FST72 Low Power Wrieless Module
User's Manual

Before Using the product, Please carefully read the user's manual. Any question in technical, you can contact us.

About, FST72

FST72 , 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 Wrieless meter reading, such as water meter, electric meter and gas meter, parking meter, intellective card, electronic weighing apparatus, meter for checking on work attendance, queue wireless meter, building control, shipping company control, alam 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 provide the USB power interface to be convenient for the mini computer and PC users if necessary.

FST72 Feature

1. Ultra low power transmission

Transmission power: 500m W, high receiving sensitivity:-123dbm,

Size: 63mm*43mm*15mm

2. Low power consumption

Receiving current < 45mA, transmission current < 360mA, sleeping current < 1mA.

3. Saving power model

FST72 have two saving power models: awaken from Hardware, awaken from COM Port;

4. IO attemper function

FST72 have 2 on-off input ports, 2 on-off output ports, user can control remotely terminal without developing:

5. ISM frequency band, not requiring on application of frequency point

Carrier frequency of 433MHz, also capable of 868/915MHz.

6. 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.

7. Long transmission distance

Within the range of visibility, the reliable transmission distance is (BER=10-3/1200bps) > 2500m when the antenna's height is greater than 3m (Ber=10-3/9600bps).

8. 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.ve 2 on – off input ports, 2 on-off output ports, user can control remotely terminal without developing;

9. Multi-channel and speed

The standard FST72 configuration provides 16 channels. To meet the multiple communication mode of the users. It has baud rate to be chosen such as 1200bps, 2400bps, 4800bps, 9600bps, 19200bps, 34800bps. The wireless transmission rate is direct ratio with baud rate of interface to meet user' equipment requirement.

10. 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.

11. Intelligent data control and the user dosen't need to prepare excessive programs

Even for semi duplex communication, the user dosen't need to prepare excessive programs, only such as transmission / receiving conversion in the air, control, etc.

