ZLAN8308M/8308MN

DIN-rail 4G CAT1 DTU

RS485 to 4G

Modbus RTU to 4G Modbus TCP

RS485 to MQTT

DLT-645/RTU to cloud platform JSON

ZL DUI 20211222.1.0

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Version Information

The following changes have been made to this document:

Modification Record

date	version number	Document Number	Modifications
2021-12-22	Rev.1	ZL DUI 20211222.1.0	release version

Ownership Information

Table of contents

1.Overview

ZLAN8308MIt is a new cost-effective rail typeCAT1 4G DTU, and supports2G GPRSmode. It can be realizedRS485change4G,CAT1 4GUplink transmission speed5Mbps, Down10MbpsIt can achieveRS485 Data Transfer4G, using rail installation, easy to install.4G DTUCompared to the original width1/4About 100mm, small size. It adopts terminal power supply access,9~24VWide voltage input. The shell is made of high temperature and flame retardant alloy plastic, which meets the fire protection requirements of industrial sites.

ZLAN8308MNexist8308MOn the basis of increasedP2PandM2MFunction, data can be forwarded through the cloud without the need for users to build their own servers.P2PSuitable for intranet computers4GMonitor various serial port devices, M2MSuitable for serial portPLCand serial port devices through4GNetwork communications.

ZLAN8308MNot only has registration report, heartbeat package, but also has the latestMQTT,Modbus RTU changeJSONIt can be connected to cloud servers and has the characteristics of high-speed transmission, low latency, and support for new technologies.

picture1 ZLAN8308MAppearance

ZLAN8308MYou can configure the device, upgrade the firmware, and configureMQTT/JSONIt also supports remote centralized management of a large number of distributed devices through the server, and can remotely configure,

Remotely check the status and remotely upgrade the program. This can be achieved with public cloud or ZLO Cloud.WebDevice management andWebTerminal data viewing and remote control.

supportJSONUpload the collected data in the format, and the data will be collected automatically.Modbus RTU, 645meter97Version,645meter07Versions, various non-standardRS485Protocol, etc. Users can use ZLVircom Configure the uploaded data format andJSONKeywords. Upload can supportMQTTprotocol, HTTP POSTprotocol, HTTP GETProtocol, transparent transmission protocol, and various non-standard network protocols. ZLAN5407MWith reset button, convenientJSONReset parameters when format error occurs.

Support edge computing functions, including: data over-limit alarm, data translation and scaling, data change upload, device offline alarm, device autonomous collection, device automatic connection, etc.JSONFunctions are used together.

ZLAN8308MThere is a specially designed watchdog circuit to ensure4GThe module operates stably for many years. Product Support -40℃~85℃ industrial temperature range. Passed electrostatic and other electromagnetic compatibility tests.

picture2Application environment diagram

ZLAN8308MSuitable for the following application areas:

1.Data collection in the fields of industrial Internet and industrial automation.

2.New energy, solar energy, wind power generation, power data collection and monitoring.

3.Access control and security.

4.Collection and monitoring of hydrological, meteorological and environmental data.

5.Intelligent transportation, vehicle-mounted data collection.

6.Smart agriculture, smart greenhouses, and smart animal husbandry.

2.Features

Special feature

1.Support customizationModbus/DLT-645changeJSONFunction.

2.CanMQTT+JSON,HTTP+JSONmode, connecting to various public clouds.

3.supportMQTTGateway function. Can supportMQTT SSLEncrypted transmission.

4.Support edge computing functions: including data over-limit alarm, data translation and scaling calculation, data change upload, device offline alarm, etc.

5.Support device cloud management: realize online monitoring of devices, remote configuration modification of devices, remote upgrade of devices, etc. through ZLAN device cloud or user-built cloud.

6.Support offline data storage.

General functions

1.support3Type of mode,TD-LTE/ FDD-LTE/ GSM, including China Unicom 4G, 2G, China Mobile 4G, 2G and China Telecom 4G networks.

2.supportTCPClient,UDPmodel.

3.Serial port support300~921600Baud rate, support5~8Data bit, support no check, odd check, even check, support1~2stop bits.

4.Support serial port (RS485)change4G.

5.Support serial port transparent transmission,8308MsupportModbus RTUchangeModbus TCP,MQTTprotocol.

6.Support serial portATCommand configuration, supportZLViromSoftware to view and set parameters.

7.Support serial port configurationMQTTparameter.

8.supportDTL-645/Modbus RTUAutomatic collection and conversion to cloud platformJSONFormat.

9. 8308MThe firmware of the device can be updated through the serial port.ZLVircomThe software updates the device firmware on the server side.

10.Supports server-side remote device management, device configuration, and device upgrades.

3.Technical Parameters

External Interface			
Serial port interface:	RS485:3.5mmTerminals		
Number of serial ports:	1indivual,RS485（485A,485B,GND）		
Power interface:	3.5mmTerminals		
Reset:	One-touch factory reset		
Housing Material:	Alloy flame retardant plastic		
Indicator Lights:	SYS, WORK, 4G LINK, TCP LINK, TXD, RXD		
SIMCard	Voltage:3V,1.8V;size:Micro Sim(NoNano SIM:Size12x15mm ×0.8mm		
Antenna interface	50Ω/SMAFemale rubber stick antenna or suction cup antenna (suction cup by default)		
size:	L x W x H:37.6 x 83.6 x 89.2mm		
Installation method:	35mmDIN rail installation		
Communication interface			
Wireless Mode:	4G CAT1support3Modes: B1/B3/B5/B8@FDD LTE B34/B38/B39/B40/B41@TDD-LTE B3/B8@GSM It includes China Unicom 4G, 2G, China Mobile 4G, 2G and China Telecom 4G networks.		
4GTransmission rate	LTE:Max 10Mbps(Downward)/Max 5 Mbps(Up) GPRS:85.6Kbps(Downward)/Max85.6Kbps(Up)		
Serial port parameters			
Baud rate:	300~921.6Kbps,Can Custom baud rate	Verification:	None, Odd, Even
Data bits:	5~8Bit	Stop bits:	1~2Bit

software	
Operating mode:	TCPClient,UDP
Conversion Protocol:	Modbus TCP,MQTT,JSON
ModbusGateway:	Modbus TCPchangeRTUSimple conversion, pre-configured tables (ZLMB)model
JSONGateway:	Device supportModbus RTU,DLT-645; Server SupportHTTP POST/GET,MQTT, transparent transmission, custom protocol; Pan and zoom, offline alarm, over-limit alarm, change upload, data format conversion;
SSL:	supportSSLencryption
Offline storage:	256K
Address resolution:	supportDNSAnalysis
Interconnection method:	connect to the server,8308MMNsupportP2Pmodel,8308MMNsupportM2M model
Configuration method:	ZLVirCOMTools, Serial PortATCommand configuration, device cloud management (ZL Cloud)
Other software features:	Customized registration package heartbeat package,NTP,built-inTCPHeartbeat,FOTAupgrade
hardware	
Input voltage:	9~24V DC
Input Current:	dial/4GDuring communication50mA@12V,idle25mA@12V
EMCElectromagnetic Compatibility:	Static electricity (GB/T17626.6-2018):touch8KV,non contact15KV; Fast group pulse (GB/T17626.4-2018): Power Supply ±4KV, signal ±2KV; surge(GB/T 17626.5-2008): Power Supply ±4KV, signal ±2KV.
Environmental requirements	
Operating temperature and humidity:	- 40~85℃5~95% RH
Storage temperature and humidity:	- 45~100℃5~95% RH

4.Hardware Description

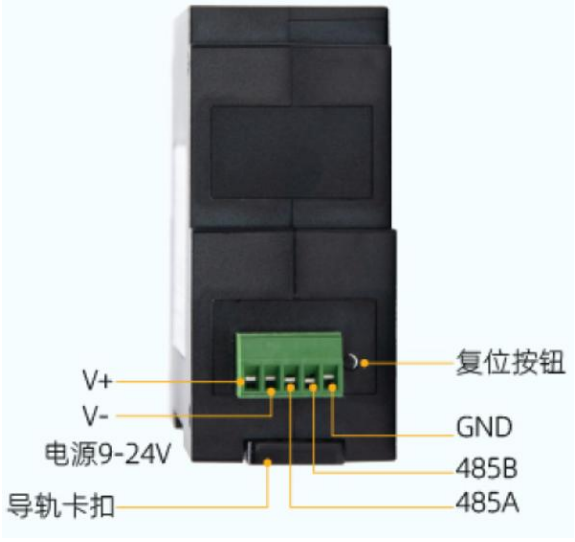
ZLAN8308MThe front view of3shown.

picture3 ZLAN8308MFront view

8308MThe antenna is installed on a rail and can be a suction cup antenna (default) or a rubber stick antenna.

Panel Light:

Indicator Lights	color	name	illustrate
SYS	green	Power light	Indicates that the device has been powered on and the system is running.
WORK	green	working lamp	Indicates the internal running status of the device, for debugging purposes, the user does not need to shut down Note.
TXD	green	Serial port sends data indicator	Indicates that there is data output from the serial port.
4G	blue	4GConnect the lights	Constant light means4GThe call has been successfully made.
TCP LINK	blue	TCPConnect the lights	Indicates that the server establishes andTCPconnect.
RxD	blue	Serial port receiving data indicator	It means that the serial port has received data, and this light flashes for a short time.



picture4Interface Diagram

ZLAN8308MInterface as shown4As shown:

1．Power input: Interface type3.5mmTerminals, input voltageDC+9V~ +24VDC, power required3W Above. Recommendations12V1APower Adapter.

2．RS485interface:RS485Signal input, be careful not to connect the power supply incorrectly.

3．Reset: Press the button3If the device is reset to default parameters, the device will be reset to default parameters. You can also skip the configuration file by powering on with the key pressed.

ZLAN8308MDimensions as shown5As shown:

picture5Dimensions

4.antenna:8308MThe antenna interface adopts50Ω/SMA(female), external antennas must use a suitable 4GAntenna of the working band. ZLAN can provide glue stick or suction cup antenna, the suction cup can be sucked onto the metal shell of the chassis, and the suction cup antenna (suction cup antenna lead) is provided by default1.5meters in length).

5．SIMCard Installation: InstallationSIMMake sure the device is not powered on when inserting the card.SIMCardMicro Sim(NoNano SIM)Please refer to the film orientation on the front of the product for the card insertion direction. When installing, press the card inwards and it will lock when you hear a click; when removing the card, press the card inwards and the card will pop out naturally after you release it.

5.Configuration

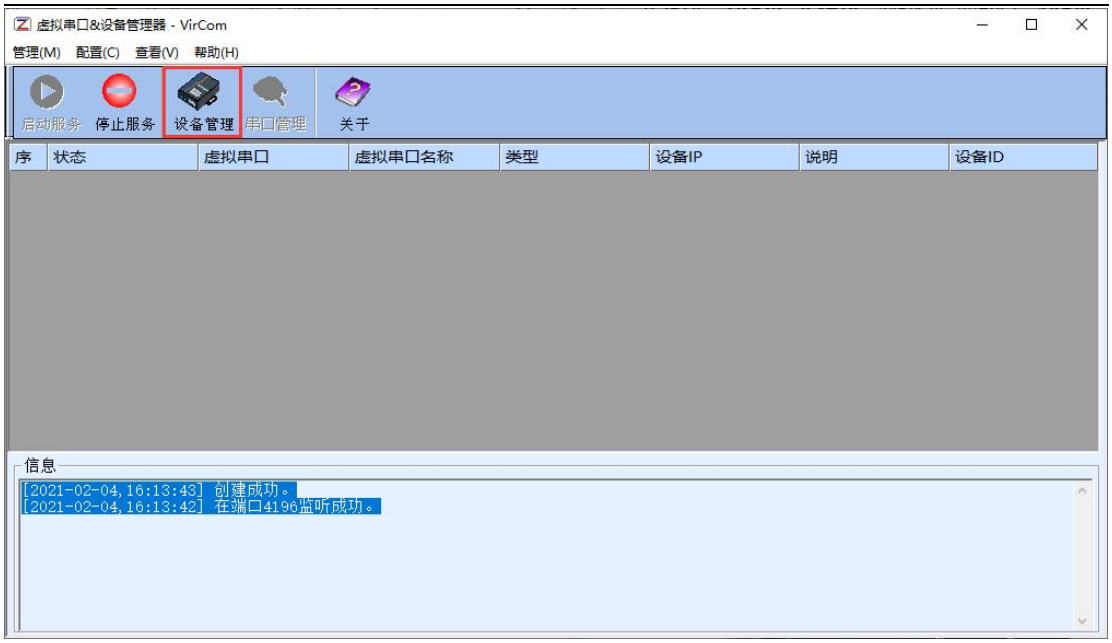
The device can be configured via the serial port. After connecting to a remote server, it can also be remotely configured by installing the configuration software on the remote server.

