Jizhuo

Technology

SHENZHEN JIZHUO TECHNOLOGY CO., LTD

JZ875 Micro-power wireless Data module

User's Manual

DVER 2.0

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JZ875 Micro-power wireless Data module

JZ875 data transmission module is highly integrated low-power half-duplex wireless data transmission module, which uses "TI" high-performance RF chips and high-speed microcontroller. Module provides 16 channels, and is equipped with 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. Module size is small, industrial design, the 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: 430-434MHz**

※**Distance:2-10KM (1200Bps)**

※**Modulation:GFSK**

※**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**

JZ875 wireless module, the use of ISM frequency band; can be set to 16 communication channels, transmit power 1\2W(30dB\33dB), high receiver sensitivity-123dbm, size 90mm * 64mm * 23mm (without antenna base), a large number of the billing system , industrial control field use, very convenient for users to do the embedded wireless systems.

JZ875 the use of transparent transmission, in order to ensure the reliability and stability of the user's system, plus the transmission checksum or CRC checksum error detection mode, the error data retransmission. 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 retransmission. 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 retransmission 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.

JZ875 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. JZ875 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 1200/2400/4800/9600/19200/38400bps six kinds of rate and frequency of 16; provide UART / TTL, RS232, RS485 three kinds of interfaces. Choice for users.

In the work on, JZ875 There are two ways of working, first for the conventional model, which Module is powered On, is in receive mode; you also can be sending data. The second is sleep mode, that is, through the power module in a dormant state, it must be user-controlled mode

Wake-up pin block, the module can send and receive data.

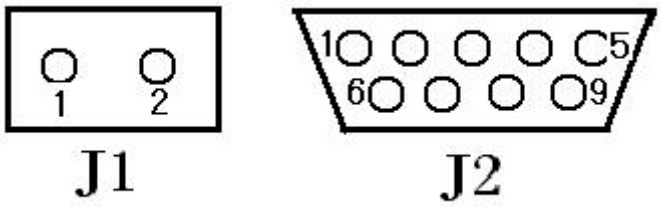
In the application of JZ875 module, the module uses a wide range of voltage, 5V power supply module, the voltage of DC 4.5-5.5V. Users in the use of power to DC power supply, the current must be greater than 500mA, but to choose a good power supply ripple.

Module Pin definition

JZ875 module J1,J2 interfaces seat, detail as follows:

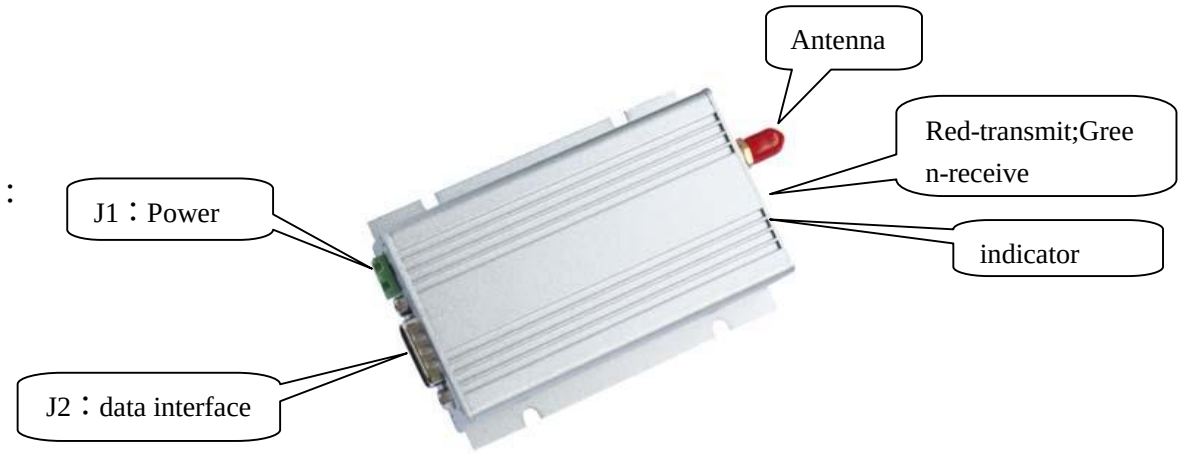
	Item No	Pin	Specification	User Terminal	Remark
J1	1	GND	User GND	User GND	
	2	+5V	User GND+	User GND+	
J2	1	Null			
	2	TXD	TTL/RS232：data transmit，	Customer equipment receive	
	3	RXD	TTL/RS232：data receive，	Customer equipment transmit	
	4	Null			
	5	GND	User Interface	Customer equipment interface	
	6	A	RS-485/A		
	7	B	RS-485/B		
	8、9	Null			

