



Chengdu Ebyte Electronic Technology Co.,Ltd

# Wireless Modem

## User Manual

### E180-DTU(ZG120-ETH) User Manual



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# 1. Overview

## 1.1 Introduction

E180-DTU (ZG120-ETH) is a high-power ZIGBEE gateway, working as ZIGBEE node devices with adaptive network speeds (up to 100M, full duplex). It provides four working modes, i.e. TCP Server, TPC Client, UDP Server, and UDP Client. Two SOCKETs can work at the same time. There are four kinds of logical devices in a ZigBee network: coordinator, router, terminal device, and dormant terminal. ZigBee network consists of a coordinator and multiple routers or multiple non-dormant terminals and dormant terminals. Users can perform related configurations through WEB page.

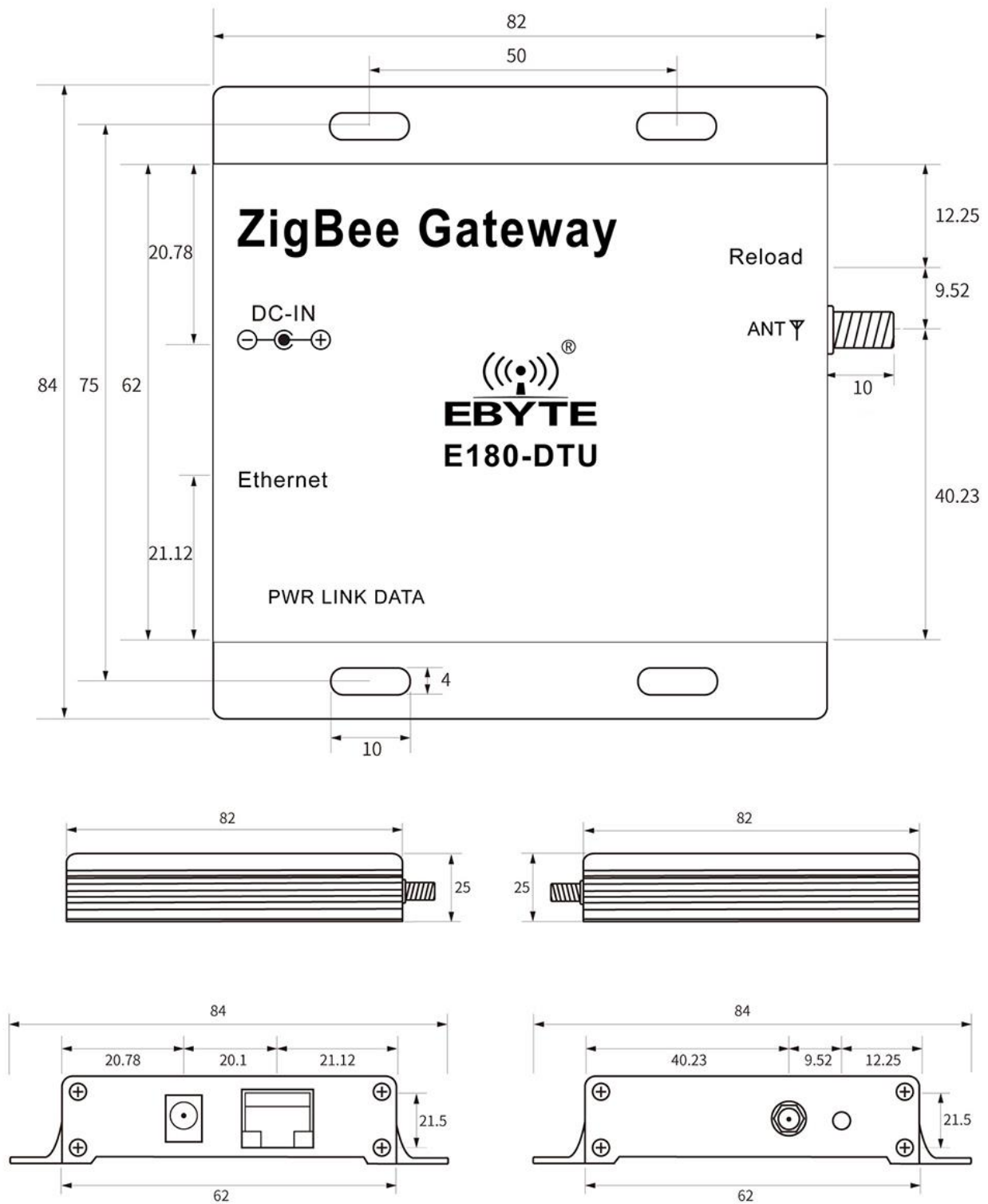


# 2. Hardware parameter

## 2.1 Main specification parameter

No.	Parameter	Specification
1	Network port specifications	RJ45, 10/100Mbps
3	Network protocol	IP、 TCP/UDP、 ARP、 ICMP、 IPV4
4	Simple transparent transmission method	TCP Server、 TCP Client、 UDP Server、 UDP Client、 IoT platform
5	TCP Server connection	Supports up to 6-way TCP connections
6	IP acquisition method	Static IP、 DHCP
7	DNS	Available
8	User configuration	Web configuration
9	Operating current	Coordinator 99mA Router 103mA Terminal 102mA dormant terminal 95mA
10	Voltage	8V~28VDC, 12V or 24V power supply is recommended
11	Operating temperature	-40 ~ +85°C, Industrial grade
12	Operating humidity	10% ~ 90%, Relative humidity, non-condensing
13	Size	84mm*82mm*25mm
14	Average weight	125.8g
15	Storage temperature	-40~+125°C, Industrial grade

