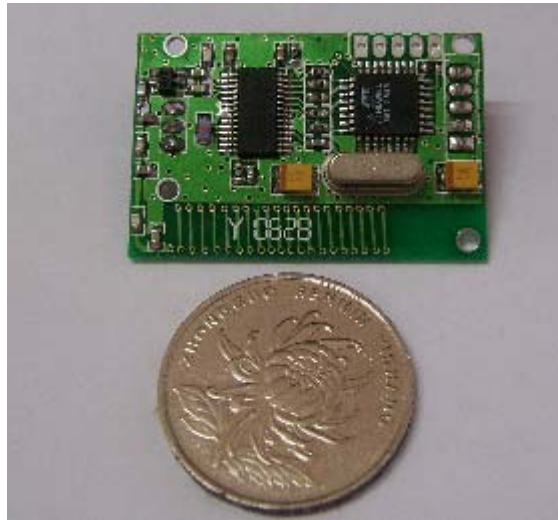


# **JZ861 Mini Power Wireless Module**

## **User's Manual**



**SHEN JIZHUO TECHNOLOGY CO., LTD**

---

**TEL: +86-755-83304518 / 83308451/81353151**

**FAX: +86-755-83302824**

**Address: NO.813,212BLD,Tairan Tech Park, Futian District Shenzhen China**

**Post Code : 518040**

**Website : <http://www.jizhuo.net>**

**Email:sale@jizhuo.com**

Before using the product, please read the user's manual carefully. Any question in technical, you can contact us. Tel: +86-755-81353151, 83304518.

## About JZ861

JZ861, a Mini power wireless module, is used as the wireless data transmission in short distance.

With the characteristics of small size, light weight, low power consumption, good stability and reliability, it can provide bidirectional data transmission, test and control for users.

It is used for Wireless meter reading, such as water meter, electric meter and gas meter, parking meter, intellectual card, electronic weighing apparatus, meter for checking 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.

If necessary, we can provide USB interface to make it easy to settle the question of Power Supply for Mini computer and PC users.

## JZ861 Feature

### 1.Low power transmission

The transmission power < 10mW, Receiving sensitivity: -110dbm

Size: 38mm\*25mm\*6mm.

### 2. Low power consumption

Receiving current<10mA ,transmission current<35mA ,sleeping current (the user should asked for it before order ) <15uA.

### 3. ISM frequency band, not requiring on application of frequency point

Carrier frequency: 428---433MHz, also capable of 868/915MHz.

### 4. High anti-jamming and low BER (Bit error Rate)

Based on the FSK modulation mode, it adopts the efficient communication protocol. The actual bit error rate of  $10^{-5} \sim 10^{-6}$  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= $10^{-3}/1200\text{bps}$  ) >150m when the antenna height is greater than 1m (BER= $10^{-3}/9600\text{bps}$ ).

### 6. Transparent data transmission

Transparent data interface is offered, which can be fit for nonstandard user protocol. Any false data generated in the air can be filtrated automatically (What has been received is exactly what has been transmitted). Receiving and dispatching switching time<10ms.

### 7. Multi-channels and Multi-speeds

The JZ861 module provides 8 channels to meet many kinds of communication combination mode of the users. The JZ861 Module can provide many kinds of correspondence baudrate such as 1200bps, 2400bps, 4800bps, 9600bps, 19200bps and so on.

The wireless transmission speed and the connection baudrate are proportional, to satisfies the customer equipment of different baudrate.

### 8. High speed wireless communication and Large data buffer

When the RF baudrate is bigger than the COM baudrate , may transmit infinitely data continuously, and when the RF baudrate is samaller than or was equal to the COM baudrate ,may transmit 255 bytes data.

### 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. JZ861 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.

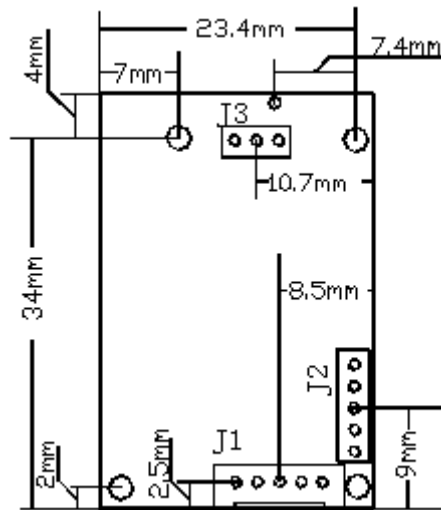
### 11. Watchdog monitor

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

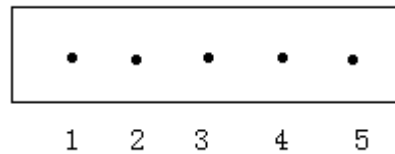
## Application of JZ861

JZ861 Mini micro power wireless module, Please don't approach your MCU, the wire, the electric circuit board with copper sheet and the power unit of the equipment when install the antenna.

