data Bits             | Select between “7” and “8”.                                                                                                                                                                                                                                                       | 8       |
| Stop Bits             | Select between “1” and “2”.                                                                                                                                                                                                                                                       | 1       |
| Parity                | Select among “None”, “Odd Parity” and “Even Parity”.                                                                                                                                                                                                                              | None    |
| Debug Enable          | Click switch button to enable/disable logs.                                                                                                                                                                                                                                       | OFF     |

## 3.21 Services > Advanced

This section allows you to set the reboot.

System

Reboot

^ Periodic Reboot Settings

Periodic Reboot

0

?

Daily Reboot Time

?

| Periodic Reboot Settings |                                                                                                                                   |         |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                     | Description                                                                                                                       | Default |
| Periodic Reboot          | Set the reboot period of the gateway by every X hours. 0 means disable.                                                           | 0       |
| Daily Reboot Time        | Set the daily reboot time of the gateway. You should follow the format as HH:MM, in 24h time frame. Leave it empty means disable. | Null    |

## 3.22 System > Debug

This section allows you to check and download the syslog details.

Syslog

^ Syslog Details

Log Level

Debug

▼

Filtering

?

```
[2089]: AT+CGREG? Jan 1 00:02:23 router user.debug modemd[2089]: +CGREG: 2,3 Jan 1 00:02:23 router user.debug modemd[2089]: OK Jan 1 00:02:23 router authpriv.info web_server: pam_unix(login:session): session opened for user admin by (uid=0) Jan 1 00:02:23 router authpriv.info web_server: pam_unix(login:session): session closed for user admin Jan 1 00:02:26 router user.debug modemd[2089]: AT+CGREG? Jan 1 00:02:26 router user.debug modemd[2089]: +CGREG: 2,3 Jan 1 00:02:26 router user.debug modemd[2089]: OK Jan 1 00:02:26 router user.debug link_manager[2051]: rcv action disconnected from modemd Jan 1 00:02:26 router user.debug link_manager[2051]: target link WWAN1, state Disconnected Jan 1 00:02:26 router user.notice link_manager[2051]: WWAN1 disconnected Jan 1 00:02:26 router user.info link_manager[2051]: there is no need to switch link (WWAN1:10 - WWAN2:20) Jan 1 00:02:26 router user.notice link_manager[2051]: WWAN1 try reconnect firstly, wait 600 seconds Jan 1 00:02:36 router authpriv.info web_server: pam_unix(login:session): session opened for user admin by (uid=0) Jan 1 00:02:36 router authpriv.info web_server: pam_unix(login:session): session closed for user admin Jan 1 00:02:43 router authpriv.info web_server: pam_unix(login:session): session opened for user admin by (uid=0) Jan 1 00:02:43 router authpriv.info web_server: pam_unix(login:session): session closed for user admin
```

Manual Refresh ▼ Clear Refresh

^ Syslog Files

| Index | File Name | File Size | Modification Time        |
|-------|-----------|-----------|--------------------------|
| 1     | messages  | 26328     | Wed Oct 11 16:56:29 2017 |

^ System Diagnostic Data

System Diagnostic Data

Generate

System Diagnostic Data

Download

| Syslog             |                                                                                                                                                                                                                                                                             |                |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Item               | Description                                                                                                                                                                                                                                                                 | Default        |
| Syslog Details     |                                                                                                                                                                                                                                                                             |                |
| Log Level          | Select from “Debug”, “Info”, “Notice”, “Warn”, “Error” which from low to high. The lower level will output more syslog in detail.                                                                                                                                           | Debug          |
| Filtering          | Enter the filtering message based on the keywords. Use “&” to separate more than one filter message, such as “keyword1&keyword2”.                                                                                                                                           | Null           |
| Refresh            | Select from “Manual Refresh”, “5 Seconds”, “10 Seconds”, “20 Seconds” or “30 Seconds”. You can select these intervals to refresh the log information displayed in the follow box. If selecting “manual refresh”, you should click the refresh button to refresh the syslog. | Manual Refresh |
| <div>Clear</div>   | Click the button to clear the syslog.                                                                                                                                                                                                                                       | --             |
| <div>Refresh</div> | Click the button to refresh the syslog.                                                                                                                                                                                                                                     | --             |
| Syslog Files       |                                                                                                                                                                                                                                                                             |                |
| Syslog Files List  | It can show at most 5 syslog files in the list, the files’ name range from message0 to message 4. And the newest syslog file will be placed on the top of the list.                                                                                                         | --             |

RT\_UG\_M1200\_v.1.1.2

Apr. 2020

68/96

| System Diagnosing Data |                                               |    |
|------------------------|-----------------------------------------------|----|
| <b>Generate</b>        | Click to generate the syslog diagnosing file. | -- |
| <b>Download</b>        | Click to download system diagnosing file.     | -- |

### 3.23 System > Update

This section allows you to upgrade the firmware of your gateway. Click **System > Update > System Update**, and click on “Choose File” to locate the firmware file to be used for the upgrade. Once the latest firmware has been chosen, click “Update” to start the upgrade process. The upgrade process may take several minutes. Do not turn off your gateway during the firmware upgrade process.

**Note:** To access the latest firmware file, please contact your technical support engineer.

Update

^ System Update

File

Choose File No file chosen

Update

### 3.24 System > App Center

This section allows you to add some required or customized applications to the gateway. Import and install your applications to the App Center, and reboot the device according to the system prompts. Each installed application will be displayed under the “Services” menu.

**Note:** After importing the applications to the gateway, the page display may have a slight delay due to the browser cache. It is recommended that you clear the browser cache first and log in the gateway again.

App Center

For more information about App, please refer to <http://www.robustel.com/products/app-center/>.

^ App Install

File

Browse...

Install

^ Installed Apps

| Index | Name             | Version | Status  | Description      |
|-------|------------------|---------|---------|------------------|
| 1     | language_chinese | 3.0.0   | Stopped | Chinese language |

| App Center            |                                                                                                                                                                                                                        |         |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                  | Description                                                                                                                                                                                                            | Default |
| <b>App Install</b>    |                                                                                                                                                                                                                        |         |
| File                  | Click on “Choose File” to locate the App file from your computer, and then click <b>Install</b> to import this file into your gateway.<br><b>Note:</b> File format should be xxx.rpk, e.g. M1200-robustlink-1.0.0.rpk. | --      |
| <b>Installed Apps</b> |                                                                                                                                                                                                                        |         |
| Index                 | Indicate the ordinal of the list.                                                                                                                                                                                      | --      |

| App Center  |                                    |         |
|-------------|------------------------------------|---------|
| Item        | Description                        | Default |
| Name        | Show the name of the App.          | Null    |
| Version     | Show the version of the App.       | Null    |
| Status      | Show the status of the App.        | Null    |
| Description | Show the description for this App. | Null    |

## 3.25 System > Tools

This section provides users three tools: Ping, Traceroute and Sniffer.

The screenshot shows the 'Ping' tool interface. It has a header bar with three tabs: 'Ping', 'Traceroute', and 'Sniffer'. The 'Ping' tab is selected. Below the tabs, there's a section titled 'Ping' with four input fields: 'IP Address', 'Number of Request' (with a value of 5), 'Timeout' (with a value of 1), and 'Local IP'. Below these fields is a large, empty rectangular box for displaying the results. At the bottom right of the interface are two buttons: 'Start' and 'Stop'.

| Ping                                                                                |                                                                                                                                                  |         |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                                                                                | Description                                                                                                                                      | Default |
| IP address                                                                          | Enter the ping's destination IP address or destination domain.                                                                                   | Null    |
| Number of Requests                                                                  | Specify the number of ping requests.                                                                                                             | 5       |
| Timeout                                                                             | Specify the timeout of ping requests.                                                                                                            | 1       |
| Local IP                                                                            | Specify the local IP from cellular WAN, Ethernet WAN or Ethernet LAN. Null stands for selecting local IP address from these three automatically. | Null    |
|  | Click this button to start ping request, and the log will be displayed in the follow box.                                                        | Null    |
|  | Click this button to stop ping request.                                                                                                          | --      |

Ping
Traceroute
Sniffer

^ Traceroute

Trace Address   
Trace Hops   
Trace Timeout

Start Stop

| Traceroute    |                                                                                                                                              |         |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item          | Description                                                                                                                                  | Default |
| Trace Address | Enter the trace's destination IP address or destination domain.                                                                              | Null    |
| Trace Hops    | Specify the max trace hops. gateway will stop tracing if the trace hops has met max value no matter the destination has been reached or not. | 30      |
| Trace Timeout | Specify the timeout of Traceroute request.                                                                                                   | 1       |
| Start         | Click this button to start Traceroute request, and the log will be displayed in the follow box.                                              | --      |
| Stop          | Click this button to stop Traceroute request.                                                                                                | --      |

Ping
Traceroute
Sniffer

^ Sniffer

Interface   
Host   
Packets Request   
Protocol   
Status

Start Stop

^ Capture Files

| Index | File Name             | File Size | Modification Time       |  |
|-------|-----------------------|-----------|-------------------------|--|
| 1     | 17-01-01_00-05-01.cap | 24        | Sun Jan 1 00:05:01 2017 |  |



| Sniffer                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                      |         |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                                                                              | Description                                                                                                                                                                                                                                                                                                                                                                                          | Default |
| Interface                                                                         | Select the interface according to the "Ethernet" configuration and select from "All", "PPP1", "WWAN" and "IO".                                                                                                                                                                                                                                                                                       | All     |
| Host                                                                              | Filter the packet that contain the specify IP address.                                                                                                                                                                                                                                                                                                                                               | Null    |
| Packets Request                                                                   | Set the packet number that the gateway can sniff at a time.                                                                                                                                                                                                                                                                                                                                          | 1000    |
| Protocol                                                                          | Select from "All", "IP", "TCP", "UDP" and "ARP".                                                                                                                                                                                                                                                                                                                                                     | All     |
| Status                                                                            | Show the current status of sniffer.                                                                                                                                                                                                                                                                                                                                                                  | Null    |
|  | Click this button to start the sniffer.                                                                                                                                                                                                                                                                                                                                                              | --      |
|  | Click this button to stop the sniffer. Once you click this button, a new log file will be displayed in the following List.                                                                                                                                                                                                                                                                           | --      |
| Capture Files                                                                     | Every times of sniffer log will be saved automatically as a new file. You can find the file from this Sniffer Traffic Data List and click  to download the log, click  to delete the log file. It can cache a maximum of 5 files. | Null    |

### 3.26 System > Profile

This section allows you to import or export the configuration file, and restore the gateway to factory default setting.