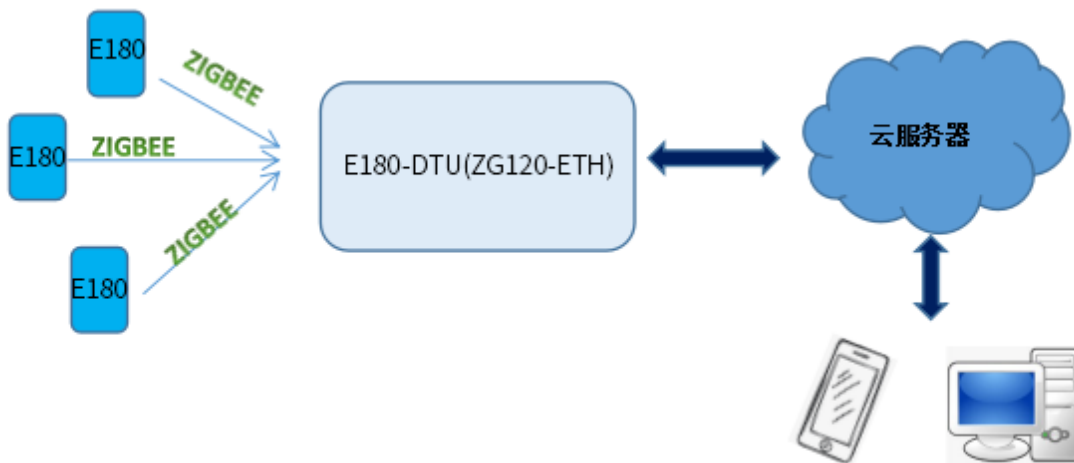
## 2.2 Size and pin definition



No.	Name	Function
1	DC_IN	Power interface, default 8-28V (customizable standard 5V version), 12V / 24V recommended
2	ETHERNET	Ethernet interface, standard RJ45 interface, connect with equipment or PC
3	PWR	Power Indicator
4	LINK	Connection establishment indicator
5	DATA	Serial transceiver light
6	Reload	Press and hold 5-10S to restore to factory settings
7	ANT	SMA antenna interface

### 3. Function description

#### 3.1 Typical application model



#### 3.2 Basic function

##### →Ethernet

##### 3.2.1 SOCKET Function

E180-DTU (ZG120-ETH) can establish two-way sockets, respectively Socket A1 and Socket B1. Socket A1 supports all types of TCP Client, TCP Server, UDP Client, and UDP Server. Socket B1 supports only three types: TCP Client, UDP Client, and UDP Server.

Two sockets that run simultaneously can be connected to different networks at the same time for data transmission.



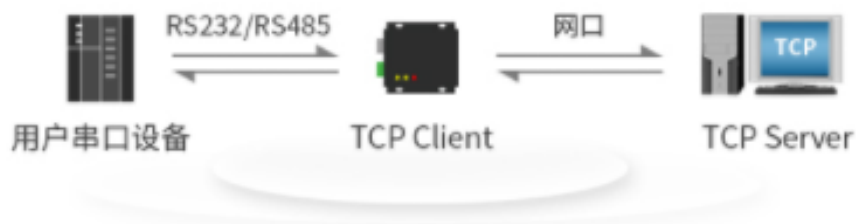
### 3.2.2 TCP Client Function

(1) TCP Client provides client connection for TCP network services. Actively initiate a connection request to the server and establish a connection, which is used to implement the interaction between wireless data and server data. According to the relevant provisions of the TCP protocol, TCP Client is distinguished from connected and disconnected, thereby ensuring reliable exchange of data. It is usually used for data interaction between the device and the server, and is the most commonly used network communication method.

(2) When E180-DTU (ZG120-ETH) attempts to connect to the server in TCP Client mode and the local port is 0, the connection is initiated through a random port each time.

(3) E180-DTU (ZG120-ETH) supports short connection function.

(4) Under the same LAN, if E180-DTU (ZG120-ETH) is set to a static IP, please keep the IP of E180-DTU (ZG120-ETH) and the gateway on the same network segment, and set the gateway IP correctly, otherwise normal communication cannot be achieved.



### 3.2.3 TCP Server Function

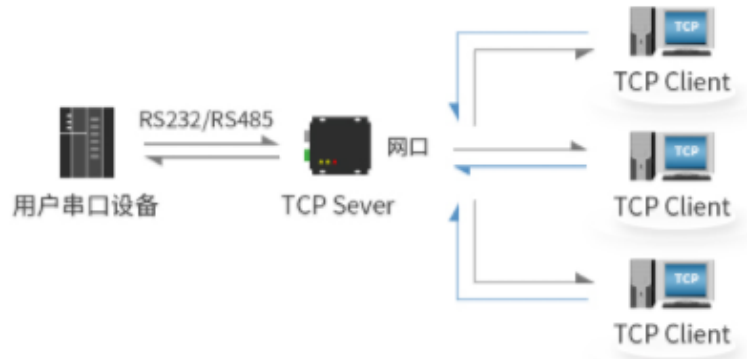
(1) In TCP Server mode, E180-DTU (ZG120-ETH) monitors the local port. When a connection request is sent, it accepts and establishes a connection for data communication. When E180-DTU (ZG120-ETH) receives the data, it will simultaneously send the data to all client devices that have established a connection with it.

(2) It is usually used for communication with TCP clients in a LAN, which is suitable for the scenario where there is no server in the LAN and there are multiple computers or mobile phones requesting data from the server. Like TCP Client, there are differences between connection and disconnection to ensure reliable exchange of data.

(3) When E180-DTU (ZG120-ETH) is used as TCP Server, it can accept a maximum of 6 Client connections (the

number of connections can be customized). The local port number is a fixed value and cannot be set to 0.

(4) TCP Server can set the maximum number of connections. When the maximum number of connections is reached, user can choose to kick off the old connection or prohibit the establishment of new connections according to the configuration through commands.



### 3.2.4 UDP Client Function

(1) UDP Client is a disconnected transmission protocol that provides transaction-oriented simple and unreliable information transmission services. There is no connection establishment and disconnection, only the IP and port are required to send data to each other. Usually used for data transmission scenarios where there is no requirement for packet loss rate, data packets are small and transmission frequency is fast and data is to be transmitted to the specified IP.

(2) In UDP Client mode, E180-DTU (ZG120-ETH) only communicates with the target port of the target IP. If the data is not from this channel, it will not be received by E180-DTU (ZG120-ETH).

(3) In UDP Client mode, if the destination address is set to 255.255.255.255, it can achieve the effect of UDP broadcast on the entire network segment, and it can also receive broadcast data. E180-DTU (ZG120-ETH) module supports broadcasting within the network segment, such as xxx.xxx.xxx.255 broadcast mode.



