USB TO 4CH RS232

From Waveshare Wiki
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Overview

USB TO 4CH RS232 is an industrial USB to RS232 isolated converter, featuring the original FT4232HL. It has onboard protection circuits such as built-in power isolation, ADI magnetical isolation and TVS diode. With an aluminum alloy case, USB TO 4CH RS232 offers simple operation, zero-delay automatic transmission and reception conversion, and boasts characteristics such as fast, stable, reliable and safe communication, suitable for industrial control applications with various communication requirements.

RS232 D89 Male Port

(https://www.waveshare.com/usb-to-4ch-rs232.htm?sku=26854)

RS232 D89 Female Port

(https://www.waveshare.com/usb-to-4ch-rs232.htm?sku=27022)

RS232

Features

- Adopts original FT4232HL chip, fast communicating, stable and reliable, better compatibility.
- Supports USB to 4-ch isolated RS232, convenient for expanding multiple RS232 industrial serial devices.
- Onboard unibody power supply isolation, provides stable isolated voltage.
- Onboard unibody digital isolation, allows signal isolation, high reliability, strong anti-interference and low power consumption.
- Onboard TVS (Transient Voltage Suppressor), effectively suppress surge voltage and transient spike voltage in the circuit, lightningproof & ESD protection.
- Onboard self-recovery fuse and protection diodes, ensure the current/voltage stable outputs, provide over-current/over-voltage proof, improve shock proof performance.
- Onboard power supply screw terminal, allows 5V ~ 36V DC wide range input.
- 9 LEDs for indicating the power and transceiver status.

- Aluminum alloy enclosure with sand blasting and anodic oxidation, solid and durable.

Version Options

USB TO 4CH RS232
to 4-ch RS232 male port

USB TO 4CH RS232 (F)
to 4-ch RS232 female port

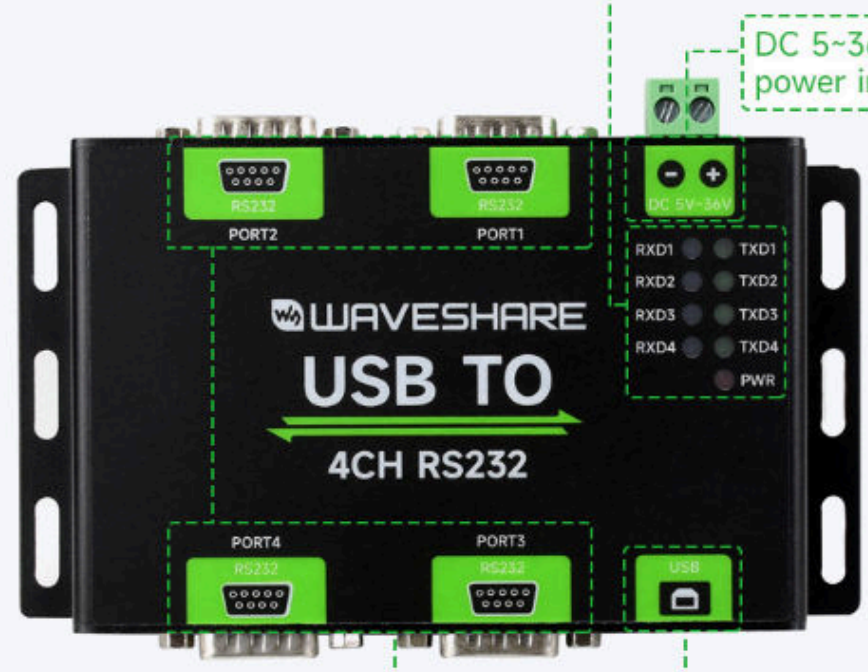
(/wiki/File:USB_TO_4CH_RS232_Ver.png)

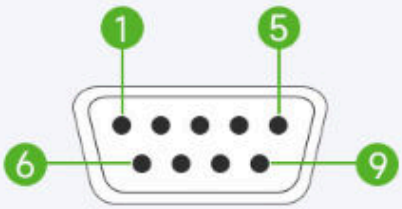
Parameters

Product Type	Industrial isolated USB to RS232 converter	
Host Interface	USB	
Device Interface	RS232	
Communication Range	300bps ~ 921600bps	
USB Interface	Operating Level	5V
	Connector	USB-B
	Protection	200mA self-recovery fuse, isolated output
	Transmission Distance	About 5m
Power Port	Supply Voltage	5 ~ 36V DC screw terminal
	Protection	Anti-reverse
RS232 Interface	Connector	DB9 male port/ female port
	Protection	TVS diode protection, anti-surge and ESD protection
	Transmission Distance	About 15m
	Transmission Mode	Point to Point
Indicator	PWR	Red power indicator, lights up when the voltage is detected
	TXD	Green transmitting indicator, blinking when the RS232 port is sending data
	RXD	Blue receiving indicator, blinking when the RS232 port is receiving data
Operating Environment	Temperature Range	-40℃ ~ 85℃
	Humidity Range	5% ~ 95%RH
Operating System	Mac, Linux, Android, Windows 11/ 10/ 8.1/ 8/ 7	

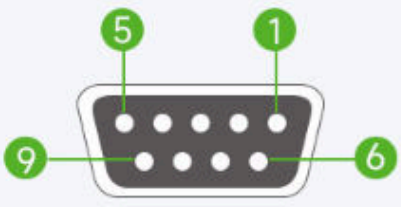
Onboard Interface

LED Indicators	
PWR	Red power indicator, lights up when power connected
TXD1~4	Green TX indicator, blinking when the RS232 port is sending data
RXD1~4	Blue RX indicator, blinking when the RS232 port is receiving data