Profile

Rollback

^ Import Configuration File

Reset Other Settings to Default

ON

OFF

?

Ignore Invalid Settings

ON

OFF

?

XML Configuration File

Choose File

No file chosen

Import

^ Export Configuration File

Ignore Disabled Features

ON

OFF

?

Add Detailed Information

ON

OFF

?

Encrypt Secret Data

ON

OFF

?

XML Configuration File

Generate

XML Configuration File

Export

^ Default Configuration

Save Running Configuration as Default

Save

?

Restore to Default Configuration

Restore

| Profile                               |                                                                                                                                                          |         |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                                  | Description                                                                                                                                              | Default |
| Import Configuration File             |                                                                                                                                                          |         |
| Reset Other Settings to Default       | Click the toggle button as “ON” to return other parameters to default settings.                                                                          | OFF     |
| Ignore Invalid Settings               | Click the toggle button as “OFF” to ignore invalid settings.                                                                                             | OFF     |
| XML Configuration File                | Click on <b>Choose File</b> to locate the XML configuration file from your computer, and then click <b>Import</b> to import this file into your gateway. | --      |
| Export Configuration File             |                                                                                                                                                          |         |
| Ignore Disabled Features              | Click the toggle button as “OFF” to ignore the disabled features.                                                                                        | OFF     |
| Add Detailed Information              | Click the toggle button as “On” to add detailed information.                                                                                             | OFF     |
| Encrypt Secret Data                   | Click the toggle button as “ON” to encrypt the secret data.                                                                                              | OFF     |
| XML Configuration File                | Click <b>Generate</b> button to generate the XML configuration file, and click <b>Export</b> to export the XML configuration file.                       | --      |
| Default Configuration                 |                                                                                                                                                          |         |
| Save Running Configuration as Default | Click this button to save the current running parameters as default configuration.                                                                       | --      |
| Restore to Default Configuration      | Click this button to restore the factory defaults.                                                                                                       | --      |

Profile

Rollback

^ Configuration Rollback

Save as a Rollbackable Archive

Save

?

^ Configuration Archive Files

| Index | File Name   | File Size | Modification Time        |   |
|-------|-------------|-----------|--------------------------|---|
| 1     | config1.tgz | 3274      | Sun Jan 1 00:00:03 2017  | ↺ |
| 2     | config2.tgz | 3274      | Mon Jan 22 00:00:00 2018 | ↺ |
| 3     | config3.tgz | 3274      | Sun Jan 21 00:00:00 2018 | ↺ |
| 4     | config4.tgz | 3274      | Sat Jan 20 00:00:00 2018 | ↺ |

| Rollback                       |                                                                                                                                   |         |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                           | Description                                                                                                                       | Default |
| Configuration Rollback         |                                                                                                                                   |         |
| Save as a Rollbackable Archive | Create a save point manually. Additionally, the system will create a save point every day automatically if configuration changes. | --      |
| Configuration Archive Files    |                                                                                                                                   |         |
| Configuration Archive Files    | View the related information about configuration archive files, including name, size and modification time.                       | --      |

## 3.27 System > User Management

This section allows you to change your username and password, and create or manage user accounts. One gateway has only one super user who has the highest authority to modify, add and manage other common users.

**Note:** Your new password must be more than 5 character and less than 32 characters and may contain numbers, upper and lowercase letters, and standard symbols.

Super User

Common User

^ Super User Settings

New Username

?

Old Password

?

New Password

?

Confirm Password

| Super User Settings |                                                                                                                                                                |         |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                | Description                                                                                                                                                    | Default |
| New Username        | Enter a new username you want to create; valid characters are a-z, A-Z, 0-9, @, ., -, #, \$, and *. If you do not want to modify the username, leave it blank. | Null    |
| Old Password        | Enter the old password of your gateway. The default is "admin".                                                                                                | Null    |
| New Password        | Enter a new password you want to create; valid characters are a-z, A-Z, 0-9, @, ., -, #, \$, and *.                                                            | Null    |
| Confirm Password    | Enter the new password again to confirm.                                                                                                                       | Null    |

Super User

Common User

^ Common User Settings

Index

Role

Username

+

Click  button to add a new common user. The maximum rule count is 5.

Common User

^ Common Users Settings

Index

1

Role

Visitor

Username

Password

| Common User Settings |                                                                                                                                                                                                                                                        |         |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Item                 | Description                                                                                                                                                                                                                                            | Default |
| Index                | Indicate the ordinal of the list.                                                                                                                                                                                                                      | --      |
| Role                 | Select from "Visitor" and "Editor". <ul style="list-style-type: none"> <li>Visitor: Users only can view the configuration of gateway under this level</li> <li>Editor: Users can view and set the configuration of gateway under this level</li> </ul> | Visitor |
| Username             | Set the Username; valid characters are a-z, A-Z, 0-9, @, ., -, #, \$, and *.                                                                                                                                                                           | Null    |
| Password             | Set the password which at least contains 5 characters; valid characters are a-z, A-Z, 0-9, @, ., -, #, \$, and *.                                                                                                                                      | Null    |

## Chapter 4 Dial Configuration of PC under Modem Mode

When M1200 is working under the Modem mode, PC can dial to access internet through device. After the first successful configuration of the same PC, the same dial-up connection does not need to be configured again. Different operating systems need to be configured differently. This chapter describes the Modem mode dialing configuration of Windows system and Linux system in detail.

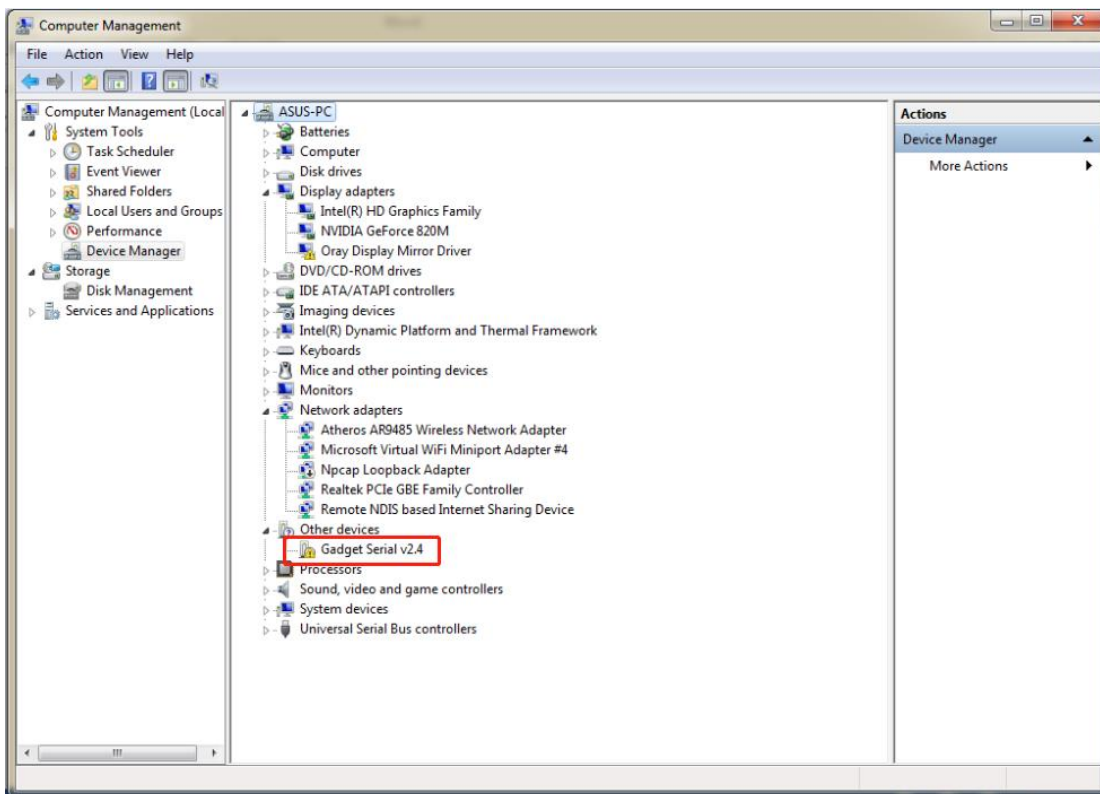
Note: Under the Modem mode, only SIM1 is used for dialing.

### 4.1 Window System

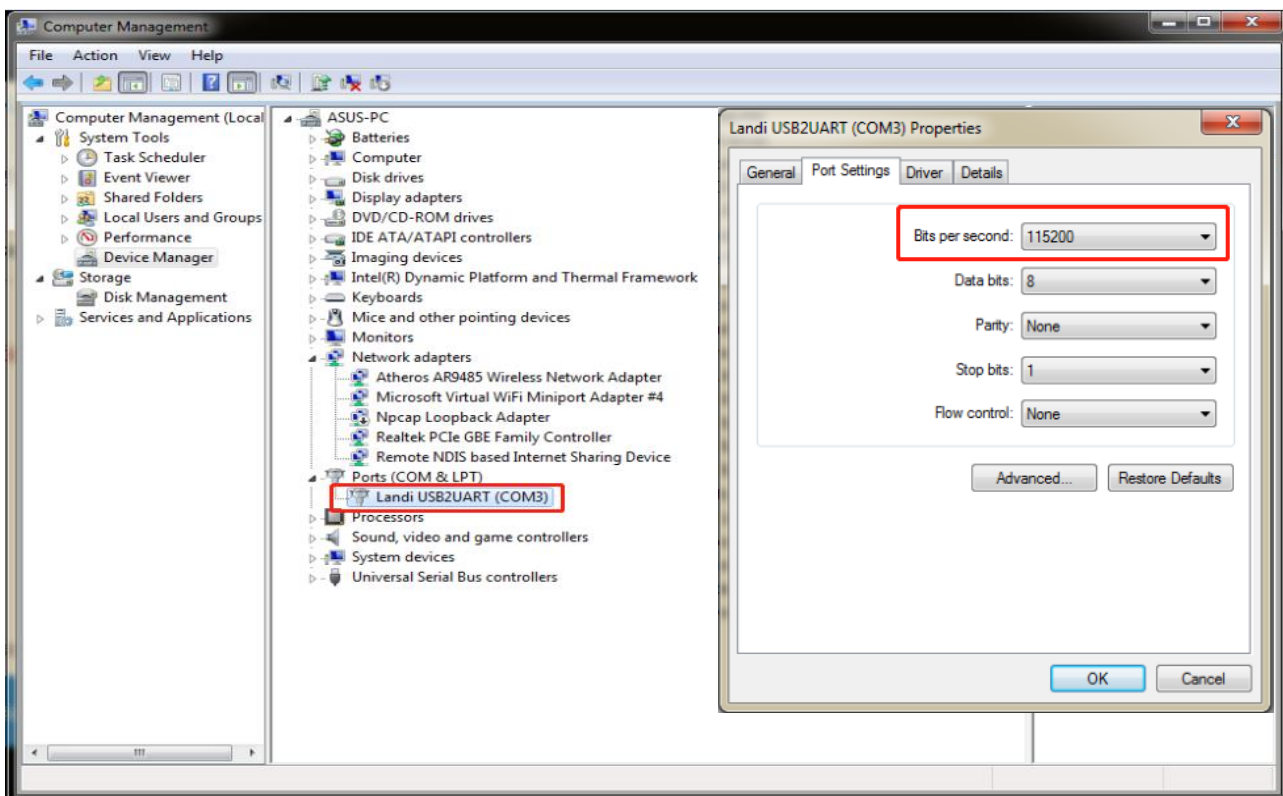
This chapter sets Windows 7 as the example to introduce how PC dials to access internet through device.