### 3.2.5 UDP Server Function

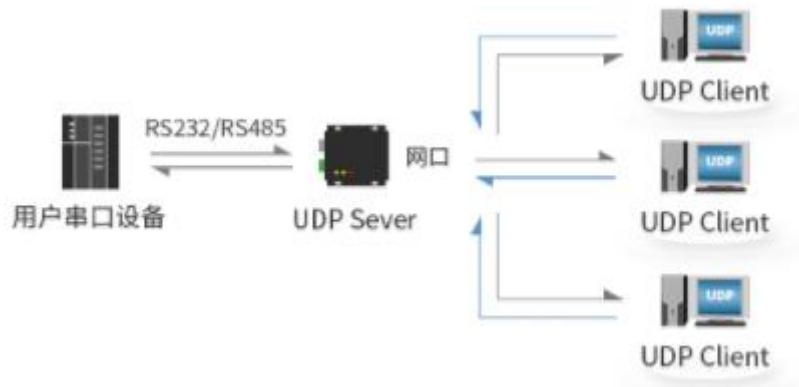
(1) UDP Server means that the source IP address is not verified on the basis of ordinary UDP. After receiving a UDP data packet, the destination IP is changed to the data source IP and port number. When sending data, send to the IP and port number of the most recent communication.

(2) This mode is usually used for data transmission scenarios where multiple network devices need to communicate with the module and do not want to use TCP due to the fast frequency.

Note: UDP Server cannot send data actively. Only after receiving the data can it send data to the IP and port that have



recently exchanged data.



→ **Wireless**

### 3.2.6 ZigBee Device type

There are three types of logical devices in the ZigBee network: Coordinator, Router, End-Device (Non-dormant terminal) and Sleep- End-Device (Dormant terminal). ZigBee network consists of a Coordinator, multiple Routers, and multiple End Devices (its terminal nodes can be divided into dormant and non-dormant terminals).

#### 3.2.6.1 Non-dormant terminal

The main task of a terminal device is to send and receive messages. No other nodes are allowed to connect to the terminal device. Non-dormant terminal is always in operating mode and can receive and send data at any time.

### 3.2.6.2 Dormant terminal

When wireless data needs to be sent or command operations need to be performed, wake-up frame needs to be sent through the serial port first, and the length needs to be 25 bytes or more ("FF "25-byte" FF "wake-up"), the wake-up time lasts 1000ms, during which serial port data (configuration commands, payload) can be processed, and when a frame of serial port data is successfully received, the timeout counter will be refreshed, and the wake-up duration will be 1000ms later, otherwise the device will enter sleep again;

When data needs to be received, it is received through periodic wake-up. The longer the wake-up period is set, the more the reception is delayed. The wake-up period must be set to less than 30 seconds.



### 3.2.6.3 Router

Allow other nodes to connect with the routing device to expand the coverage of the network. Its main task is to forward packets, play the role of relay routing, and have all the functions of terminal device. If there are multiple paths from one node to another, when one of the them fails, the network will automatically adjust to the other optimal path for transmission to ensure data arrival. The router can establish its own network or join other people's networks, it is always active and that is why it must be powered by the main power supply.

### 3.2.6.4 Coordinator

It has the functions of establishing and managing the network, controlling whether other nodes are allowed to join the network, storing network information, and having all the functions of the routing device. Its main tasks are to manage the network, record child node information, and forward messages. At the same time, the coordinator needs to authenticate the permissions of the terminal requesting network access.

## 3.2.7 Data transmission method

The data transmission methods of E180-DTU (ZG120-ETH) include unicast, broadcast, and multicast.

### 3.2.7.1 Broadcast mode

In broadcast mode, the sending device sends the data received by the serial port to each node (including itself) in the network, and all devices in the network will receive the data.

### 3.2.7.2 Multicast mode

In multicast mode, first set the group number (grouping) of the devices in the network, the sending device must specify the destination group number (to which group the data is sent), and then the sending device sends the data received by the serial port to the network, devices with the same group number in the network will receive data.

### 3.2.7.3 Unicast mode

In unicast mode, the devices in the network perform point-to-point communication through the network address. The sending device sends the received serial data to the target address device. After receiving the data, the target address device can return an ACK to the sending device to indicate that it has received data.

### 3.2.8 Output mode of receiving data

Receiving data output mode refers to the mode in which the network outputs data after E810-DTU (ZG120-ETH) receives wireless data;

#### 3.2.8.1 Transparent output

If output mode of the configuration device is transparent output, the module outputs the original data through the serial port after receiving the wireless data;

#### 3.2.8.2 Data+Short address

When output mode of the device is data + short address, after the module receives wireless data, serial port will output the original data + the short address of the sending device.

#### 3.2.8.3 Data+Long address

When output mode of the device is data + long address, after the module receives wireless data, serial port will output the original data + the long address of the sending device;

#### 3.2.8.4 Data+RSSI

When output mode of the device is data + RSSI, after the module receives wireless data, serial port will output the original data + the RSSI value of the received data packet;

#### 3.2.8.5 Data+Short address+RSSI

When output mode of the device is data + short address + RSSI, after the module receives wireless data, serial port will output the original data + the short address of the sending device + the RSSI value of the received packet;

#### 3.2.8.6 Data+Long address+RSSI

When output mode of the device is data + long address + RSSI, after the module receives wireless data, serial port will output the original data + long address of the sending device + RSSI value of the received data packet.

Note: The sender's single packet supports a maximum data packet length of 72 bytes

## 3.3 Feature

### 3.3.1 Page configuration

DTU can be accessed through a browser to configure web pages. When web pages are accessed, the access end and the module need to be on the same LAN. After entering 192.168.4.101, user name and password, enter the web configuration page.



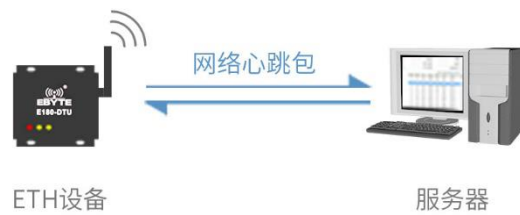
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当前状态	参数	帮助提示
本机IP设置	<p>型号规格: <b>E180-DTU(ZG120-ETH)</b></p> <p>固件版本: V1.0</p> <p>当前IP地址: 192.168.4.101</p> <p>MAC地址: 3C:97:0E:44:10:07</p> <p>SN码: FFFFFFFFFFFFFFFF</p> <p>连接状态A (网络): Disconnect</p> <p>连接状态B (网络): Disconnect</p>	<ul style="list-style-type: none"> <li><b>SN码:</b> SN码指模块在亿佰特云平台注册所提供的设备串行序列号</li> <li><b>连接状态</b> 连接状态是指当前SOCKET A/B 在网络中是否存在连接的实时标识</li> </ul>
ZigBee设置		
高级设置		
模块管理		

### 3.3.2 Heartbeat packet

In the network transparent transmission mode, users can choose to let the E180-DTU (ZG120-ETH) send heartbeat packets. Heartbeat packets can be sent to the web server. The main purpose of sending to the network is to maintain a connection with the server. It only takes effect in TCP Client and UDP Client modes. E180-DTU (ZG120-ETH) module supports up to 60 bytes of custom heartbeat packet content.