**12. 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.

13. Watchdog monitor

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

Application of FST72

1. Appearance figure

TX/RX indicator light
Red: TX , Green :RX

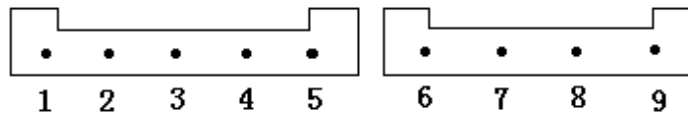Antenna socket

FST72 Figure
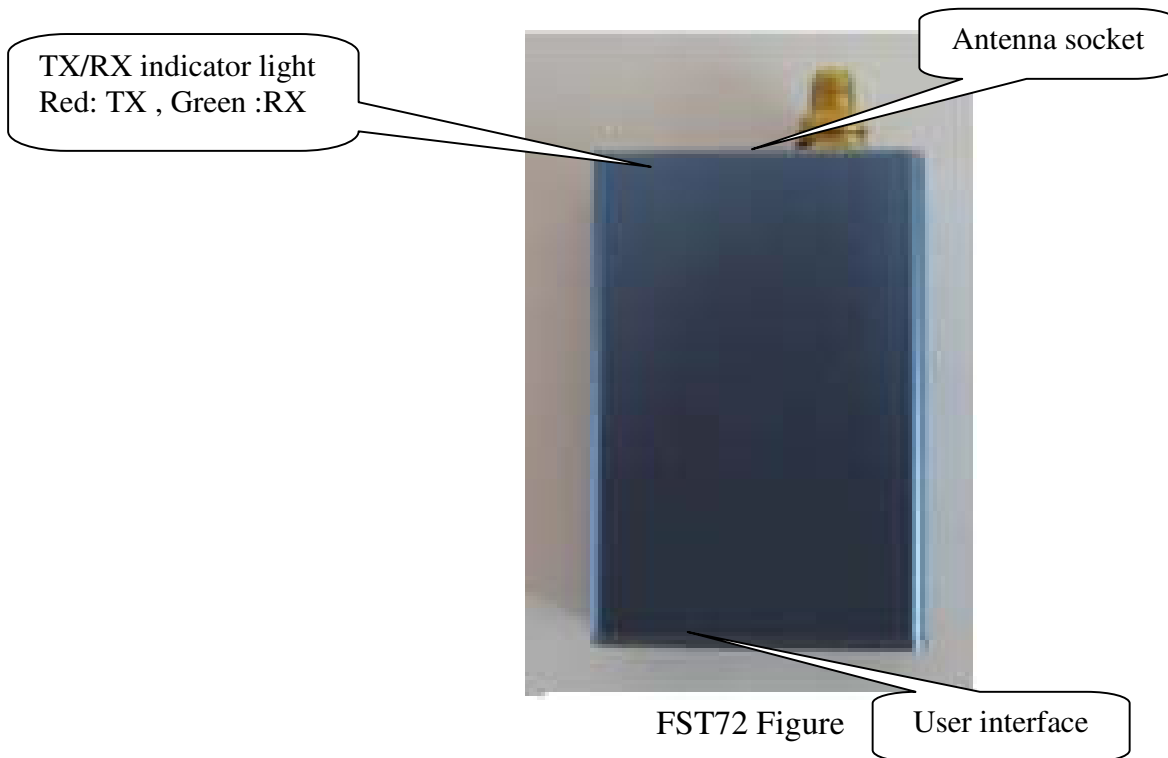
User interface

2. FST72 interface definition

1) User's interface

FST72 have one interface of TTL/RS232/RS485, user can choose one.

FST72 standard interface: when the antenna upward, the plastic socket gap upward, from left to right, 1-9 pin in turn, as follows:

(Remarks: Jack space between is 2.0 mm.)

Definition of connecting pins and connection method:

Item no	PIN	Description Level Connected to the terminal	User terminal	Remarks
1	SLE	Sleep control (input) end	Low level to sleep, High level awake	
2	TXD/ A (RS-485)	Serial data transmitting end	RXD/ A (RS-485)	
3	RXD/ B (RS-485)	Serial data receiving end	TXD/ B (RS-485)	
4	GND	Power supply/Ground	DGND/AGND	
5	VCC	+5±0.5V	+5±0.5V	TTL 3V user's choose
6	I_2	NO. 2 on-off input	user terminal on-off output	
7	I_1	NO. 1 on-off input	user terminal on-off output	
8	O_2	NO. 2 on-off output	user terminal on-off input	
9	O_1	NO. 1 on-off output	user terminal on-off input	
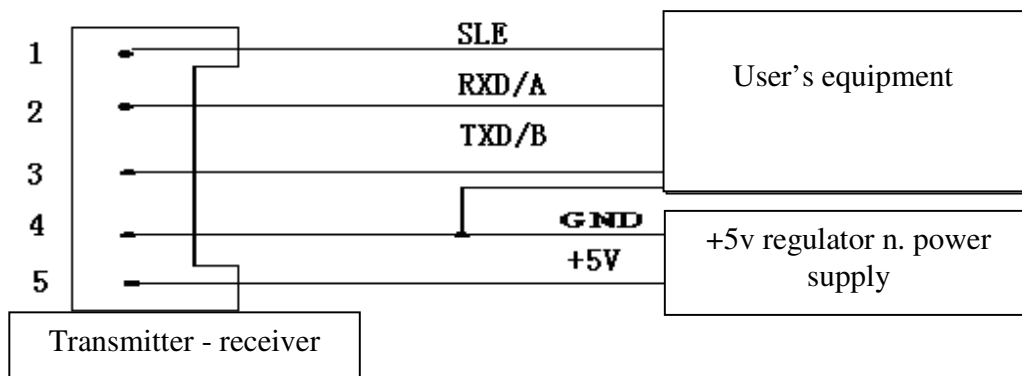
Channel and frequency list

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 FST72

Modulation mode: GFSK

Working frequency: 433MHZ

Transmission power: 500mW

Receiving sensitivity: -123dBm

Transmitting current: <360mA

Receiving current: <45mA

Sleeping current: < 1mA

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: <10ms

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

Power supply: 5±0.5V DC

Working temperature: -20℃ ～ 85℃

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

Dimension: 64mm*43mm*15mm