HXJZ-882 Micro Power Wireless Module

User’s Manual
About HXJZ-882

HXJZ-882, the Micro power wireless module, is used as the wireless data transmission in short distance.

With the small size, weight and power consumption and good stability and reliability, it has the function of bi-directional data sign transmission, test and control.

It is used for Wireless meter reading, such as water meter, electric meter and gas meter, parking meter, intelllective card, electronic weighing apparatus, meter for checking on work attendance, queue wireless meter, building control, shipping company control, alarm system, intelligent equipment, Automatic data collecting system; Industrial remote control and remote test building automation, safety and security, powerhouse equipment wireless monitor, entrance control system, etc. It provide the USB power interface to be convenient for the mini computer and PC users if necessary.

JZ8882 Feature

1. Ultra low power transmission
   Transmission power < 500mW, high receiving sensitivity: -120dbm;
   Size: 63mm*43mm*15 mm

2. Low power consumption
   Receiving current<60mA, transmission current<400mA, current<100Ua.

3. ISM frequency band, not requiring on application of frequency point
   Carrier frequency of 490MHz. also capable of 160/230/315MHz

4. High anti-interference and low BER (Bit error Rate)
   Based on the FSK modulation mode, it adopts the efficient communication protocol. The actual bit error rate of 10-5 ~ 10-6 can be achieved when channel bit error rate is 10-2.

5. Long transmission distance
   Within the range of visibility, the reliable transmission distance is (BER=10-3/1200bps) >1500m,
   (BER=10-3/1200bps) >2500m when the antenna height is greater than 2m (BER=10-3/9600bps).

6. Transparent data transmission
   Transparent data interface is offered to suit any standard or nonstandard user protocol. Any false data generated in the air can be filtrated automatically (What has been received is exactly what has been transmitted). The charge time for receiving and sending ≤20ms.

7. Multi-channel and speed
   The standard HXJZ-882 configuration provides 8 channels to meet the multiple communication combination mode of the users. It has baud rate to be chosen such as 1200bps, 2400bps, 4800bps, 9600bps, 19200bps. The wireless transmission rate is direct ratio with baud rate of interface to meet user’s equipment requirement.

8. High speed wireless communication and large data buffer
   When the speed rate in the air is quicker than interface’s, allowing to transmit unlimited length data at one time, when the speed rate is slower or equal the interface’s, allowing the transmission of 255 Bytes long data frames at one time for more flexible programming by users.

9. Intelligent data control and the user doesn’t need to prepare excessive programs
   Even for semi duplex communication, the user doesn’t need to prepare excessive programs, only
receiving/transmitting the data from the interface. HXJZ-882 will automatically complete the other operations, such as transmission/receiving conversion in the air, control, etc.

10. High reliability, small and light

Single chip radio-frequency integrated circuit and single chip MCU are used for lessened peripheral circuits, high reliability, and low failure rate.

11. Watchdog monitor

Watchdog monitors the inner function, so that change the traditional product structure and improve the product reliability.

Application of HXJZ-882

1. Dimension

![Diagram of HXJZ-882 Module]

Remarks: Pin space is 2.0 mm.)
2. HXJZ-882 interface definition

1) User’s interface

HXJZ-882 have one interface of TTL/RS232/RS485, user can choose one.

In standard interface, the plastic socket gap upward, from left to right, is 1-9 pin in turn, as follows:

<table>
<thead>
<tr>
<th>Item no</th>
<th>PIN</th>
<th>Description</th>
<th>User’s terminal</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SLE</td>
<td>Sleep control input  end</td>
<td></td>
<td>Low level into sleeping.</td>
</tr>
<tr>
<td>2</td>
<td>TXD/RS-485(A)</td>
<td>Serial data transmitting</td>
<td>RXD/RS-485(A)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>RXD/RS-485(B)</td>
<td>Serial data receiving</td>
<td>TXD/RS-485(B)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
<td>Power supply/Ground</td>
<td>DGND/AGND</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>VCC</td>
<td></td>
<td></td>
<td>+5±0.5V</td>
</tr>
<tr>
<td>6</td>
<td>I2</td>
<td>Input of 2nd on and off</td>
<td>Output terminal of On and Off</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I1</td>
<td>Input of 1st on and off</td>
<td>Output terminal of On and Off</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>O2</td>
<td>Output of 2nd on and off</td>
<td>Input terminal of On and Off</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>O1</td>
<td>Output of 1st on and off</td>
<td>Input terminal of On and Off</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: To avoid to connect the interface reverse and can not communicate, please check and assure the voltage of 3 and 4 pin is existing by using multimeter. If there is one pin that has the voltage, another has not voltage, which means the interface is connected reverse, please change the connection wires between pin 3 and 4.