RS232 Male Pinout



RS232 Female Pinout

RS232 Pinout		
DB9 (PIN)	RS232 Male Pinout	RS232 Female Pinout
2	Receiving data (RXD)	Sending data (TXD)
3	Sending data (TXD)	Receiving data (RXD)
5	Ground	Ground
1,4,6,7,8,9	N/C	N/C

(/wiki/File:USB_TO_4CH_RS232_Inter.png)

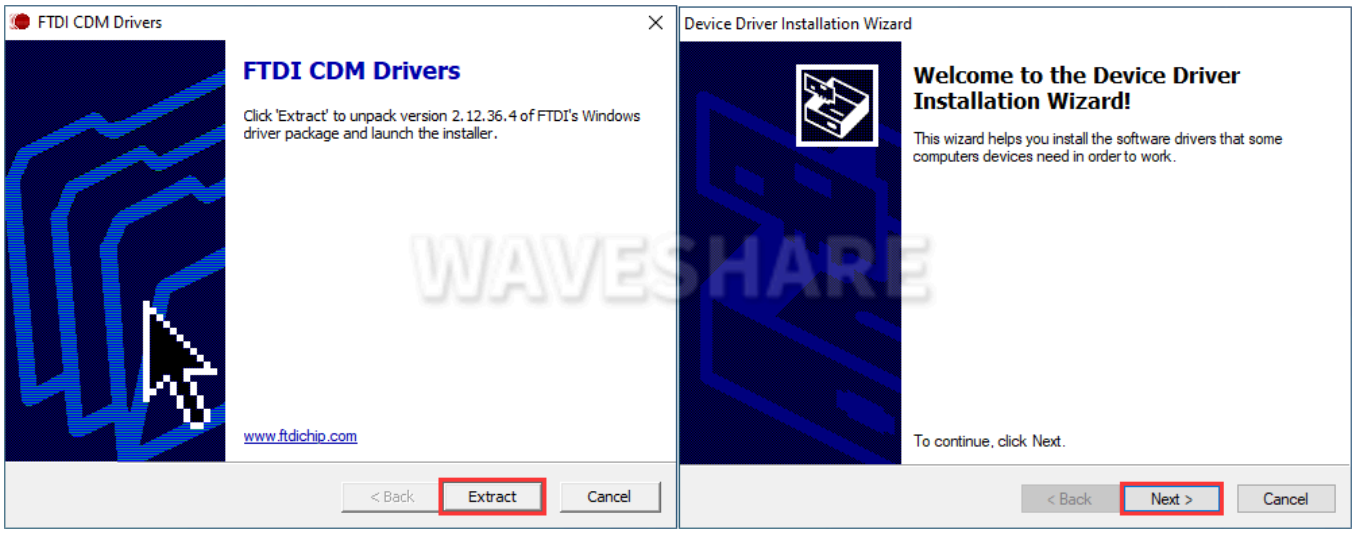
Dimensions

(/wiki/File:USB_TO_4CH_RS232_Dem.jpg)

Driver Installation

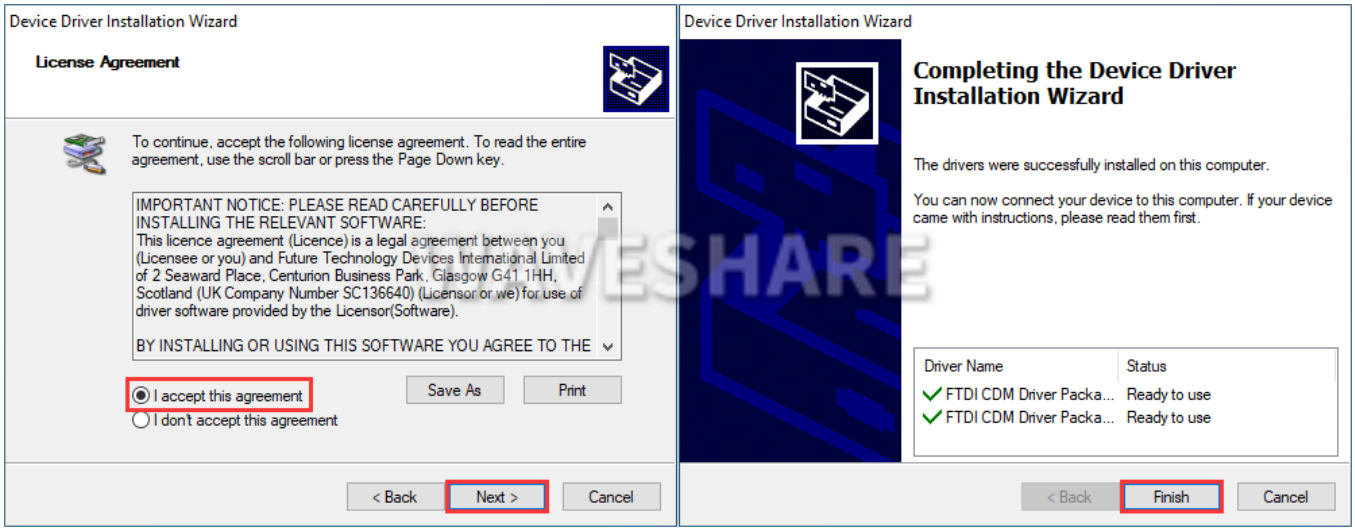
USB Driver Installation

- Download the driver file VCP Driver (https://files.waveshare.com/wiki/USB-TO-RS232-485-%EF%BC%88B)/CDM212364_Setup.zip).
- Double click on **CDM212364_Setup.exe** and install it.
- Click on **Extract**, and then "NEXT".