Dimension



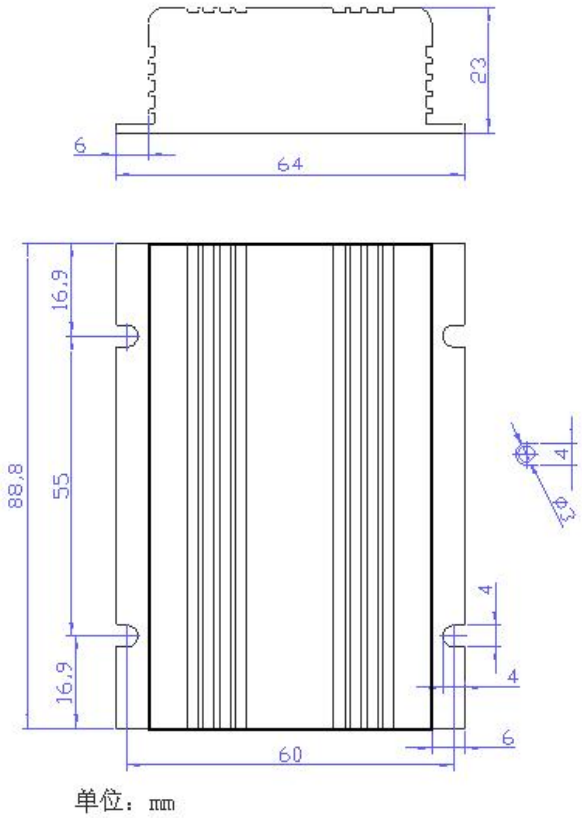
Note: the IO functions customized from Customer informed.

