Frequently asked questions about JDY-10M

Question 1： Can JDY-10M be able to transmit through module and module serial port mesh network without cell phone? How to operate it? Does it support more than 20 modules for serial communication?

Of course, this is a mesh network module, which is basically the same function as ZIGBEE. If you need the above functions, please configure as follows.

1：Configuration mesh network ID number: AT+NETID112233445566

Description: the mesh network ID number can be modified by users

2：To configure module broadcast name. All modules of mesh network device must have the same broadcast name.

AT+NAME123

3：For short address configuration, which generally do not need configuration. But the user can also modify it, because the short address is the last byte of MAC address, which may be the same possibility. So it is generally recommended that the user to set it, but it must ensure that the short addresses of all the modules in the mesh network can not be the same.

AT+MADRR22

After the above configuration, send AT+RESET to reset. After the module is restarted, all modules will automatically organize the mesh network.

4： To test whether the mesh network is successful, you can send broadcast data from the serial port to see whether all the modules serial port can receive the data. The data format is hexadecimal: AAFBFFFF313233. If the mesh network is successful, all modules will output 123 information on the serial port.

Description of the sent data format

Serial port MESH wireless control instruction

1) Serial port MESH data transmit(one-to-multiple, multiple to one, and multiple to multiple)

Instruction	Target short address	Data
AAFB	2byte	10Byte

Description: When sending broadcast, the target short address is FFFF. When sending unicast, the high byte of short address must be 00, for example, 0002, which means sending data to the 02 device.

Example 1: Send broadcast data to all modules: 112233445566

Send instruction format:AAFBFFFF112233445566

Example 2: Send data 112233 to short address 02 module

Send instruction format:AAFB0002112233

5：The data format for receiving MESH is as follows.

2) Serial port MESH data acceptance

Instruction	Target short address	Data length	Data
AA	1 byte	1 byte	10 bytes
BB	1 byte	1 byte	10 bytes

The above table is the MESH data transparent transmission and function control receive data format.

Instruction AA means that this data packet is a transparent transmission data

Instruction BB means that this data packet is function data (PWM, key value, LED)

Example 1: When serial port receives AA02050102030405 means receiving 5 bytes data from 02 short address module, and the data content is 0102030405.

Example 2: the serial port receives BB2903E7F101 that it receives not the serial data, but the control command. The data is sent by device of short address 29, the data length is 3 bytes, and the E7F101 command is to set OUT1 pin to output high level.

Question 2： If I don't need MESH function, but only need to transmit data, does JDY-10M support it or not?

Answer: Of course it does. The module supports APP transmission by default. The service is FFE0, and the feature is FFE1, which is fully compatible with the old version of APP communication.

Question 3： **IO control, for example, if I control the telecontroller to set the IO level of another module, can the IO level be saved when power on next time?**

Answer: The IO state of the JDY-10M is saved. If you set the IO level to high level, it will also be high level when power on next time.

Question 4： **What is the short address of JDY-10M for?**

Answer: Bluetooth communication must ensure that MAC address is unique, while MESH communication includes mesh network ID, broadcast name and short address. Short address must also be unique in mesh network. Its role is the same as Bluetooth MAC address, which must be unique. Devices in the mesh network are differentiated by short addresses. Of course, users can modify their short addresses themselves, but they must be unique.

Question 5： **What instructions can be configured to form a mesh network?**

Answer:

Instruction 1：AT+NAME123. It means that set broadcast name of 123, which can be modified by users, but the module broadcast names in the mesh network must be the same.

Instruction 2：Set the mesh network ID：AT+NETID112233445566, the ID number of the modules must be completely the same in the mesh network.

Instruction 3：Set the short address：AT+MADDR22. The short address of all modules in the mesh network must be unique. The factory's default short address is the last byte of the module MAC address.