(/wiki/File:USB_TO_4CH_Serial_Converter_-03.png)

- Click on **I accept this agreement**, and then click on "NEXT", and finally click on "Finish".



(/wiki/File:USB_TO_4CH_Serial_Converter_-04.png)

- After connecting to the PC, you can see the usable COM port number in the device manager.

(/wiki/File:USB_TO_4CH_Serial_Converter-05.png)

Communication Operation

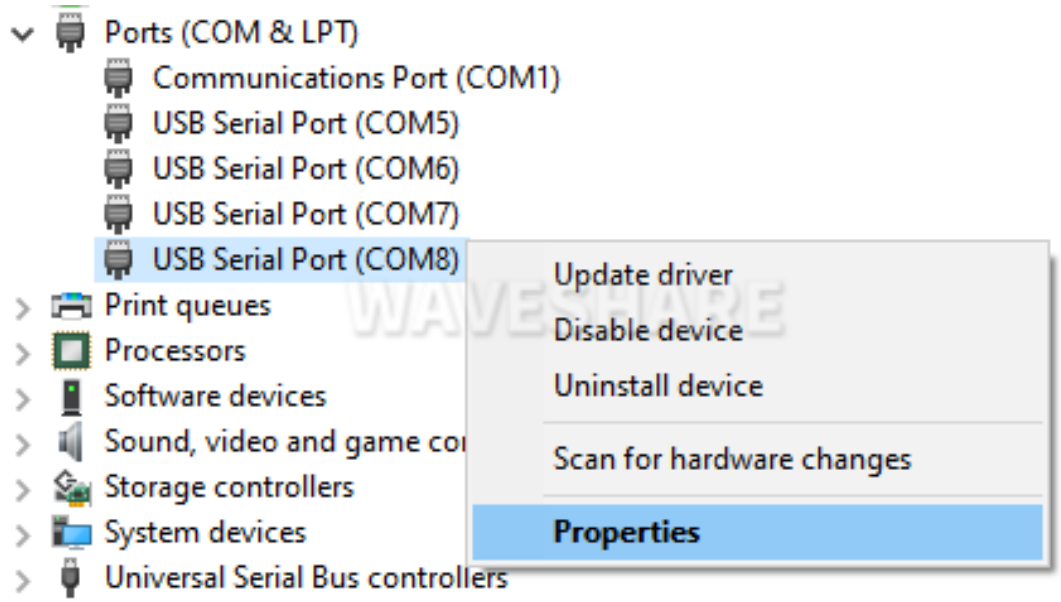
Preparation

- Open the SSCOM software.
- Select the corresponding COM port according to the functions. (Normally, the identifiable 4 COM port number is Port A to Port D in descending order.)

USB TO 4CH RS232 - PORT	Communication Mode
PORT A	RS232
PORT B	RS232
PORT C	RS232