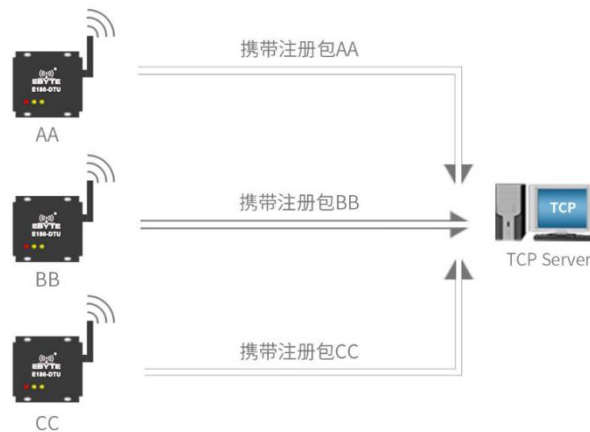
### 3.3.3 Registration packet

In the network transparent transmission mode, users can choose to let the DTU send a registration packet to the server. The registration package is to enable the server to identify the data source device or as a password to obtain server function authorization. It can be sent when the DTU establishes a connection with the server, or the registration packet data can be spelled into the front end of each data packet as a data packet. The data of the registration packet can be MAC address or custom registration data the content of the custom registration packet setting is up to 60 bytes.

Establishing connection and sending registration packet are mainly used to connect to a server that needs to be registered.

Data carry registration packet: Send data to access the registration packet at the forefront of the data, which is mainly used for protocol transmission.

Registration packet mechanism is only applicable to TCP Client and UDP Client. It is invalid under TCP Server and UDP Server.



### 3.3.4 IoT

E180-TTL-ETH02 supports access to the MQTT platforms of Ali, Baidu, and ONENET to establish a secure two-way connection between the device and the cloud, and then publish / subscribe transmission of messages to quickly implement the IoT. Users do not need to care about the protocol itself, they only need to process the data transmission and reception.

Note: After the IoT platform is enabled, the parameters of socketA will be invalid and cannot be used. Please choose to turn off the IoT if it is not used. The data communication between E180-TTL-ETH02 and cloud platform supports a maximum of 1000 bytes.

#### 3.3.4.1 Ali code

Log in to the web page, select Ali code under the IoT platform under the main menu of advanced settings.

**Product key:** In the Ali CODE IoT platform console, create a product and device to obtain a product key. E.g.: A1Ve0iJW6z1

**Device name:** The device name entered when adding the device. **Note: Numbers in English can be entered only, and the length cannot exceed 20 bytes.**

**Client ID:** User-defined input. It is recommended to use SN code of the device. **Note: Numbers in English can entered only, and the length cannot exceed 20 bytes.**

**Device key:** In the Ali code IoT platform console, create a product and device to obtain the device key. E.g.: AHlmNjuaMCGJ1bFOjC4EZMZmHSUhzSEQ

**Address:** The domain name connected to Ali IoT. E.g.: A1Ve0iJW6z1.iot-as-mqtt.cn-shanghai.aliyuncs.com

**Port:** Ali IoT port. E.g.: 1883

**Subscribe to topics:** E.g.: / A1Ve0iJW6z1 / MQTT\_TEST / user / get

**Release topic:** E.g.: / A1Ve0iJW6z1 / MQTT\_TEST / user / update

**Post message level:** Qos: 0 or Qos: 1

#### 3.3.4.2 Baidu Cloud

Log in to the web page, select Baidu Cloud under the IoT platform under the main menu of advanced settings.

**Device name:** Name entered when creating a new object shadow. **Note: Numbers in English can be entered only, and the length cannot exceed 20 bytes.**

**Username:** Name in the object shadow connection configuration. E.g.: Un2d6cs / E810MQTT

**Key:** The key in the shadow connection configuration. E.g.: s9mMzByp4Mpryphq

**Address:** The domain name connected to Baidu IoT. E.g.: Un2d6cs.mqtt.iot.gz.baidubce.com

**Port:** Baidu IoT port. E.g.: 1883

**Subscribe to topics:** E.g.: \$ baidu / iot / general / get

**Release topic:** E.g.: \$ baidu / iot / general / update

**Post message level:** Qos: 0 or Qos: 1

#### 3.3.4.3 Ebyte Cloud

Transparent transmission cloud function mainly solves the open type of data interaction between device and device, device and host computer, device and server platform. Users can enable the transparent transmission cloud function according to the command, and register the device and interact with the data according to the relevant usage of Ebyte cloud platform. Please refer to “Ebyte Cloud Platform Transparent Transmission Guide” for more details.

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### 3.3.4.4 ONENET

Log in to the web page, select ONENET in the IoT platform under the main menu of advanced settings. **Note: ONENET creates product selects multi-protocol access.**

**Device ID:** E.g.: 511986588

**Product ID:** E.g.: 286258

**Authentication information:** Custom input when creating a device. E.g.: Ebyte

**Address:** The domain name connected ONENET IoT. E.g.: mqtt.heclouds.com

**Port:** ONENET IoT port. E.g.: 6002

**Subscribe to topics:** E.g.: iot / general / get

**Release topic:** E.g.: iot / general / update

**Post message level:** Qos: 0 or Qos: 1

### 3.3.5 Short connection

The use of TCP short connection is mainly to save server resources and is generally applied in multi-point-to-point scenarios. The use of short connection can ensure that all existing connections are useful and do not require additional control measures to filter.

The TCP short connection function is applied in the TCP Client mode. After the short connection function is enabled, send the information, if there is no data received via serial port or network port within the set time, the connection will be automatically disconnected. The short connection function is turned off by default. The disconnection time can be set after the function is turned on, and the setting range is 2 ~ 255S.

### 3.3.6 KeepAlive

Keep-Alive is a mechanism for detecting dead connections in TCP connections. When users does not send any data, TCP link will periodically send "Keep-Alive" information to maintain the idle link, avoiding dead connections consuming unnecessary system resources. This setting is valid under TCP. Users can customize the Keep-Alive switch and other parameters.

