

RS232/485/422 wireless data transmission transceiver manual

Please read the product manual carefully before using the product

1.Introduction

This product is a multi-functional LORA wireless data transmission transceiver. It adopts LORA spread spectrum modulation method to transmit, high performance, high reliability, high stability and low power consumption wireless data transmission method, which provides high Performance and low-cost solutions. LORA is a long-distance wireless communication solution. The most prominent feature is long-distance and low power consumption. It breaks through the coverage scenarios that need to be released before. This product uses the wireless 433MHz frequency band for wireless data transmission by default. Supported wireless frequency bands The range is 410MHz-441MHz, and the transmission distance is up to 3 kilometers. Compared with the GPRS and 4G solutions, LORA does not require a monthly subscription fee (free application frequency band), and it is farther away than WIFI and ZIGBEE. Therefore, LORA is more and more widely used in small data and long-distance industrial serial communication. LoRa is excellent in coverage and power consumption, and its application scenarios in the Internet of Things are becoming more and more extensive. This product can also achieve one-to-one at the same time. Data transmission is performed in transmitter and the receiver.

This product provides RS232/RS485/RS422 standard interfaces, which can be directly used in the following application scenarios through the LORA wireless function:

- ①Wireless meter reading, such as: smart electricity meters, smart water meters, smart gas meters, heat meters, etc;
- ②Slowly changing physical quantity (temperature, water pressure, PM2.5, geomagnetic sensor) ultra-low power sensor;
- ③Wireless alarm (smoke detector, pyro-infrared);
- ④Remote I/O controller (lighting control, air conditioning control);
- ⑤Wireless RS232/485/422/Modbus converter;
- ⑥Industrial applications, industrial control machine tools, industrial automation instruments, long-distance irrigation equipment, access control, security control systems, highway platform scale data transmission and other equipment connections.

2.Product Feature

(1) It has fixed-point transmission, transparent transmission, air wake-up function, and internal automatic sub-packet transmission.

(2) Communication distance: The distance is increased by 3-5 times. This is the most intuitive experience. The original 433MHz small wireless products can hardly cover the blind spots, and LORA can fully cover it. This is the ultimate solution for users to encounter unreliable 433MHz communication.

(3) LORA demodulation technology can demodulate data correctly under noise, and the sensitivity can reach -148dBm.

(4)Description of Communication distance:

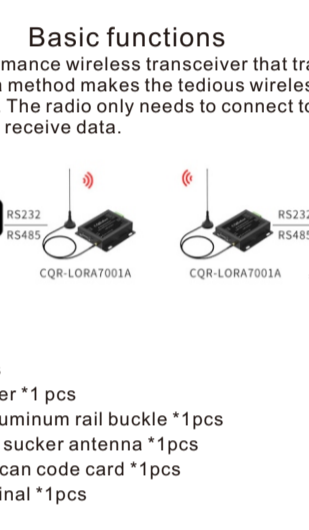
testenvironment	testdistance	Product functiondescription
Emptycommunication	About3Km	Straight line empty/meal communication
Cityroads spread in a straightline	About3Km	Dependson the actual use environment
Building sheltered environment	About1Km	Dependson the actual use environment
Insidethe building	About5 floor	Dependson the actual use environment

3.Product parameters

Performance parameter	Operating Voltage	DC9-30V
	Working current	100mA@12V
	Temperature	-20℃-85℃
	environment humidity	<80%RH
	Performancedesign	Superanti-electromagnetleference design.
	responding speed	In the default 9600bps wireless configuration, it takes 70 milliseconds to send and receive 1 byte of data.
Electrical protection	Circuit integrated ESD protection: ±15KV IEC1000-4-2 Air gap discharge;±8KV IEC1000-4-2 Contact discharge.	

