JZC TELECOM
Technology

Shenzhen JZC TELECOM Technology CO.,LTD.

JZX862A Micro power wireless data module

User manual

DVER   2.0

SHENZHEN JZC TELECOM TECHNOLOGY CO., LTD

JZX862A Micro power wireless data module

JZX862A data transmission module is highly integrated micro-power half-duplex, and the aluminum shell of the band wireless module, has a strong anti-static and anti-jamming, which uses "TI" high-performance RF chips and high-speed microcontroller. Module provides eight channels, and is equipped with a professional set-up software for the user to change parameters, the module with transparent transmission mode, no user-written set and transmission procedures, you can transmit data of any size. And to provide UART / TTL, RS232 and RS485 three interface methods, the module size is small, use of voltage is wide, easy to use.

Applications：

※ **Water, electricity, gas, heating automatic meter reading system**

※ **Wireless smart terminal PDA**

※ **Wireless Queue System**

※ **Wireless alarm and security system**

※ **Smart Card**

※ **Medical and electronic instrumentation automation control**

※ **Intelligent teaching equipment**

※ **Intelligent home automation and lighting control**

※ **Wireless electronic scale**

Features：

※ **Frequency: 428-434MHz**

※ **Distance:500m(1200Bps)**

※ **Modulation:FSK**

※ **Transparent transmission**

※ **Built-in watchdog to ensure long-term reliable operation**

※ **UART/TTL、RS232、RS485 Interface**

※ **Convenient and flexible**

※ **Almost 512bytes data buffer**

※ **Suitable for built-in installation**

JZX862A module is the use of aluminum alloy shield wireless module, there is a strong anti-static and anti-jamming, the module uses ISM frequency band, without application frequency; can be set to four communication channels, transmit power of 100mW (20dB), high receiver sensitivity-110dbm, size 70mm * 45mm * 19mm (main module), and the company's JZX864A (USB) interface module supporting a large number for wireless meter reading, reactive power compensation industry, easy to use.

JZX862A the use of transparent transmission mode, the user's system in order to ensure reliable and stable increase in the transmission or the CRC check-sum error detection mode, the error data re-transmission. Transceiver module buffer of 512bytes, means that users can be in any state 512bytes of data transfer 1, when the speed is greater than the serial port is set to air rate, is theoretically unlimited length can send information packets, but does not recommend users to send long data packets, the proposed length of each packet data between 60 ~ 100B, generally not longer than the 120B, and recommended user program using the ARQ mode, the error data packets re-transmission. As follows:

If the actual error rate 10-4, users need to send 1KB about 10000bit information, if the 1KB data as a packet, sent at least theoretically, there will be a data error in the receiver, then the 1KB data can never be received correctly. If it is divided into 10 packages, each package 100B, then send 10 packets, the packets according to a probability of only 1 error, the error in the form of a packet re-transmission by ARQ 1, although it took more than 1 packet and the efficiency decreased by about 10%, but it can guarantee all the information is correctly received.

JZX862A set parameters, the market is no longer used wireless modules used in the traditional way to change the parameters of the jumper, causing long-term use because it brings bad, options less dynamic change is not easy, a lot of inconvenience. JZX862A using the serial port setting parameters easy and quick, easy set refers to the chip embedded in the user program and operating software in the background. Meanwhile module 1200/2400/4800/9600/19200bps five kinds of rate and 8 frequencies; provide UART / TTL, RS232, RS485 three kinds of interfaces. Choice for users.

In the work on, JZX862A work for conventional model, that pass on the power supply module,

Is in receive mode; you also may be sending data.

Module Pin definition

JZX862A provide TTL, RS232, RS485 interface mode, the user must purchase specified interfaces.
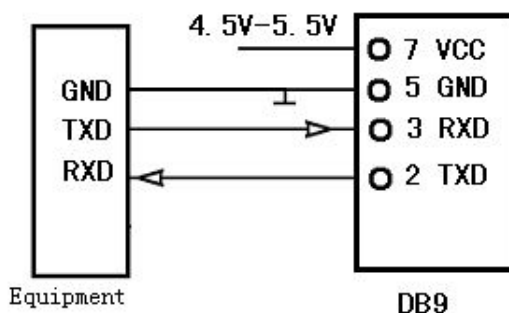
JZX862A leads to the pipeline, the pipeline includes four-wire (line color) as follows:

