DTECH

RS232 to LORA wireless serialportdata transmission transceiver manual

Please read the product manual carefully before using the product

1. Product overview

This product is a multi-functional LORA wireless data transmission transceiver. This product is a multi-functional LORA wireless data transmission transceiver. It adopts LORA spread spectrum modulation method to transmit. It has high performance, high reliability, high stability and low power consumption. It provides high performance for complex environments such as on-site installation and wiring. 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 relayed 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 is farther 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. The application scenarios in the Internet of Things are becoming more and more extensive. This product can also achieve one-to-one Data transmission is carried out in one-to-many or many-to-many modes without distinguishing the transmitter and receiver.

This product provides a standard signal interface, which can be directly used in the following application scenarios through the LORA wireless function.

①Wireless meter reading, such as: smart electricity meter, smart water meter,smart gas meter, heat meter, etc.;

②Slowly changing physical quantity (temperature, water pressure, PM2.5,electromagnetic sensor) ultra-low power consumption sensor;

③Wireless alarm (smoke detector, pyro-infrared);

④Remote I/O controller (lighting control, air conditioning control);

Industrial applications, industrial control machine tools, industrial automation instruments, remote irrigation equipment, access control, security control systems, highway platform scale data transmission, commercial cash registers and other equipment connections;

2. Product features:

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

(2) Communication distance: The distance increases 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 completely 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:

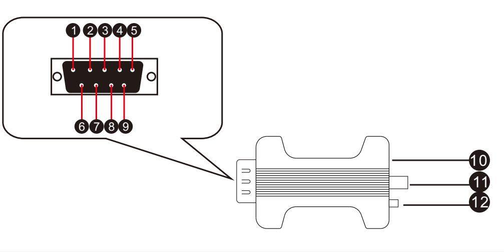
Test environment	Test distance	Product function description
Unobstructed communication	About 1Km	Local Communications
City roads travel in a straight line	About 800m	Depending on the actual use environment
The city has buildings to block the environment	About 500m	Depending on the actual use environment
In the building	About 5 floors of floor slabs are worn	Depending on the actual use environment

3. Product technical parameters

Performance parameters	Working voltage	DC5V
	Working current	50mA@5V
	Environmental temperature	-20℃~85℃
	Environmental humidity	<80%RH
	Performance design	Super anti-electromagnetic interference design
Wireless communication	Transmission distance	1 km outside without shelter, indoors through about 5 floors.
	Frequency range	410MHz~441MHz
	Wireless channels	115
	Receiving sensitivity	-140dbm
	Transmit power	20dbm
	Modulation method	Professional software modulation technology
	Antenna connection	External SMA male antenna; working frequency: 433MHz

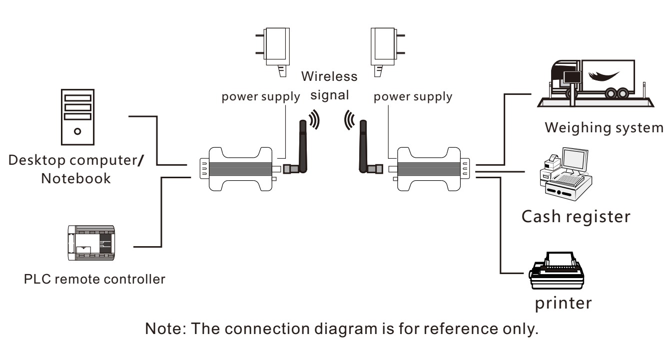
Wired communication	Erial port parameters	Baud rate: 1200~115200bps; The default baud rate is 9600bps;
		Support data bits: 7, 8, 9, stop bits: 1, 1.5, 2, parity bits: Even, None, Odd
Form factor	Interface	RS232 standard DB9 interface
	Power supply	Use USB and wire to power DC5V
	Indicator light	data sending: yellow light; data receiving: green light;
Software support	System support	System support Supported operating system WindowsXP\Windows7\Windows8\Windows10\Linux\Operating systems such as Mac OS.
	Configuration tool	DtechWifiConfig configuration tool is adopted, which can be easily configured in a few steps and can be used. (The configuration button length is pressed for 5 seconds to enterthe configuration mode, and the factory setting can berestored by pressing the button for 5 seconds before powerup)

4. interface description



NO.	Interface Description	Db9 (PIN)	RS232 C Interface Signal
❶-❾	Db9 Interface	❷	Data receive SIN(RXD)
❿	Power interface	❸	Data sending SOUT(TXD)
⓫	Wireless interface	❺	GND
⓬	Configuration button		

5. product connection diagram



Note: The connection diagram is for reference only.

6.Product accessories

(1) Product 1

(2) 1 black glue stick antenna

(3) Power cord 1

(4) The product uses a scan code card 1

Product Warranty Card

Customer Information

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

Intenance Records

Repair times	Date	Fault	Treatment measures	Repair work NO.