#### 1. Install the serial port driver

(1) After device is connected, PC checked the new serial port and attempted to install the driver. As shown below, if PC cannot automatically install the driver, the user can manually add the driver and operate according to the readme under m1200\_ppp\_configure\usb\_driver, and the related appendix can be downloaded on the official website or request for the technical support.

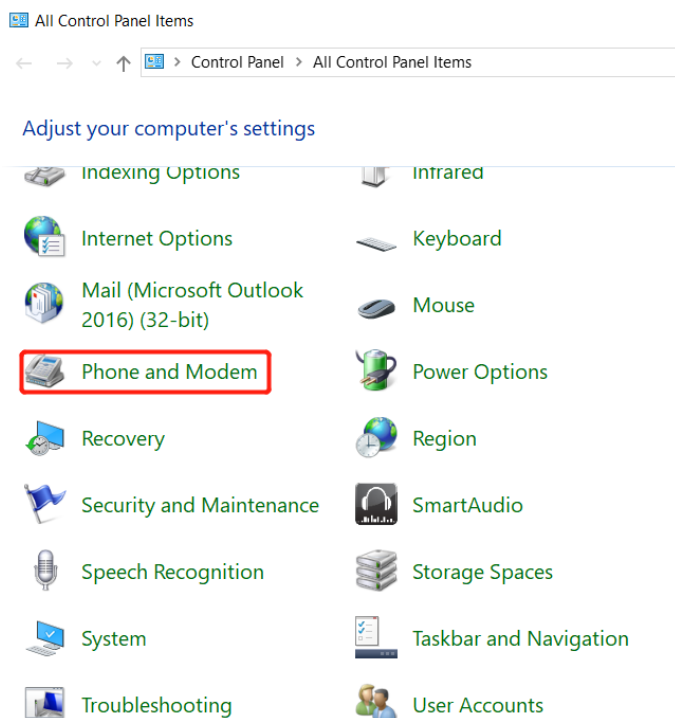


(2) After USB is connected to the PC, check the identified serial port. Different ports of different USB interfaces are different. Right-click and select “Properties” to set the serial port speed to 115200, and click “OK”;

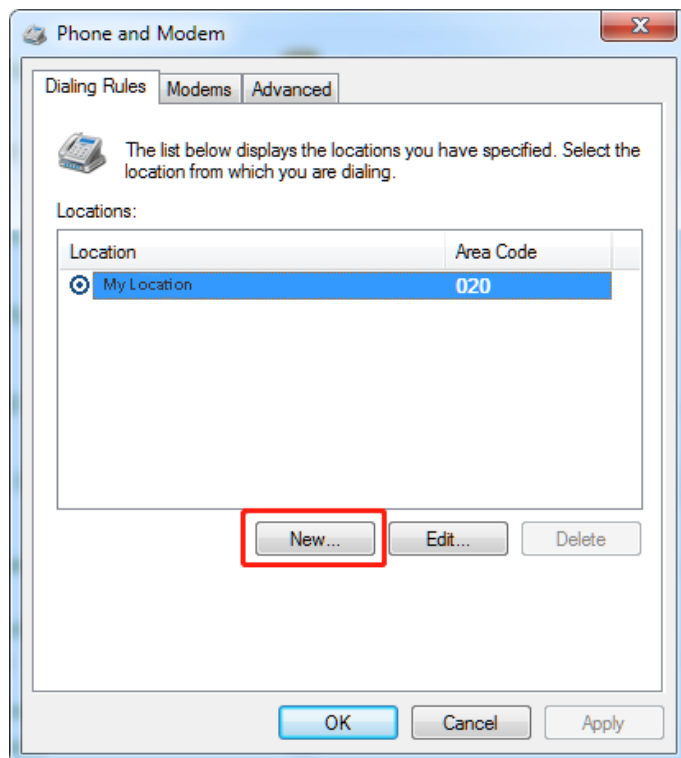


## 2. Add a Modem

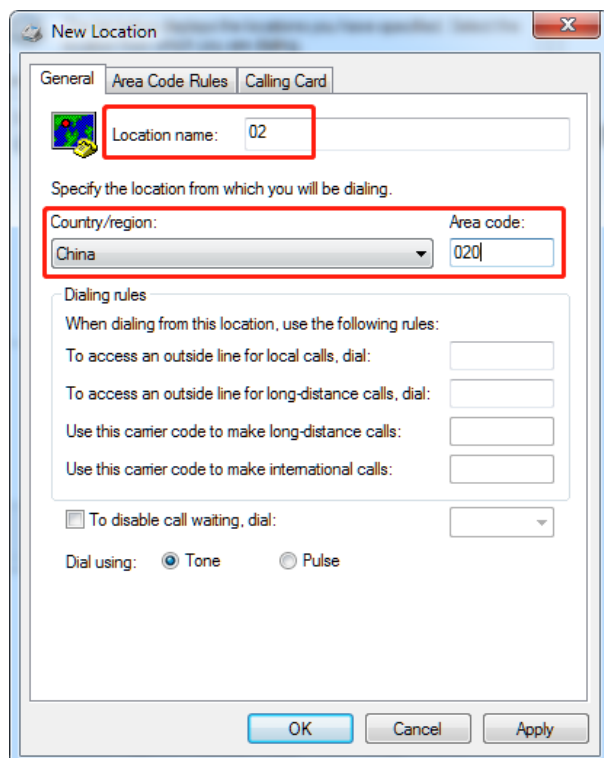
(1) In the Control Panel, select “Phone and Modem”, and add a modem;



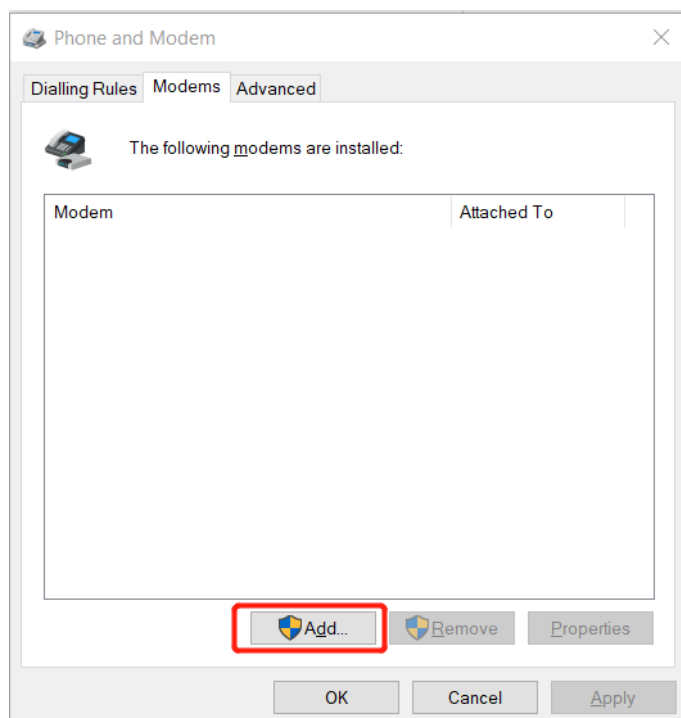
(2) Click "Dialing Rules" → "New" to add a new location;



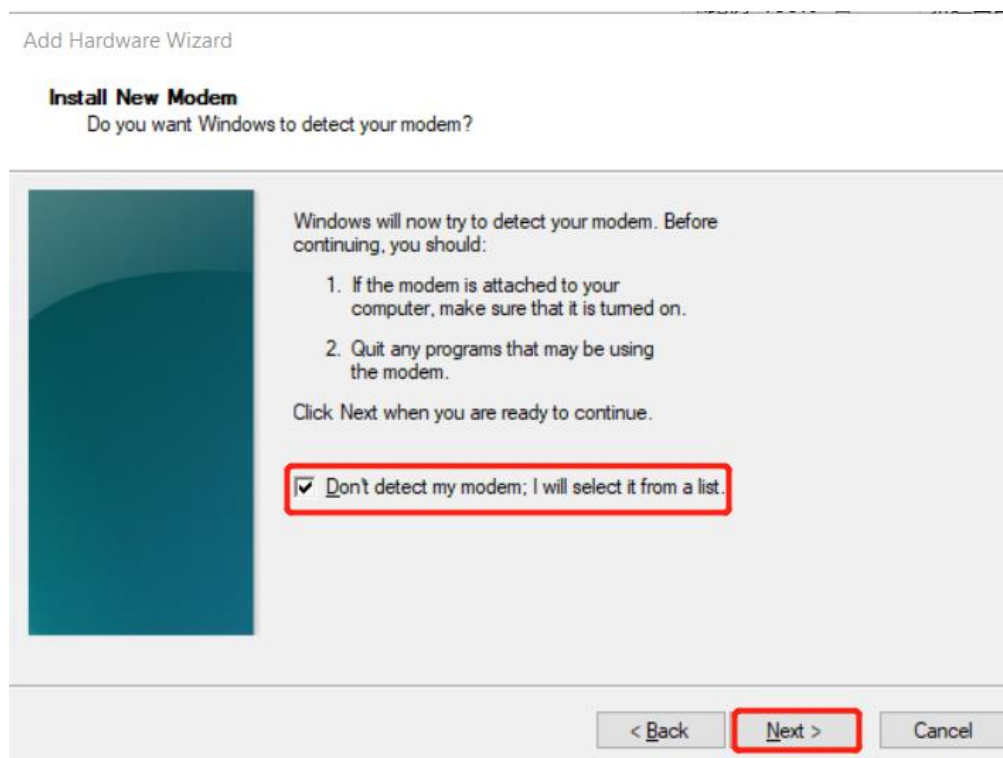
(3) Fill in the location name (optional), the dialing location is based on the actual selected country/region, fill in the correct area code and click "OK";