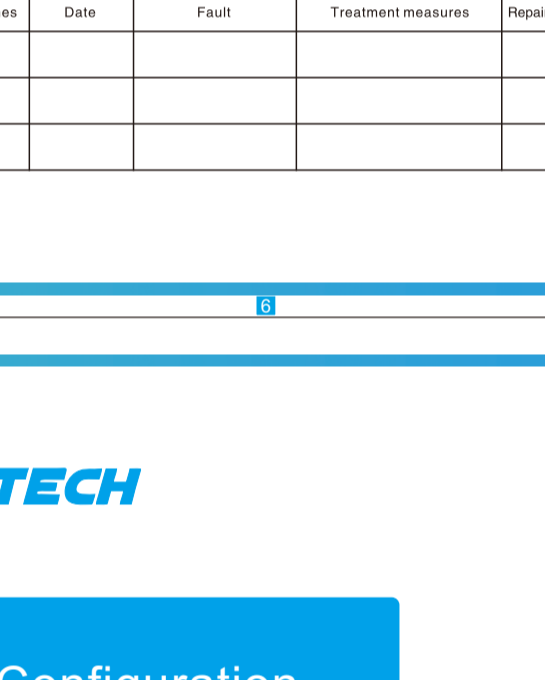
Wireless communication	Transmission distance	3 kilometers outside without shelter, and about 5 floors across indoors.
	Frequency Range	410MHz-441MHz
	Wireless channel	115 PCS
	Receivin sensitivity	-140dbm
	Transmit power	20dbm
	Modulation	Professional software modulation technology
Wired communication	Serial port parameters	Baud rate: 1200-115200bps The default baud rate :9600bps; Support data bits:7,8,9,stop bits:1,1.5,2, parity bits:Even,None,Odd Support data receiving and sending buffer function:256byte sending,256byte receiving.
	interface	RS485/RS422 adopt terminal mode; RS232 interface adopt DB9 wiring mode;
shape	power	Positive inside and outside negative, standard power socket, wide voltage design (9V-38V) power supply, Support plug and satin two power supply methods.
	dimension	L x W x H =87.13mm*70mm*22.12mm
	Indicator	Data sending: yellow light; data receiving: green light;
software support	System Support	Supported operating system:Windows XP/Windows7/Windows8/Windows10/Linux/ Mac OS and etc.
	Configuration Tool	Use DtechWifi/Config configuration tool, easy to configure in a few steps.

4.Description of interface :



Number	Name	Introduction
①	RS232	RS232 interface
②	TXD-LED	Transmission Indicator
③	RXD-LED	Receiver Indicator
④	ANT	Antennainterface
⑤	Configuration	Configuration interface
⑥	PWR-LED	Powerindicator
⑦	DC 9-30V	Powerinterface
⑧	DC+	Powerpositive
⑨	GND	Grounded
⑩	RS485A	RS485ACommunication Interface
⑪	RA485B	RS485BCommunication Interface
⑫	RS422A	RS422ACommunication Interface
⑬	RS422B	RS422BCommunication Interface

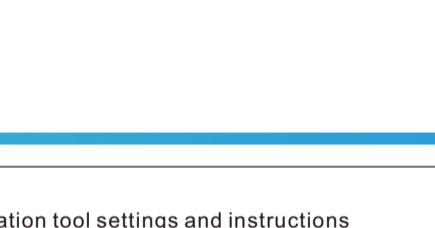
5.Product in definition wiring diagram



6.Product Connection diagram

Basic functions

A high-performance wireless transceiver that transmits digital signals wirelessly without a method makes the tedious wireless transmission and reception simple. The radio only needs to connect to RS232/485/422 signals to send and receive data.



5.Product List

- I .Product *1pcs
- II.12V1A Adapter *1 pcs
- III.35MM DIN Aluminum rail buckle *1pcs
- IV.SMA Male pin sucker antenna *1pcs
- V.Product use scan code card *1pcs
- VI.3.81*6P Terminal *1pcs

Product Warranty Card

Customer Information

Model:	
Date of purchase:	
User telephone:	
User address:	
Distributor:	
Agency address:	
User telephone:	Dealer stamp valid

Intenence Records

Repair times	Date	Fault	Treatment measures	Repair work NO.

