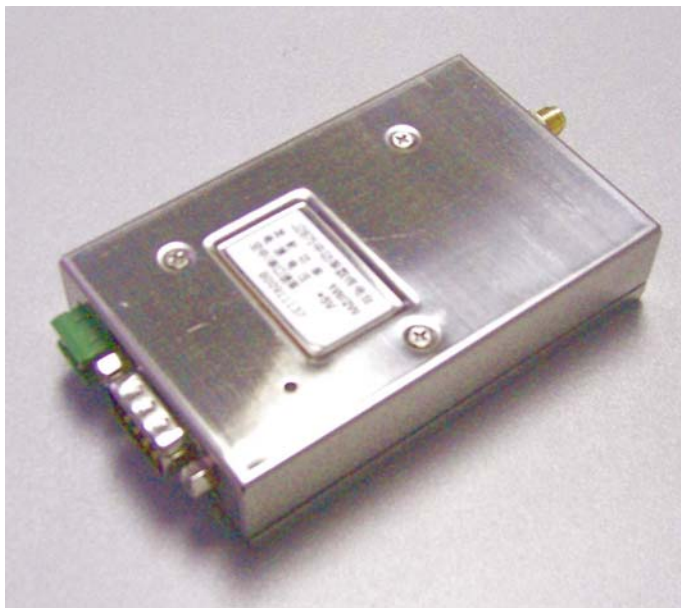


# JZ875 Low Power Wireless Module

## User's Manual



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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 JZ875

JZ875, the Low 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, intellectual 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 can provide the USB power interface to be convenient for the mini computer and PC users if necessary.

## JZ875 Feature

### 1.Ultra low power transmission

Transmission power: 2W/1W, it can set according to the user's request.

High receiving sensitivity: -123dbm.

### 2. Low power consumption

Transmission current<1.5A, receiving current<50mA, sleeping current < 1mA.

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

Carrier frequency of 402---470MHz, the default is 428~436MHZ.

### 4.Working frequency

The working frequency is -40℃~+85℃ ,the stability can be ±5PPM.

### 5. Interface

It can supply three kinds of interface: RS-TTL, RS-232, RS-485.

### 6. Power saving model:

It can supply one sleeping model: awoken from hardware.

### 7. High anti-interference and low BER (Bit error Rate)

Based on the GFSK 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.

### 8. Long transmission distance

Within the range of visibility, the reliable transmission distance can be 2km to 10km, when the antenna is higher than 3km.

### 9. 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.

### 10. Multi-channel and speed

The standard JZ875 configuration provides 16 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、38400bps. The wireless transmission rate is direct ratio with baud rate of interface to meet user's equipment requirement.

### 11. 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.

## 12. 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. JZ875 will automatically complete the other operations, such as transmission/receiving conversion in the air, control, etc.

## 13. High reliability, small and light

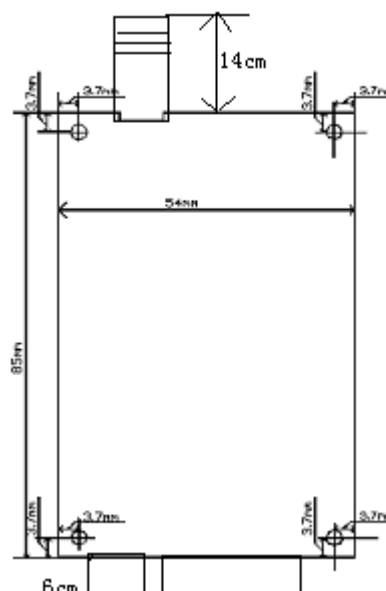
Single chip radio- frequency integrated circuit and single chip MCU are used for lessened peripheral circuits, high reliability, and low failure rate.

## 14. Watchdog monitor

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

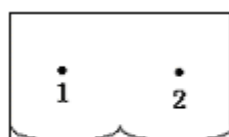
# Application of JZ875

## 1.Appearance figure

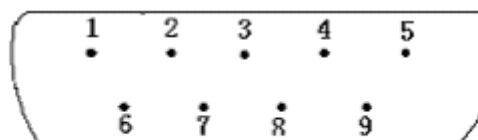


## 2.JZ875 interface definition

### 1) User's interface



Power Interface



Modules Interface

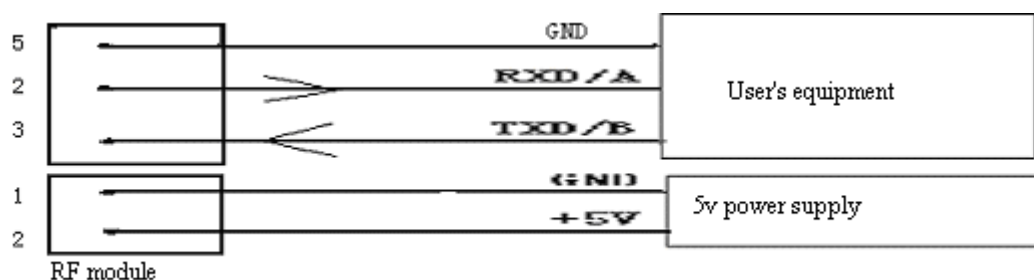
JZ875 have interface of TTL/RS232/RS485, user can choose one.

