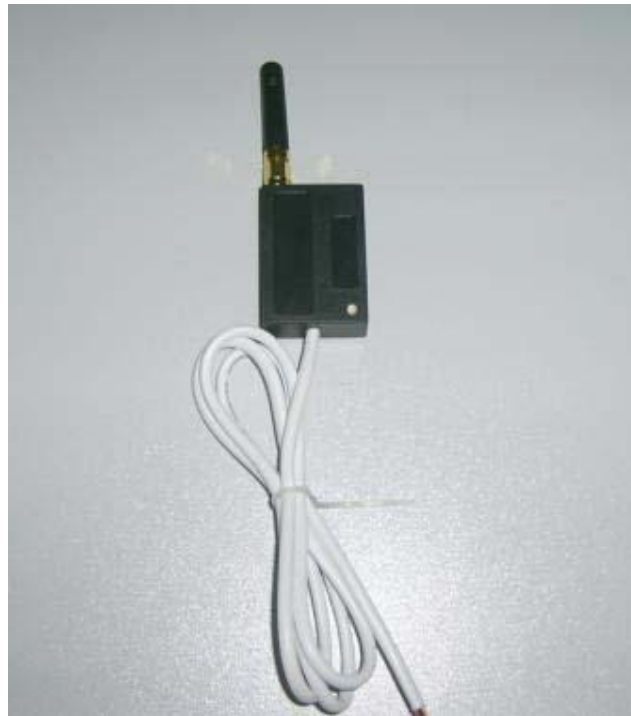

HXJZ-862 Mini Power Wireless Module

User's Manual



About HXJZ-862

HXJZ-862, 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.

HXJZ-862 Features:

1. Low power transmission

The transmission power is $< 100\text{mW}$, Receiving sensitivity: -110dbm ,
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 2m (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 HXJZ-862 module standard disposition provides 8 channels to meet many kinds of correspondent combination mode of the users. The HXJZ-862 Module may provide many kinds of correspondence budrate 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 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. HXJZ-862 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

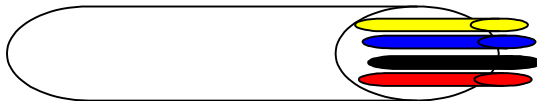
Comprised by plastic DOS shell, epoxy encapsulation, dustproof, waterproof and static proof good anti-jamming.

Application of HXJZ-862

1. The definition of HXJZ-862's Interface

HXJZ-862 provide TTL level UART, RS-232, RS-485 Interface, User must specify the interface when you place an order.

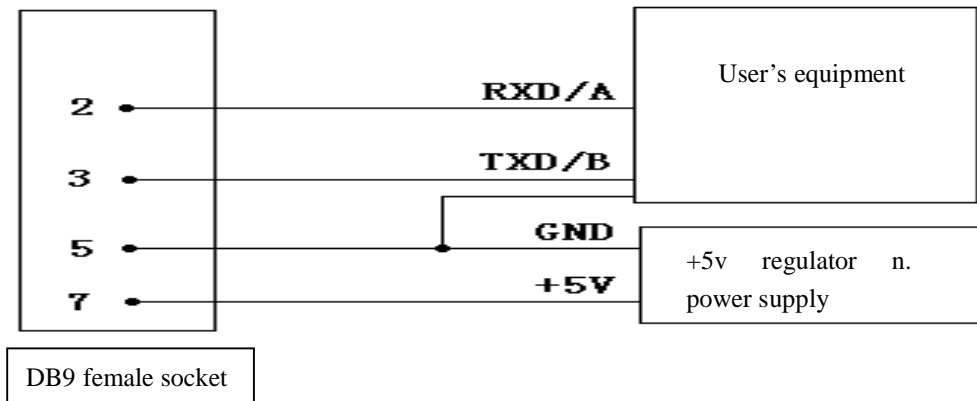
HXJZ-862 educe pipe, the pipe contain four line :



| 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) | |



HXJZ-862 parameters setting

HXJZ-862 can supply three kinds of interface, TTL, RS232, RS485. You must specify the interface when you place an order.

HXJZ-862 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 HXJZ-862 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 HXJZ-862

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

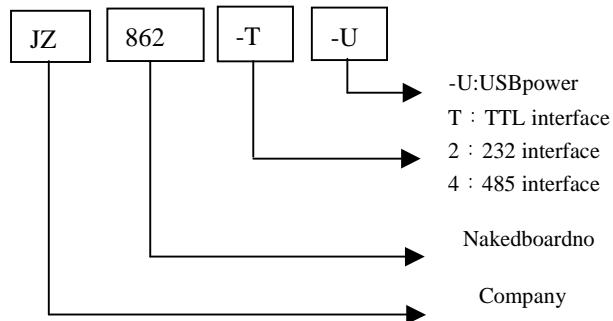
Working temperature: -20℃ ~ 65℃

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

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

Attachable Communication with other Model: HXJZ-862/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. |