Question 6： **No AT+SLEEP sleep instruction is found in instruction set. How to set the sleep mode?**

Answer: In normal condition, as MESH needs to transmit the broadcast packet constantly, so it can't sleep. If it needs sleep, there are methods as follows. To set the module to AT+CLSSC0 low power consumption telecontroller mode, then send AT+RESET, the module goes into deep sleep. The current now is several UA.

Question 7：Why can low power consumption telecontroller send data to other modules?

Answer: Before setting the AT+CLSSC0, you must configure the mesh network ID, the device name, and the short address, so after the sleep, it will enter the mesh network and send the key value automatically after the button is awakened.

Question 8： Does it need to be restarted after the serial port baud rate is configured?

Answer: Yes, it does. It will take effect after restarting.

Question 9：After MCU serial port connected to MESH network, does it also support APP connection and control?

Answer: Of course.

Question 10： If I have 5 rooms in the house and have a lot of JDY-10M in the hall, I also have a JDY-10M for LED light in our small bedroom, and a JDY-10M LED light in the corridor. Can I control them in the hall?

Answer: Absolutely. This mesh network can be forwarded, for example, I live on the 10th floor, and I can also control the underground parking garage LED lights or the garage door switch. Just put one JDY-10M in every ten meters to the garage, so that you can control the underground parking garage JDY-10M from the 10th floor.

Question 11： If I have many modules, and I need to use two telecontrollers to control other modules separately or at the same time. How can I operate it?

Answer: JDY-10M has 5 key pins by default, which can connect 5 keys, and all the target short addresses of the 5 keys can be set and queried through AT+KVALUE. The short address in the key is set to 05 to control the 05 short address devices, supporting multiple telecontrollers to control a module, and also supporting one-to-one control of the telecontroller.

Instruction	Response	Parameter
AT+KVALUE<Param>	+OK	Param：(4 bytes) 01FF: means that K1 is configured as a broadcast mode. When K1 is pressed, all devices will receive the key value of K1. 0108：means that K1 is configured as unicast. When K1 is pressed, only the device's short address is 08 can receive the key value of K1. 02FF: means that K2 is configured as a broadcast mode. When K2 is pressed, all devices will receive the key value of K2. 0208：means that K2 is configured as unicast.

		When K2 is pressed, only the device's short address is 08 can receive the key value of K2. 03FF: means that K3 is configured as a broadcast mode. When K3 is pressed, all devices will receive the key value of K3. 0308: means that K3 is configured as unicast. When K3 is pressed, only the device's short address is 08 can receive the key value of K3. 04FF: means that K4 is configured as a broadcast mode. When K4 is pressed, all devices will receive the key value of K4. 0408: means that K4 is configured as unicast. When K4 is pressed, only the device's short address is 08 can receive the key value of K4. 05FF: means that K5 is configured as a broadcast mode. When K5 is pressed, all devices will receive the key value of K5. 0508: means that K5 is configured as unicast. When K5 is pressed, only the device's short address is 08 can receive the key value of K5.
AT+KVALUE<Param2>	+KVALUE=<Param>	Param2: (2 bytes) 01: means read the K1 address 02: means read the K2 address 03: means read the K3 address 04: means read the K4 address 05: means read the K5 address

Question 12: Can a mobile phone connected to a JDY-10M control dozens of other JDY-10M?

Answer: Absolutely. For all the settings in the mesh network, the mobile phone connected to one of the JDY-10M devices can control any JDY-10M in the entire mesh network.

Question 13: How does the JDY-10M communicate by one-to-multiple, multiple to one, and multiple to multiple?

Answer: As long as in the mesh network, JDY-10M communicate with each other through broadcast or unicast mode. When broadcasting, the short circuited address for sending data is FF, which means sending messages to all JDY-10M. Unicast needs to specify the short address of the module, for example, if A module needs to send unicast data to B module, A module needs to know what the short address of B module is firstly, so as to send unicast data to B module.

Question 14：Is the JDY-10M mesh network safe?

Answer: It's very safe. If the mesh network ID and broadcast names are different from others, the data interaction in the mesh network can't be obtained by others.