5.1.Serial PortATInstruction Configuration

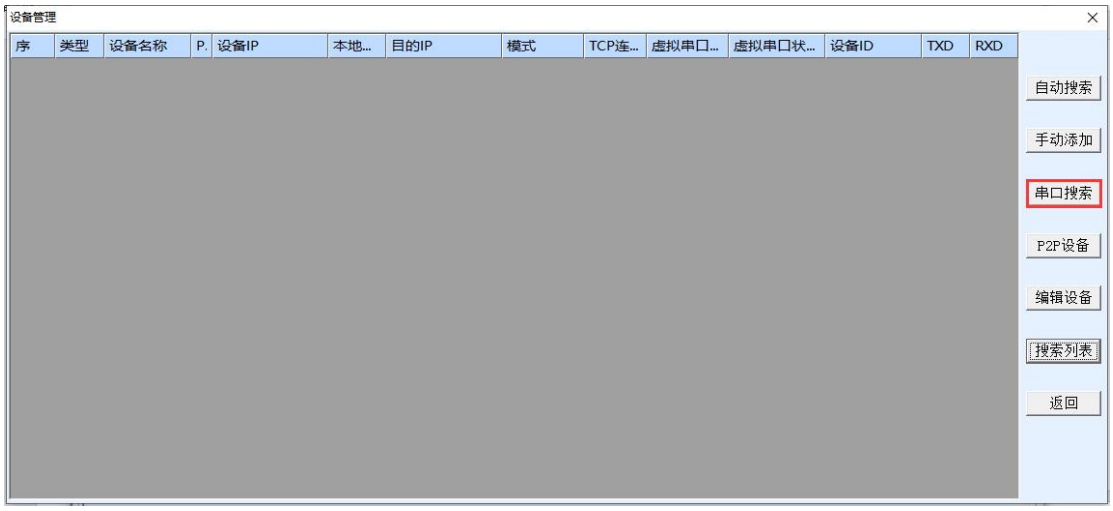
downloadZLVircomConfiguration Tool(http://www.zlmcu.com/download/ZLVirCom.zip), this software can be configured through the serial port8308M.

WillUSBchangeRS485Connect to8308MThe serial port, give8308MPower on, turn onZLVircom (hereinafter referred to as configuration tool), enter the main interface of the configuration tool6.

Click Device Management and select Serial Port Search, as shown in the figure7, the serial port parameter selection interface pops up, as shown in the figure8, select the serial port number, here isCOM15, the baud rate is115200,here115200 This is the factory default setting. If the user has previously set8308MSet to other baud rates (such as9600), can also be searched.



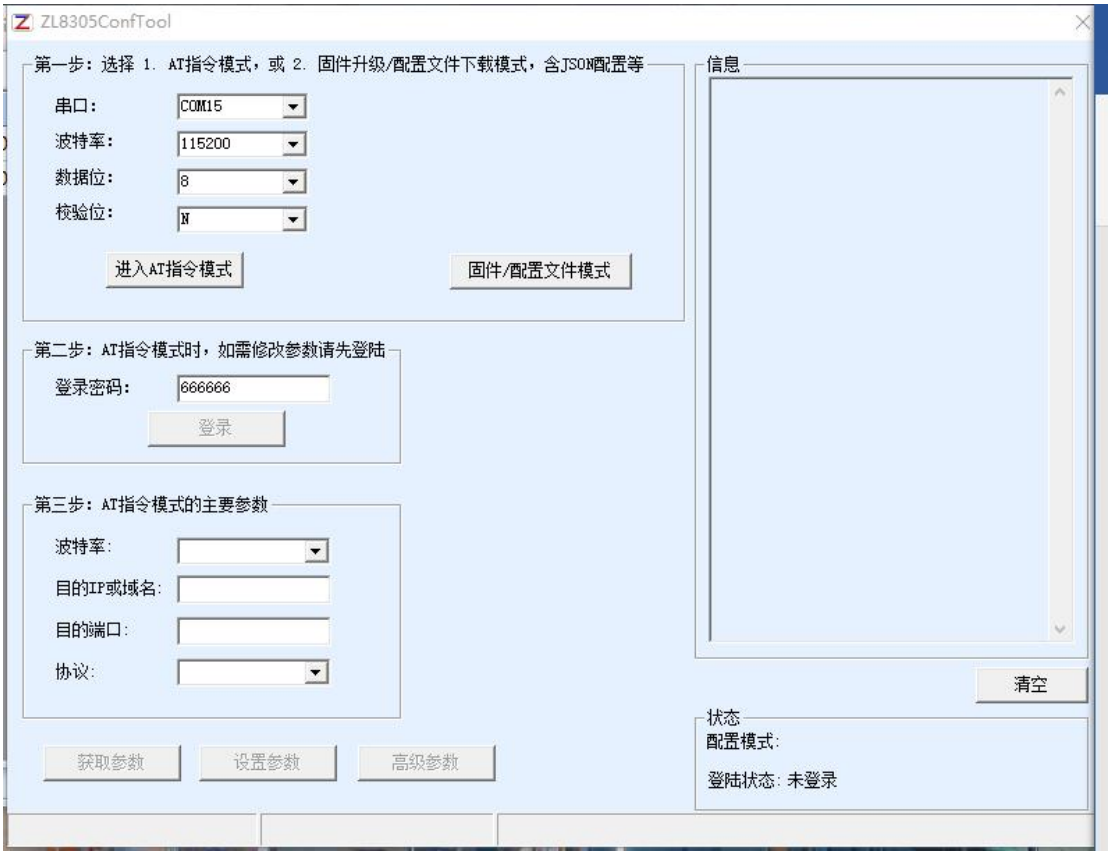
picture6Configuration tool main interface



picture7Serial port search interface

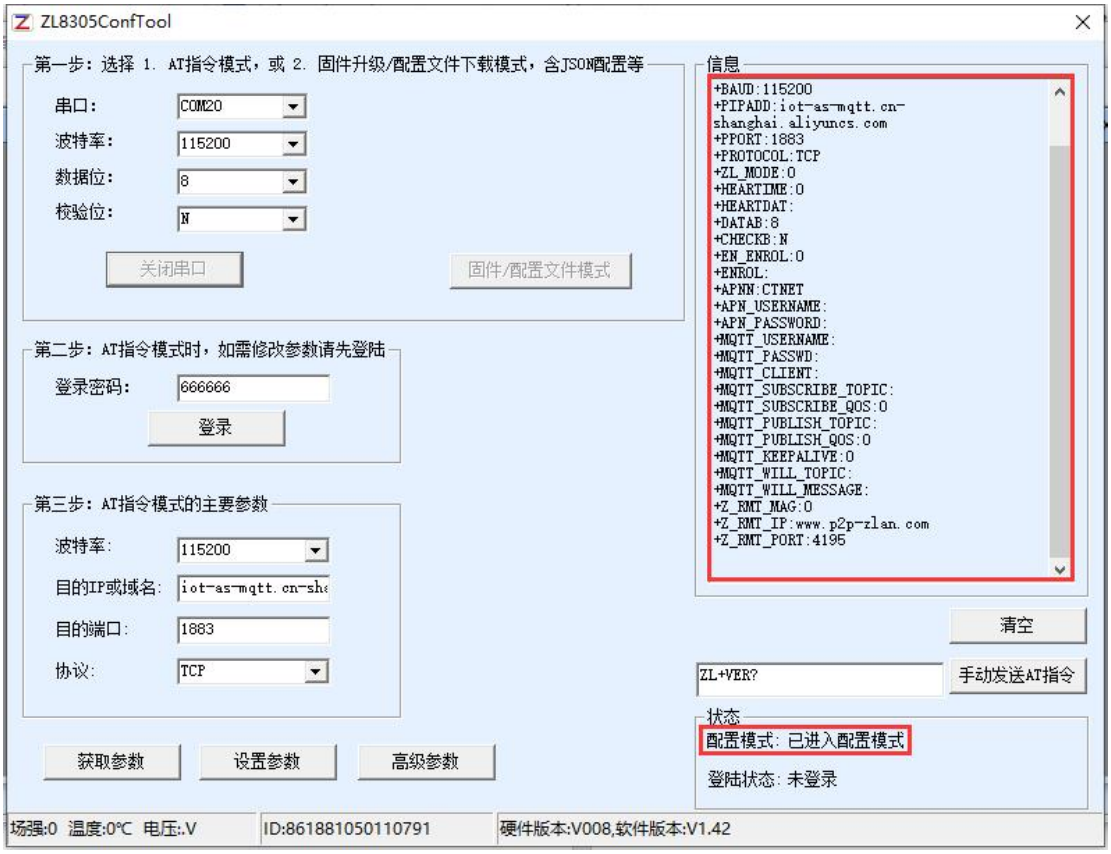
picture8Serial port parameter settings

Wait after power on15After the dial light starts flashing, click "Search" and the configuration tool will try to communicate with the device. If successful, it will enterConfToolInterface. As shown below9 As shown:



picture9 ConfToolinterface

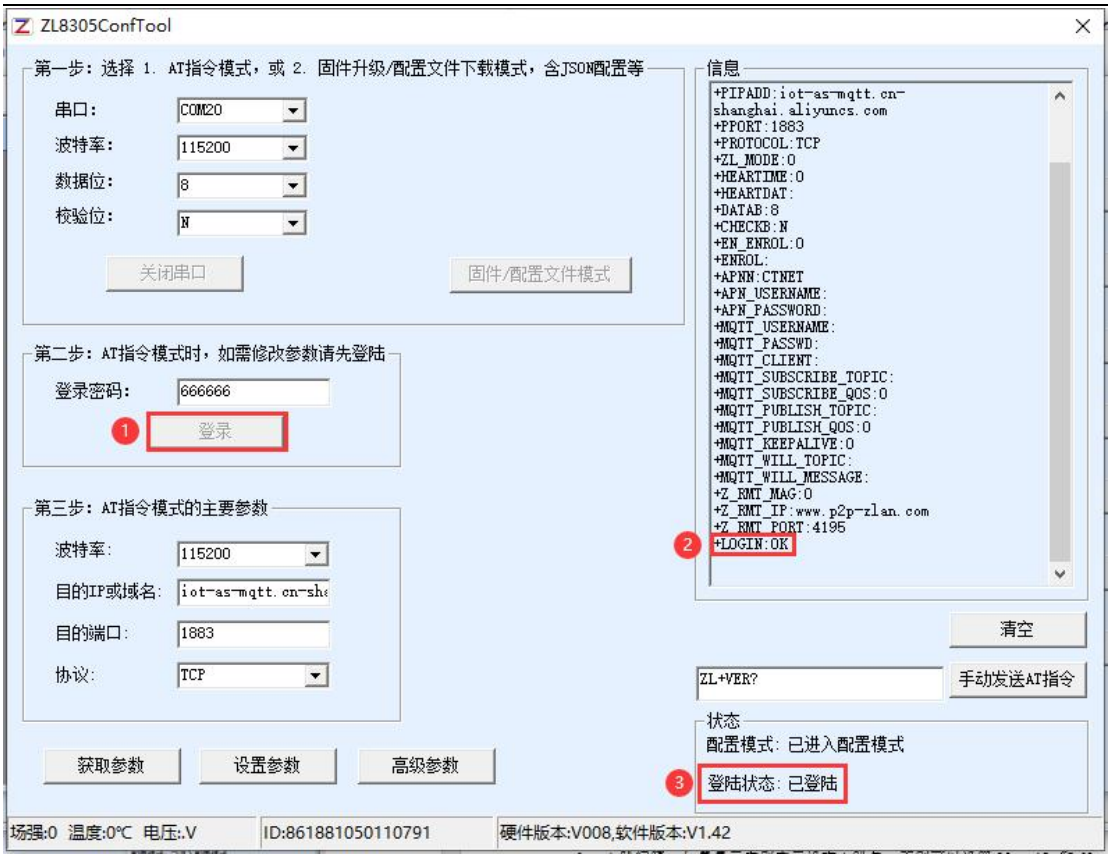
click to enterATIn command mode, the configuration tool will try to communicate with the device. If the communication is successful, the right side will displayATThe command returns information, and the configuration mode is displayed as having entered the configuration mode, as shown below10:



picture10Enter the configuration mode interface

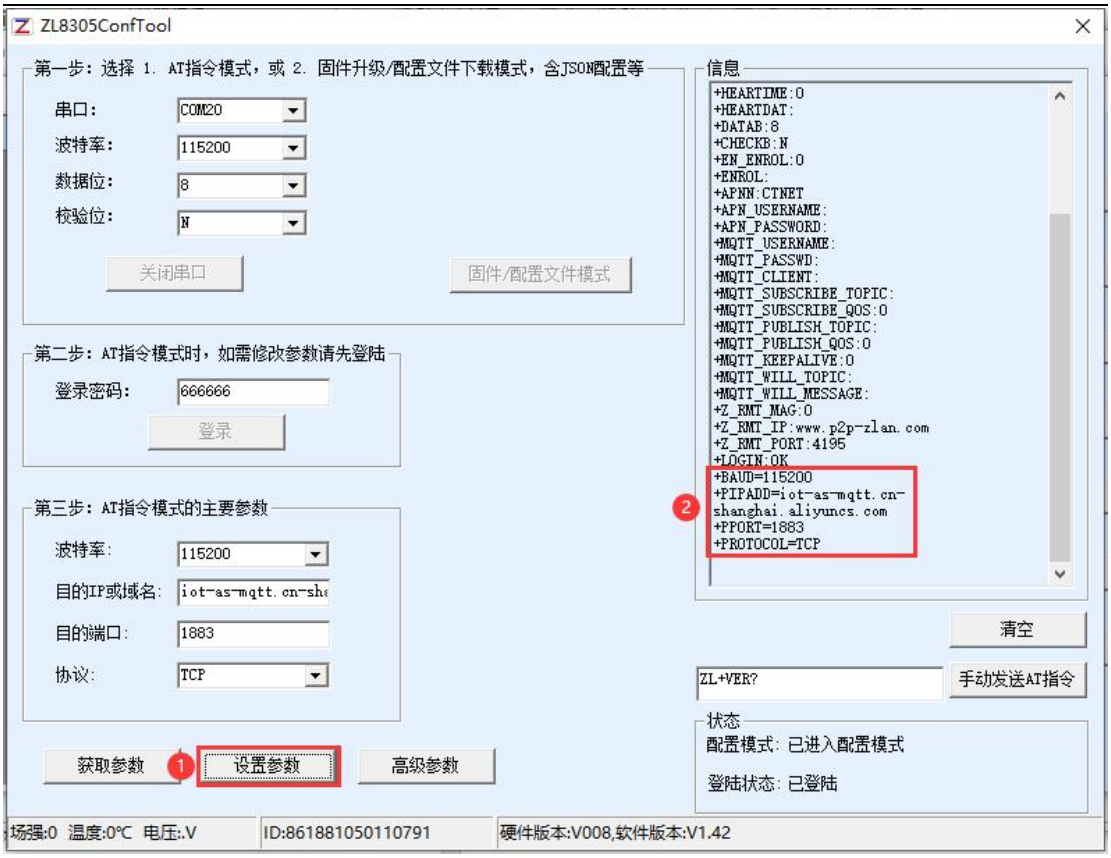
The default login password is666666Before clicking "Login", the parameters are read-only and cannot be set or modified. Click the "Login button":

You can see that after logging in, the login status changes to "Logged in" and a "+LOGIN OK" Information, as shown in Figure11shown.



picture11Login interface

ATThe main parameters of the command mode include baud rate, purposeIP, destination port and protocol. Protocol supportTCPorUDPAfter modifying the corresponding parameters, click "Set Parameters" to set the new parameters to the device, and the device will return the successfully set parameters, as shown in the figure12shown.



picture12Setting parameters

The "Get Parameters" button can get the parameters of the current device. Getting parameters is done by sendingATInstructions to obtain parameters, listed on the right areATThe return data of the instruction.ATFor instructions, please refer to other chapters of this article. Since the "Get Parameters" button will be automatically executed once the "Open" button is successfully executed, you generally do not need to click the "Get Parameters" button.

Click "Advanced Parameters", the advanced parameter box is as shown in the figure13As shown, the commonly used parameters are:

1.Heartbeat interval: The interval can be set to15sHeartbeat packet.

2.Heartbeat content: Set the heartbeat packet content.

3.Serial port data bits

4.Serial port check digit

5.Enable registration package: Whether to enable the registration package.

6.Registration package content: the registration package content sent after connecting to the server.

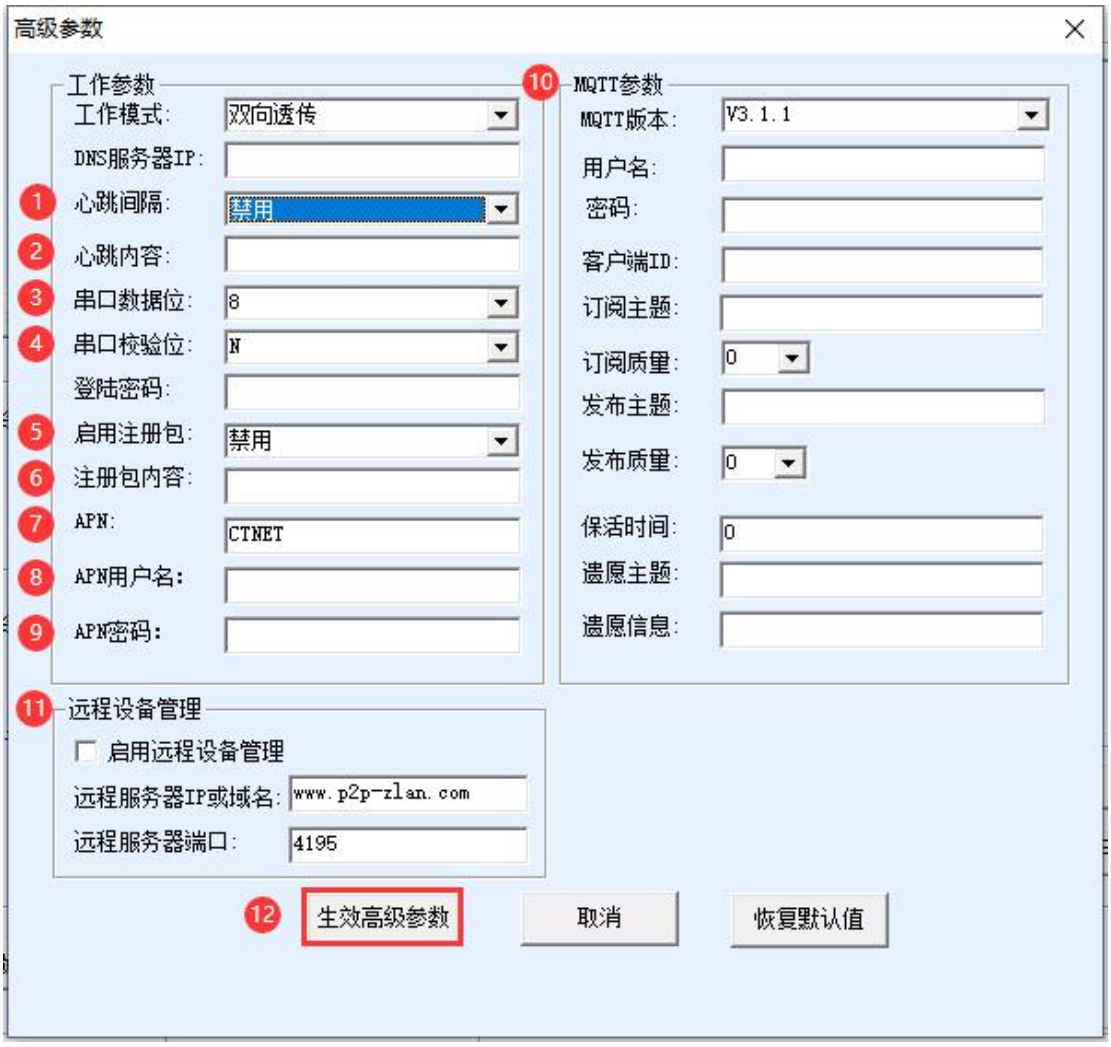
7. APN:APNThe access point name.

8. APNusername

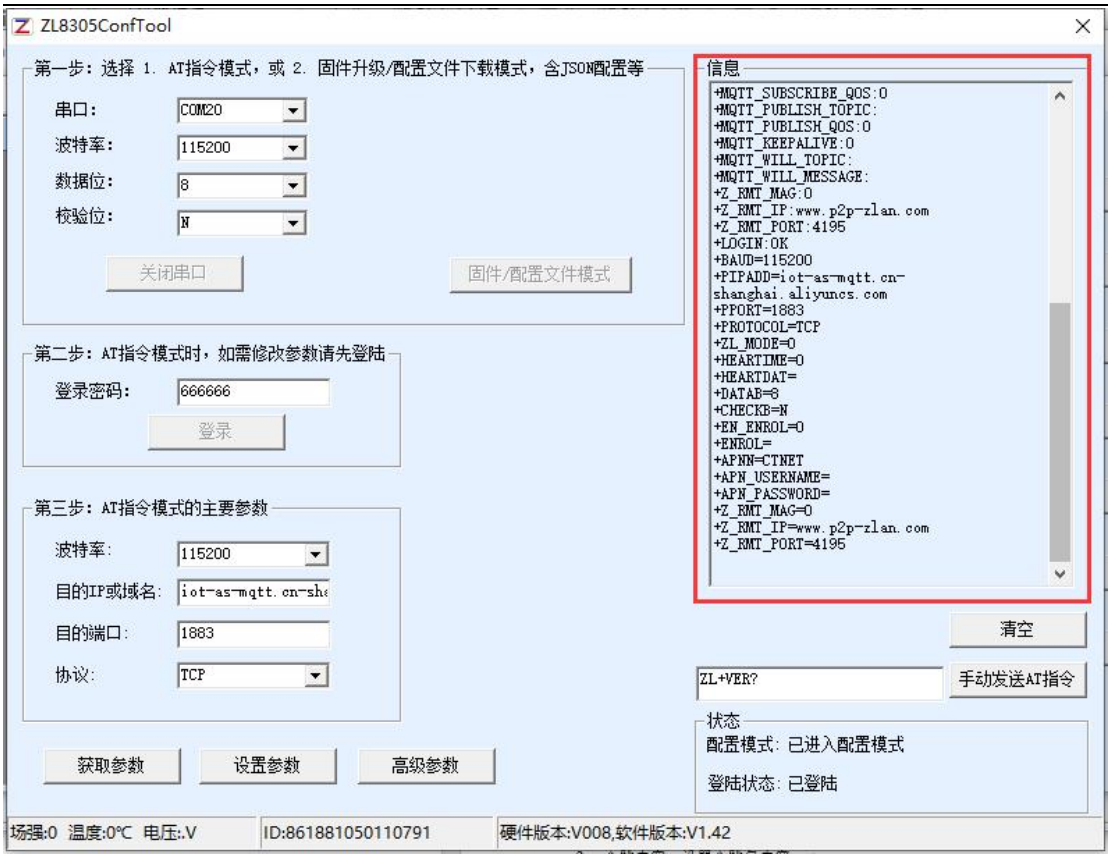
9. APNpassword

10. MQTTParameters: used to set accessMQTTServer parameters

11.Device remote management: used for devices with remote management functions to access remote servers. After selecting the parameters, click the "Effective Advanced Parameters" button and observe the information bar on the right to see whether the setting information returned by the device is consistent with the information filled in, as shown in the figure14shown.