(4) Enter into the "Modem" item and click "Add";

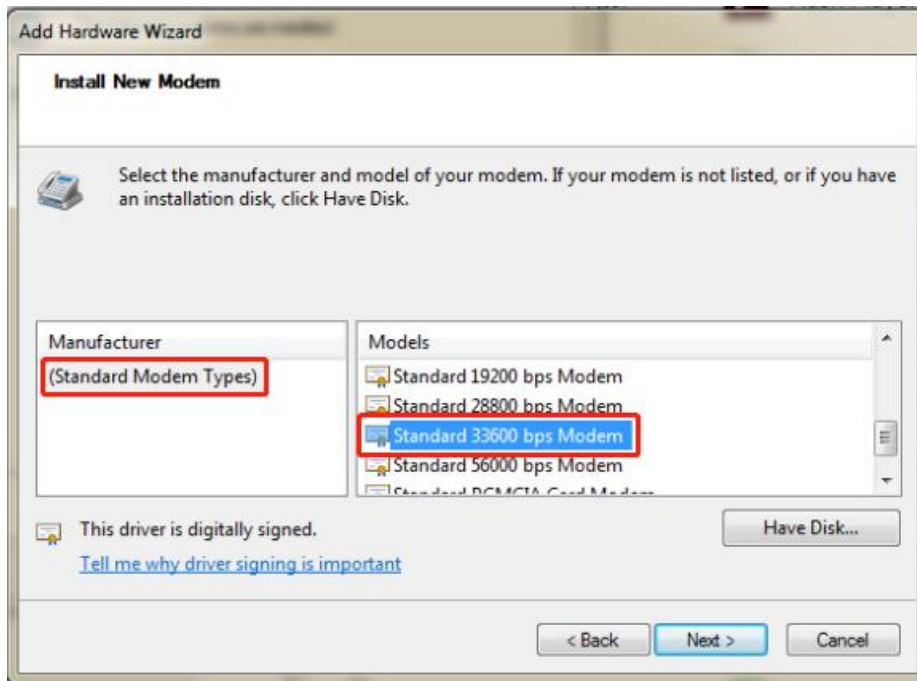


(5) Select "Don't detect my modem, I will select it from a list" and click "Next";

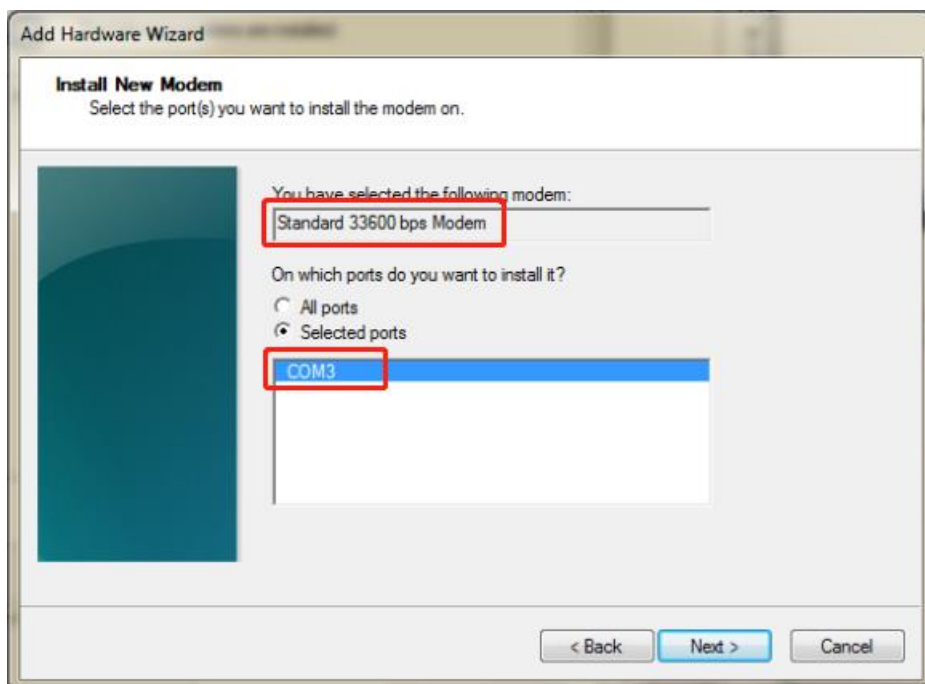


(6) Select the correct manufacturer and model according to the content shown in the figure. If the Standard Modem Types list does not exit, please refer to the readme under m1200\_ppp\_configure\ modem\_inf, and the related appendix can be downloaded on the official website or requested for the technical support.

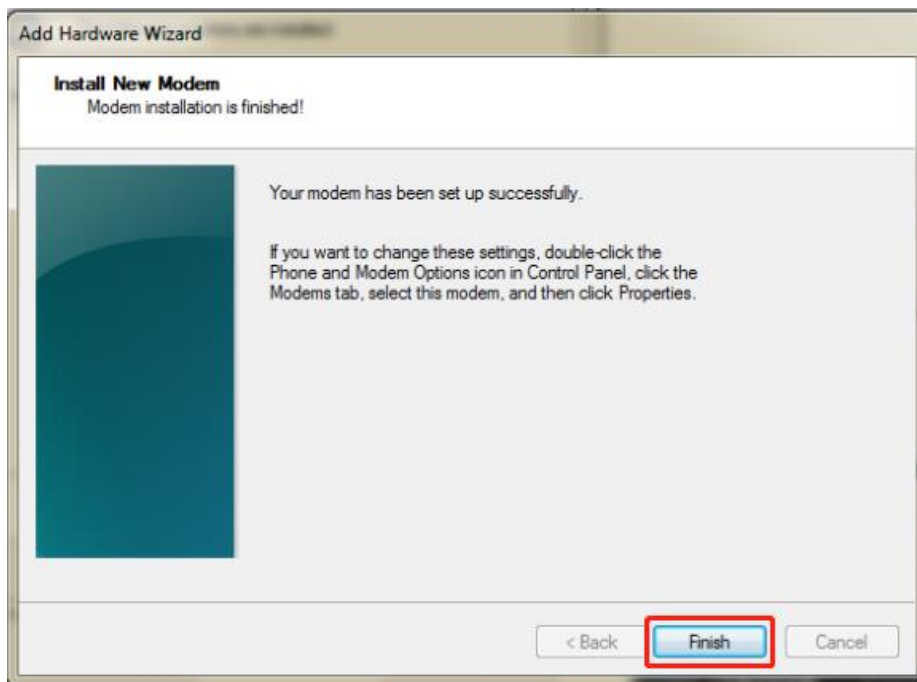




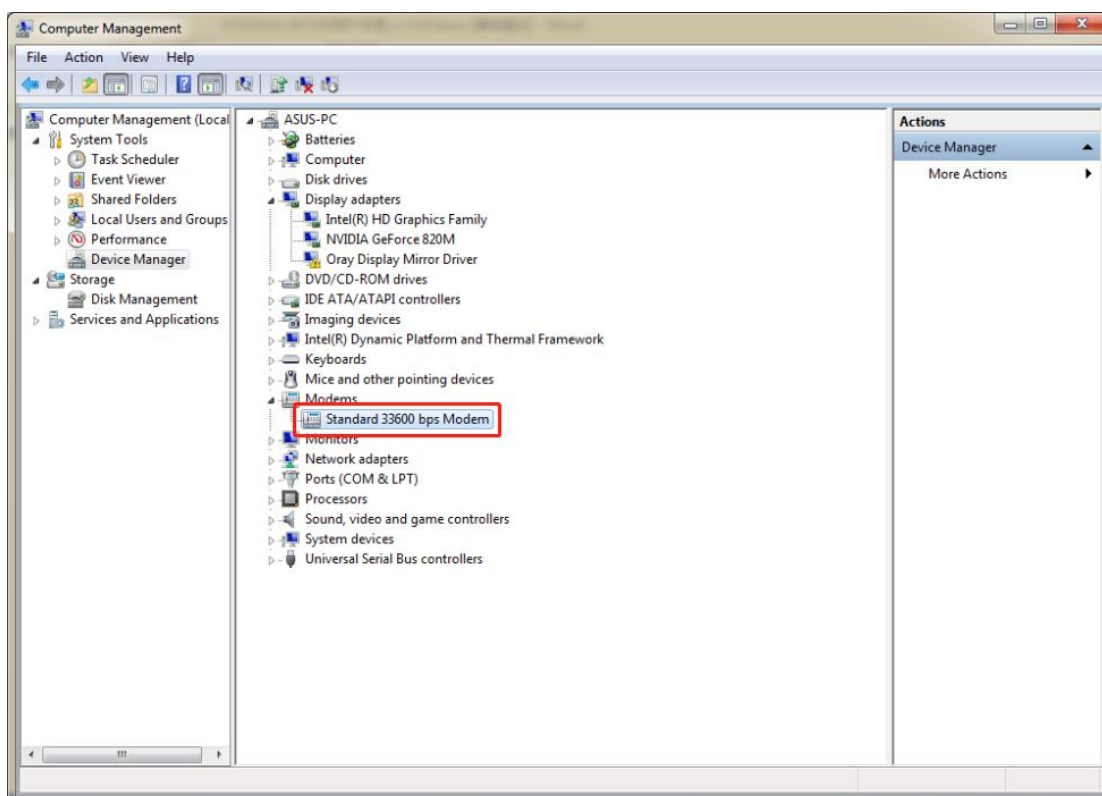
(7) According to the COM port corresponding to the device in step 1, select the actual corresponding port and click next.