Keepalive parameters:

**Time:** Start probe message after how many seconds the TCP link has no data message transmitted ;

**Intv:** Time interval between the previous probe message and the next probe message;

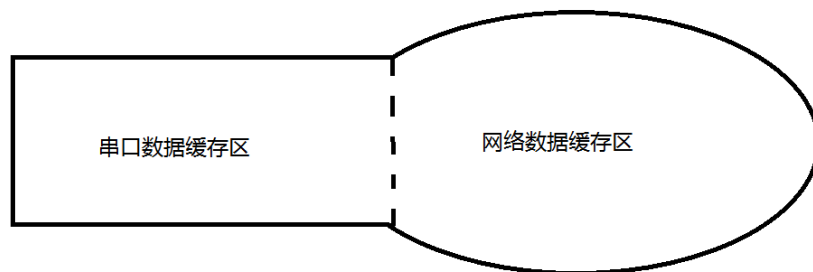
**Probes:** Maximum number of probe failures. When the number of sniffing failures reaches this number, TCP connection will be disconnected.

### 3.3.7 Timeout restart

Timeout restart (no data restart) function is mainly used to ensure the long-term stable operation of E180-DTU (ZG120-ETH). When the network port cannot receive data for a long time or the network has not received data for a long time, E180-DTU (ZG120- (ETH) will restart after exceeding the set time so as to avoid abnormal conditions affecting communication. The timeout restart can be set via the web page. The normal working time of this function is set to 60 ~ 65535S, and the default value is 3600S. 0 is off,and it returns to the default value when the setting exceeds the range.

### 3.3.8 Clear cache

When TCP connection is not established, the data received by DTU will be placed in the cache area. E180-DTU (ZG120-ETH) receiving cache is 2Kbyte. After TCP connection is established, the network cache data can be set to be cleared according to customer needs.



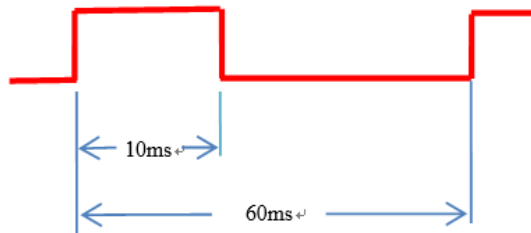
The device has two cache areas, namely the serial data cache area and the network data cache area. When SOCKET clear cache function is enabled, only the cache data of the relevant SOCKET link will be cleared and the serial port cache data will not be cleared.



### 3.3.9 Link/Data receiving and sending command

Link indicates network connection state. In TCP mode, Link is off when the network is not connected. When the connection is established, Link is always on. The Link indicator is always on in UDP mode.

The other is a data transmission indication, which shows the transmission state of DTU. When there is no data transmission on DTU, the data transmission indicator is off. When there is data transmission on DTU, the flashing indicates that its period is 60ms and the indicator is on for 10ms.



### 3.3.10 Restore factory setting

DTU restore factory setting has two ways: software to restore the factory settings and press the button to restore the factory settings.

## 4. Quick start

### 4.1 Default parameter

IP acquisition type	STATIC
IP Address	192.168.4.101
Subnet mask	255.255.255.0
Gateway	192.168.4.1
DNS	61.139.2.69
Spare NDS	192.168.4.1
Socket A1 basic parameters	TCP,192.168.4.101,8886
Socket A1 heartbeat packet mode	NET
Socket A1 heartbeat packet content	0 (Sec) , Turn off heartbeat packet function
Socket A1 registration packet mode	heartbeat msg
Socket A1 registration packet time	OFF
Socket A1 registration packet content	regist msg

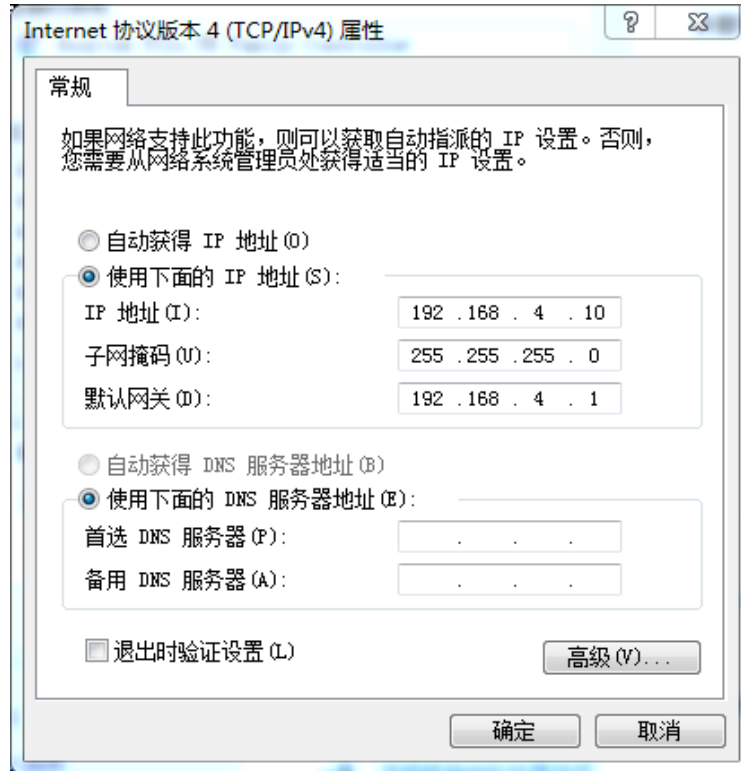
Socket A1 short connection time	0 (Sec) , Turn off the short connection function
Socket A1 keepalive parameter	time/inteval/probes = 10 (Sec) /5 (Sec) /30 (Sec)
Socket A1 clear cache function	OFF
Socket B1 basic parameter	TCPC,192.168.4.100,8887
Socket B1 heartbeat packet mode	NET
Socket B1 heartbeat packet time	0 (Sec) , Turn off the heartbeat packet function
Socket B1 heartbeat packet content	heartbeat msg
Socket B1 registration packet mode	OFF
Socket B1 registration packet content	regist msg
Socket B1 short connection time	0 (Sec) , Turn off the short connection function
Socket B1 keepalive parameter	time/inteval/probes = 10 (Sec) /5 (Sec) /30 (Times)
Socket B1 clear cache function	OFF
IoT switch	OFF
Tcp server maximum allowed connections	6
Intranet discovery port	1901
Intranet discovery password	www.cdebyte.comwww.cdebyte.com
web page port	80
web login username / password	admin/admin
Timeout restart time	3600 (Sec)