picture13Advanced Parameters

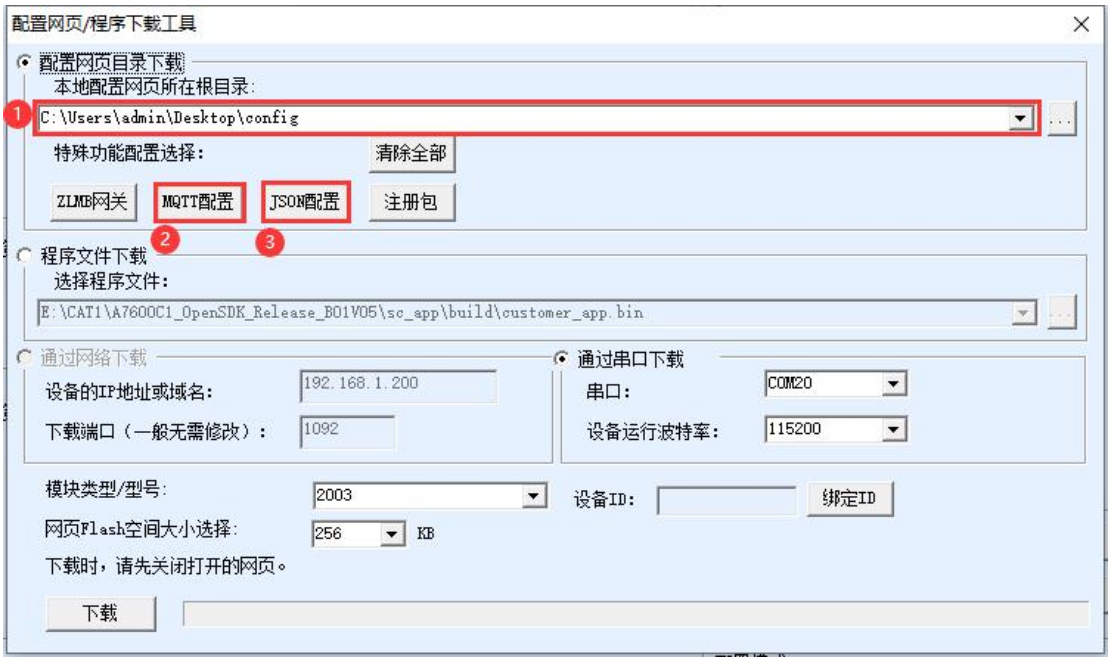


picture14Set advanced parameters to return information

5.2.Firmware/Configuration File Mode

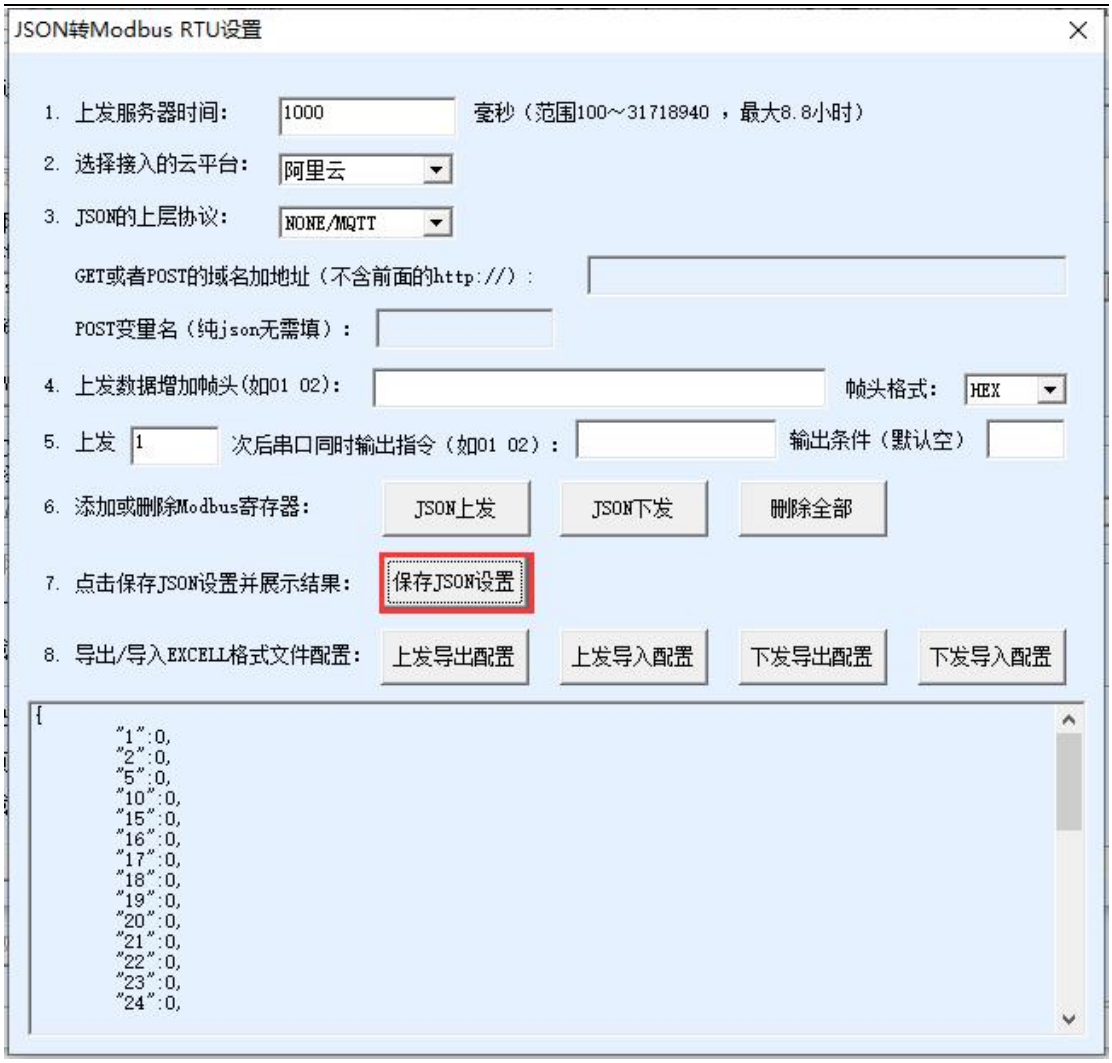
EnterConfToolAfter the interface is displayed, click the Firmware/Configuration File Mode button, as shown in the figure15, jump to the firmware/configuration file interface16, first create a local configuration web root directory to store the configuration file, clickMQTT Configuring input connectionsMQTTAfter setting the server information, click Save.MQTTConfiguration, as shown in the figure 17, clickJSONConfigurationJSON Send the configuration to the upper and lower levels and save itJSONConfiguration, as shown in the figure18, click the download button, the configuration software will download all the files in the directory to8308MIn the device, after the download is successful, the transfer completion interface pops up and the device automatically restarts, as shown in the figure19.

picture15Configuration interface

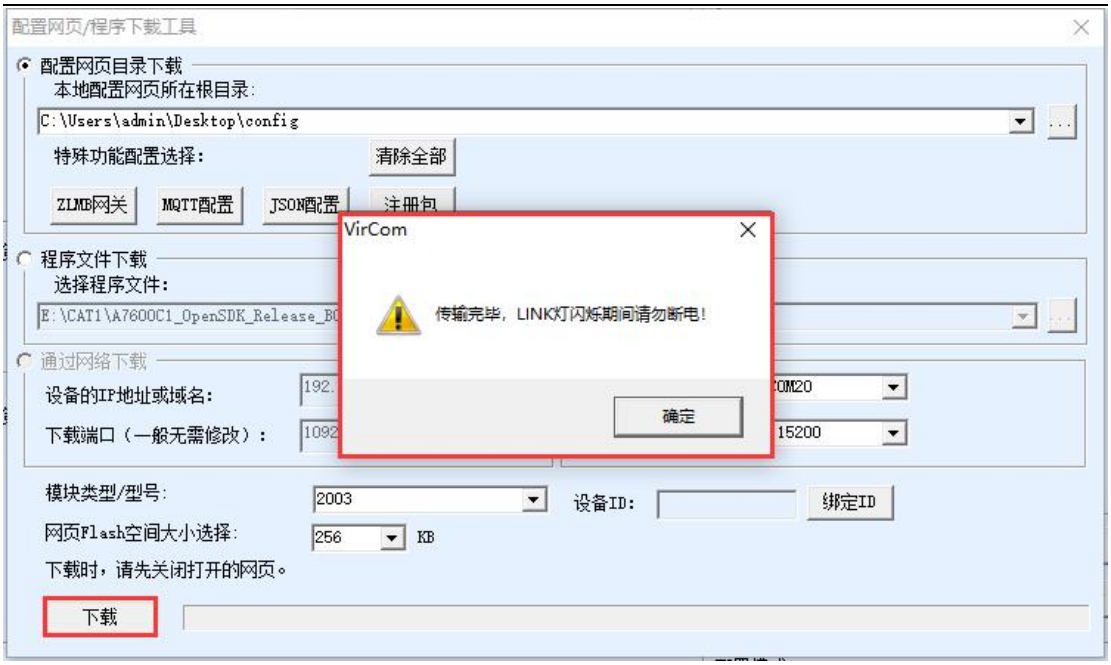


picture16Firmware/Configuration File Interface

picture17 MQTTConfiguration interface



picture18 JSONConfiguration interface



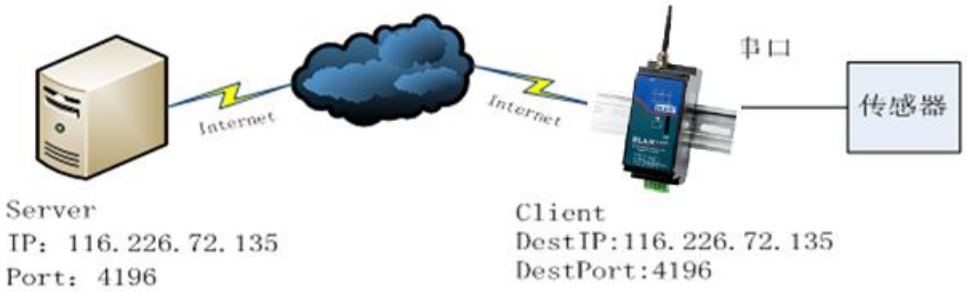
picture19Download interface

6.Product Features

6.1.Communication test

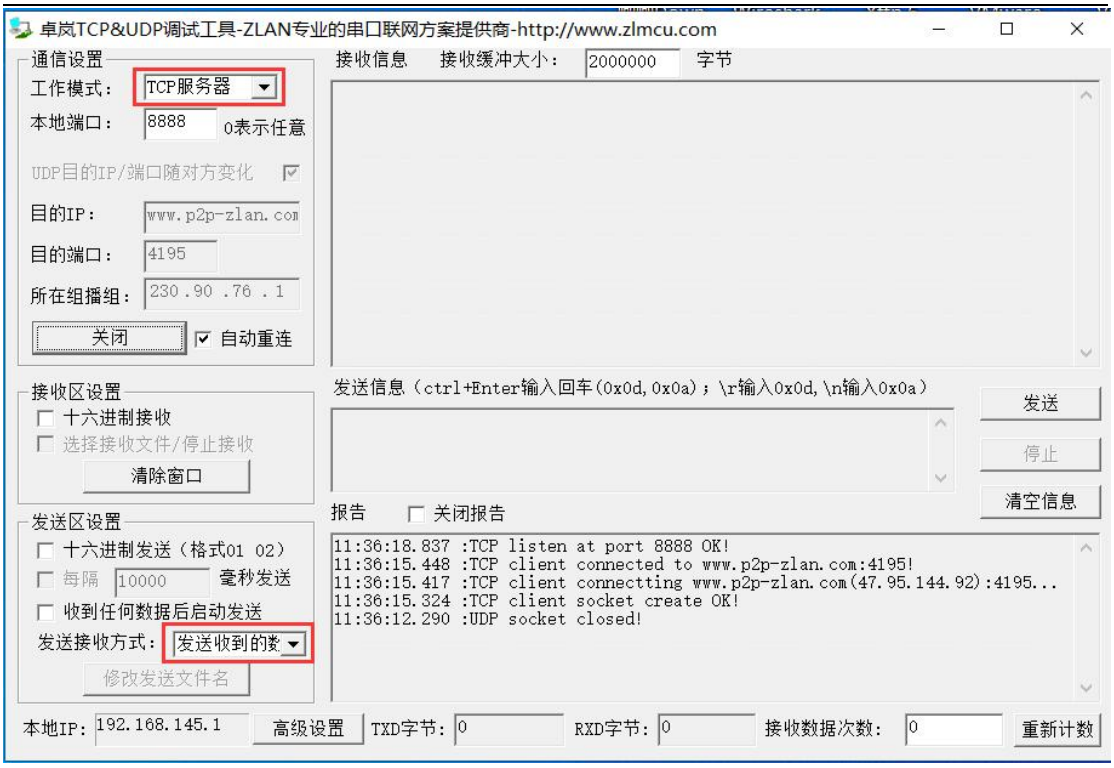
6.1.1Server transparent transmission test

Assume that there is the following network structure as shown below:8305Configure to connect to the *** port of server ***.***.***.***. Please configure according to the method in the "Serial Port Configuration" section. After the configuration is completed, restart the power.20~40seconds to connect to the server.



picture20Network structure diagram

We run on the serverSocketDlgTestthisTCPtool(http://www.zlmcu.com/document/tcp_debug_tools.html).