2) Power supply

HXJZ-882 uses DC power supply with voltage of +5V. It can also share power supply with other equipment, however, the high quality power supply with desirable ripple factor should be selected. In addition, the reliable grounding must be used if there is other device in the system equipment. In case of failure to connect with the earth, it can form its own grounding, but it must be absolutely separated from the municipal electric supply.

3) The use of IO

HXJZ-882 supply two set of IO for the users as follows:
3. Power Saving model
HXJZ-882 consists of Sleeping Model and Non-sleeping model. The power is 100UA when sleeping. The user needs to specify which model you need.

Awaken from Hardware, you can input high level in 5pin, then it sleep.
If don’t need sleep, then u can connect 5 pin to ground. It will not sleep.

3. HXJZ-882 Parameters Setting
HXJZ-882 main parameters: COM baud rate and verify, RF baud rate, Channel and frequency.
You can change these parameters by our RF Module soft. When RF baud rate is faster than COM baud rate, One frame Can transmit limitless data. When RF baud rate is not faster than COM baud rate, one frame can transmit 255 bytes most. You can set the rate according your need.

Two HXJZ-882 communicate must have condition as follow:
1. Their channels (i.e. frequency) are the same.
2. Their RF rates are the same.
3. RF Module Com baud rate and verify is agree with its equipment or PC that it connects with.

Parameters default:
Channel : 1
Interface speed rate : 9600BPS
Interface verify : none
Speed rate in air : 9600BPS
Channel and frequency list

<table>
<thead>
<tr>
<th>Channel</th>
<th>Frequency</th>
<th>Channel</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>487.5072MHz</td>
<td>5</td>
<td>490.6942MHz</td>
</tr>
<tr>
<td>2</td>
<td>488.4289MHz</td>
<td>6</td>
<td>491.1580MHz</td>
</tr>
<tr>
<td>3</td>
<td>489.2329MHz</td>
<td>7</td>
<td>491.7360MHz</td>
</tr>
<tr>
<td>4</td>
<td>489.9260MHz</td>
<td>8</td>
<td>492.4388MHz</td>
</tr>
</tbody>
</table>

Technical specification of HXJZ-882

- **Modulation mode:** GFSK
- **Working frequency:** 487--493MHz
- **Transmission power:** <500mW
- **Receiving sensitivity:** -120dBm
- **Transmitting current:** <400mA
- **Receiving current:** <60mA
- **Sleeping current:** <10mA
- **Channel speed rate:** 1200/2400/4800/9600/19200Bit/s, User can Choose one
- **Interface speed rate:** 1200/2400/4800/9600/19200Bit/s, User can Choose one
- **Change time for receiving and sending:** <10ms
- **Interface data format:** 8E1/8N1/8O1
- **Power supply:** 5±0.5V DC
- **Working temperature:** -20℃ ~ 85℃
- **Working humidity:** 10% ~ 90% relative humidity without condensation
- **Dimension:** 63 mm*43mm*15 mm
- **Attachable Communication with Model:** JZ881/HXJZ-882

Model and name

![Diagram](T: TTL interface
2: 232 interface
4: 485 interface
Products Item
Company logo)

Optional Antenna:
### Trouble and solve ways:

<table>
<thead>
<tr>
<th>NO.</th>
<th>Trouble</th>
<th>Trouble causes and solve ways</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No shine of Indicator light</td>
<td></td>
</tr>
</tbody>
</table>
|     | a. Power Line badness touch.  
|     | b. Power is bad.  
|     | c. Power line meet in reverse, or diode of polarity protect is bad. |
| 2   | No transmit or No receive |  
|     | a. Radio is badness touch with PC/terminal.  
|     | b. Radio with TTL/RS232/RS485 not match terminal.  
|     | c. RX frequency and TX frequency is not same. |
| 3   | Bit error rate High |  
|     | a. antenna not match, or touch bad;  
|     | b. RF baud rate is not right.  
|     | c. Power supply ripple is too great. |
| 4   | Indicator light twinkling |  
|     | a. Electromagnetism disturb in circumstance.  
|     | b. Same frequency disturb in the circumstance. |