USB-TO-RS232-Male(Female)-Cable

Introduction

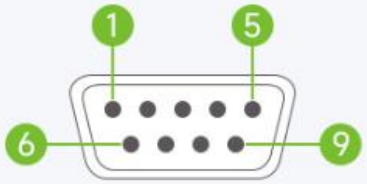
Industrial USB to RS232 serial adapter cable, adopts original FT232RL chip, provides stable communication, an ideal choice for industrial control equipment and/or applications with high communication requirements.

Version Options

USB-TO-RS232-Male-Cable
DB9 male port, cable length 1.5m

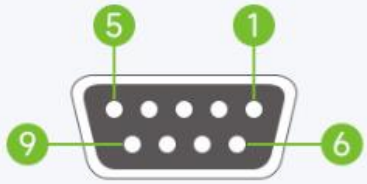
USB-TO-RS232-Female-Cable
DB9 female port, cable length 1.5m

Interface Definition



DB9 Male pinout

PIN	Description	
1	Data carrier detect	DCD
2	Receiving data	RXD
3	Sending data	TXD
4	Data terminal ready	DTR
5	Ground	GND
6	Data set ready	DSR
7	Request to send	RTS
8	Clear to send	CTS
9	Ring indicator	RI



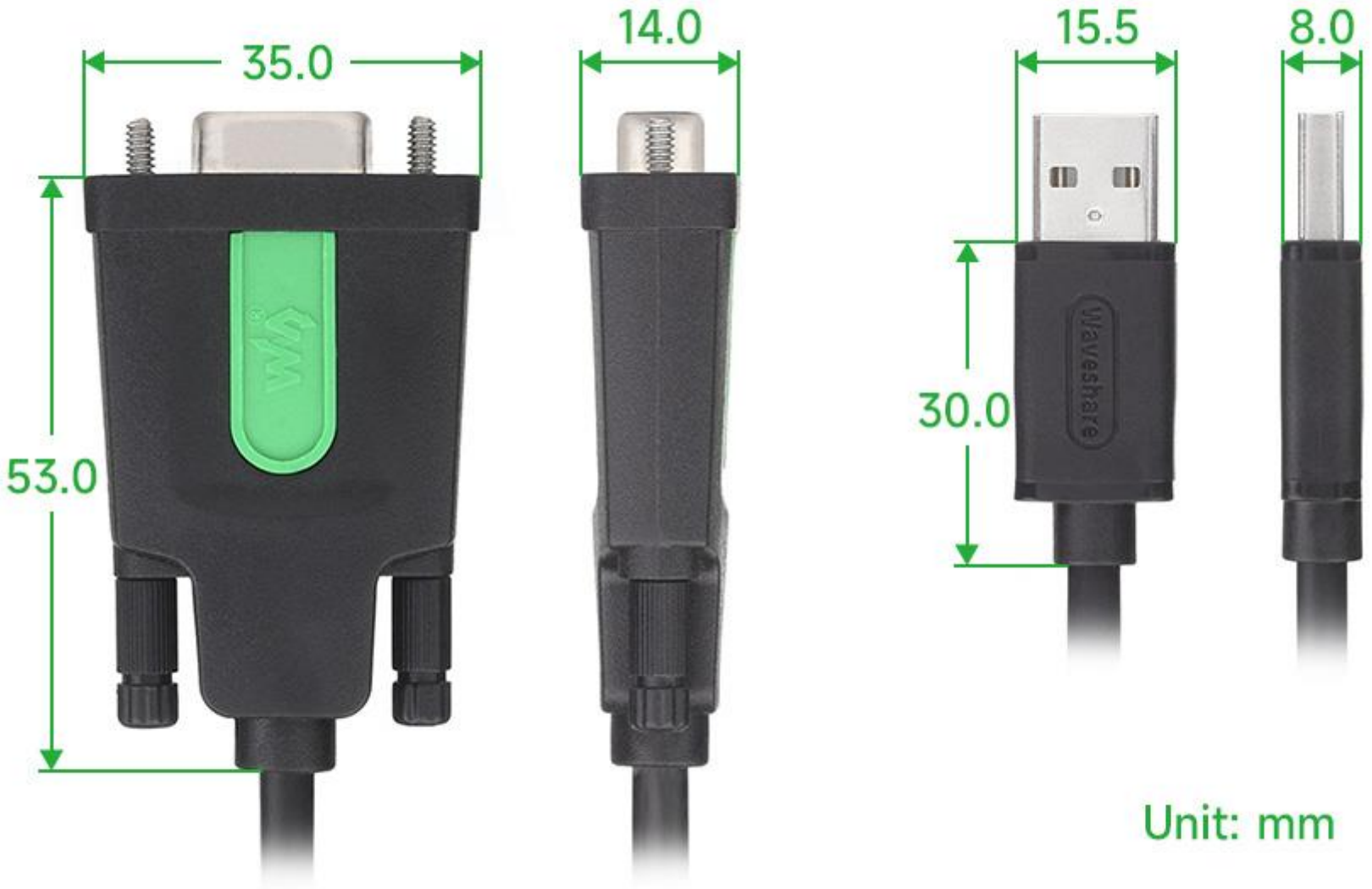
DB9 Female pinout

PIN	Description	
1	Data carrier detect	DCD
2	Sending data	TXD
3	Receiving data	RXD
4	Data set ready	DSR
5	Ground	GND
6	Data terminal ready	DTR
7	Clear to send	CTS
8	Request to send	RTS
9	Ring indicator	RI

Specification

Types	USB to RS232 DB9 serial adapter cable
Chip	FTDI original FT232RL chip
Host Interface	USB Type-A Interface
Data Rate	300bps ~ 921600bps
Device Interface	USB-TO-RS232-Male-Cable: RS232 DB9 male port USB-TO-RS232-Female-Cable: RS232 DB9 female port