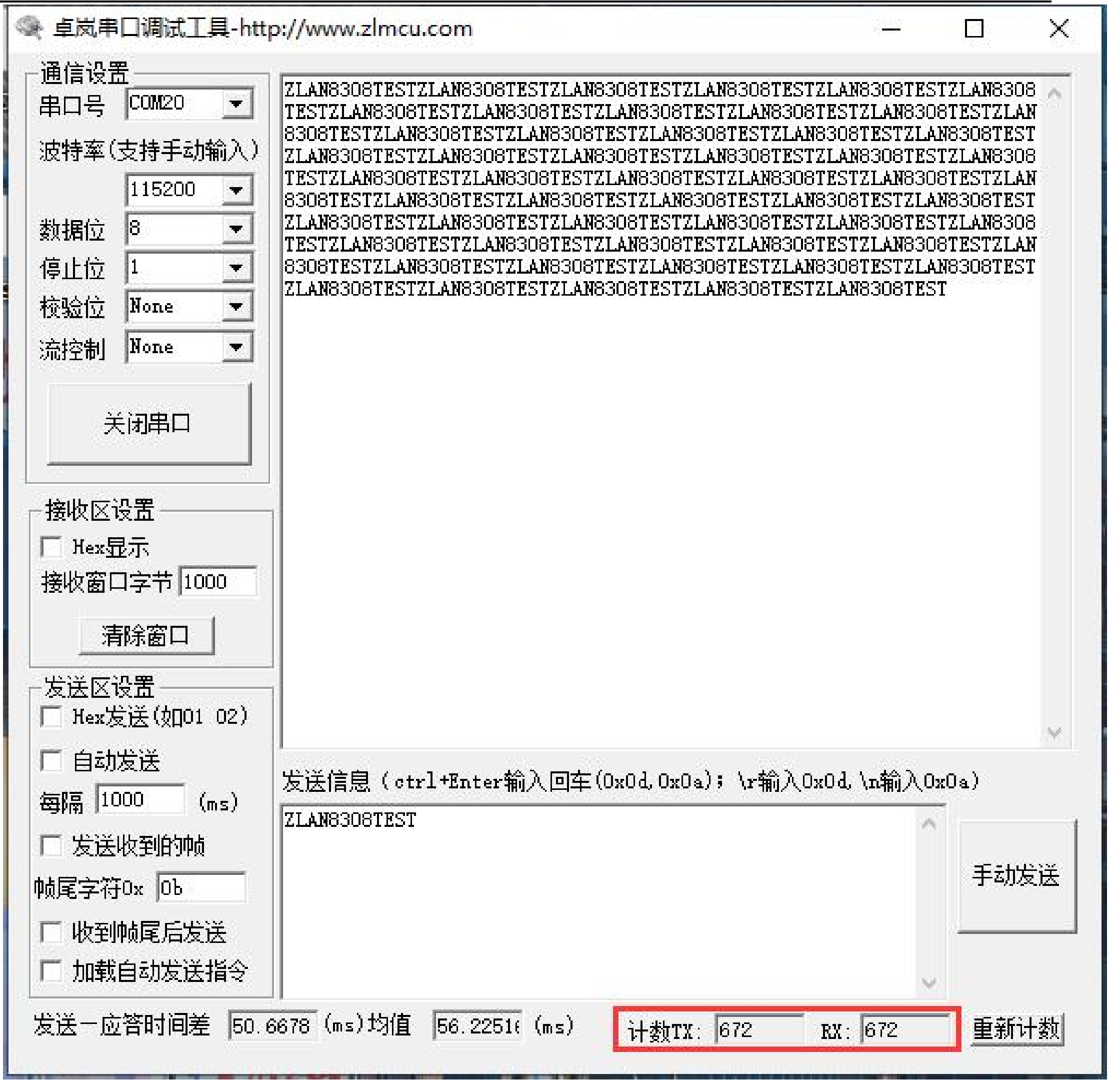


picturetwenty oneServer-side tools

Select the local port as shown in the figure4196(Note that if you runZLVircomtools, you need to change a port), and then click the "Open" button.8308MAfter the device is connected to the server, it will display "The NO... is accepted!"Information.

Now will8308MSerial port connection of the deviceUSBchange485Serial line, and open the serial debugging tool (http://www.zlmcu.com/document/com_debug_tools.html), and open the correctCOM mouth.

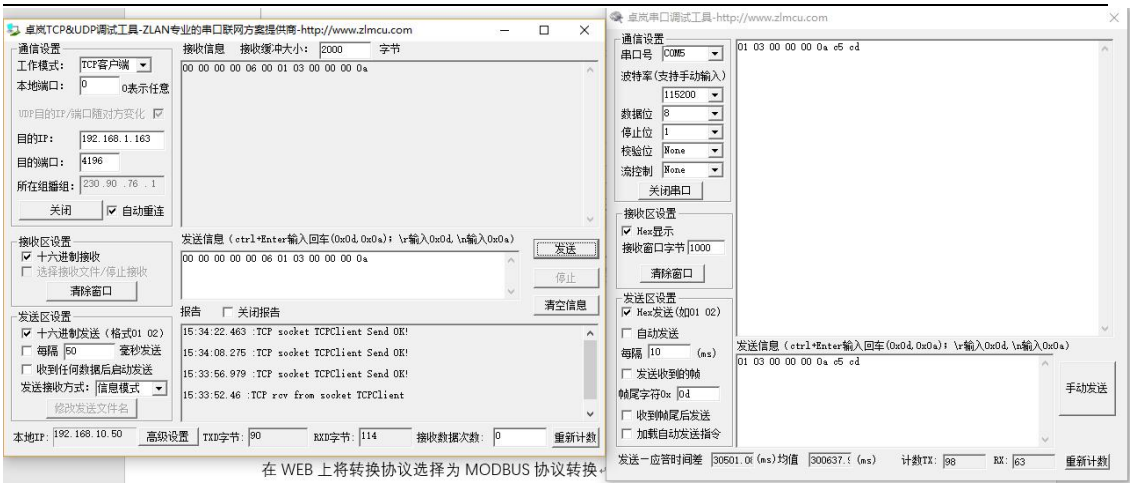
Now the serial port sends data, and the server will reply with the corresponding data. Similarly, the device receives the server's reply message and outputs it through the serial port. The serial port tool receives the same data.4GThe network two-way communication is as shown belowtwenty twoAs shown:



picturetwenty twoDevice serial port debugging tool

6.1.2 ModbusProtocol conversion test

The configuration parameters are basically the same as those for the non-protocol transparent transmission test. You only need to change the conversion protocol toMODBUS The serial port can be realizedMODBUS RTUProtocol conversion to networkMODBUS TCP Protocol, the networkMODBUS TCPProtocol conversion to serial portMODBUS RTUprotocol.



picture23 ModbusProtocol conversion test

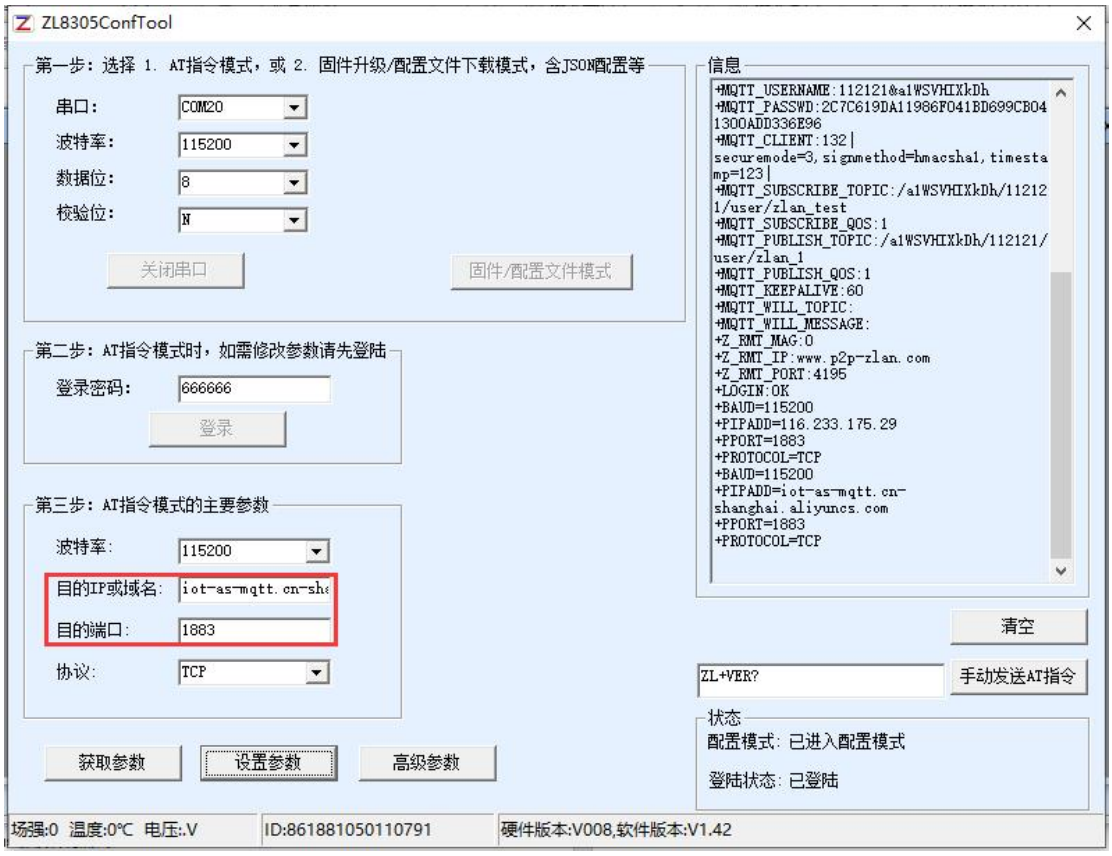
6.1.3 MQTTProtocol testing

picture24 MQTTSchematic diagram

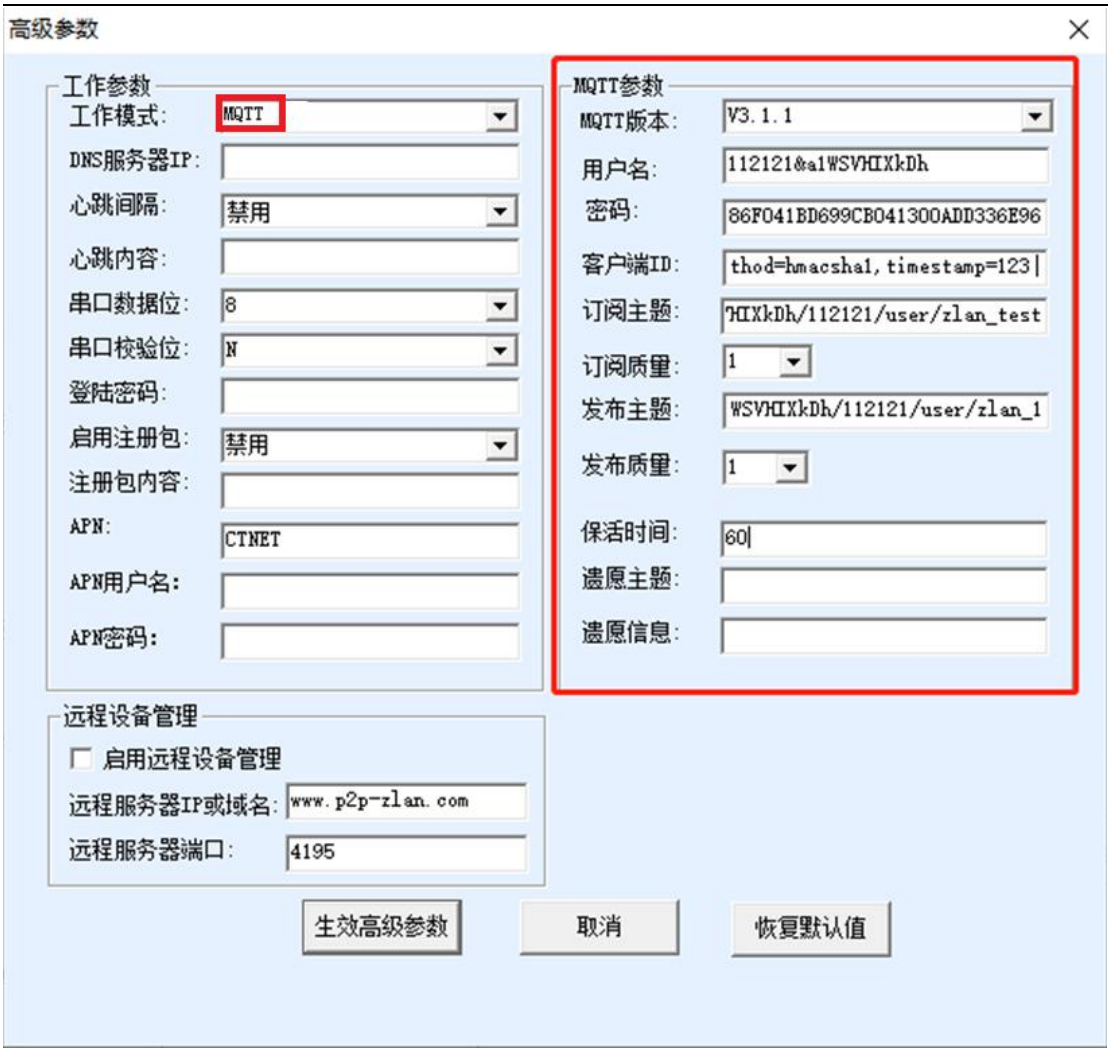
This test is to connect to Alibaba Cloud. Create a newzlan_testA subscription topic calledzlan_1The publishing topic is as shown in the figure25As shown. Follow the configuration instructions in step 5. MQTTServerIPFill in the port configuration and save the parameters. Fill in the parameters as shown in the figure26As shown. Then the advanced parameters page will be MQTTofID, username, password, including subscription and publishing topics, keep alive time, fill in the parameters as shown in the figure27As shown. Note that the working mode isMQTTmodel.

