HXJZ-881 Micro Power Wireless Module

User's Manual
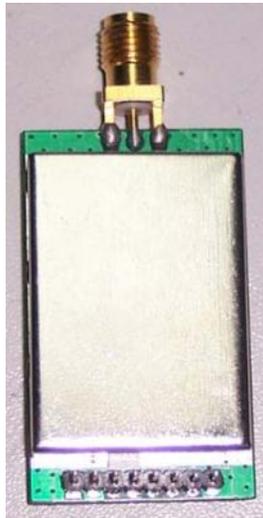
About HXJZ-881

HXJZ-881, 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, intellective 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.

JZ8881 Feature

1.Ultra low power transmission

Transmission power ＜10mW, high receiving sensitivity: -120dbm, size: 39.4mm*24mm*8 mm.

2. Low power consumption

Receiving current<35mA, transmission current<40mA, sleeping current (the user need to ask for it before place an order). < 1mA.

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） >500m 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 <10ms.

7. Multi-channel and speed

The standard HXJZ-881 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-881 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-881

1. Dimension
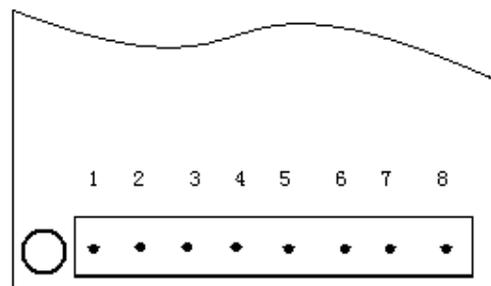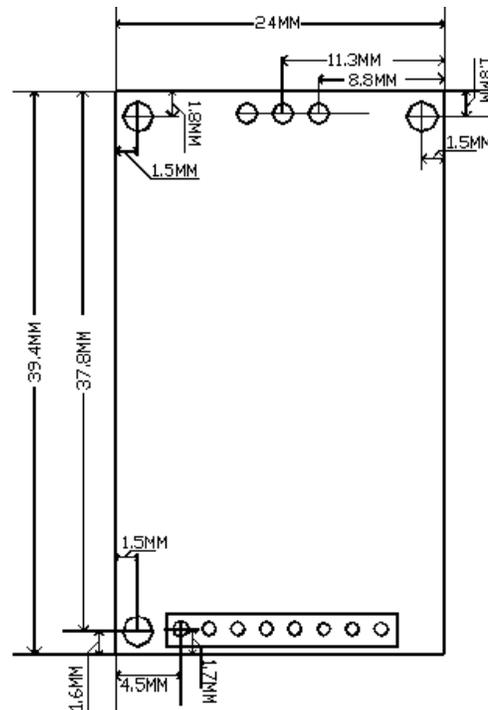
(Remarks: Jack space between is 2.0 mm.)

2.HXJZ-881 interface definition

1) User's interface

HXJZ-881 have one interface of TTL.

In standard interface, the plastic socket gap upward, from left to right,1-8 pin in turn, as follows;

Definition of connecting pins and connection method:

Item no	PIN	Description	User's terminal	Remarks
1	VCC	+5±0.5V	+5V	3V is possible for user
2	GND	Power supply/Ground	DGND/AGND	
3	TXD	Serial data transmitting	TTL	User receiving
4	RXD	Serial data receiving	TTL	User transmitting
5	RXD/RS-485(A)	Serial data receiving	TXD/RS-485(A)	User transmitting
6	TXD/RS-485(B)	Serial data transmitting	RXD/RS-485(B)	User receiving
7	SLE	Sleeping control		Don't' open
8	GND	Power supply/Ground	DGND/AGND	

Remarks:

a. HXJZ-881 with sleeping function is not open in default ,if the user need ,then you must say it clearly when you place an order.

b. The standard power supply is 5V ,if the user need 3V ,then must tell us before place an order.

2) Power supply

HXJZ-881 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). Power Saving model

HXJZ-881 consists of Sleeping Model and Non-sleeping model. The power is 10Ua when sleeping. The user need to specify which model you need .

Awaken from Hardware, you can input high level in 7pin, then it sleep.

If don't need sleep ,then u can connect 7 pin to ground. It will not sleep.

3. HXJZ-881 Parameters Setting

HXJZ-881 have one interface of TTL.

HXJZ-881 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-881 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

Channel	Frequency	Channel	Frequency
1	487.5072MHZ	5	490.6942MHZ
2	488.4289MHZ	6	491.1580MHZ
3	489.2329MHZ	7	491.7360MHZ
4	489.9260MHZ	8	492.4388MHZ

Technical specification of HXJZ-881

Modulation mode: FSK

Working frequency: 487--493MHZ

Transmission power: <10mW

Receiving sensitivity: -120dBm

Transmitting current: <45mA

Receiving current: <35mA

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: 39.4mm*24mm*8mm

Attachable Communication with Model: HXJZ-881/JZ882

Model and name

| JZ | 881 | -T |

T: TTL interface

Naked board

Company logo

Optional Antenna:
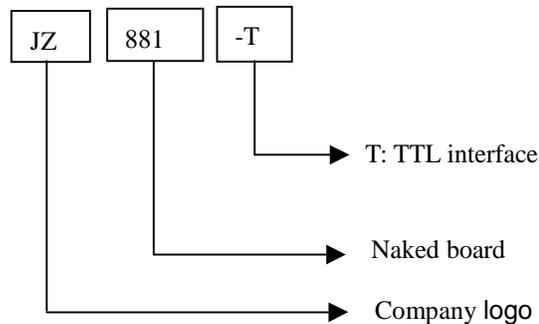
spillikin   Flagelliform   Small acetabula antenna

Trouble and solve ways:

NO.	Trouble	Trouble causes and solve ways
1	No shine of Indicator light	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.