Cable Specification	Black, PVC sheath, total length 1.5m

Dimensions


35.0
14.0
15.5
8.0
53.0
30.0
Waveshare
Unit: mm

Application Scenarios

Touchscreen	Cash register	Switch	Time recorder	Access control system
Handwriting tablet	LED display	Industrial instrument	Electronic scale	Barcode printer
PLC controller	External modem	Temperature control device	Scanner	Programmer
Industrial host	STB	POS machine	PLAM	.....

How to Use

Hardware Connection

Windows

Driver

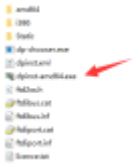
There are two drivers for FT232: VCP and D2XX.

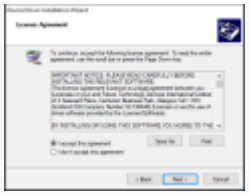
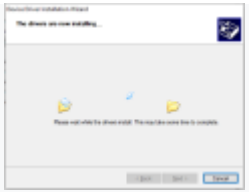
- VCP (Virtual COM Port): The PC side will be recognized as a serial port, using the serial protocol.
- D2XX driver: The PC side will be recognized as a USB port and needs to be operated using API functions.

- This product provides a VCP example, so we will only discuss the installation of the VCP driver below.
    - Download the driver: FT232 driver-Windows 64 bits
    - Download the driver: FT232 driver-Windows 32 bits

Currently most Windows 8/10/11 systems are driver-free, Windows 7 requires manual installation of the driver, and more system drivers can be downloaded from #Resource.