自定义 Topic	操作权限	描述
/a1WSVHIXkDh/${deviceName}/user/zlan_test	订阅	-
/a1WSVHIXkDh/${deviceName}/user/zlan_1	发布	-

picture25Alibaba Cloud Add Theme

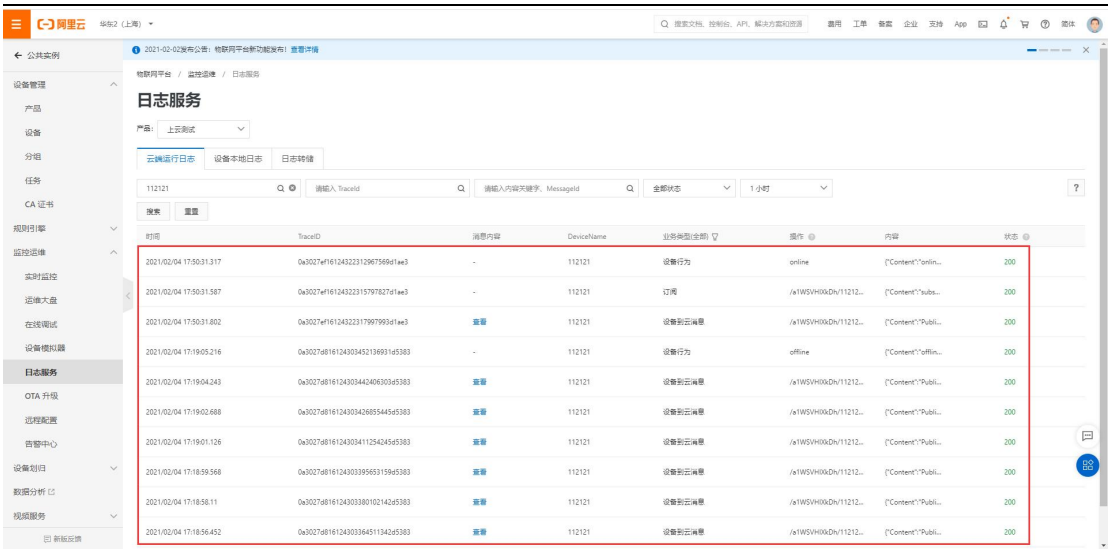


picture26Ali CloudIPand Port

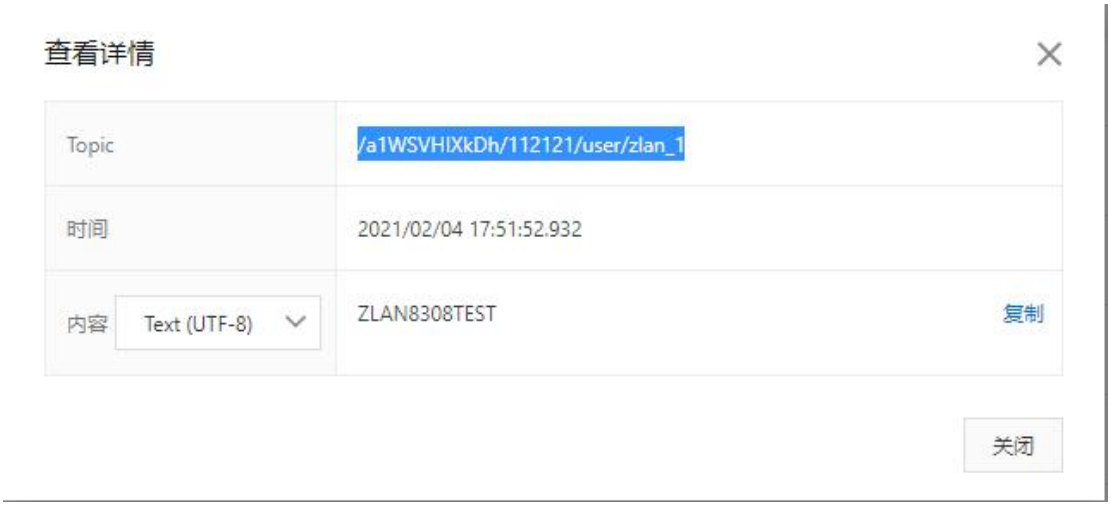


picture27Ali CloudMQTTConfiguration

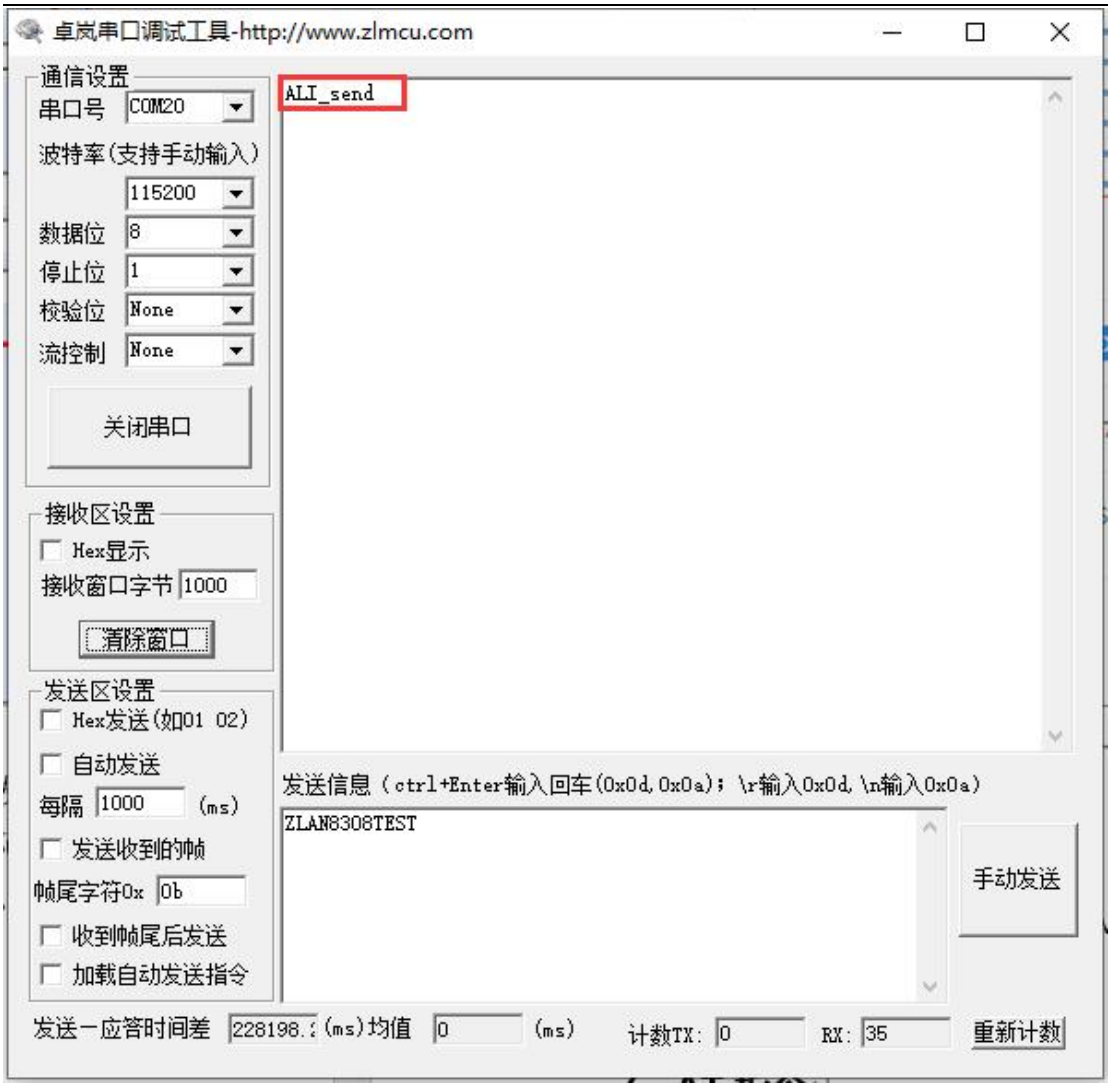
After the settings are completed, open the Alibaba Cloud device management interface and enter the log service page to view the information sent by the device, as shown in the figure28As shown. Data is sent through the serial port of the device.zlan_1Send message to the topic (“ZLAN8308MTEST”)To Alibaba Cloud MQTTServer, Alibaba Cloud receives the data as shown in the figure29As shown, Alibaba Cloud Serverzlan_testTopic sends message ("ALI_send”)To the device serial port, as shown in the figure30This is done.MQTTSend and receive test.



picture28Alibaba Cloud Log Service



picture29Alibaba Cloud receives serial port data



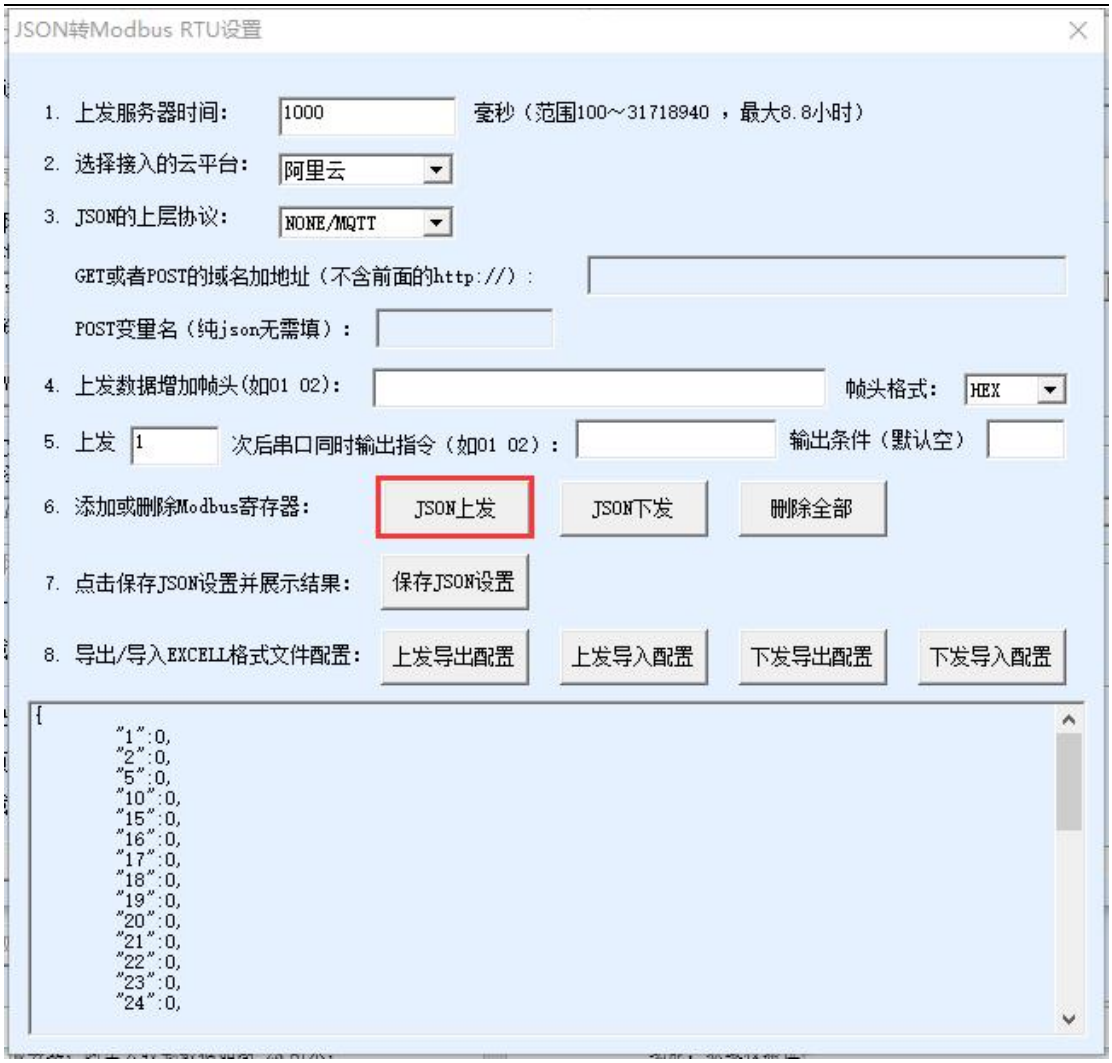
picture30The serial port receives Alibaba Cloud data