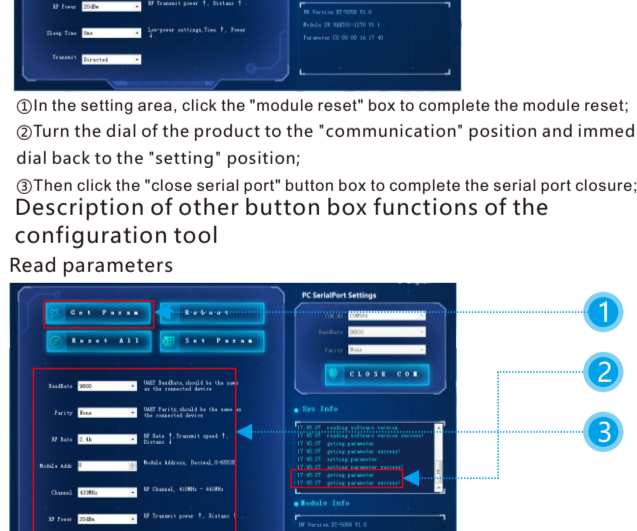
Configuration tool manual

Configuration tool settings and instructions

Step 1: Open "Dtechwifconfig" software

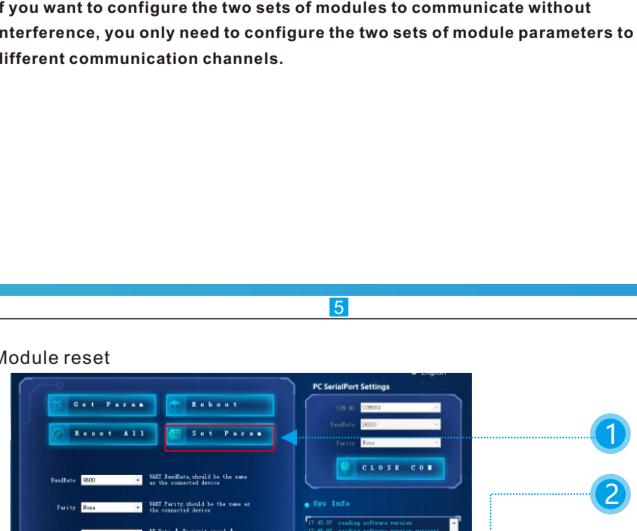


Step 2: Open the interface as follows



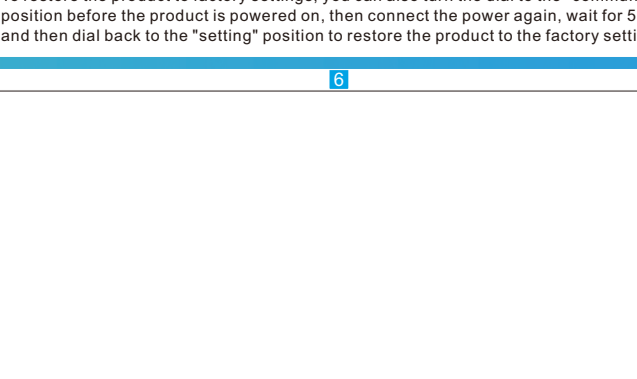
- ① (Interface language) You can select the language of the configuration tool, and select by clicking "L";
- ②(Computer serial port settings) 'serial number', 'baud rate', 'check digit', You can click the "blank box" to choose to change the parameters;
- ③(System Information) After opening the serial port, you can see the configuration status;
- ④(Module information) After opening the serial port, you can see the basic information of the module;
- ⑤(Other buttons) Click to trigger different functions;
- ⑥(Parameter information) You can select parameters by clicking on the blank box, module address You can enter parameters.

Step 3: Select the corresponding COM number and baud rate (the factory default baud rate is 9600, and the parity digit defaults to None), turn the product's configuration switch to the "setting" bit, and then power on the product. Then turn the dial to the "communication" bit and wait for five seconds, then dial back to the "setting bit", click the "Open serial port" box to enter the configuration mode.



- At this time, you can open it normally, enter the configuration, and:
- ①The button box of "open serial port" will change to "close serial port"
 - ②The information shown in the figure will appear in the "System Information" box
 - ③The initial basic information of the module will appear in the "Module Information" box
 - ④The setting area will access the selectable state and display the parameters of the current device

(If a serial port information error or similar appears after clicking "Open Serial Port")



- ① In the setting area, select or enter the setting parameters;
- ②Click the "write parameter" button box;
- ③When the writing is successful, the relevant information prompt will be displayed in the "System Information" box;
- ④ And the "Module Parameters" in the "Module Information" box will change, indicating that the parameters are successfully written.

Step 5: First click the "Module reset" button box, then turn the product's dial to the "communication" bit and immediately dial back the "setting" bit, and then click the "Close serial port" button box.

- ① In the setting area, click the "module reset" box to complete the module reset;
- ②Turn the dial of the product to the "communication" position and immediately dial back to the "setting" position;
- ③Then click the "close serial port" button box to complete the serial port closure;
- ④Then click of other button box functions of the configuration tool

Read parameters

- illustrate:
- ① If you want to see the current parameter information of the module, you can click "Read Parameters" with the left mouse button;
 - ② In the "System Information" box, the information shown in the figure will be displayed, indicating that the reading is successful;
 - ③ The current specific parameter information of the module will appear in the setting area.

Write parameters

When writing parameters, each parameter configuration set in the box indicated by arrow 3 will be written into the wireless module terminal.

Notice:

If you want to configure a group of modules to communicate with each other, the parameter setting requirements are as follows:

1. In the state of transparent transmission, the communication module needs the communication channel, parity bit, air rate and baud rate of 2 modules Communication can only be done when these 2 settings are the same;
2. In the directional transmission state of the communication module, the communication channel, air rate and baud rate of 2 modules are required Module address can only communicate when these 3 settings are the same;

If you want to configure the two sets of modules to communicate without interference, you only need to configure the two sets of module parameters to different communication channels.

Module reset

- Explanation:
- ① In the connected device, if you want to restart the module, you can click "Module Reset";
 - ② "System Information" will prompt the module successfully reset and other information.

Reset

- Explanation:
- ① In the connected device, if you want to restore the module parameters to the initial parameters, you can click "Restore Factory Settings";
 - ② "System Information" will prompt information such as successful restoration of settings;
 - ③ The parameters in the setting area will be restored to the initial parameters. To restore the product to factory settings, you can also turn the dial to the "communication" position before the product is powered on, then connect the power again, wait for 5 seconds and then dial back to the "setting" position to restore the product to the factory settings.