Installation

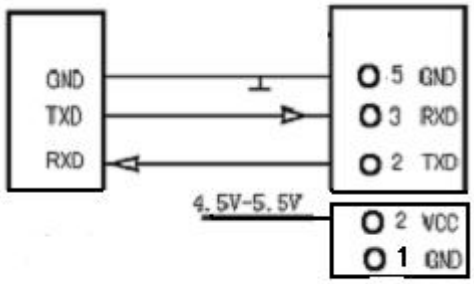


JZ875 installation

Dimension

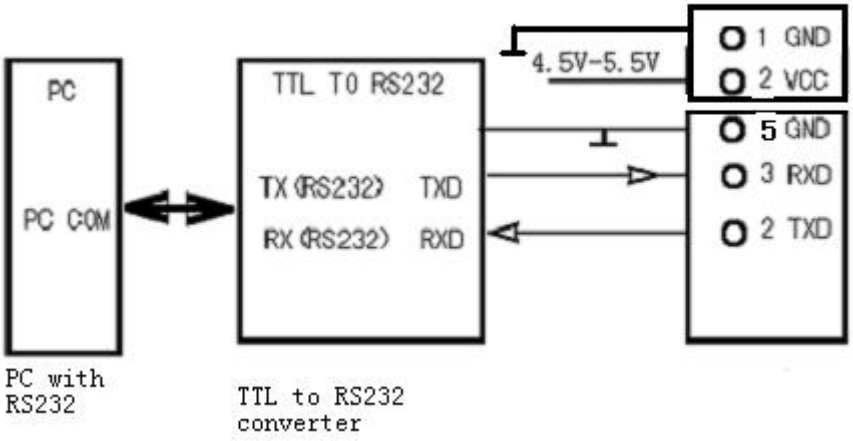


Module with customer equipment connections



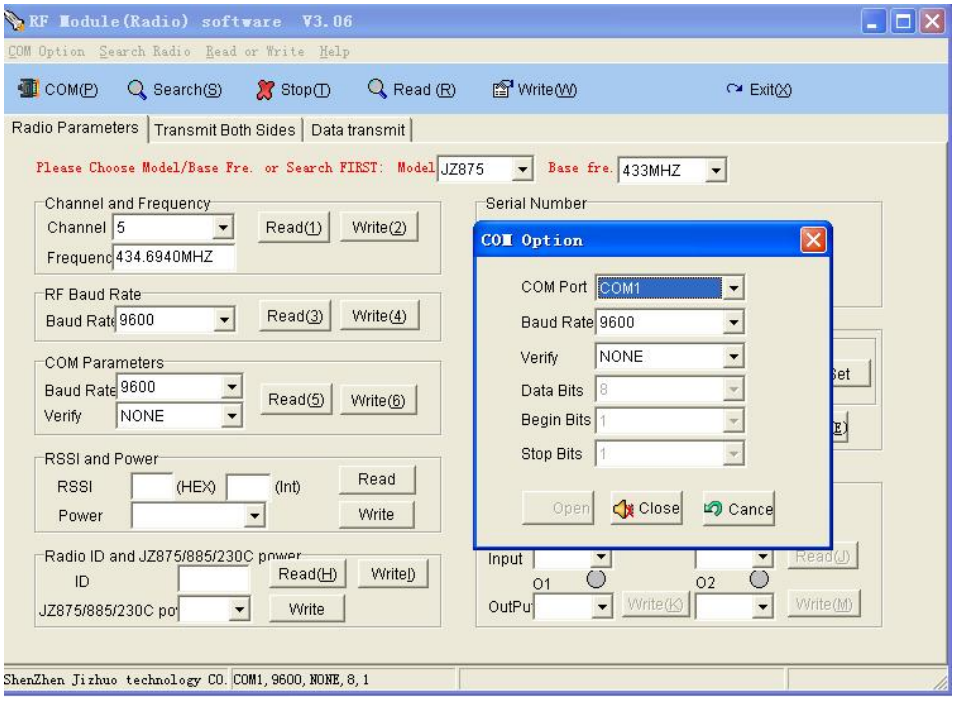
Note: JZ875 did not sleep in the state, the module of the SLE feet must be vacant. In the sleep state when the module must be low, the module can send and receive data.

Module with PC connections



Note: As JZ875 mode TTL interface module, so the PC must be added to connect the TTL to RS232 converter, and converter must supply DC 5V of electricity.

For software testing and change parameters



A, JZ875 module connected to 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.

Communicated Module

JZ875 wireless module with all the JZ87 series of models to communicate with each other. Communication as long as you pay attention to the following:

A, select all the modules to the same channel.

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

C, the communication module, power supply, interface connection is connected.

Sleep mode module

Hardware wake-up mode, the radio's sleep current of less than 1mA.

Wake-up work in the use of hardware, in the user interface input terminals 1 foot low, the radio will enter sleep mode, MCU about 1ms of sleep.

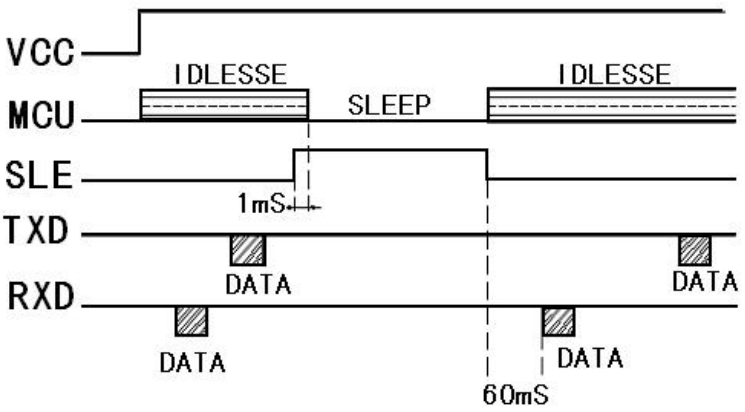
When to make the radio into the normal working hours, should be in the user interface, the input terminal 1 foot high, the radio will enter the normal mode, MCU is working on several ms to enter into the state, but in order to send data to the stability, the user should be more than 60ms delay for data transmission.