## 4.2 DTU Instruction

### Network configuration

1. Set the IP address of the PC computer to the same network segment as E180-DTU (ZG120-ETH), with the same subnet mask. For example, the PC IP is 192.168.4.10 and the module IP is 192.168.4.101

### PC configuration:



DTU configuration:

IP address access mode: **STATIC IP** ▼

The machine's IP: 192 . 168 . 4 . 101

Subnet mask: 255 . 255 . 255 . 0

The gateway address: 192 . 168 . 4 . 1

DNS server: 61 . 139 . 2 . 69

Standby DNS server: 192 . 168 . 4 . 1

Zigbee parameter configuration, as shown below:

Device types:	Coordinator ▼	Channel:	11	( 11~26 )	
Pan_id:	1234	HEX	Power:	20	( 0~20 )
Group:	0	( 0~255 )	Sleep time:	84	( 0~255 S )
Open time(10*S):	255	( 1~255 )	Rejoin count:	5	( 1~255 )
Rejoin period(M):	5	( 1~255 )	Remote header:	A88A	HEX
Send mode:	broadcast ▼				
Out mode:	transparent ▼				
Target short Add:	0000	HEX	Target group:	0	( 0~255 )
Target long Add:	0000000000000000 HEX				
Local short Add:	0x0000				
Local MAC Add:	DD-05-28-FE-FF-CC-CC-CC				
Parent node short Add:	0x0000				
Parent node MAC Add:	00-05-28-FE-FF-CC-CC-CC				
OPEN NET:	<input type="checkbox"/>	LEAVE NET:	<input type="checkbox"/>	NEW NET:	<input type="checkbox"/>

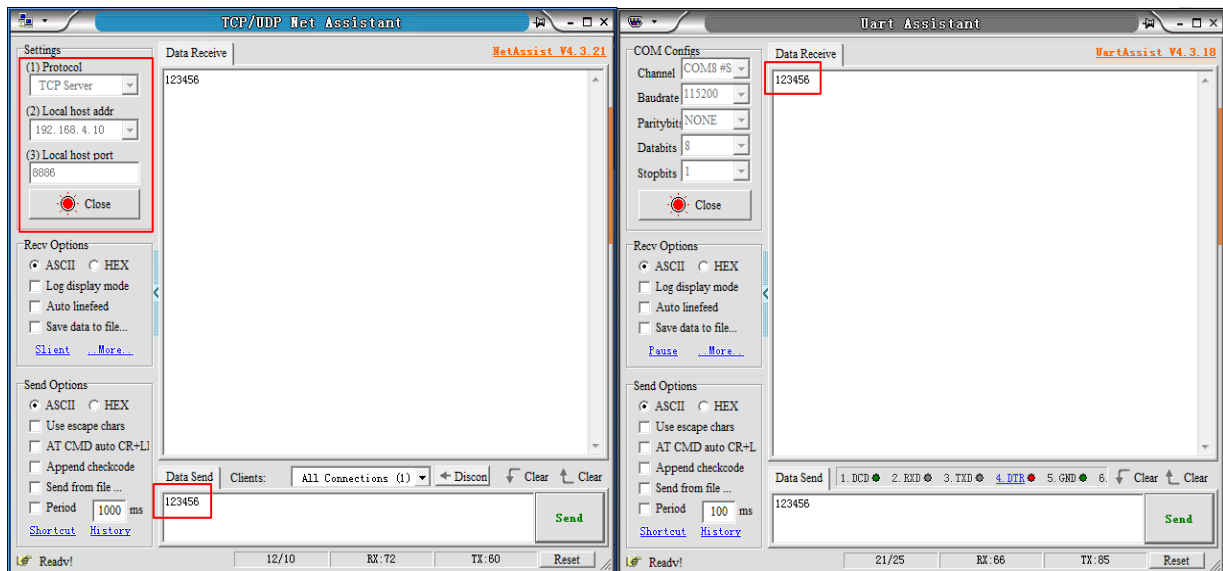
Transmission channel, network PAN\_ID, transmission power, transmission mode, and output mode settings of the router, terminal, and dormant terminal in the network are as shown in the figure above. The LINK indicator of the successful DTU is always on.

## 4.3 TCP Client Instruction

1. Set the SOCKET A1 network type of device A to TCP Client, the destination IP is 192.168.4.10, local port 0 (random port), and destination port 8886. Click Save to restart the module.

Socket A	Parameter
Work mode:	TCP Client ▼
Remote server address or domain name:	192.168.4.100
Local/remote port:	8886 8887 (0~65535)
Reconnect time:	2 (0, 2~65535)s
Clear cache function:	<input type="checkbox"/>
Short link break time:	0 (0 close, 2~65535)s
Heartbeat packet type:	network heartbeat packet ▼
Heartbeat packet content:	heartbeat msg
HEX:	<input type="checkbox"/>
ASCII:	<input checked="" type="checkbox"/>
Heartbeat packet time:	0 (0 close, 2~65535)s
Registered package type:	registration packet closure ▼
Keep alive connections:	<input checked="" type="checkbox"/>
Detection time:	10 (0 close, 2~7200)s
Detection of interval:	5 (2~7200) s
Number of detection:	30 (2~255)times

3. As shown in the figure below, communicate with another DTU, and the network debugging assistant connects to the DTU device for testing.