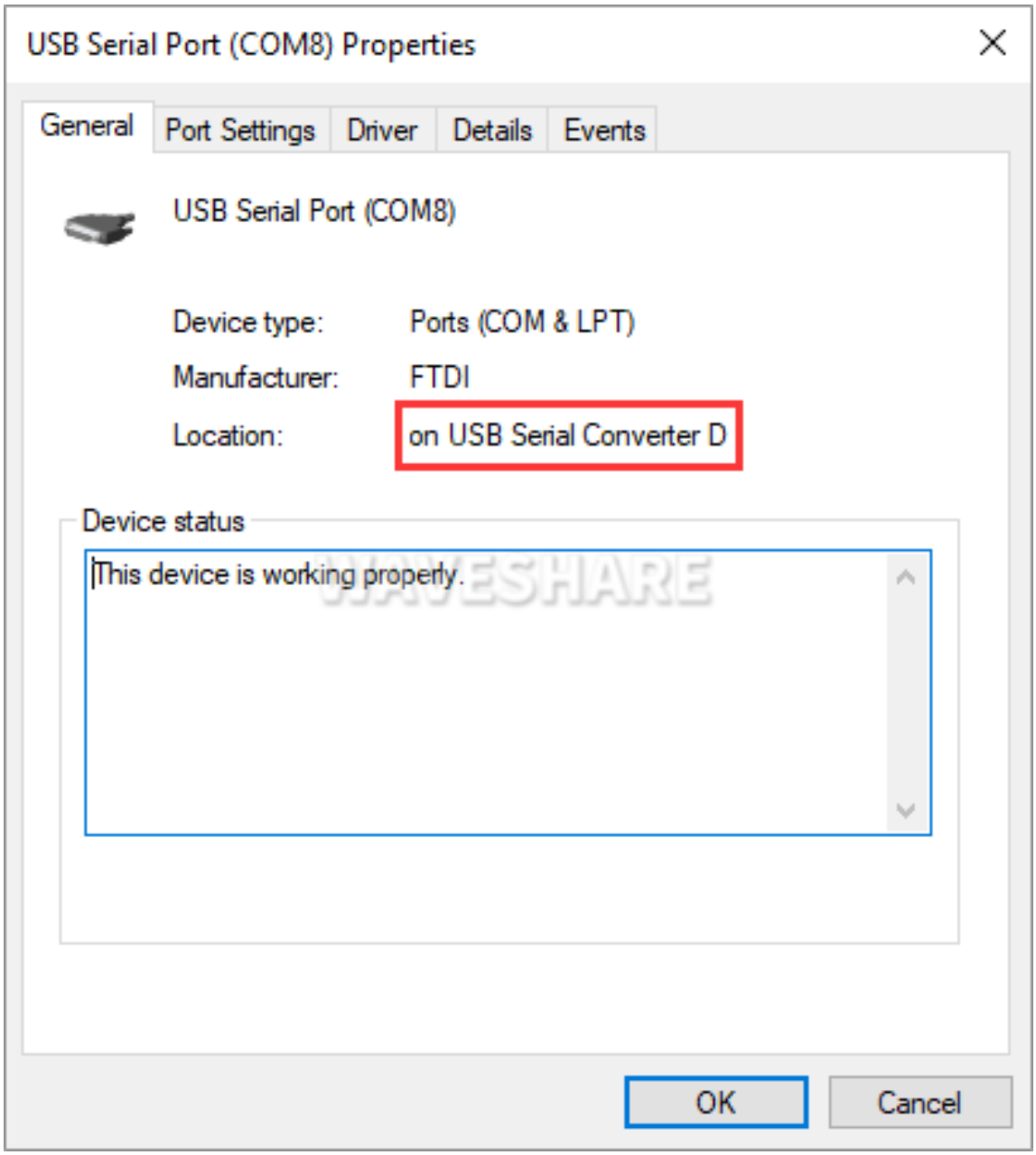
PORT D	RS232

- You can check which PORT is the corresponding COM port through the Device Manager.
- Right-click to check the PORT corresponding to the COM8 port.



(/wiki/File:USB_TO_4CH_Serial_Converter_Environment_1.png)

- And you can see the corresponding PORT D to the COM8.



(/wiki/File:USB_TO_4CH_Serial_Converter_Environment_2.png)

RS232 Communication

The following demonstrates communication between RS232 of PORT A and RS232 of PORT B using the product.

Hardware Communication

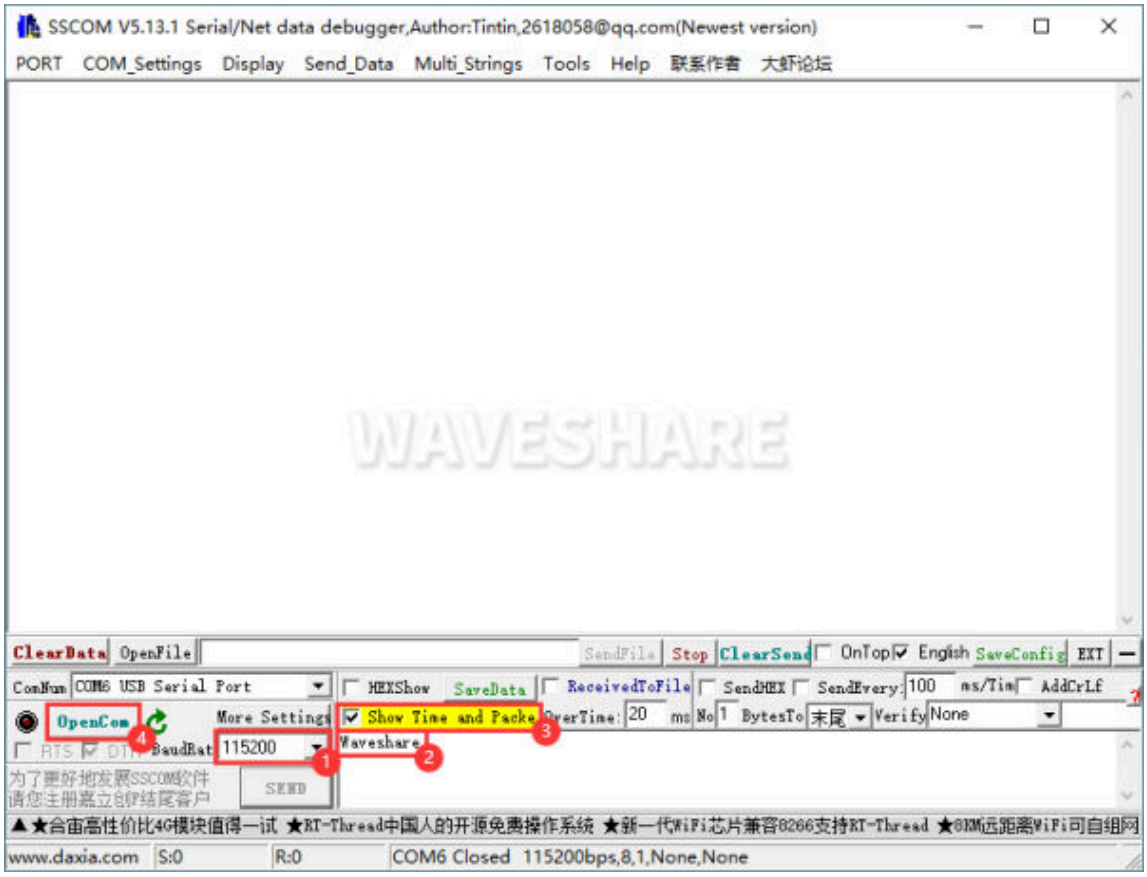
USB TO 4CH RS232 - PORT A	USB TO 4CH RS232 - PORT B
PORT A - RXD	PORT B - TXD
PORT A - TXD	PORT B - RXD
PORT A - GND	PORT B - GND

Software Operation

- Open two SSCOM windows.
- Respectively select the COM port corresponding to Port A and Port B.