(8) After the modem is installed, click "Finish";



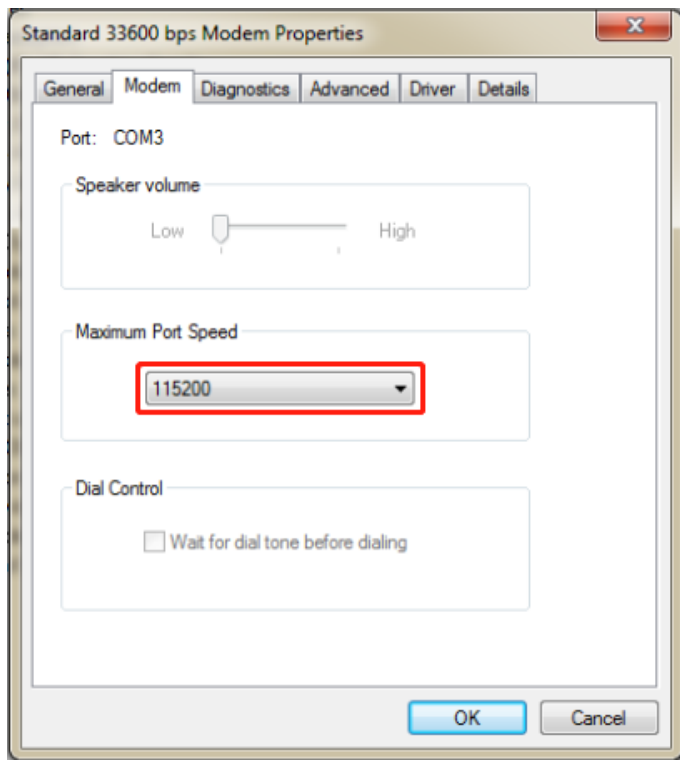
(9) Enter into the device manager of your computer and see the newly added modem.



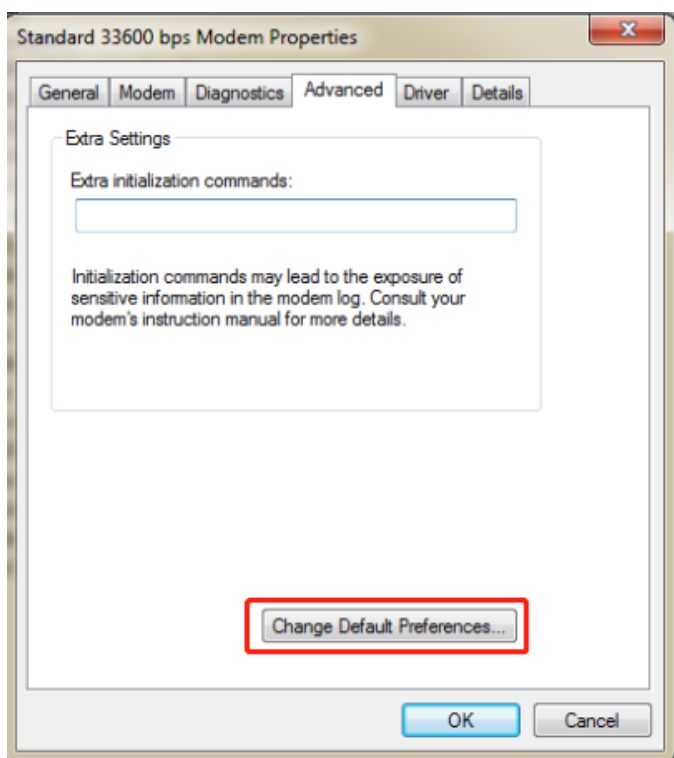
### 3. Configuring the modem

Right click on the new added modem and select "Properties" to configure it:

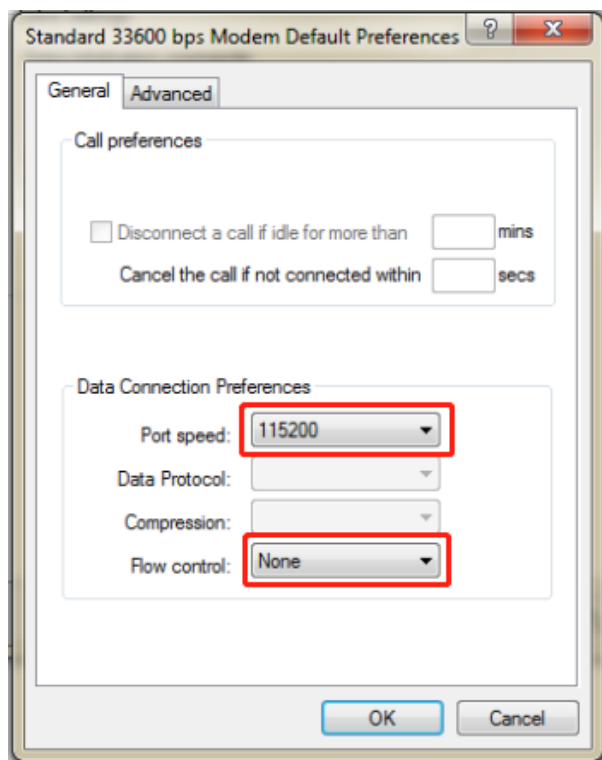
(1) Select the "Modem" item and select "115200" for the maximum port speed;



(2) Select the "Advanced" item and click "Change default preferences";



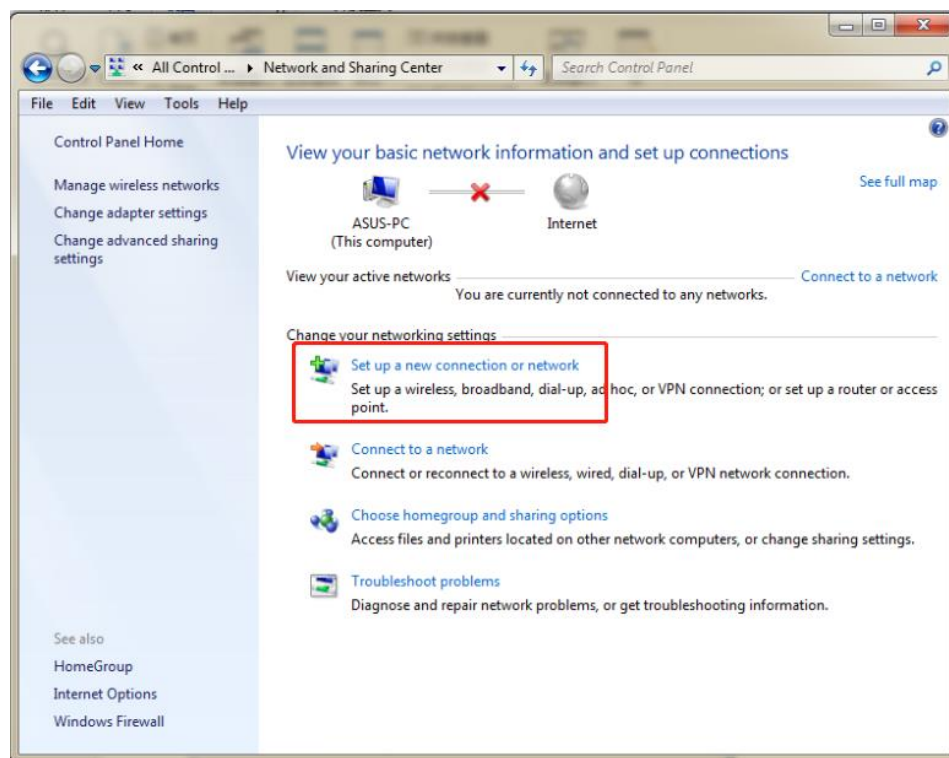
(3) Enter the "General" item, set the port speed to "115200", and select "None" for the data flow control;



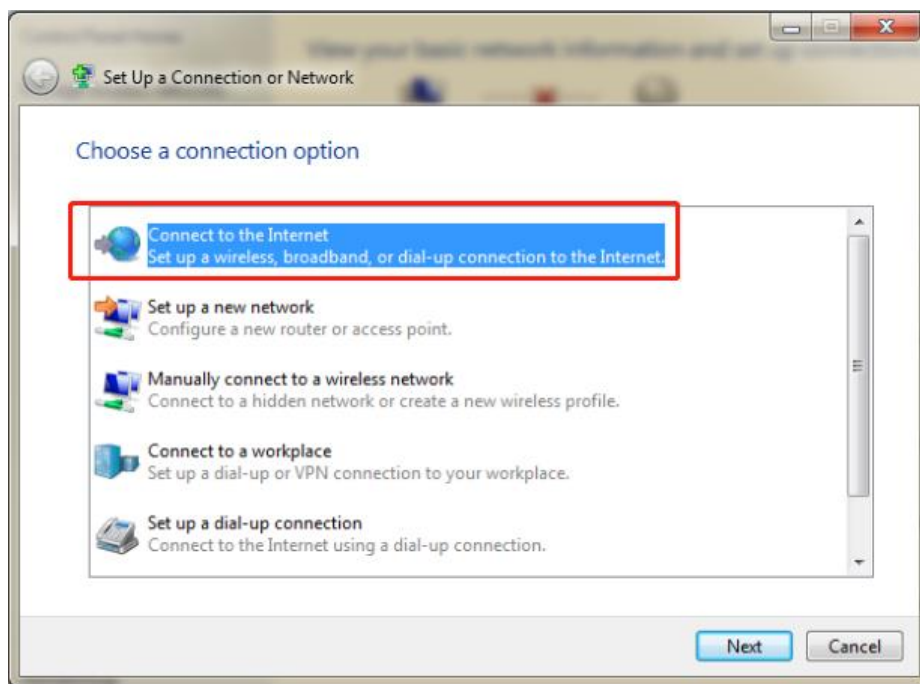
(4) Modem configuration is complete, click OK.

