

# **JZ862 Mini Power Wireless Module**

## **User's Manual**



## About JZ862

JZ862, the mini power wireless module Enveloped with Epoxy, is used as the wireless data transmission in short distance.

With the characteristics of small size, 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.

## JZ862 Features:

### 1. Low power transmission

The transmission power is  $< 100\text{mW}$ , Receiving sensitivity:  $-110\text{dbm}$ ,  
Size:  $47\text{mm} \times 33\text{mm} \times 14\text{mm}$ .

### 2. Low power consumption

Receiving current  $< 11\text{mA}$ , transmission current  $< 100\text{mA}$ .

### 3. ISM frequency band, not need to require frequency point

Carrier frequency of  $428\text{---}433\text{MHz}$ , also can provide  $868/915\text{MHz}$ .

### 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= $10^{-3}/1200\text{bps}$ )  $> 500\text{m}$  when the antenna is higher than  $2\text{m}$  (BER= $10^{-3}/9600\text{bps}$ ).

### 6. Transparent data transmission

Transparent data interface is offered, which can be fit for any standard or nonstandard user's 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  $< 10\text{ms}$ .

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

And The JZ862 module standard disposition provides 8 channels to meet many kinds of correspondent combination mode of the users. The JZ862 Module may provide many kinds of correspondence budrate such as  $1200\text{bps}$ ,  $2400\text{bps}$ ,  $4800\text{bps}$ ,  $9600\text{bps}$ ,  $19200\text{bps}$  and so on.

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

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**8.High speed wireless communications and big data buffer.**

When the airborne speed is bigger than the serial port speed, may transmit infinitely data continuously, and when the airborne speed is smaller than or was equal to the serial port speed ,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. JZ862 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.

**12. Antenna choose**

Users can choose various antennas setting project and antenna according to the user's different request.

**13. Encapsulation Structure, dustproof, waterproof and static proof**

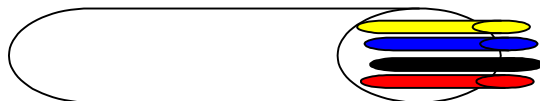
Comprised by plastic DOS shell, epoxy encapsulation, dustproof, waterproof and static proof good anti-jamming.

**Application of JZ862**

**1. The definition of JZ862's Interface**

JZ862 provide TTL level UART, RS-232, RS-485 Interface, User must specify the interface when you place an order.

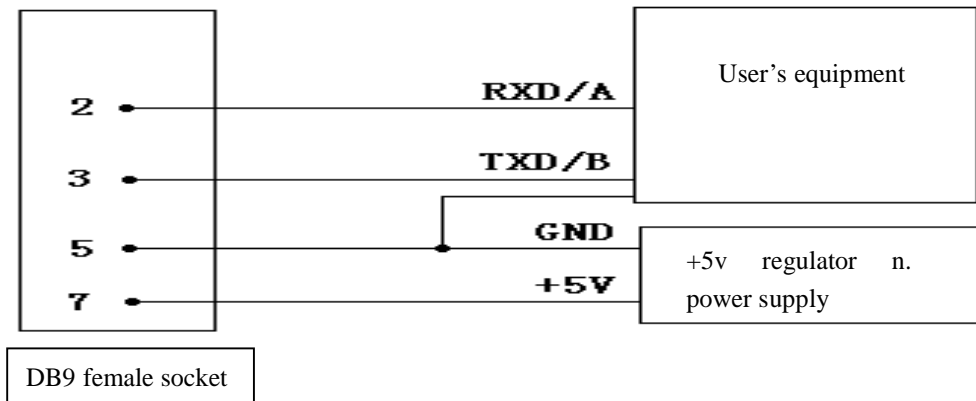
JZ862 educe pipe, the pipe contain four line :



Line	PIN	Description	User terminal	Remarks
Red Line	VCC	Power: +5±0.5V	+5±0.5V	TTL 3V user's choose
Black Line	GND	Power supply/Ground	DGND/AGND	
Blue Line	RXD/RS-485(B)	Serial data receiving end	TXD/RS-485(B)	
Yellow Line	TXD/RS-485(A)	Serial data transmitting end	RXD/RS-485(A)	

If the user needs to use DB9 female socket, standard definition are as follows (also customization as user's request):

DB9 female socket	Pin	Description	User terminal	Remarks
7	VCC	Power: $+5 \pm 0.5V$	$+5 \pm 0.5V$	
5	GND	Power supply/Ground	DGND/AGND	
3	RXD/RS-485(B)	Serial data receiving end	TXD/RS-485(B)	
2	TXD/RS-485(A)	Serial data transmitting end	RXD/RS-485(A)	



## JZ862 parameters setting

JZ862 can supply three kinds of interface, TTL, RS232, RS485. You must specify the interface when you place an order.

JZ862 main parameters: COM baud rate and verify, RF baud rate, Channel and frequency.

You can change these parameters by our RF Module 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.

The communication of Two JZ862 must have the following conditions:

1. the same.channels (i.e. frequency)
2. the same RF rates .
3. The Com baud rate and verify of the RF Module is the same with its equipment or PC.

## Parameters default value:

Channel : 1

Interface speed rate : 9600BPS

Interface verify : none

Speed rate in air : 9600BPS

### Channel and frequency list

Channel	Frequency	Channel	Frequency
1	428.0028MHZ	5	432.1685MHZ
2	429.0012MHZ	6	431.5020MHZ
3	433.3020MHZ	7	430.0764MHZ
4	433.9164MHZ	8	434.5308MHZ

### Technical specification of JZ862

Modulation mode: FSK

Working frequency: 428---433MHZ

Transmission power: ≤ 100mW

Receiving sensitivity: -110dBm

Receiving current: <11mA/TTL, <11mA/RS485, <16 mA/RS232

Channel speed rate: 1200/2400/4800/9600/19200 Bit/s User can Choose one

Interface speed rate: 1200/2400/4800/9600/19200 Bit/s User can Choose one  
 Change time for receiving and sending: <10ms

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

Power supply: 5±0.5V (RS232/RS485) 2.7--3.3V (TTL) DC

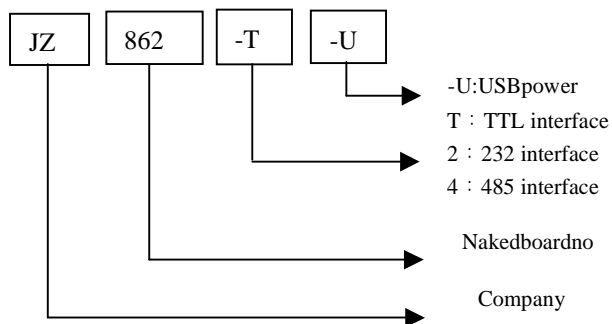
Working temperature: -20℃ ~ 65℃

Working humidity: 10% ~ 90% relative humidity without condensation

Dimension: 47mm\*33mm\*14mm (not include antenna)

Attachable Communication with other Model: JZ862/JZ863/JZ864/JZ865/JZ866

### Model and name



**Optional Antenna:**



**Trouble and solve ways:**

Item	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.