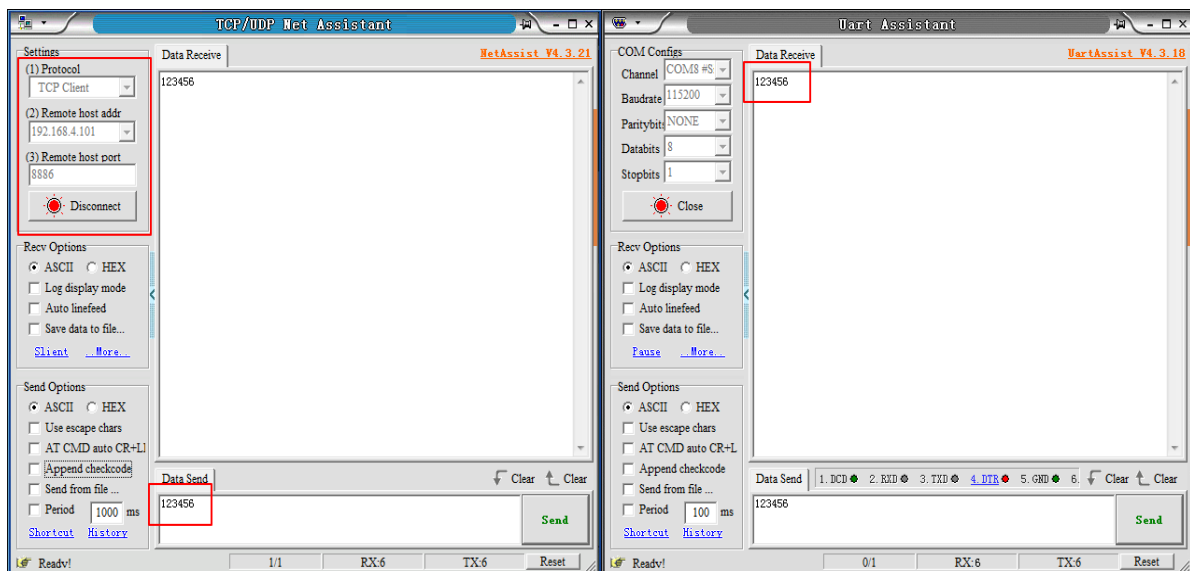


## 4.4 TCP Server Instruction

1. Set the SOCKET A1 network type of device A to TCP Server and local port 8886. Click Save to restart the module

Socket A Parameter	
Work mode:	TCP Server ▼
Maximum number of TCP server connections:	6 ▼ beyond connection numbers KICK ▼
Local/remote port:	8886 8887 (0~65535)
Reconnect time:	2 (0, 2~65535)s
Clear cache function:	<input type="checkbox"/>
Keep alive connections:	<input checked="" type="checkbox"/>
Detection time:	10 (0 close, 2~7200)s
Detection of interval:	5 (2~7200) s
Number of detection:	30 (2~255)times

3. As shown in the figure below, communicate with another DTU, and the network debugging assistant connects to the DTU device for testing.

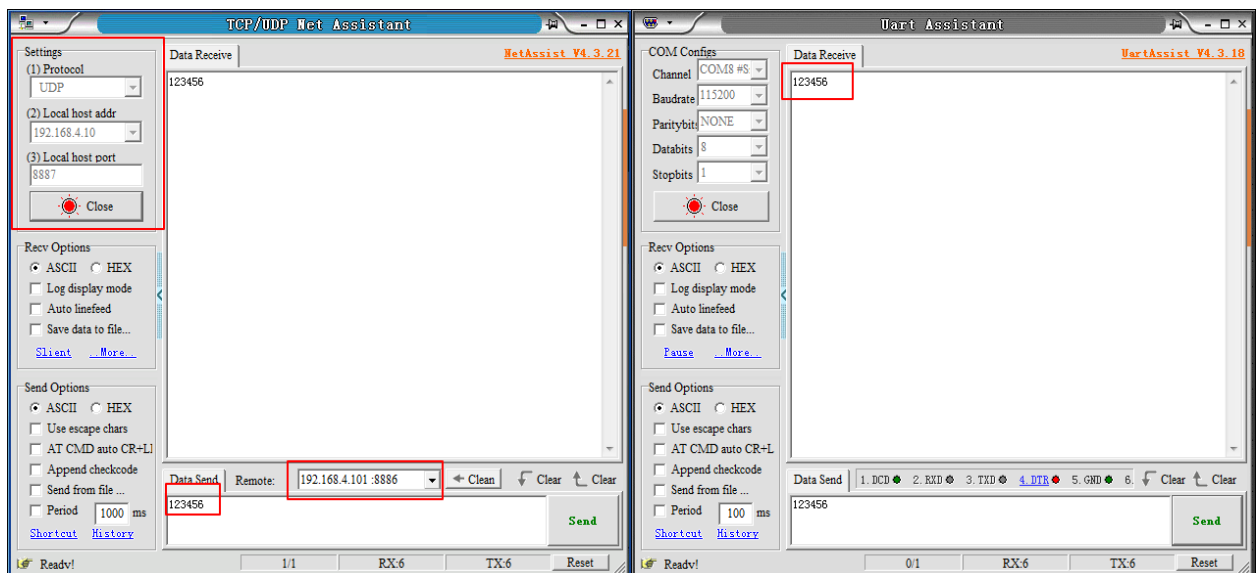


## 4.5 UDP Client Instruction

1. Set the network type of SOCKET A1 of device A to UDPC (UDP Client), the destination IP is 192.168.4.10 and the destination port is 8887. Click Save to restart the module. Set the "Network Debugging Assistant" to UDP (this host does not distinguish between UDP Client and UDP Server), the local host IP is set to 192.168.4.10, the local host port number is set to 8887, and the remote host is set to 192.168.4.101:8886.

Socket A	Parameter
Work mode:	UDP Client ▼
Remote server address or domain name:	192.168.4.100
Local/remote port:	8886 8887 (0~65535)
Heartbeat packet type:	network heartbeat packet ▼
Heartbeat packet content:	heartbeat msg
HEX:	<input type="checkbox"/>
ASCII:	<input checked="" type="checkbox"/>
Heartbeat packet time:	0 (0 close,2~65535)s
Registered package type:	registration packet closure ▼

3. As shown in the figure below, communicate with another DTU, and the network debugging assistant connects to the DTU device for testing.