#### 4. Create a new dial-up connection

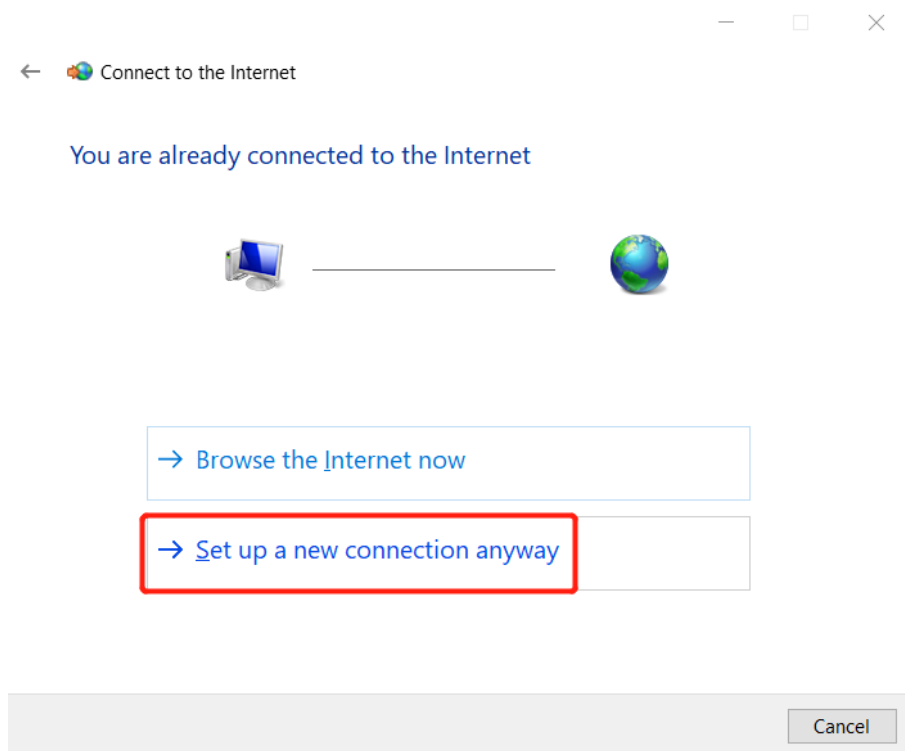
- (1) Open your computer's Network Sharing Center, under "Change network settings," select "Set up a new connection or network";



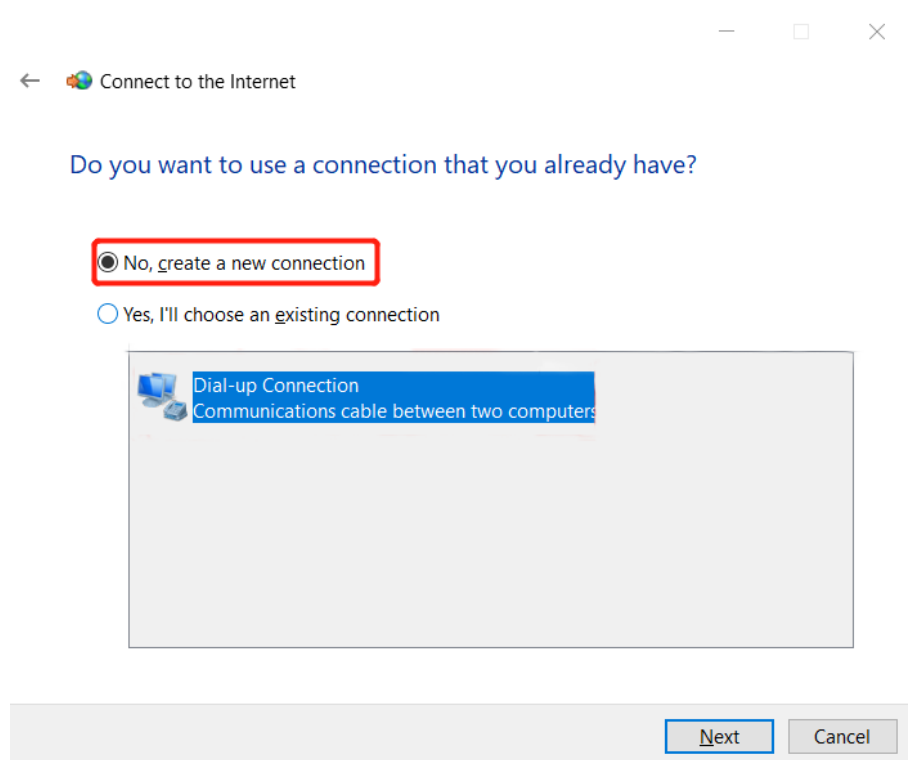
(2) Select "Connect to the Internet" and click Next;



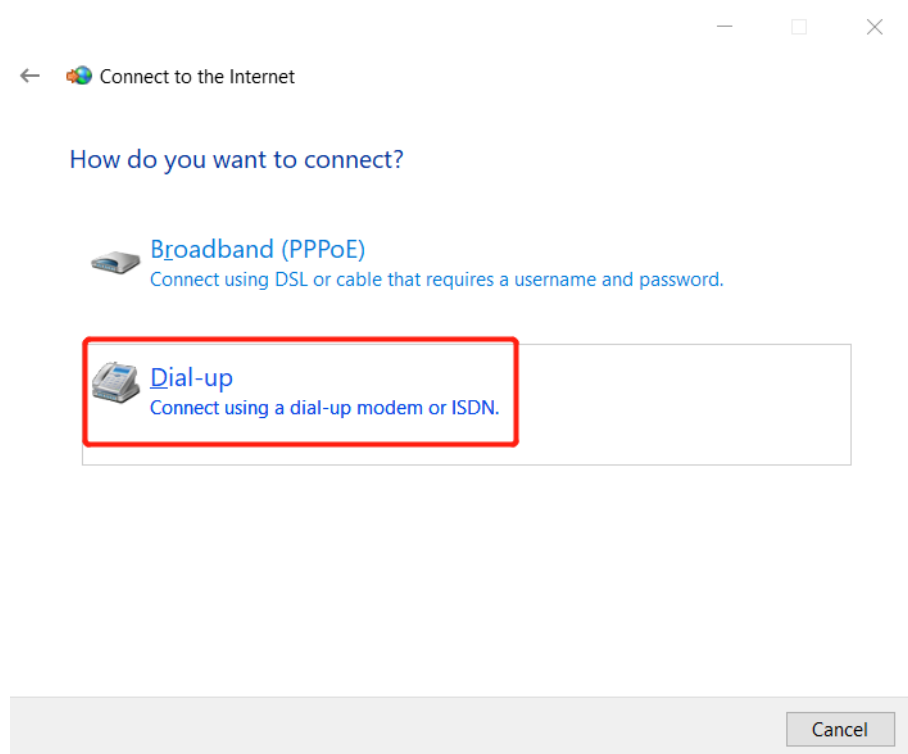
(3) In the new pop-up window, select "Set up a new connection anyway";



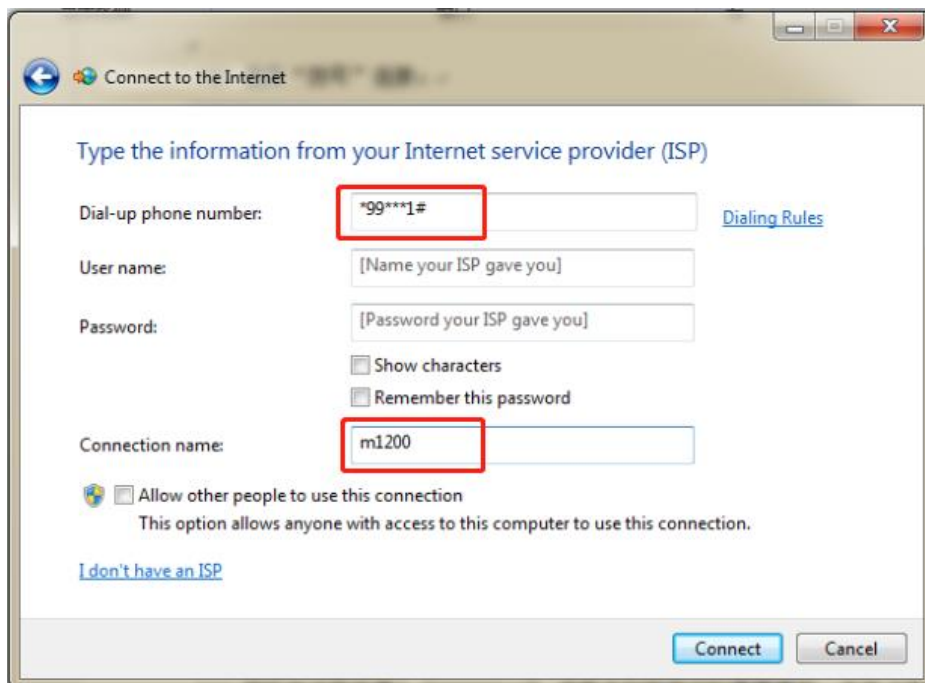
- (4) Click "No, create a new connection" and click Next;



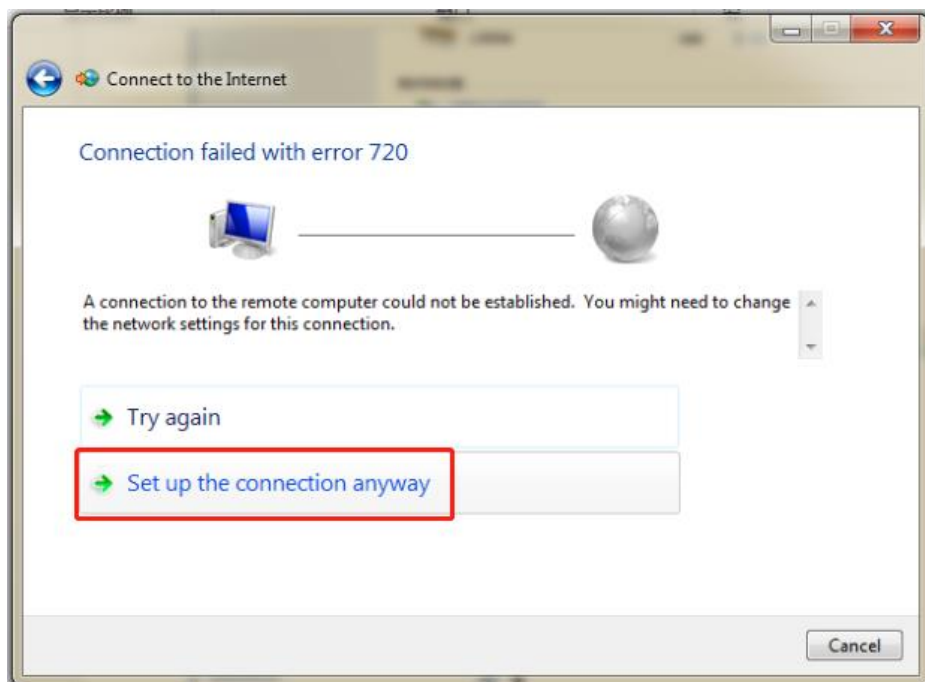
- (5) Select the "Dial-up" connection;



- (6) Dial the phone number and fill in "\*99\*\*\*1#". Fill in the connection name according to actual needs. Click "connect".