### Definition of connecting pins and connection method:

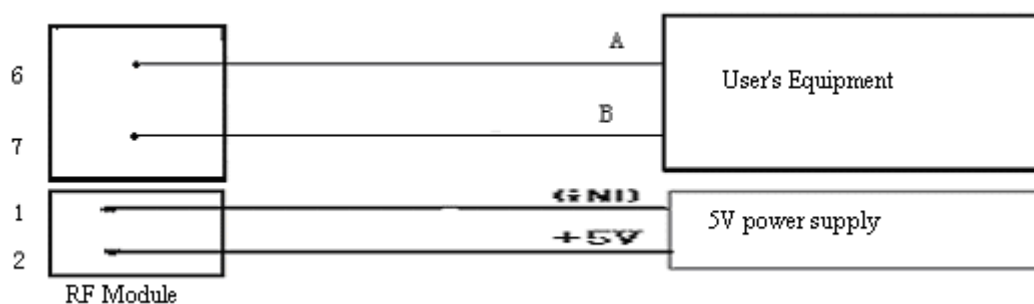
Item no.	PIN	Description	User terminal	Remarks
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1	SLE	Sleep control (input) end	-----	Low level to sleep, High level awake (can be space)
2	TXD	TTL/RS232: data transmitting	User's PC receive	
3	RXD	TTL/RS232: data receiving	User's PC transmits	
4	-----	-----	-----	-----
5	GND	Connect to the ground	Connect to the ground	
6	A	RS-485/A		
7	B	RS-485/B		
8 / 9	----- <sub>2</sub>	-----	-----	
1	GND	GND	GND	
2	+5V	Power+	Power+	

### The connection of TTL, RS-232:



### The connection of RS-485:



### Remarks:

To avoid connecting the interface reverse and cannot communicate, please check and assure the voltage between 2 and 3 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 2 and 3.

### 2) Power supply

- The transmission power is 2W when the red blink, and 1W when the green LED blink.
- JZ875 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) Saving power model

JZ875 have three Saving power models: awaken from Hardware.

#### **Awaken from Hardware:**

When JZ875 sleeping in this saving power model, the current is under 1mA.

Sleeping status: when you input low level at NO. 1 pin, it can sleep, don't transmit or receive data.

Normal work status: when you input High level at NO. 1 pin, it turn into Normal work status, and can transmit and receive data in 10ms.

### JZ875 parameters setting

JZ875 have one interface of TTL、RS232、RS485, You must specify the interface when place an order.

#### **JZ875 main parameters:**

COM baud rate and verify, RF baud rate, Channel and frequency.

You can change these parameters by our software. 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.

**The general Power supply is 5V DC.**

**Two JZ875 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 value:

Channel: 5

Interface speed rate: 9600BPS

Interface verify: none

Speed rate in air: 9600BPS

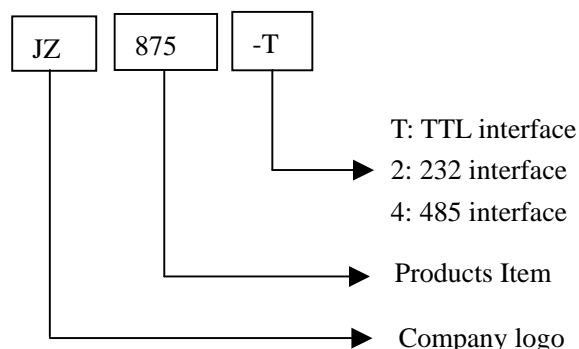
### Channel and frequency list

Channel	Frequency	Channel	Frequency
1	430.2000MHZ	9	458.5250MHZ
2	431.4288MHZ	10	459.1250MHZ
3	431.7360MHZ	11	459.5250MHZ
4	430.5072MHZ	12	460.1250MHZ
5	434.6940MHZ	13	460.5250MHZ
6	434.2332MHZ	14	461.1250MHZ
7	433.1580MHZ	15	461.5250MHZ
8	433.9260MHZ	16	462.1250MHZ

## Technical specification of JZ875

Modulation mode: GFSK  
 Working frequency: 433MHZ  
 Transmission power: 2W/1W  
 Receiving sensitivity: -123dBm  
 Transmitting current: <1.5A  
 Receiving current: <50mA  
 Channel speed rate: 1200/2400/4800/9600/19200/38400Bit/s, User can Choose one  
 Interface speed rate: 1200/2400/4800/9600/19200/38400Bit/s, User can Choose one  
 Change time for receiving and sending: <20ms  
 Interface data format: 8E1/8N1/8O1  
 Power supply:  $5 \pm 0.5V$  DC  
 Working temperature:  $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$   
 Working humidity: 10%~90% relative humidity without condensation  
 Dimension: 85mm\*54mm\*20 mm  
 Attachable Communication with Model: JZ871/JZ872/JZ873/JZ875/JZ878

## Model and name



## Optional 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.