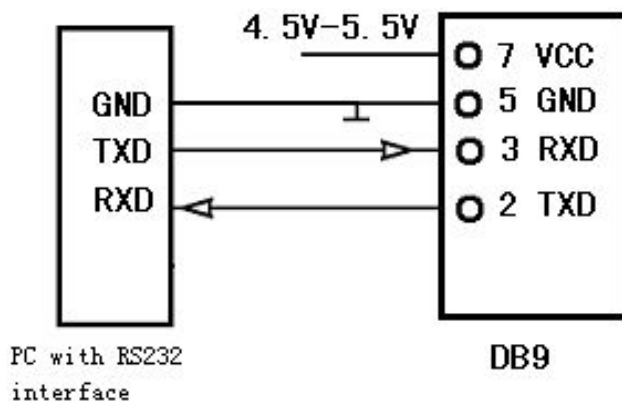| Radio pins	Pin definitions	specification	User
Red/ Brown	VCC	+5V	+5V
Black	GND	Power/user terminal	DGND/AGND
Green/Blue	RXD/RS485(B)	serial data receiving	TXD/RS-485(B)
Yellow/Yellow-green/Gray	TXD/RS485(A)	Serial-data-transmitting	RXD/RS-485(A)

If the user needs with a DB9, standards are defined as follows (the other can also be defined according to the needs of users):

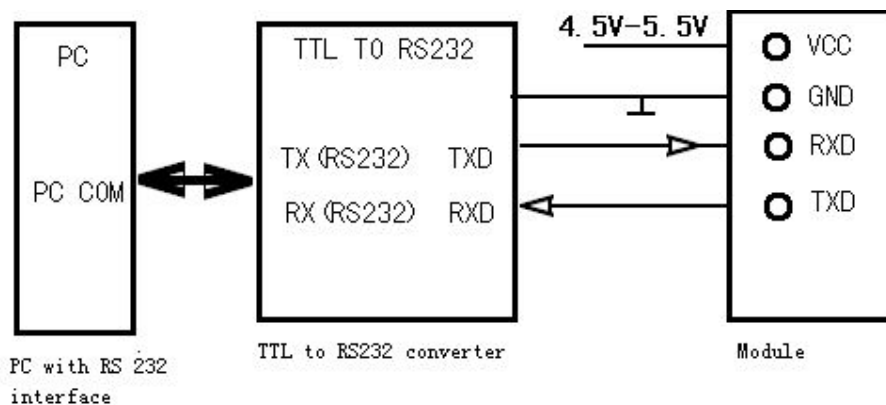| DB9 female	Radio Pin definitions	specifications	User
7	VCC	+5V	+5V
5	GND	**Power/user terminal**	DGND/AGND
3	RXD/RS-485(B)	**serial data receiving**	TXD/RS-485(B)
2	TXD/RS-485(A)	**Serial-data-transmitting**	RXD/RS-485(A)

Module with customer equipment connections
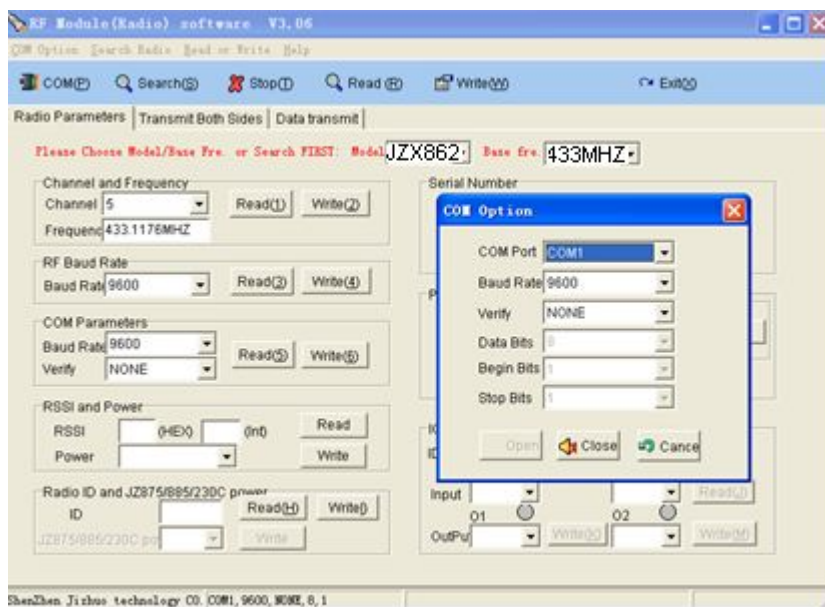
Module with PC connections