### 1、 Dimensional drawing



## 2、 The definition of JZ861 Interface(J1) :

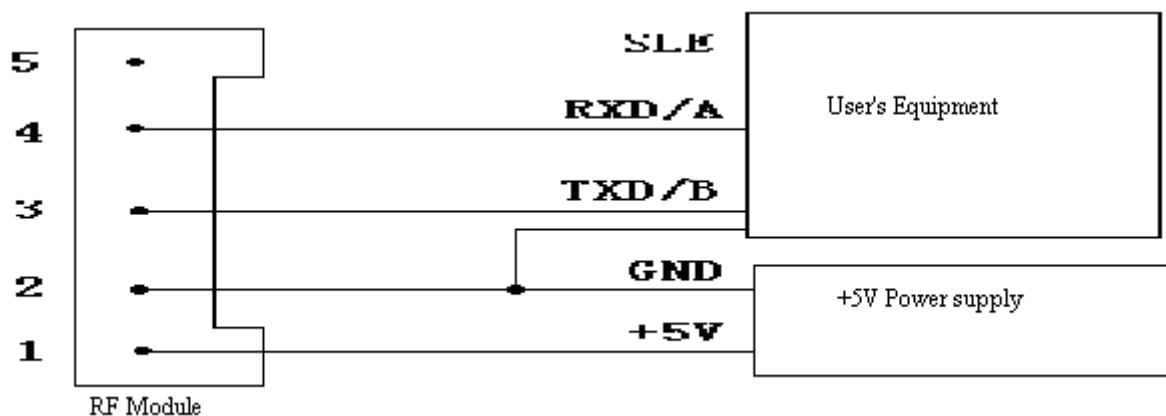


### 1.The user interface(J1)

The user interface under the standard disposition, which is plastic plug, the gap faces below, from left to right, is 1,2,3,4,5.

The definition of each pin are as follows:

Base Pin	base pin definition	Specification	User terminal	Note
1	VCC	+5±0.5V	+5V	TTL 3V The user need to choose
2	GND	power source teminal place	DGND/AGND	
3	RXD	Serial data receiving end	TXD	
4	TXD	Serial data sending end	RXD	
5	SLE	Sleep control input end		Begin sleeping when the level is high,and awakens when low level.



### Note:

In order to prevent the serial port installed reverse,and brings the problem of communication.

Please check 3 feet and 4 feet with the avonmeter after connect the equipment with power source,whether the voltage exist (all has voltage to express connection correctly), if only some foot has the voltage, but another foot does not have, then indicated the serial port are reverse, if that ,we should exchange 3feet to 4feet.

## 2.User power source choice:

The JZ861 is direct-current power supply, the voltage is +5V, the typical voltage is +5V, the electric current is bigger than 35mA. The user need to order if they use 3V Power supply.

The power source can share a power supply with other equipment, but must choose the power source with good ripple coefficient, and we suggest don't use the switching power supply, if must use, please note mutual disturbance between the turn-on frequency of the switching power supply and the broadcasting station frequency. In order to prevent the breakdown of static electricity or the strong electric, when the system equipment been used, then needs to earth it reliably, at the same time must isolate the city electricity completely.

## 3.Sleep function;

JZ861 including two awaken ways: the sleep edition and the awaken edition.

When in dormancy, the electric current is 1uA. Before using, the user must choose which edition uses. Sleep edition user can choose using or closes, the JZ861 sleep function divides into two kinds as follows: The hardware awakens the way and the serial port awakens the way (airborne to awaken retains temporarily).

Awaken of hardware is inputs the high level through the connection fifth foot to enter the dormancy, inputs the low level to awaken.

Awakens of COM is the user send the assigns agreement to the JZ861 interface data to begin using sleep function separately or to awaken.

JZ861, which has the function of sleep, the function is off when they our of the factory, the user must set according to the JZ861 establishment software, to establish the hardware to awaken or the serial port awakens. Or the user inform us beforehand, our company sets it first.

If the user use JZ861 with sleep function, but does not want to use the function, they can set non-sleep through the JZ861 establishment software, or awakens under the pattern in the hardware, earth the 5th foot of JZ861.

## 3.The default parameter of JZ861

Channel: First channel;

Serial port speed: 9600BPS

Serial port verification: Does not have

Airborne speed: 9600BPS

## Attached: Various channels and frequency comparative table

Channel No.	frequency	Channel No.	frequency
1	428.0028MHZ	5	432.1685MHZ
2	429.0012MHZ	6	431.5020MHZ
3	433.3020MHZ	7	430.0764MHZ
4	433.9164MHZ	8	433.5308MHZ

## 4、 Technical specification of JZ861

Modulation mode: FSK

Working Frequency: 428---433MHZ

Transmission power: <10mW

Receiving sensitivity: -110dBm

Transmitting current:: <35mA ,

Receiving current: <11mA

Sleeping current: <15uA

Channel speed rate: 1200/2400/4800/9600 Bit/s The user can set.

Interface speed rate: 1200/2400/4800/9600 Bit/s The user can set.

Change time for receiving and sending: <10ms

Interface: **TTL**

Interface data format : 8E1/8N1/8O1

Working Power SuPPLY : DC 3.6-5.5V or 2.7~3.6V

Working temperature : -20 ~ 65

Working humidity : 10% ~ 90% The relative humidity, does not have the condensation

Outside Size : 38mm×25mm×6mm

Inter-Communication : JZ862/JZ861/JZ864/JZ865/JZ866/JZ868 (only between channels 2\3\4 )