6.2. MODBUS RTUchangeJSONtest

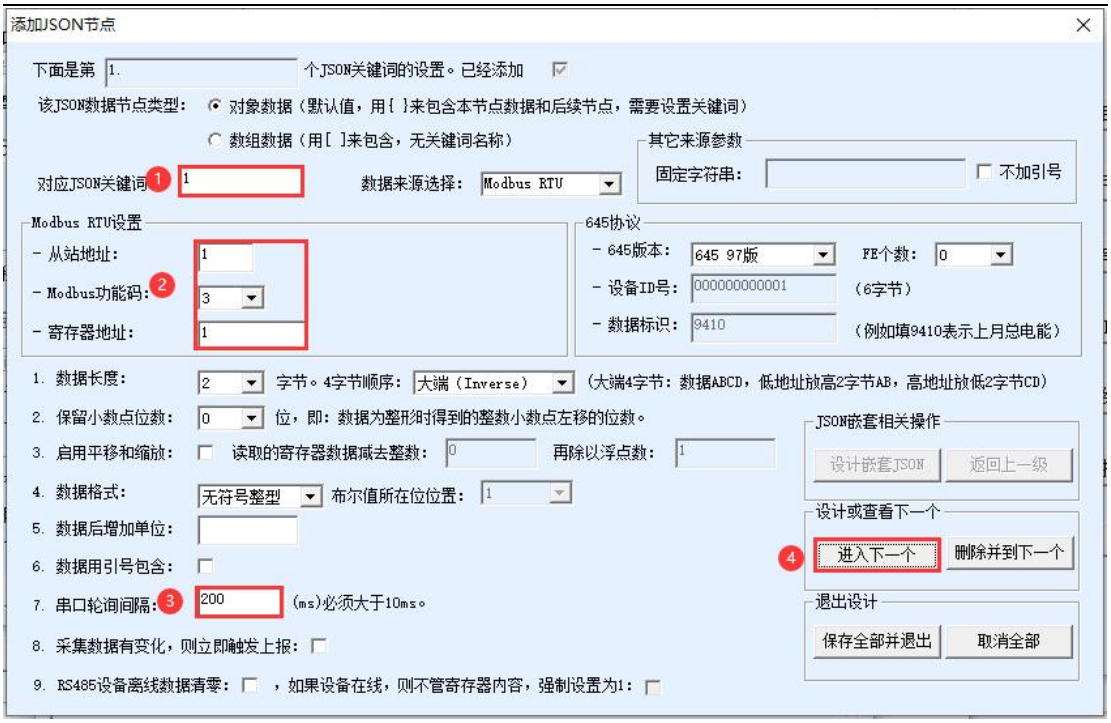
picture31 JSONSchematic diagram

6.2.1ConfigurationJSONSend

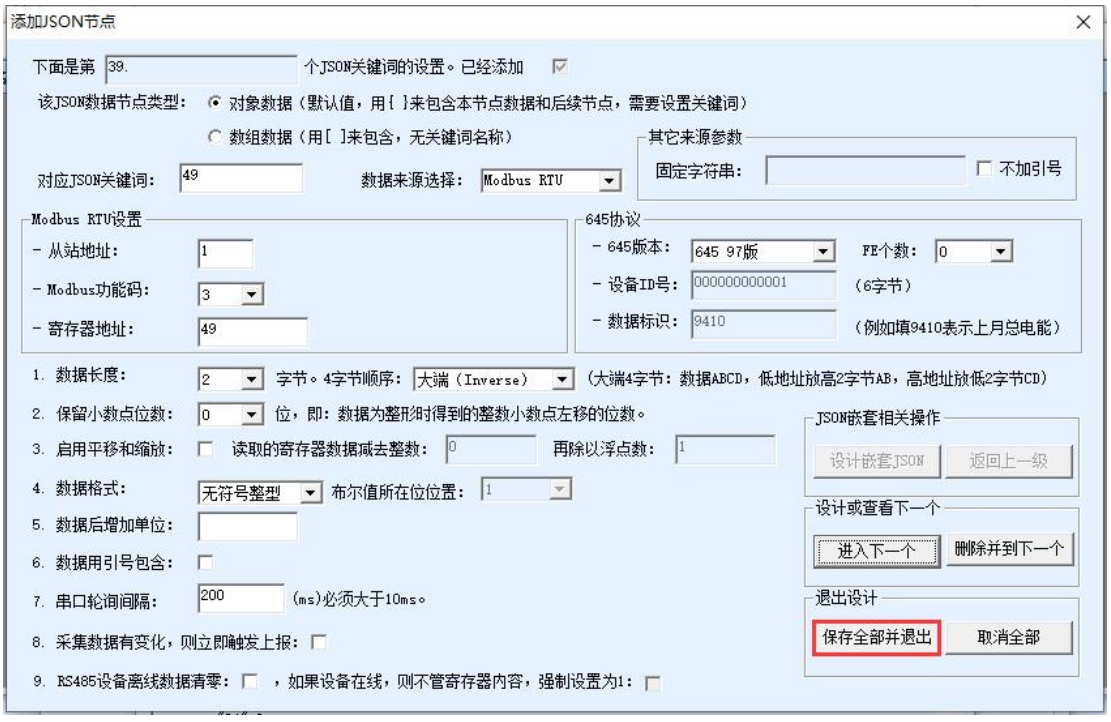
Through the above section:ModbusProtocol conversion test, simple configurationJSONSend the template, the configuration process is as follows32,picture33,picture34,picture35As shown, collectionMODBUSThe data of some nodes are converted intoJSONFormat posted.



picture32ConfigurationJSONSend



picture33Configure the acquisition keywords, register addresses and acquisition intervals

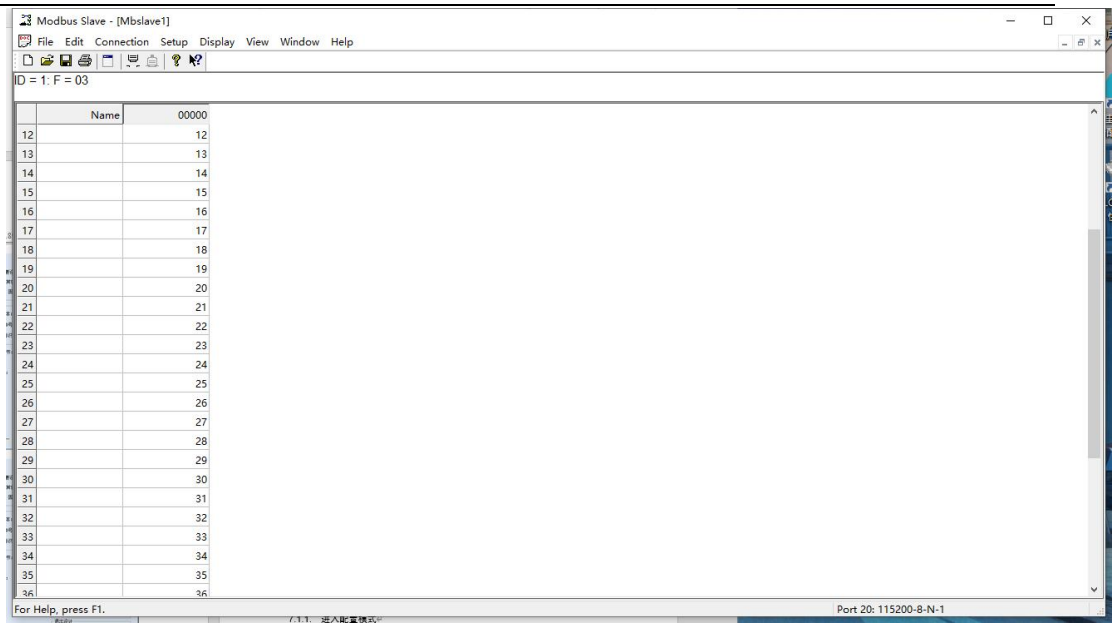


picture34After the configuration is complete, save and exit

picture35saveJSONSettings, view previewJSONFormat

6.2.2ConfigurationMODBUS RTUAnalog Devices

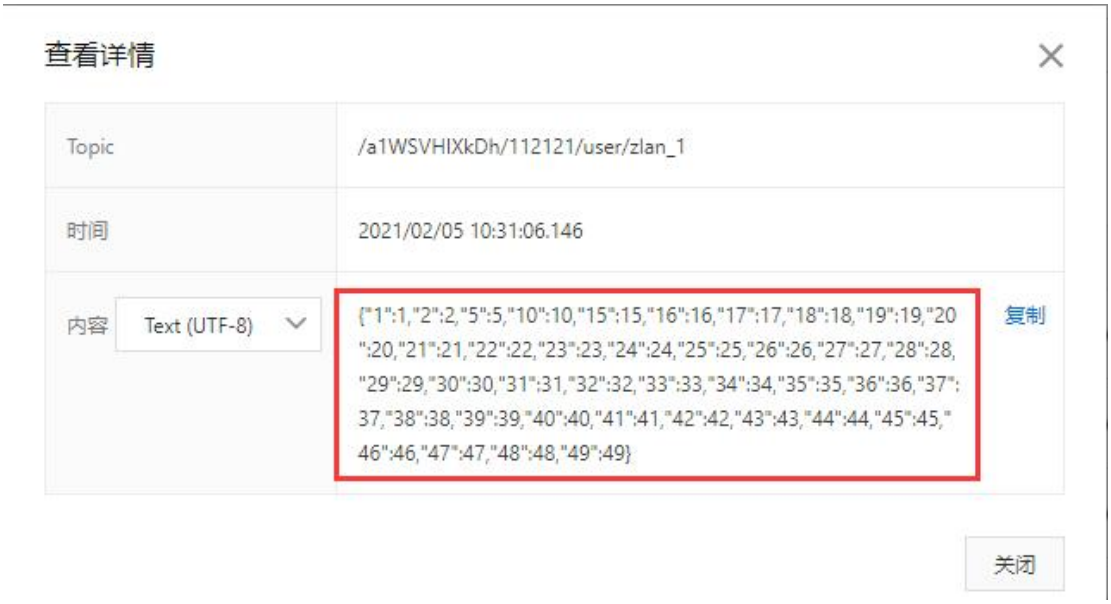
passModbus SlaveSoftware simulationMODEBUSFrom the device, through the serial lineZLAN8308M Connect the device to the computer and openModbus SlaveConnection,Modbus SlaveConfiguration as shown36shown.



picture36 Modbus SlaveFill in simulation data

6.2.3View the postedJSON

View the uploadedJSONData, you can observe the collected data and Modbus SlaveThe configured data is consistent, which completes the simpleMODBUSchangeJSONtest.



picture37The serial port receives Alibaba Cloud data

6.3 P2PandM2MInstructions

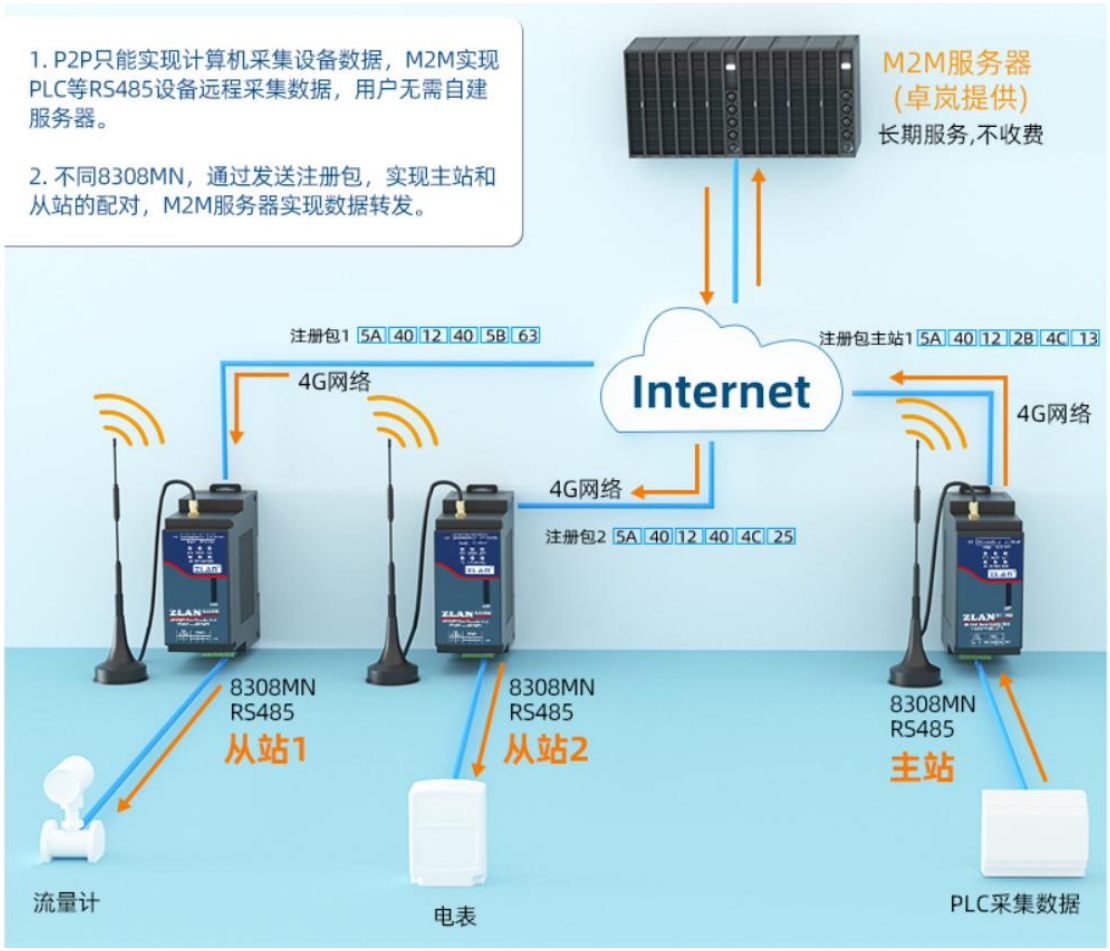
ZLAN8308MNThis model integrates ZLAN's P2P technology, which can solve the inconvenience of ordinary DTU requiring "port mapping" and "dynamic domain name". When communication starts, the P2P software on the user's computer — — ZLVircom communicates with the ZLAN P2P server first; at the same time, 8308M can also communicate with the ZLAN P2P server. After the two parties have negotiated, direct communication between 8308M and ZLVircom can be established (without forwarding through the P2P server). The software on the user's computer can communicate through the virtual serial port or TCP simulation port provided by ZLVircom. When using, the user only needs to enter the serial number of the 8308M to be monitored in the ZLVircom software to establish a P2P connection. The P2P method allows users to get rid of the trouble of "port mapping" and "dynamic domain name", and there is no need to rent a server with a public IP, which truly realizes convenient monitoring anytime and anywhere.

picture38 P2PUsing the diagram

For detailed operation methods, please refer to the P2P Product User Guide document (http://www.zlmcu.com/download/p2p_manual.pdf).