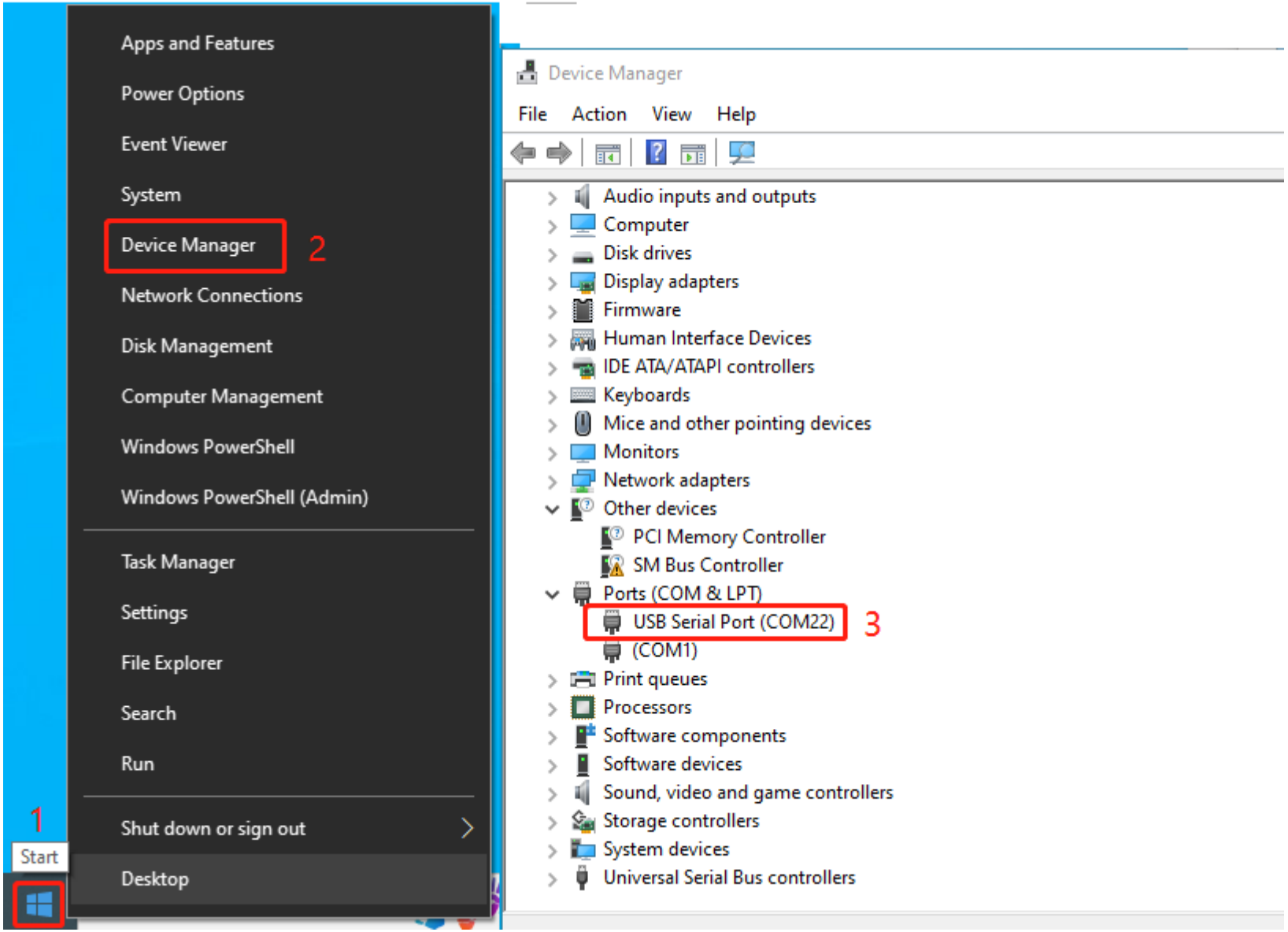
Driver installation:

- 
- 

- 
- 
- 

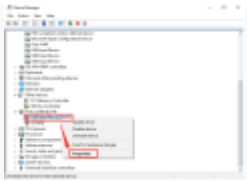
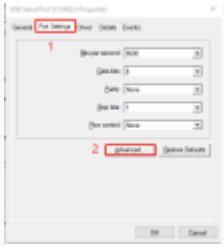
Device Connection

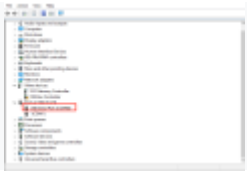
- Connect the FT232 USB UART Board to the PC.
- After installing the driver program, connect the FT232 USB UART Board to the USB port of the PC, and the PC finds the new hardware.
- Right-click the Windows on the left corner of the PC, choose "Device Manager", and you can see as shown below:


Apps and Features
Power Options
Event Viewer
System
Device Manager
2
Network Connections
Disk Management
Computer Management
Windows PowerShell
Windows PowerShell (Admin)
Task Manager
Settings
File Explorer
Search
Run
Shut down or sign out
Desktop
1
Start
Device Manager
File
Action
View
Help
Audio inputs and outputs
Computer
Disk drives
Display adapters
Firmware
Human Interface Devices
IDE ATA/ATAPI controllers
Keyboards
Mice and other pointing devices
Monitors
Network adapters
Other devices
PCI Memory Controller
SM Bus Controller
Ports (COM & LPT)
USB Serial Port (COM22)
3
(COM1)
Print queues
Processors
Software components
Software devices
Sound, video and game controllers
Storage controllers
System devices
Universal Serial Bus controllers

COM Port Setting (Optional)