The connections of rs232s and module

TTL interface of module connection

Note: As JZX862A mode TTL interface module, so must be added to connect the PC to RS232 to TTL converter and the converter must supply DC 5V.

software testing and change parameters

A, JZX862A between the module and the PC, and plug in the power, select the serial port used.

B, the radio detection, when the check to the station (the software will prompt detection success), you can read or change a single parameter.

C, change parameters, when you select a parameter you want to set, after set up to read again, to see the parameters of the module is not what you want.

Note: Two or more modules to communicate, then the frequency of the station modules and air rate must be consistent.

Module to communicate with user equipment, the module's serial port parameters and user settings must be consistent.

Frequency settings

Channel	Frequency	Channel	Frequency
1	428.0028MHZ	5	432.1500MHZ
2	429.0012MHZ	6	431.4588MHZ
3	433.3020MHZ	7	430.0764MHZ
4	433.9164MHZ	8	433.5308MHZ

Communicated Module

JZX862A wireless module with all the JZX86 series of models to communicate with each other. Communication as long as you pay attention to the following:

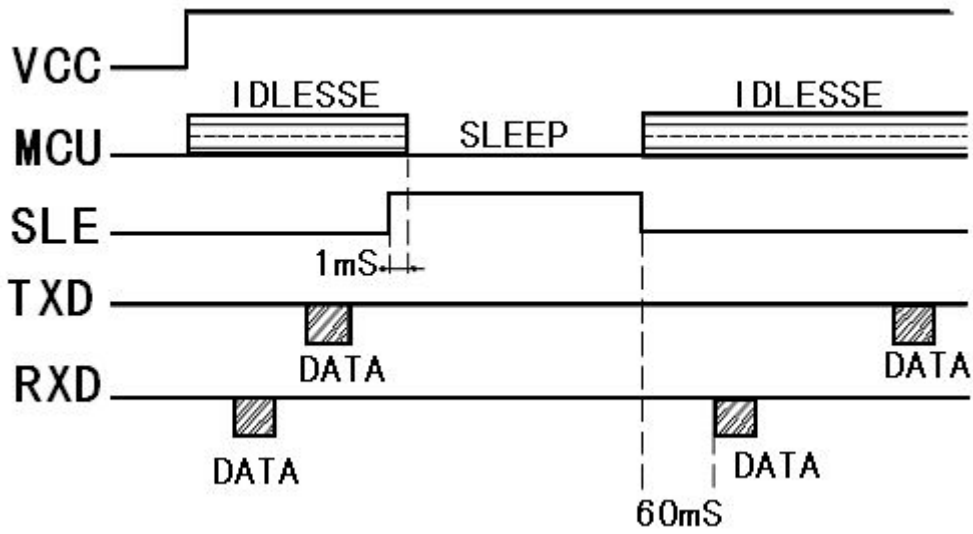A, select all the modules to communicate with each other the same channel.

B, you have the same communication module of the air rate.

C, the communication module, power supply, interface connection is plugged in。
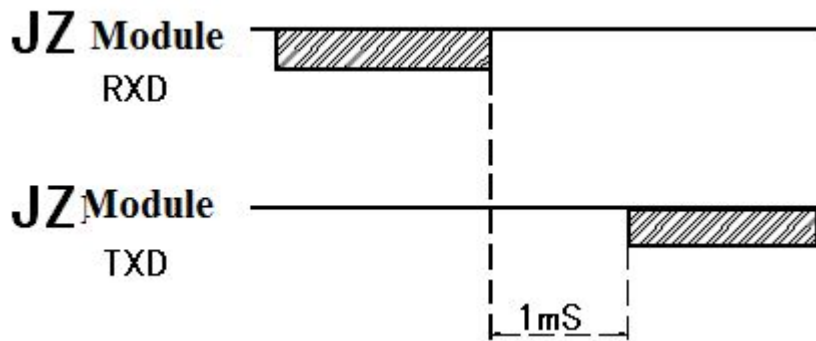
Details as followings:

Module in the working state to sleep state, it is necessary to SLE pin from low to high, if the module is idle (no transmit / receive data) MCU to sleep within about 1ms; If you are in the collection and development data, the data will be processed the frame side to sleep.