If the monitored host is a serial device, such as a PLC with RS485 interface, instead of a computer, then it is impossible to install the ZLVircom software on the PLC, and the M2M function is used here.

M2M server forwards data between different devices through forwarding. Different devices are identified through registration packages. M2M service is free to use for a long time.



picture39 M2MUsing the diagram

6.3How to use offline storage

6.2.4introduce

picture40Offline storage diagram

After the device turns on the offline data storage function, when the network is abnormal (mobile network disconnected, server connection failed) and the data fails to be sent, the data sent to the TCP/UDP server or MQTT will be saved inside the device (not lost after power off and restart), and the time information of each data can be added through the Json conversion function to distinguish the time of each data. When the network returns to normal, the previously saved data will be sent to the TCP/UDP server or MQTT server without any modification, and no time information will be added. The interval for sending each data is configurable. The size of the saved data is fixed, and the size of the data that can be saved by different devices is inconsistent. When the saving size is exceeded, the earliest received data will be discarded and the latest data will be saved.

example 1:

The Modbus to Json function is configured, and data is sent every 10 seconds. The data format is: {"time":"2021-07-08 17:09:15","1":0}

When the device is disconnected from the network abnormally, the device will save the data to be sent. Assuming that the network returns to normal after 5 minutes, the server will continue to receive the previously saved data:

{"time":"2021-07-08 17:09:15","1":0}

{"time":"2021-07-08 17:09:25","1":0}

{"time":"2021-07-08 17:09:35","1":0}

.....

{"time":"2021-07-08 17:14:05","1":0} {"time":"2021-07-08 17:14:15","1":0} The interval between each packet of data is a fixed and configurable sending interval. Example 2:

Device transparent transmission data:

When the device is abnormally disconnected from the network, the serial port receives the following 5 data: {"a":"1","1":0}

{"b":"1","2":0}

{"c":"1","3":0}

{"d":"1","4":0}

{"e":"1","5":0}

When the network returns to normal, the server will receive 5 pieces of data in succession:

{"a":"1","1":0}

{"b":"1","2":0}

{"c":"1","3":0}

{"d":"1","4":0}

{"e":"1","5":0}

The interval between each data packet is a fixed and configurable sending interval.

6.2.5Configuration Method

Query offline data storage function:ZL+DATA_STORAGE_EN?\r\n

Device reply: ZL+DATA_STORAGE_EN=1/0\r\n

1 means to enable offline data storage function, and 0 means to disable offline data storage function. **Turn on/off offline data storage**：ZL+DATA_STORAGE_EN=1/0\r\n

Device reply: ZL+DATA_STORAGE_EN=1/0\r\n

1 means to enable offline data storage function, and 0 means to disable offline data storage function.

picture41ZLAN8305Backstage login interface

Query the interval time for sending data:ZL+DATA_STORAGE_SPAN?\r\n

Device reply: ZL+DATA_STORAGE_SPAN=XXX\r\n

XXX is the interval time for sending data, in ms.

Set the interval time for sending data：ZL+DATA_STORAGE_SPAN=XXX\r\n

Device reply: ZL+DATA_STORAGE_SPAN=XXX\r\n

XXX is the interval time for sending data, in ms.

The recommended setting time is between 100-1000.

picture42ZLAN8305Backstage login interface

7. ATinstruction

7.1.Login and Configuration

7.1.1.Enter configuration mode

instruction:REQUEST CFG MODE Function: Enter the configuration mode. During the device startup phase, send this command and the device can enter the configuration mode after the startup is complete.

return:CFG MODE\r.

7.1.2.Login

instruction:ZL+LOGIN=666666\r\n Function: Login, modifying device parameters requires login status to be successful. Return: +LOGIN:OK\r\n(Success) or +LOGIN:NG\r\n(fail)

7.1.3.Get device status

instruction:ZL+STAT?\r\n

Function: Query the signal strength, temperature, and voltage of the device

Returns: +STAT: Intensity, temperature, voltage\r\n

7.2.Serial port parameters

7.2.1.Get serial port parameters

instruction:ZL+BAUD?\r\n

Function: Get baud rate

Returns: +BAUD:n\r\n,nIndicates the specific baud rate

7.2.2.Get the check digit

instruction:ZL+CHECKB?\r\n

Function: Get the check digit

Returns: +CHECKB:N/O/E\r\n

N:No verification

O:Even parity

E:Odd parity

7.2.3.Get data bits

instruction:ZL+DATAB?\r\n

Function: Get data bit

Returns: +DATAB:5/6/7/8\r\n

7.2.4.Set serial port parameters

instruction:ZL+BAUD=n\r\n

Function: Set the baud rate,nIndicates the value to be set

Returns: +BAUD:n\r\n

7.2.5.Setting the check digit

instruction:ZL+CHECKB= N/O/E \r\n

Function: Set the check digit

Returns: +CHECKB:N/O/E\r\n

N:No verification

O:Even parity

E:Odd parity

7.2.6.Setting Data Bits

instruction:ZL+DATAB=5/6/7/8\r\n

Function: Set data bit

Returns: +DATAB:5/6/7/8\r\n

7.3.Network parameters

7.3.1.Purpose of acquisitionIPor domain name

instruction:ZL+PIPADD?\r\n

Function: Get the purposeIPor domain name

Returns: +PIPADD=ip\r\n

7.3.2.Get the destination port

instruction:ZL+PPORT?\r\n

Function: Get the destination port

Returns: +PPORT=n\r\n

7.3.3.Get the device working mode

instruction:ZL+PROTOCOL?\r\n

Function: Get the device working mode

Returns: +PROTOCOL=TCP/UDP\r\n

7.3.4.ObtainDNSserverIP

instruction:ZL+PDNS?\r\n

Function: GetDNSserverIPAddress

returned: +PDNS=ip\r\n

7.3.5.Setting PurposeIPor domain name

instruction:ZL+PIPADD=ip\r\n

Function: Setting purposeIPor domain name

Returns: +PIPADD=ip\r\n

7.3.6.Set the destination port

instruction:ZL+PPORT=n\r\n

Function: Set the destination port

Returns: +PPORT:n\r\n

7.3.7.Set the working mode

instruction:ZL+PROTOCOL=TCP/UDP \r\n

Function: Set the working mode

Returns: +PROTOCOL=TCP/UDP\r\n

7.3.8.set upDNSserverIP

instruction:ZL+PDNS=ip\r\n

Function: SettingDNSserverIPAddress

returned: +PDNS=ip\r\n

7.4.Registration packet and heartbeat packet

7.4.1.Check the registration package contents

instruction:ZL+ENROL?\r\n

Query the registration package content (default registration package16Hexadecimal system

Returns: +ENROL:1234567890\r\n

7.4.2.Whether to enable the registration package

instruction:ZL+EN_ENROL?\r\n

Check whether the registration package is enabled (1Enable0

Disability) Return: +EN_ENROL:1\r\n

7.4.3.Set the registration package content

instruction:ZL+ENROL=123456\r\n Set the registration package content (default registration package16

The actual registration package is0X12 0X34 0X56 Returns: +ENROL:123456\r\n

7.4.4.Enable/disable registration package

instruction:ZL+EN_ENROL=1\r\n

Enable/disable registration package,1To enable,0Return

for disability: +EN_ENROL:1\r\n

7.5.Remote management capabilities

7.5.1 Query remote management function

instruction:ZL+Z_RMT_MAG?\r\n

Check whether the remote management function is enabled.1To enable,0

Return for disability: +ZL+Z_RMT_MAG:1\r\n

7.5.2 Enable remote management function

instruction:ZL+Z_RMT_MAG=1\r\n

Enable/disable remote management function,1To enable,0

Return for disability: +ZL+Z_RMT_MAG:1\r\n

7.5.3 Query the remote management server IP

instruction:ZL+Z_RMT_IP ?\r\n

Querying the Remote Management ServerIP

********** Returns: +ZL+Z_RMT_IP =**********\r\n

7.5.4 Query the remote management server port

instruction:ZL+ Z_RMT_PORT ?\r\n Query

the remote management server port****

Returns: +ZL+ Z_RMT_PORT =****\r\n

7.5.5 Setting the Remote Management Server IP

instruction:ZL+Z_RMT_IP =**********\r\n Setting up a

remote management serverIP

Returns: +ZL+Z_RMT_IP:**********\r\n

7.5.6 Setting the Remote Management Server Port

instruction:ZL+ Z_RMT_PORT =****\r\n Set the

remote management server port

Returns: +ZL+ Z_RMT_PORT:**** \r\n

MQTTparameter

7.6.1 Setting the MQTT Username instruction:ZL+

MQTT_USERNAME =****\r\n set upMQTTusername

Returns: +ZL+ MQTT_USERNAME:**** \r\n

7.6.2 Setting the MQTT password instruction:ZL+

MQTT_PASSWD =****\r\n set upMQTTpassword

Returns: +ZL+ MQTT_PASSWD:**** \r\n

7.6.3 Setting the MQTT client ID

instruction:ZL+ MQTT_CLIENT =****\r\n

set upMQTTClientID

Returns: +ZL+ MQTT_CLIENT:**** \r\n

7.6.4 Setting MQTT publishing topic

instruction:ZL+ MQTT_PUBLISH_TOPIC =****\r\n set

upMQTTPublish a topic

Returns: +ZL+ MQTT_PUBLISH_TOPIC:**** \r\n

7.6.5 Setting up MQTT subscription topics

instruction:ZL+ MQTT_SUBSCRIBE_TOPIC =****\r\n set up

MQTTSubscribe to a topic

Returns: +ZL+ MQTT_SUBSCRIBE_TOPIC:**** \r\n

7.6.6 Setting MQTT subscription quality instruction:ZL+

MQTT_SUBSCRIBE_QOS =1\0\r\n set upMQTTSubscription

Quality1\0

Returns: +ZL+ MQTT_SUBSCRIBE_QOS: 1\0\r\n

7.6.7 Setting MQTT Publishing Quality instruction:ZL+

MQTT_PUBLISH_QOS =1\0\r\n set upMQTTRelease

Quality1\0

Returns: +ZL+ MQTT_PUBLISH_QOS: 1\0\r\n

7.6.8 Setting the MQTT keepalive time instruction:

ZL+MQTT_KEEPALIVE =****\r\n set upMQTTKeep

alive time

Returns: +ZL+ MQTT_ KEEPALIVE:**** \r\n

7.6.9 Setting up the MQTT Will topic instruction:ZL+

MQTT_WILL_TOPIC =****\r\n set upMQTTLast Wish

Theme

Returns: +ZL+ MQTT_WILL_TOPIC:**** \r\n

7.6.10 Setting MQTT will information

instruction:ZL+ MQTT_WILL_MESSAGE =****\r\n set upMQTT

Last Wish Information

Returns: +ZL+ MQTT_WILL_MESSAGE:**** \r\n

8.Accessories

1、 Model selection:

model	Function	illustrate
ZLAN8308M	4GConvert to Serial Port	
ZLAN8308MN	4GConvert to serial port, supportP2PandM2M	

2、 Antenna selection:

You can choose glue stick antenna or suction cup antenna. The suction cup antenna is the default.1.5M,customizable2M,3M antenna.

3, Power input: No power supply by default

9.After-sales service and technical support

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