The COM Port may change, you can configure it to the specified COM port by the following steps, as follows:
Right-click the COM port in the above figure, click "Port Settings" in the window, then click "Advanced, select the required (not occupied by other) COM port number from the down menu. (not occupied by other devices):

- 
- 
- 

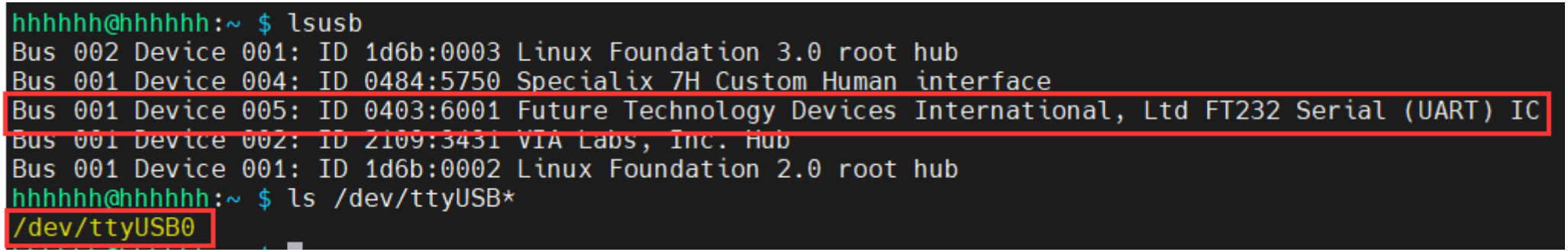
- 

Linux

Take RPI as an example, use the default driver, connect the device, and query the serial device name through the following command:

```
lsusb

ls /dev/ttyUSB*
```



For example, use [minicom] to open UART0, input the following command line:

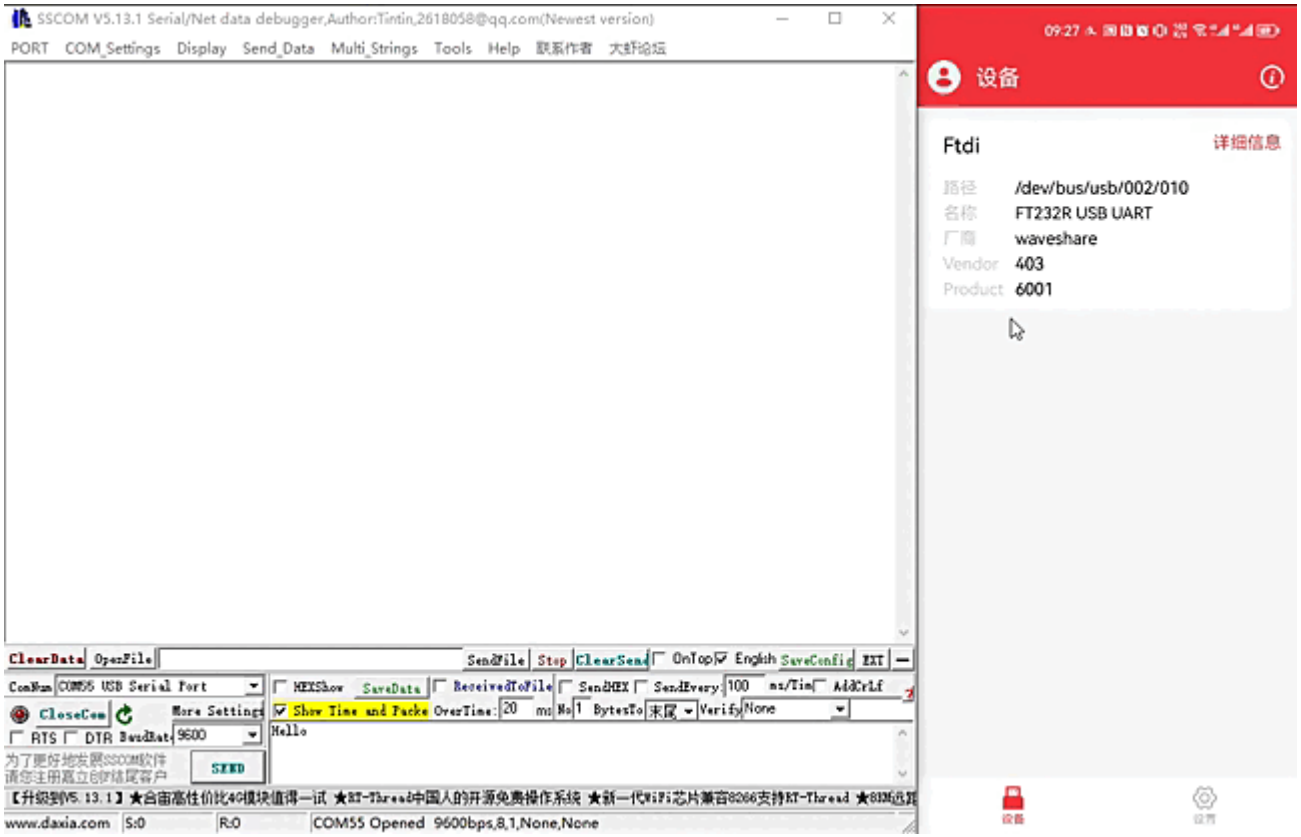
```
sudo minicom -D /dev/ttyUSB0
```

The mainstream Linux systems, such as Raspbian, Ubuntu, and CentOS, generally come with FT232 drivers and can be connected to use. You can also install Linxu drivers to some Linux systems lacking FT232.

Android

For example, connect the Android phone to the PC with FT232:

- Connect the USB port of FT232 to the USB port of the Android phone with the OTG adapter cable, and then connect to another FT232 and computer via the USB port.
- Download SerialTool_Android to the Android device, unzip it, and then install it.
- Whether to allow the APP to visit the USB device, click OK.
- Input the string to be sent in the Android serial tool, the computer can receive the corresponding on the sscom, and vice versa.



Android serial port assistant used here has integrated Android drivers, no need to install additional drivers; you can also use FTDI Android source code directed development can drive FT232 APP.

MacOS

1. Click to download the driver.
2. Driver installation guide: Click here to see the tutorial.

3. After installing, you can open SSCOM (MAC can directly download the serial debugging assistant online).

Resource

Driver

- VCP driver (or click here to download):
  - FT232-Driver-Windows 64
  - FT232-Driver-Windows 32
  - MAC-x64

Tool

- SSCOM software
- Xshell 6.0
- putty
- Serial Tool (with driver) for Android

Document

- FT232R

More Applications

- Android Serial Tool APK

FAQ

Question:*What is the maximum baud rate for USB TO RS232?*

Answer:

FT232RL's maximum baud rate is up to 3Mbps, and the baud rate for RS232 long-distance stable communication is between 2400~115200bps.

Question:*Can the serial port be modified?*

Answer:

The port number can be modified. (Windows in Device Manager, COM port - Advanced - Properties - select COM port number to modify).

Question:*USB Serial Converter exclamation warning appears?*

Answer:

Please manually install this driver: FT232_Driver_WIN11_64

Question:*Does this module support OS such as Win8.1, Win10?*

Answer:

USB-TO-RS232-Cable adopts FTDI official FT232 original chip, which can support many kinds of operating systems. Generally, Win8 or above system is free of the driver, the driver for different systems can be downloaded from the official website: www.ftdichip.com/FTDrivers.htm.

Question:*WIN7 driver installation failed?*

Answer:

Install this driver: FT232-win7-Driver or download DriverGenius, and then it can automatically install the serial device driver.

Question:*What is the maximum baud rate of USB TO RS232?*

Answer:

The maximum baud rate of FT232RL can reach 3Mbps, but the recommended baud rate for general RS232 long-distance stable communication is 2400~115200bps.

Question:*How to troubleshoot if the product cannot function properly?*

Answer:

1. Check if the computer's Device Manager properly recognizes the COM port device. If it doesn't, inspect for potential driver issues, reconnect the USB port, or try a different USB port to prompt the computer to rediscover the device.
2. If the computer successfully detects the COM port device but fails to connect to the RS232 device, examine the connection between the RS232 connector and the device to ensure it's secure, and verify if the RS232 device is powered on.
4. Substitute with another computer, or another device equipped with an RS232 interface, or try using a different cable for comparative testing.

Support

Technical Support

If you need technical support or have any feedback/review, please click the **Submit Now** button to submit a ticket, Our support team will check and reply to you within 1 to 2 working days. Please be patient as we make every effort to help you to resolve the issue.
Working Time: 9 AM - 6 PM GMT+8 (Monday to Friday)

Submit Now