Note: If the user interface in use 1 foot terminal is not connected, the radios work in normal working condition.

Details as followings

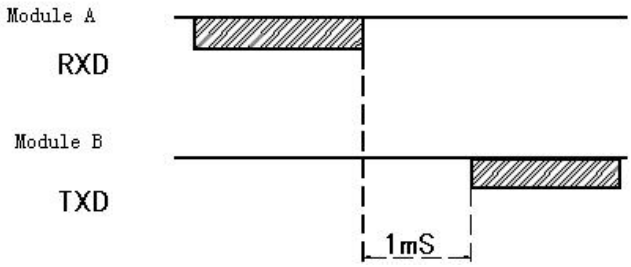
Module in the working state to sleep state, it is necessary to SLE pin from low to high, if the module is idle (no transmit / receive data) MCU to sleep within about 1ms; If you are in the collection and development data, the data will be processed the frame side to sleep.

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.



Transform on transceiver and receiver

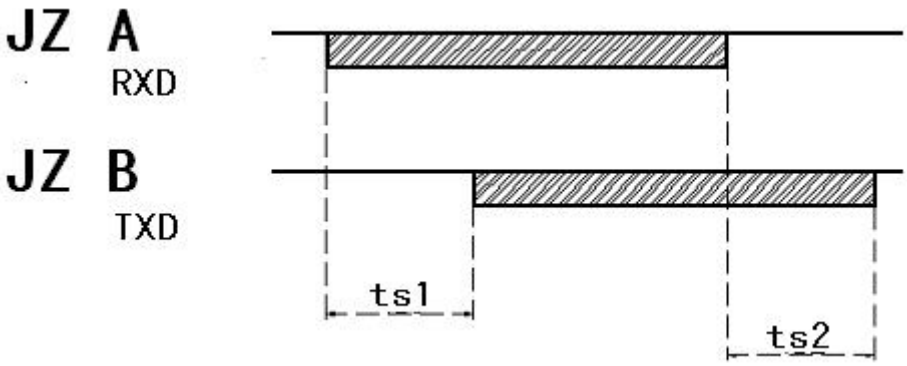
End user devices receiving the data sent by the module, and then transferred to the data center must have sent more than 1ms delay.



From Module A(transmit) to Module 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)
38400	11	4800	43
19200	15	2400	83
9600	25	1200	140



Description of the normal work light

Wireless module has a two-color indicator light, power, the red light will flash twice; emission data, red, green light when receiving data

JZ875 default parameter

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

Airborne speed: 9600BPS

信道号	频　率	信道号	频　率
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

Technical specification	
Modulation：	GFSK
Frequency：	433MHz
Transmit Power：	1/2W(30/33 dB)
Receiver sensitivity：	-123dBm
Transmit Current：	<1.5A （TTL）
Receive Current：	<45mA
Sleep Current：	<1mA
Channel Rate：	1200/2400/4800/9600/19200/38400Bit/s customized
Serial Port Rate：	1200/2400/4800/9600/19200/38400Bit/s customized
Interface：	UART/TTL RS232 RS485
Interface-data-format：	8E1/8N1/8O1
Working Power：	DC 4.5-5.5V
Working Temperature：	- ～
Working humidity：	10%～90% Relative humidity, non condensing
Size：	90mm*64mm*23mm
Communicated Model：	JZ875/JZ875/JZ873/JZ874/JZ875/JZ878

Optional 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