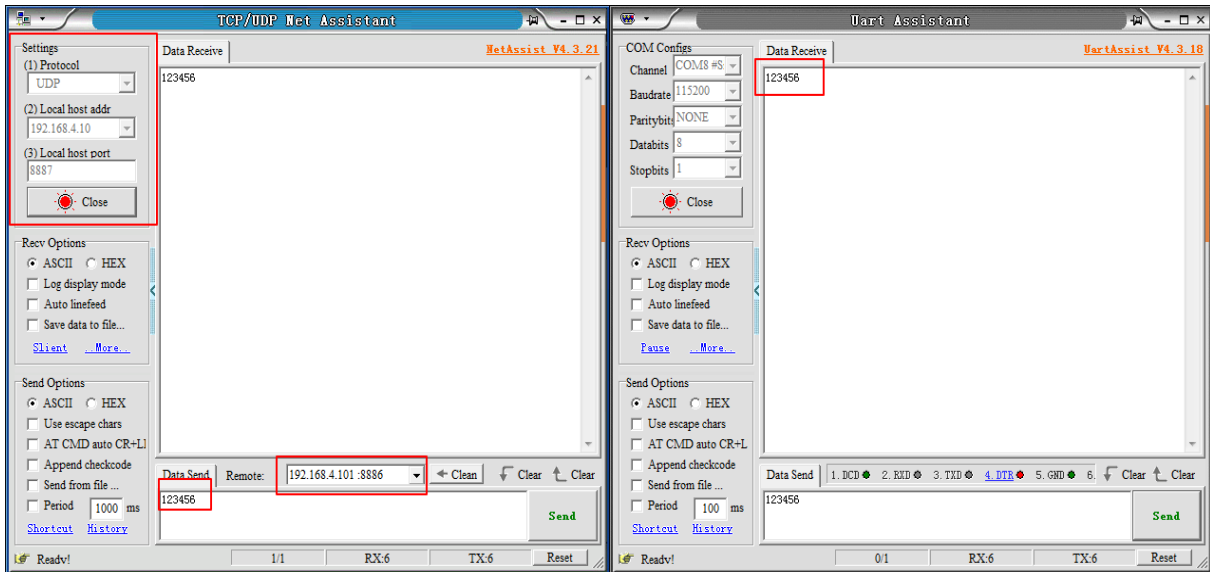
## 4.6 UDP Server Instruction

1. Set the SOCKET A1 network type of device A and device B to UDPS (UDP Server) and the local port 8886. Click Save to restart the module.
2. Set the "Network Debug Assistant" to UDP (the host does not distinguish between UDP Client and UDP Server), the local host IP is set to 192.168.4.101, the local host port number is set to 8886, and the remote host is set to 192.168.4.101:8887

Socket A	Parameter
Work mode:	UDP Server ▼
Local/remote port:	8886 8887 (0~65535)

3. As shown in the figure below, communicate with another DTU, and the network debugging assistant connects to the DTU device for testing.





## 4.7 WEB Introduction

The module supports web page configuration. Users can enter the module IP address and port through any browser (Default port of the browser is 80), and enter the web page after login successfully. As shown in the figure:

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Current State	Parameter	Helpful Tips
IP Setting	Type: <b>E810</b>	<ul style="list-style-type: none"> <li><b>SN code:</b> SN code refers to the serial number of the device when the module is registered on Ebyte cloud platform.</li> <li><b>Connection status:</b> Connection status refers to the real-time identification of whether the current SOCKET A/B is connected in the network.</li> </ul>
Parameter Setting	Version: V1.0	
Advanced Setting	Current IP Address: 192.168.4.101	
Management	Mac Address: 3C:97:0E:44:10:07	
	SN Code: 0000000000000000	
	Socket A connection: Disconnect	
	Socket B connection: Disconnect	

Select one or more pages for parameter browsing and configuration according to specific needs (take ZigBee settings as an example).

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Current State	Parameter	Helpful Tips
IP Setting	Device types: <input type="text" value="Coordinator"/> Channel: <input type="text" value="11"/> ( 11~26 )	<ul style="list-style-type: none"><li>• <b>Local interface</b> 1~65535. When a module does TCP client, a local port of 0 means random local ports are used.</li><li>• <b>Remote port</b> 1-65535.</li><li>• <b>Packing time/length</b> Default:10/1000 When set to 0/0, use automatic packaging mechanism. You can also set it to a non-zero value.</li></ul>
Parameter Setting	Pan_id: <input type="text" value="1234"/> HEX Power: <input type="text" value="20"/> ( 0~20 )	
Advanced Setting	Group: <input type="text" value="0"/> ( 0~255 ) Sleep time: <input type="text" value="84"/> ( 0~255 S )	
Management	Open time(10*S): <input type="text" value="255"/> ( 1~255 ) Rejoin count: <input type="text" value="5"/> ( 1~255 )	
	Rejoin period(M): <input type="text" value="5"/> ( 1~255 ) Remote header: <input type="text" value="A88A"/> HEX	
	Send mode: <input type="text" value="broadcast"/>	
	Out mode: <input type="text" value="transparent"/>	
	Target short Add: <input type="text" value="0000"/> HEX Target group: <input type="text" value="0"/> ( 0~255 )	
	Target long Add: <input type="text" value="0000000000000000"/> HEX	
	Local short Add: <input type="text" value="0x0000"/>	
	Local MAC Add: <input type="text" value="DD-05-28-FE-FF-CC-CC-CC"/>	
	Parent node short Add: <input type="text" value="0x0000"/>	
	Parent node MAC Add: <input type="text" value="00-05-28-FE-FF-CC-CC-CC"/>	
	OPEN NET: <input type="checkbox"/> LEAVE NET: <input type="checkbox"/> NEW NET: <input type="checkbox"/>	

After filling in the parameters correctly, click save Setting

Current State	Socket B Parameter	
IP Setting	Work mode: <input type="text" value="TCP Client"/>	
Parameter Setting	Remote server address or domain name: <input type="text" value="192.168.4.100"/>	
Advanced Setting	Local/remote port: <input type="text" value="0"/> <input type="text" value="8887"/> (0~65535)	
Management	Reconnect time: <input type="text" value="2"/> (0, 2~65535)s	
	Clear cache function: <input type="checkbox"/>	
	Short link break time: <input type="text" value="0"/> (0 close,2~65535)s	
	Heartbeat packet type: <input type="text" value="network heartbeat packet"/>	
	Heartbeat packet content: <input type="text" value="heartbeat msg"/>	
	HEX: <input type="checkbox"/> ASCII: <input checked="" type="checkbox"/>	
	Heartbeat packet time: <input type="text" value="0"/> (0 close,2~65535)s	
	Registered package type: <input type="text" value="registration packet closure"/>	
	Keep alive connections: <input checked="" type="checkbox"/>	
	Detection time: <input type="text" value="10"/> (0 close,2~7200)s	
	Detection of interval: <input type="text" value="5"/> (2~7200) s	
	Number of detection: <input type="text" value="30"/> (2~255)times	
	<input type="button" value="save setting"/> <input type="button" value="cancel"/>	

The page will automatically jump to the module management page. After you click Restart Module, the module restarts and the set parameters take effect.



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Current State	Parameter management	Helpful Tips
IP Setting	Restart module <span>Restart module</span>	<ul style="list-style-type: none"> <li><b>Restart module</b> Restart the module for your configuration to take effect.</li> <li><b>Factory data reset</b> After the factory settings are restored, the equipment will be restarted automatically.</li> </ul>
Parameter Setting	factory data reset <span>Factory data reset</span>	
Advanced Setting		
Management		

## Revision history

Version	Date	Description	Issued by
1.0	2019-3-5	Initial version	All
1.1	2019-12-2	Format adjustment	All
1.2	2020-1-4	version	Blue

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