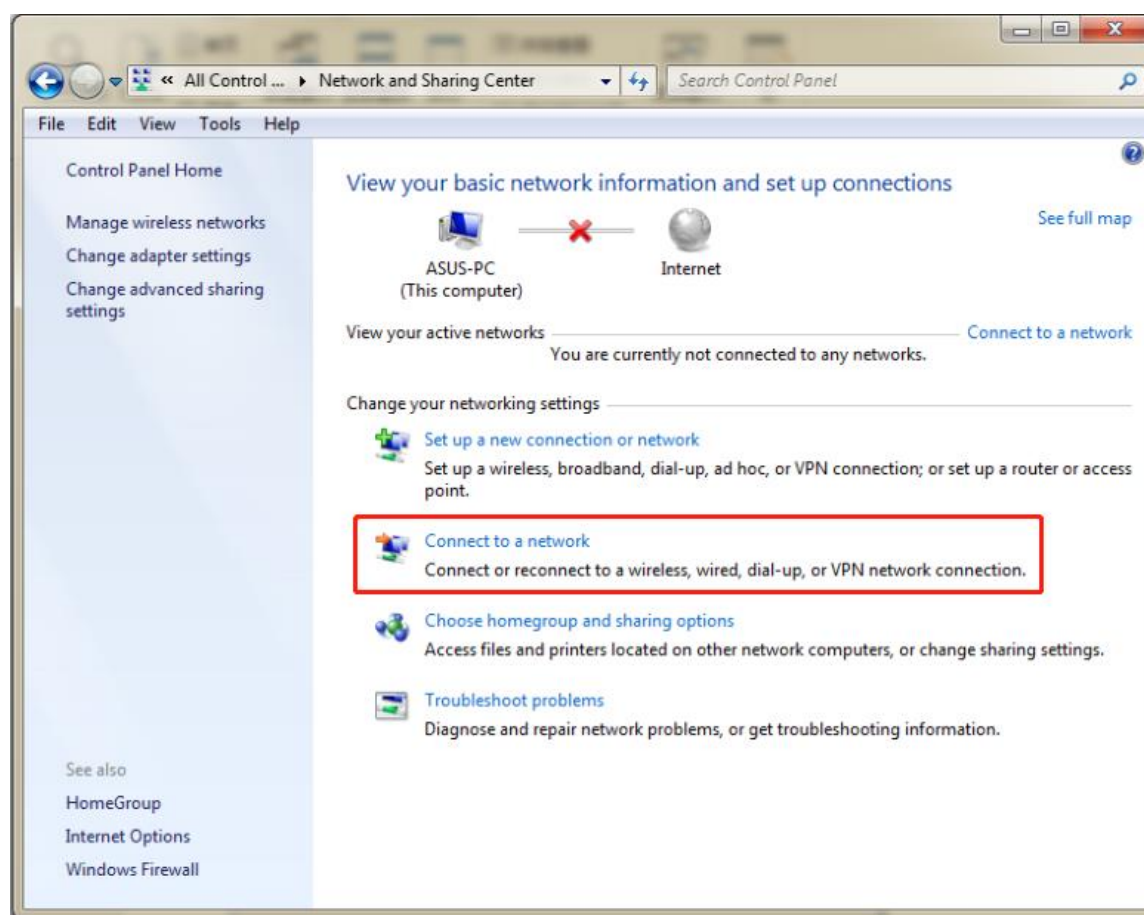


(7) After the connection fails, click "Always set up connection" to close this page.

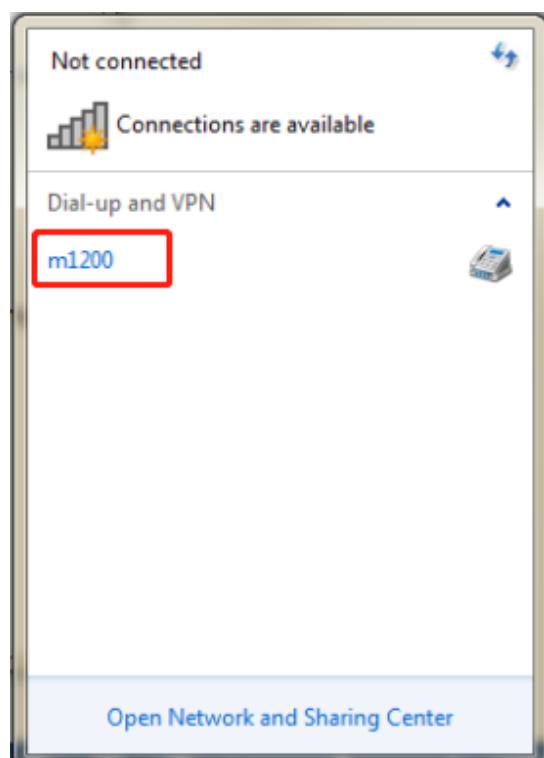


## 5. Dial-up connection

- (1) Open your computer's "Network Sharing Center", under "Change network settings," select "Set up a new connection or network" ;

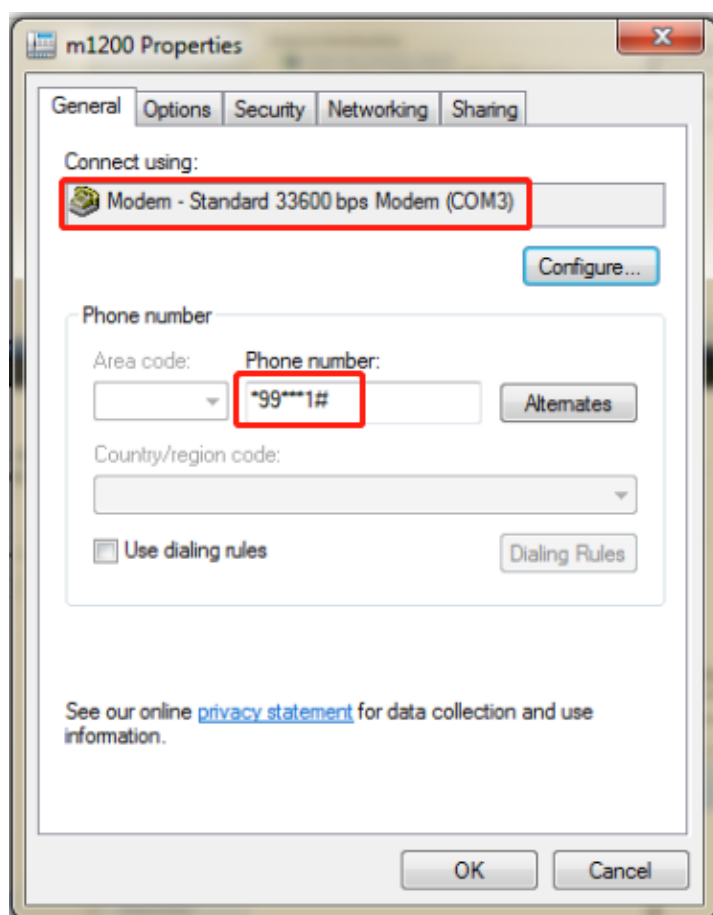


- (2) Select the newly established dial-up connection in the new pop-up box, right-click and select "Properties";

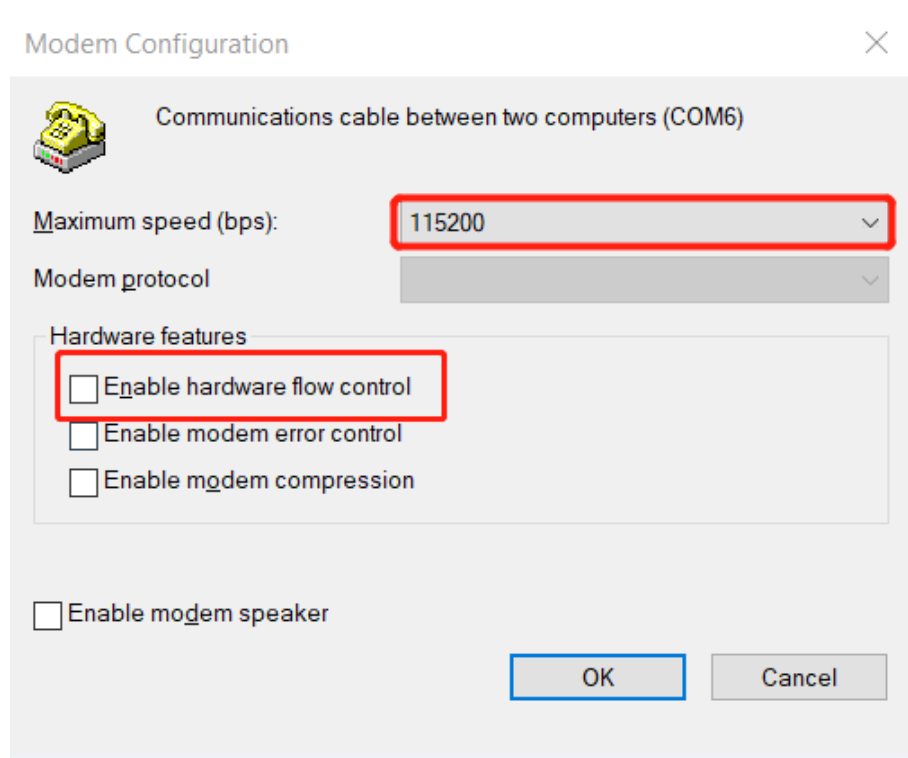


- (3) Under "General", select the added modem, confirm that the phone number is added correctly, and click "Configure";

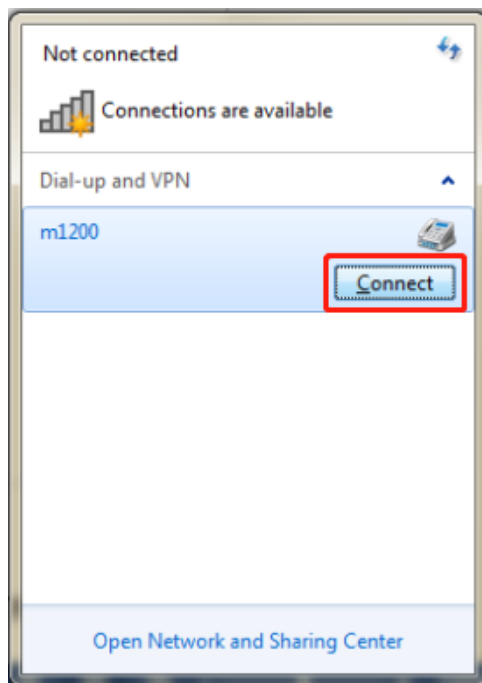




- (4) The maximum speed is selected as “115200”, and the hardware function is unchecked “Enable Hardware Flow Control”, as shown below;



- (5) After the configuration is complete, click “Connect” and select “Dial-up” in the pop-up page box to establish a connection with the device



## 4.2 Linux System

The M1200 modem mode supports Linux system. This part takes R3000 (the device uses Linux system) as an example, dialing through RS 232 serial port.