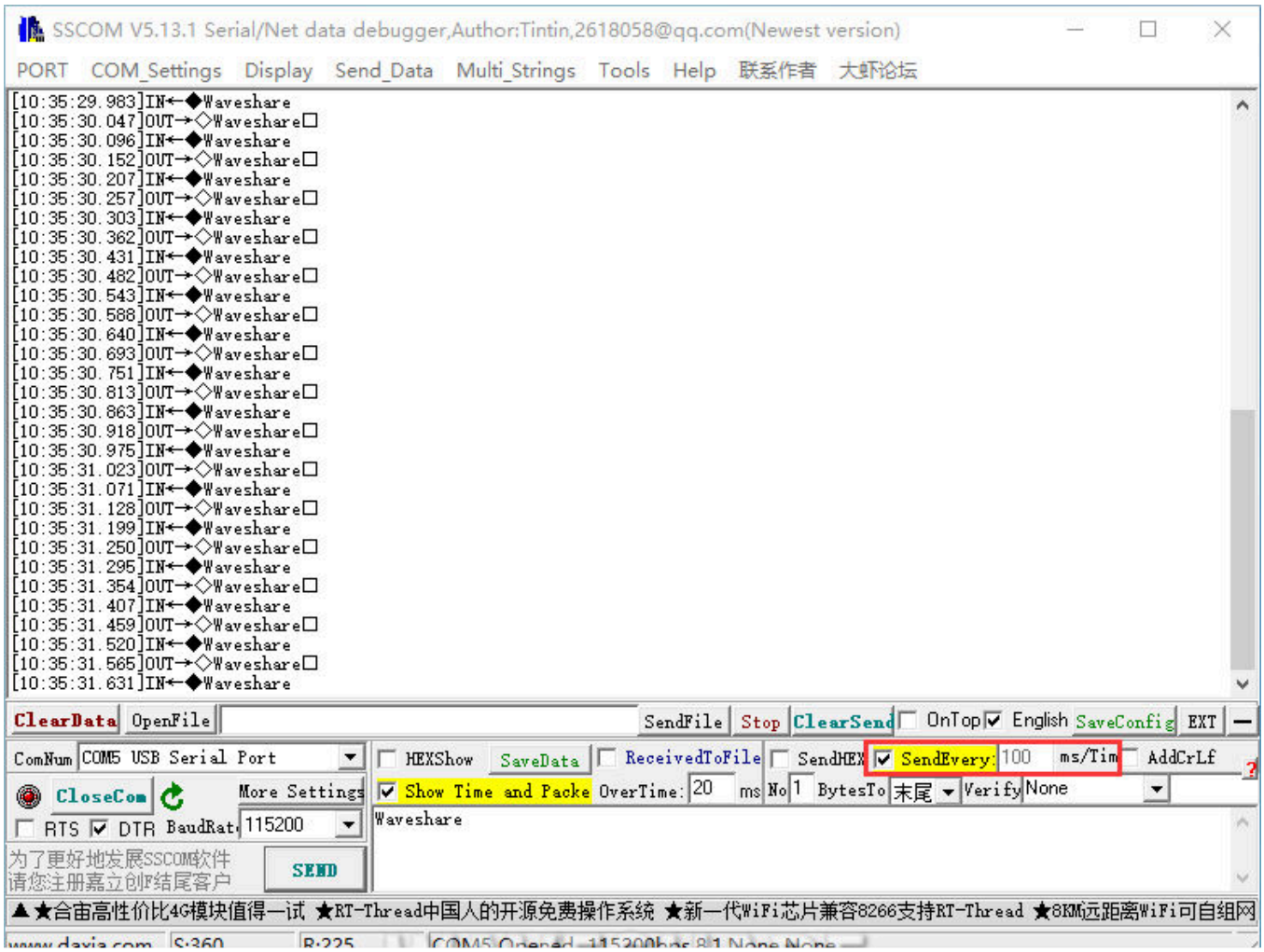
(/wiki/File:USB_TO_4CH_Serial_Converter_15.png)

- Select the baudrate as **115200**, input the characters to be sent, select **Show time and packet**, and click on **Open COM**.



(/wiki/File:USB_TO_4CH_Serial_Converter_16.png)

- Both select the **100ms** of the SSCOM, and you can see these two windows normally transmit and receive, and the test effect is shown below:


SSCOM V5.13.1 Serial/Net data debugger,Author:Tintin,2618058@qq.com(Newest version)
PORT COM_Settings Display Send_Data Multi_Strings Tools Help 联系作者 大虾论坛
[10:35:29.983]IN←◆Waveshare
[10:35:30.047]OUT→◇Waveshare□
[10:35:30.096]IN←◆Waveshare
[10:35:30.152]OUT→◇Waveshare□
[10:35:30.207]IN←◆Waveshare
[10:35:30.257]OUT→◇Waveshare□
[10:35:30.303]IN←◆Waveshare
[10:35:30.362]OUT→◇Waveshare□
[10:35:30.431]IN←◆Waveshare
[10:35:30.482]OUT→◇Waveshare□
[10:35:30.543]IN←◆Waveshare
[10:35:30.588]OUT→◇Waveshare□
[10:35:30.640]IN←◆Waveshare
[10:35:30.693]OUT→◇Waveshare□
[10:35:30.751]IN←◆Waveshare
[10:35:30.813]OUT→◇Waveshare□
[10:35:30.863]IN←◆Waveshare
[10:35:30.918]OUT→◇Waveshare□
[10:35:30.975]IN←◆Waveshare
[10:35:31.023]OUT→◇Waveshare□
[10:35:31.071]IN←◆Waveshare
[10:35:31.128]OUT→◇Waveshare□
[10:35:31.199]IN←◆Waveshare
[10:35:31.250]OUT→◇Waveshare□
[10:35:31.295]IN←◆Waveshare
[10:35:31.354]OUT→◇Waveshare□
[10:35:31.407]IN←◆Waveshare
[10:35:31.459]OUT→◇Waveshare□
[10:35:31.520]IN←◆Waveshare
[10:35:31.565]OUT→◇Waveshare□
[10:35:31.631]IN←◆Waveshare
ClearData OpenFile SendFile Stop ClearSend OnTop English SaveConfig EXT
ComNum COM5 USB Serial Port
HEXShow SaveData ReceivedToFile SendHEX SendEvery: 100 ms/Tim AddCrLf
CloseCom More Settings
Show Time and Packe OverTime: 20 ms No 1 BytesTo 末尾 Verify None
RTS DTR BaudRat 115200
Waveshare
为了更好地发展SSCOM软件
请您注册嘉立创P结尾客户
SEND
▲★合宙高性价比4G模块值得一试 ★RT-Thread中国人的开源免费操作系统 ★新一代WiFi芯片兼容8266支持RT-Thread ★8KM远距离WiFi可自组网

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Resource

Datasheet

- FT4232H-Datasheet (https://files.waveshare.com/wiki/USB-TO-4CH-RS232-485/DS_FT4232H-Datasheet.pdf)

Software & Driver

- VCP driver (https://files.waveshare.com/wiki/USB-TO-4CH-RS232-485/CDM212364_Setup.zip) (or you can download it from FTDI website (https://ftdichip.com/drivers/vcp-drivers/))
- Support Linux driver free.
- SSCOM (https://www.waveshare.com/w/upload/2/20/Cktszsss32.zip)

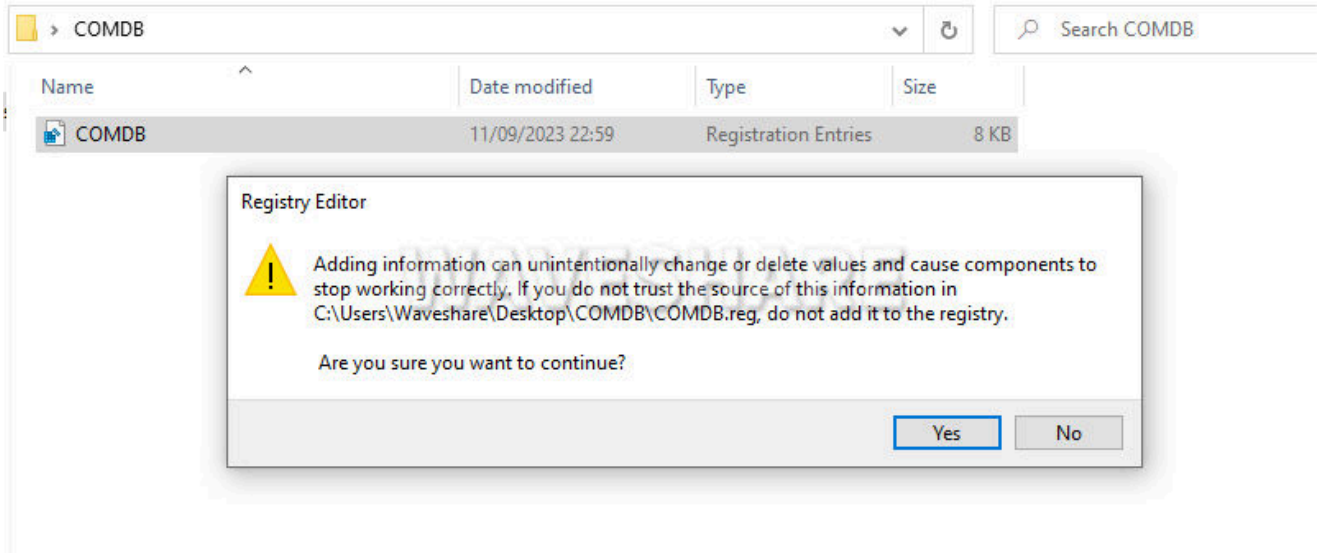
FAQ

Question:Only 1 COM port can be recognized when the device is connected to the computer (if the computer normally recognizes 4 COM ports, please do not do the following).

Answer:

- It may be caused by a corrupt registry, and you can address it by performing the following steps:

1. Download the registry-related demo (https://files.waveshare.com/wiki/USB-TO-4CH-Serial-Converter/COMDB.zip) and run it.



