

ATC-863 Mini Power Wireless Module User's Manual



About ATC-863

ATC-863, the mini 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 Wireless meter reading, such as water meter, electric meter and gas meter, parking meter, intellectual card, electronic weighing apparatus, meter for checking on work 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. It provide the USB power interface to be convenient for the mini computer and PC users if necessary.

ATC-863 Feature

1. Ultra low power transmission

transmission power less than of 100 mW, high receiving sensitivity: -110dbm ,

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

Carrier frequency of 433MHz, also capable of providing 315/868/915MHz carrier frequency.

3. 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 $10^{-5} \sim 10^{-6}$ can be achieved when channel bit error rate is 10^{-2} .

4. Long transmission distance

Within the range of visibility, the reliable transmission distance is (BER=10-3/1200bps) 300m when the antenna height is greater than 300m (BER=10-3/9600bps).

5. 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.

6. Multi-channel and speed

The standard ATC-863 configuration provides 8 channels. to meet the multiple communication combination mode of the users. It has baud rate to be chosen such as 1200bps、2400bps、4800bps、9600bps、19200bps. The wireless transmission rate is direct ratio with baud rate of interface to meet user's equipment requirement.

7. 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.

8. 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. ATC-863 will automatically complete the other operations, such as transmission/receiving conversion in the air, control, etc.

9. Low power consumption

Receiving current <20mA, transmission current <40mA, sleeping current <1uA.

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 antenna setting project and antenna according to user's different need to achieve a optimal effect.

Application of ATC-863

1. ATC-863 interface definition

RS-232/RS-485 User's interface