### 1. Verify device connectivity

Connect M1200 with R3000 through RS 232 serial port. If the connection is completed, input command in R3000: `microcom -s 115200 /dev/ttyCOM1`, and then the command window will return CSQ value continually as shown below, CTRL + X can stop AT port.

```
~ # microcom -s 115200 /dev/ttyCOM1
+CSQ: 15,99
OK
+CSQ: 15,99
OK
+CSQ: 15,99
OK
+CSQ: 15,99
OK
```

### 2. Dial interface configuration

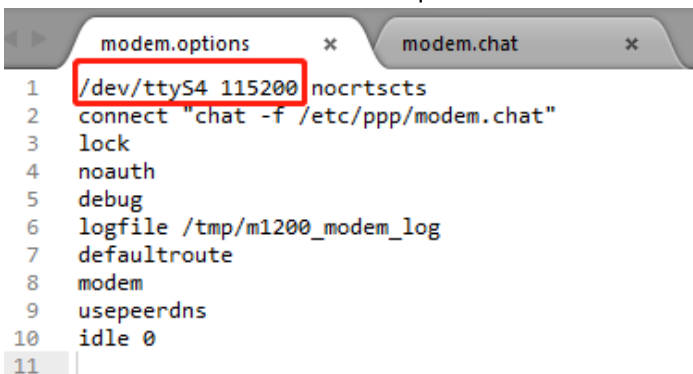
(1) Input `ls -l /dev/ttyCOM1` to view the name of COM1 port, which same as the name of the script.

```
~ # ls -l /dev/ttyCOM1
lrwxrwxrwx 1 root root 10 Jan 1 1970 /dev/ttyCOM1 -> /dev/ttyS4
```

(2) Copy the U disk which with the dialing script to the corresponding content through the USB port of R3000, the details as shown below:

```
~ # cp /mnt/usb/dialscript/modem.chat /etc/ppp
~ # cp /mnt/usb/dialscript/modem.options /etc/ppp/peers/
~ # ln -s /etc/ppp/resolv.conf /etc/resolv.conf
```

(3) The script content as shown below. The red box mark in the figure changes according to the actual situation. The name of interface and baud rate are required to same as the configuration of M1200:



```
modem.options  x  modem.chat  x
1 /dev/ttyS4 115200 nocrtscts
2 connect "chat -f /etc/ppp/modem.chat"
3 lock
4 noauth
5 debug
6 logfile /tmp/m1200_modem_log
7 defaultroute
8 modem
9 usepeerdns
10 idle 0
11
```

```

modem.options  x  modem.chat  x
1  ABORT  BUSY
2  ABORT  'NO CARRIER'
3  ABORT  ERROR
4  REPORT CONNECT
5  TIMEOUT 10
6  ""  "AT"
7  OK  "ATE0"
8  OK  'AT+CGDCONT=1,"IP","3gnet"'
9  TIMEOUT 30
10 OK  "ATD*99***1#"
11 CONNECT ''

```

3. Enter the dialing command to dial

```
~ # pppd call modem.options
```

4. View the dialing logs

```
~ # cat /tmp/m1200_modem_log
```

5. If it needs dial again, input ps command to view the process number of pppd process, then kill the process, input dial command to dial again.

```

1022 root      0:00  _sh
1103 root      0:00  [kworker/u2:0]
1257 root      0:00  [kworker/0:1H]
1479 root      0:00  [kworker/u2:1]
1986 root      0:00  link_manager
1999 root      0:00  [kworker/0:0]
2244 root      0:00  syslogd -L -b 5 -s 1024 -l 8 -f /var/etc/syslog.conf
2246 root      0:00  klogd
2389 root      0:00  modemd
2529 root      0:00  qmi wwan
2531 root      0:08  /usr/sbin/slogssdk 0
2757 root      0:00  pppd call modem.options
2862 root      0:00  ps
~ # kill 2757
~ # pppd call modem.options

```

### 4.3 CLI to Change the Configuration of Modem

When device is under the mode of Modem, it can be configured through CLI command. If the current “selection of dialing port” (i.e. at\_port), input the following command and keep it:

1. view the current mode by inputting show mode all:

```

# show mode all
current_mode = modem
at_port = rs232
baud_rate = 115200
data_bits = 8
stop_bits = 1
parity = none
debug_enable = true

```

2. Revise the parameter of Modem.

For example, revise “selection of dialing port” (i.e. at\_port), input the following command and keep it:

```
# set mode at_port rs232
# config save_and_apply
```

3. Revise the baud rate of the device:

```
# set mode baud_rate 115200
# config save_and_apply
```

To modify other parameters, modify the at\_port and the parameters that follow it.

4. Switch to the DTU mode

There are two ways:

(1) Configured to DTU mode via CLI settings:

Set the mode to DTU mode:

```
set mode current_mode dtu
```

Save the configuration:

```
config save_and_apply
```

Reboot the device:

```
reboot
```

(2) Send commands through the dial interface to configure DTU mode:

```
_dtu
```

Reboot the device:

```
_rbt
```

Description:

(1) USB is used as at\_port. At this time, you can log in to the device through RS232 and configure the device to DTU mode by using the CLI.

(2) RS232 is used as the at\_port. At this time, the command can be sent to the RS232 (the command is sent through the dial interface) to configure the DTU mode. In this case, the USB cannot log in to the device.

# Glossary

| Abbr.    | Description                                                |
|----------|------------------------------------------------------------|
| AC       | Alternating Current                                        |
| APN      | Access Point Name                                          |
| ASCII    | American Standard Code for Information Interchange         |
| CE       | Conformité Européene (European Conformity)                 |
| CHAP     | Challenge Handshake Authentication Protocol                |
| CLI      | Command Line Interface for batch scripting                 |
| CSD      | Circuit Switched Data                                      |
| CTS      | Clear to Send                                              |
| dB       | Decibel                                                    |
| dBi      | Decibel Relative to an Isotropic radiator                  |
| DC       | Direct Current                                             |
| DCD      | Data Carrier Detect                                        |
| DCE      | Data Communication Equipment (typically modems)            |
| DCS 1800 | Digital Cellular System, also referred to as PCN           |
| DI       | Digital Input                                              |
| DO       | Digital Output                                             |
| DSR      | Data Set Ready                                             |
| DTE      | Data Terminal Equipment                                    |
| DTMF     | Dual Tone Multi-frequency                                  |
| DTR      | Data Terminal Ready                                        |
| EDGE     | Enhanced Data rates for Global Evolution of GSM and IS-136 |
| EMC      | Electromagnetic Compatibility                              |
| EMI      | Electro-Magnetic Interference                              |
| ESD      | Electrostatic Discharges                                   |
| ETSI     | European Telecommunications Standards Institute            |
| EVDO     | Evolution-Data Optimized                                   |
| FDD LTE  | Frequency Division Duplexing Long Term Evolution           |
| GND      | Ground                                                     |
| GPRS     | General Packet Radio Service                               |
| GRE      | generic route encapsulation                                |
| GSM      | Global System for Mobile Communications                    |
| HSPA     | High Speed Packet Access                                   |
| ID       | identification data                                        |
| IMEI     | International Mobile Equipment Identity                    |
| IP       | Internet Protocol                                          |
| IPsec    | Internet Protocol Security                                 |
| kbps     | kbits per second                                           |
| L2TP     | Layer 2 Tunneling Protocol                                 |

| Abbr.       | Description                                                   |
|-------------|---------------------------------------------------------------|
| LAN         | local area network                                            |
| LED         | Light Emitting Diode                                          |
| LoRa        | Long Range                                                    |
| LoRaWAN     | LoRa Wide Area Network                                        |
| LPWAN       | Low Power Wide Area Network                                   |
| M2M         | Machine to Machine                                            |
| MAX         | Maximum                                                       |
| Min         | Minimum                                                       |
| MO          | Mobile Originated                                             |
| MS          | Mobile Station                                                |
| MT          | Mobile Terminated                                             |
| OpenVPN     | Open Virtual Private Network                                  |
| PAP         | Password Authentication Protocol                              |
| PC          | Personal Computer                                             |
| PCN         | Personal Communications Network, also referred to as DCS 1800 |
| PCS         | Personal Communication System, also referred to as GSM 1900   |
| PDU         | Protocol Data Unit                                            |
| PIN         | Personal Identity Number                                      |
| PLCs        | Program Logic Control System                                  |
| PPP         | Point-to-point Protocol                                       |
| PPTP        | Point to Point Tunneling Protocol                             |
| PSU         | Power Supply Unit                                             |
| PUK         | Personal Unblocking Key                                       |
| R&TTE       | Radio and Telecommunication Terminal Equipment                |
| RF          | Radio Frequency                                               |
| RTC         | Real Time Clock                                               |
| RTS         | Request to Send                                               |
| RTU         | Remote Terminal Unit                                          |
| Rx          | Receive Direction                                             |
| SDK         | Software Development Kit                                      |
| SIM         | subscriber identification module                              |
| SMA antenna | Stubby antenna or Magnet antenna                              |
| SMS         | Short Message Service                                         |
| SNMP        | Simple Network Management Protocol                            |
| TCP/IP      | Transmission Control Protocol / Internet Protocol             |
| TE          | Terminal Equipment, also referred to as DTE                   |
| Tx          | Transmit Direction                                            |
| UART        | Universal Asynchronous Receiver-transmitter                   |
| UMTS        | Universal Mobile Telecommunications System                    |
| USB         | Universal Serial Bus                                          |
| USSD        | Unstructured Supplementary Service Data                       |
| VDC         | Volts Direct current                                          |

| Abbr. | Description                   |
|-------|-------------------------------|
| VLAN  | Virtual Local Area Network    |
| VPN   | Virtual Private Network       |
| VSWR  | Voltage Stationary Wave Ratio |
| WAN   | Wide Area Network             |



### **Guangzhou Robustel LTD**

Add: 3rd Floor, Building F, Kehui Park, No.95 Dagan Road,  
Guangzhou, China 510660

Tel: 86-20-29019902

Email: [info@robustel.com](mailto:info@robustel.com)

Web: [www.robustel.com](http://www.robustel.com)