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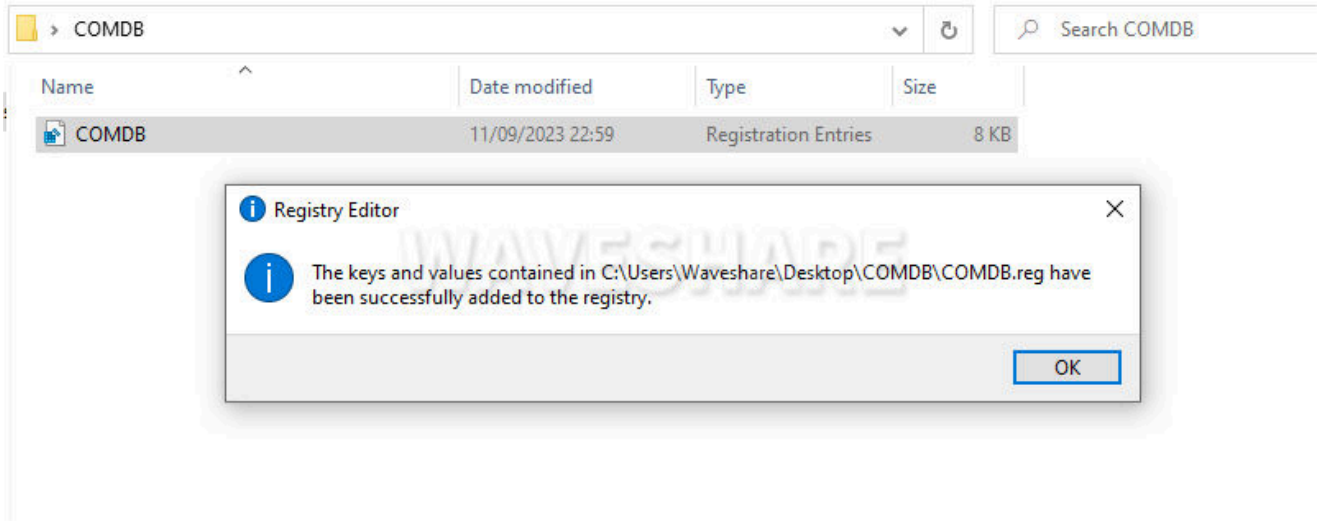
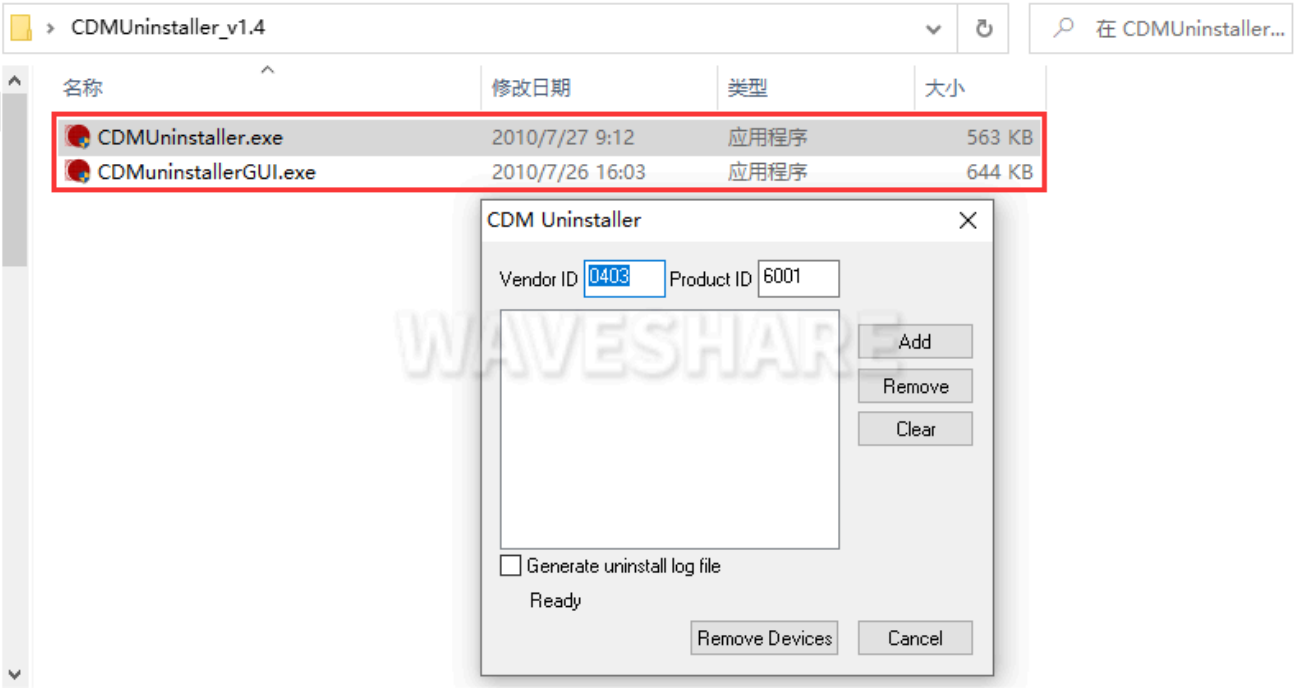


(/wiki/File:USB_TO_4CH_Serial_Converter_FAQ-00.png)

2. If there is a pop-up window, please allow the demo to run.

3. Download Configuration Software (https://files.waveshare.com/wiki/USB-TO-4CH-Serial-Converter/CDMUninstaller_v1.4.zip) to select **CDMUninstaller.exe** and open. **(If CDMUninstaller.exe can not successfully run, please use CDMuninstallerGUI.exe.)**