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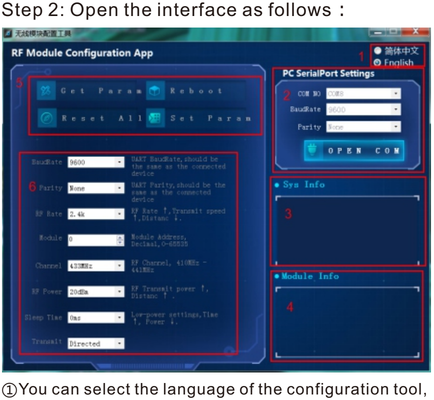
Configuration tool manual

Use of serial port configuration tool

Step 1: Open the "WLconfig" software

WLconfig

Step 2: Open the interface as follows:



①You can select the language of the configuration tool, and select by clicking "●";

②(Computer serial port setting) For ‘serial port number’, ‘baud rate’, and ‘check digit’, you can click on the "blank box" to choose to change the parameters;

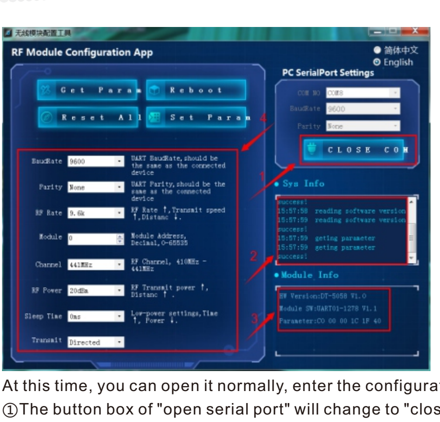
③(System Information) After opening the serial port, you can see the configuration status;

④(Module information) After opening the serial port, you can see the basic module;

⑤(Other buttons) Click to trigger different functions;

⑥(Parameter information) Parameters can be selected by clicking the blank box, and parameters can be input for the module address.

Step 3: Select the corresponding COM number and baud rate, click the "open serial port" box to enter the configuration mode



At this time, you can open it normally, enter the configuration, and:

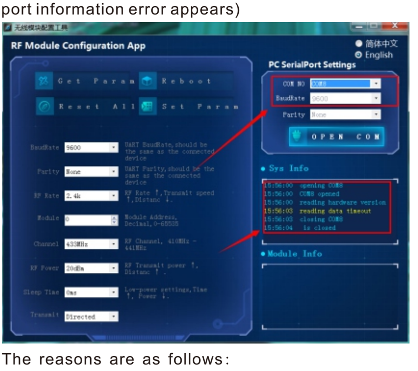
①The button box of "open serial port" will change to "close serial port"

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 you click "open serial port", a similar or similar serial port information error appears)



The reasons are as follows:

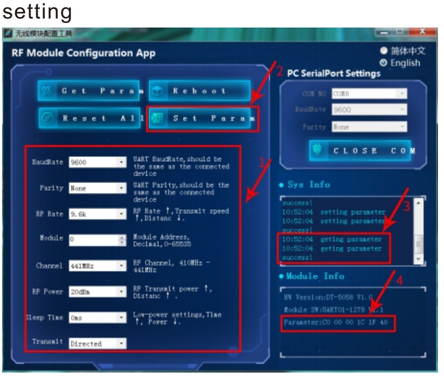
①The serial port number is wrong;

②Baud rate selection is wrong;

③The device is not adjusted to the configuration mode.

④Check Digit selection is wrong;

Step 4: Click the "write parameter" button box tocomplete the parameter setting



Detailed steps:

①In the setting area, select or enter the setting parameters;

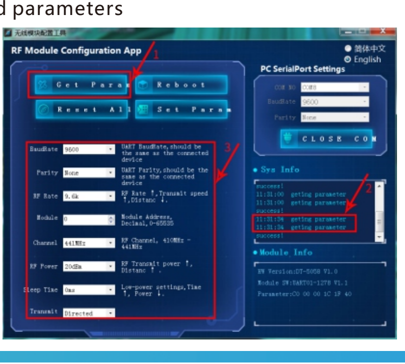
②Click the "write parameters" button box;

③When the writing is successful, the "System Information" box will display relevant information prompts;

④ And the "Module Parameters" in the "Module Information" box will change, indicating that the parameters are written successfully.

Description of other button box functions of the configuration tool

Read parameters



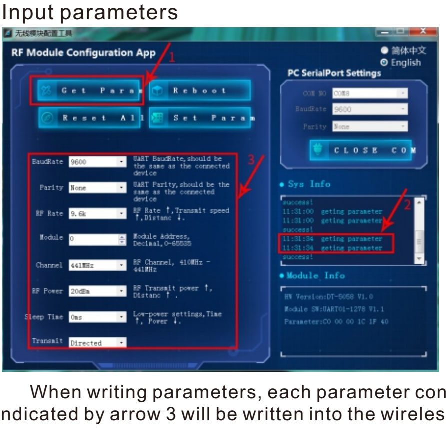
Description:

①If you want to see the current parameter information of the module, you can click " ReadParameters" with the left mouse button;

②In the "System Information" box, the information shown in the figure will be displayed, indicating that the reading is successful;

③The current specific parameter information of the module will appear in the setting area.

Input parameters



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

note:

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

1. In the transparent transmission state of the communication module, the communication channel and air rate,Baud rate of the two modules are required to communicate under the same settings;
2. In the directional transmission state of the communication module, the communication channel, air rate, and module address,Baud rate of the two modulesare required to communicate with the same three settings;

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

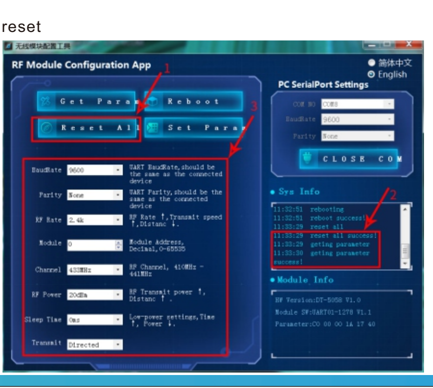
reset

Description:

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



Description:

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;

③The parameters in the setting area will be restored to the initial parameters.