Module in sleep state to work state, it is necessary to SLE pin from high to low, MCU is working on several ms to enter into the state, but in order to send data to the stability of the user side should be more than 60ms latency available for data transmission.

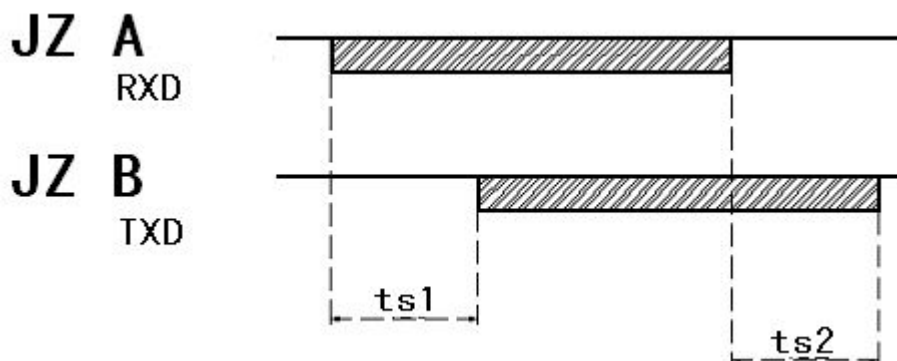## Transmit to receive transform

 user devices receiving the data sent by the module, and then transferred to the data center

must have sent more than1msdelay.

From A(transmit)to B(receive)

   When the user is doing data transfer, the data must take into account the delay module, in order to ensure the reliability of wireless transmission, the company added the module FEC (forward error), and other encoding rules. Then from A to B module module, in the middle of the transmission of data with different baud rates for the delay, in the following table:

Air Rate (bps)	Time ts1 (ms)	Air Rate (bps)	Time ts1 (ms)
19200	17	2400	76
9600	24	1200	152
4800	43		

JZX862A default parameters

Channel: First channel;
Serial port speed: 9600BPS
Serial port verification: Null

Airborne speed: 9600BPS

channel	frequency	channel	frequency
1	428.0028MHZ	5	432.1500MHZ
2	429.0012MHZ	6	431.4588MHZ
3	433.3020MHZ	7	430.0764MHZ
4	433.9164MHZ	8	433.5308MHZ

Technical specification of JZX862A

Technical specification	
Modulation：	FSK
Frequency:	433MHz
Transmit Power：	100mW(20 dB)
Receiver sensitivity：	-110dBm
Transmit Current：	<100mA
Receive Current：	<11mA
Channel Rate：	1200/2400/4800/9600/19200Bit/s Users could customize
Serial Port Rate：	1200/2400/4800/9600/19200Bit/s Users could customize
Interface：	UART/TTL RS23 RS485
Interface-data-format：	8E1/8N1/8O1
Working Power：	DC 4.5-5.5V
Working Temperature：	-20℃～75℃
Working humidity：	10%～90% Relative humidity, no condensing
Size：	70mm*45mm*19mm
Communicated module”：	JZX861/JZX862A/JZX863/JZX864

Optional Antenna:

small rod antenna
thick whip antenna
small suction cup antenna

Trouble and solve ways:

Trouble and solve ways:	
Troubles	Cause and Remedy
Between devices not communicated	Communication at both ends of the air rate, parity inconsistency
	Frequency inconsistency
	Without power
	Module has destroyed
	The pin of sleep mode not set
Short Distance	Environment very bad or the antenna is blocked
	The existence of the same frequency or magnetic or electrical interference, or replacement of the channel away from sources of interference
	Power match or not. Voltage and current is large enough
Module cant communicate with PC	Without power
	TTL to RS232 converter is damaged, or without power supply
	Converters .module.pc with connection error
	Change work channels
	Serial port baud rate settings are not correct or air, to re-set
	Power supply ripple big, replace the power supply

Note: All of the rights of final interpretation and modification by our company