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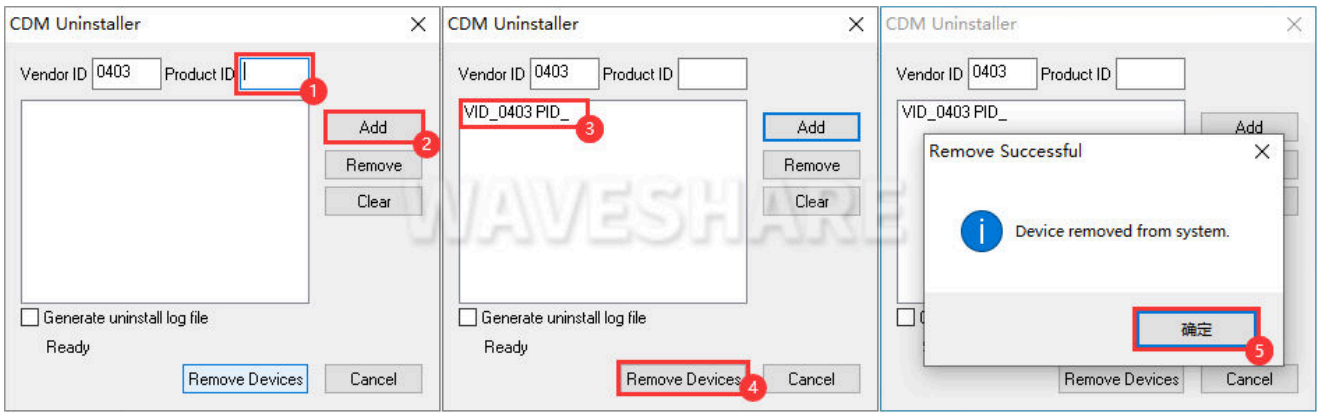
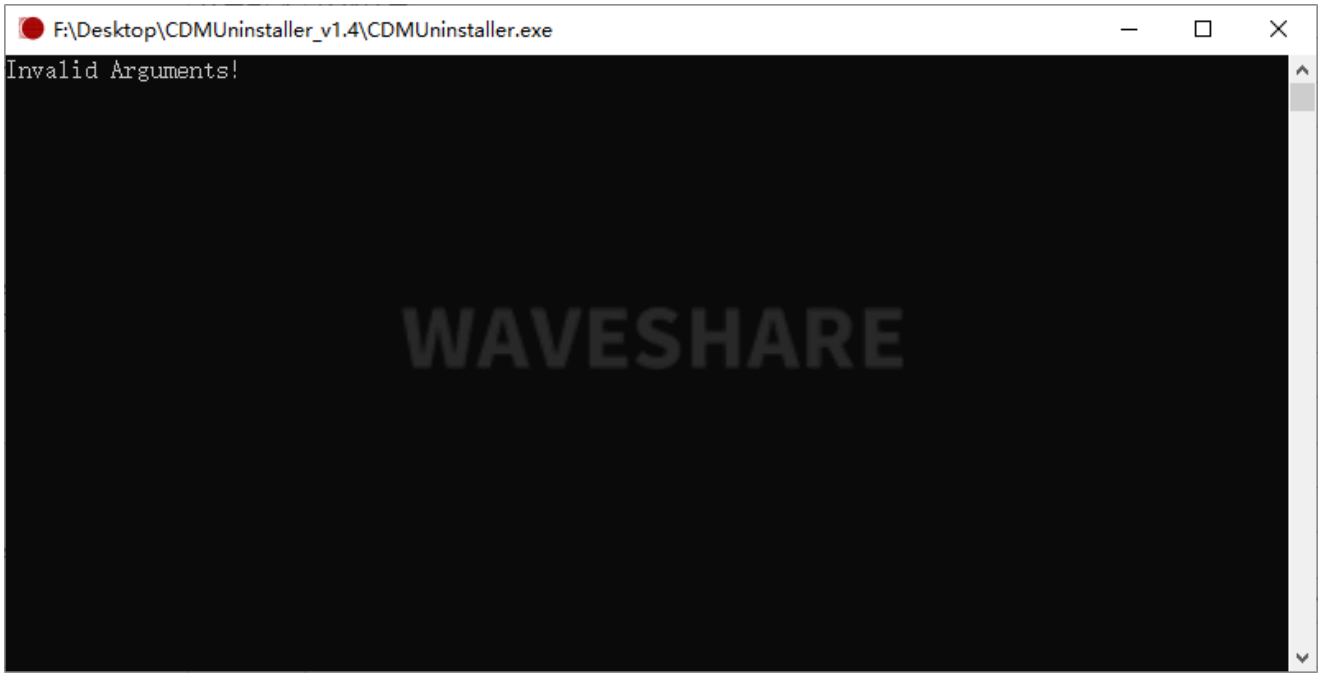
4. Configure and execute (please erase the value of "Product ID" -> Click "Add" -> ③ -> Click "Remove Devices" -> OK)



(/wiki/File:USB_TO_4CH_Serial_Converter_FAQ-03.png)

5. If the **CDMUninstaller.exe** can not successfully run (as the following shows), please use **CDMuninstallerGUI.exe**.



(/wiki/File:USB_TO_4CH_Serial_Converter_FAQ-04.png)

Question:WIN7 driver installation failed?

Answer:

Install this driver:

- FT232-WIN7-Driver (https://www.waveshare.com/w/upload/0/0c/CDM_v2.08.30_WHQL_Certified.zip)

Question:What's the use of the reserved power supply?

Answer:

- It can provide more flexible power supply options, such as when connecting multiple devices with high power consumption, or when the USB port power supply is unstable, to ensure the stable operation of the device or system.

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 (https://service.waveshare.com/)