

USB2RS232X4

**Industrial Grade USB To 4 Channel RS232 Serial
Converter Compatible with Windows/Linux/MacOs**



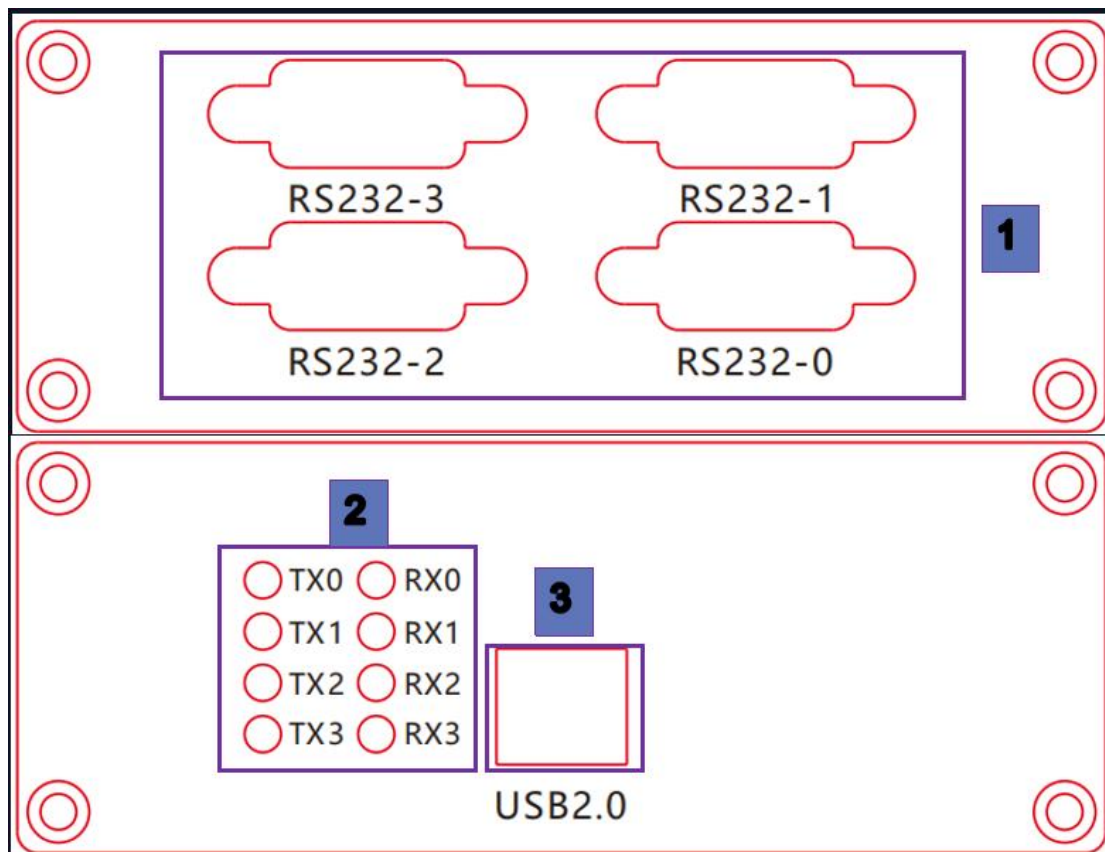
Date	Revision	Description
2023/05/13	V1	First Released

1 Hardware Part

1.1 Features

- EMTOP SBCSoM Brand Industrial Grade USB2.0 To 4 Channel RS232 Serial converter isolated voltage up to 1500V;
- Provide Drivers Compatible with Windows/Linux/Mac Os;
- DB9 serial converter powered by an USB port / cable no external power required;
- Protection:
 - Continuous Short Circuit Protection
 - No-load input current as low as 5mA
 - Isolation voltage 3000VDC
 - Meets UL62368, EN62368 certification
 - ESD Protection: High common-mode transient immunity: >25 kV/u
- Baud Rate From 300kbps To 2Mbps;
- Come with Manual in English;

1.2 Interface



1	RS232-0,RS232-1,RS232-2,RS232-3
2	LED
3	USB Interface

1.3 RS232 Pin Out Table

PIN MAP

	
PIN1	NC
PIN2	RXD
PIN3	TXD
PIN4	NC
PIN5	NC
PIN6	NC
PIN7	RTS
PIN8	CTS
PIN9	NC

1.4 LED Indication

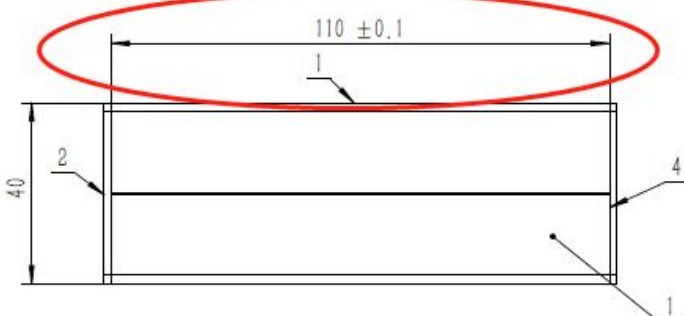
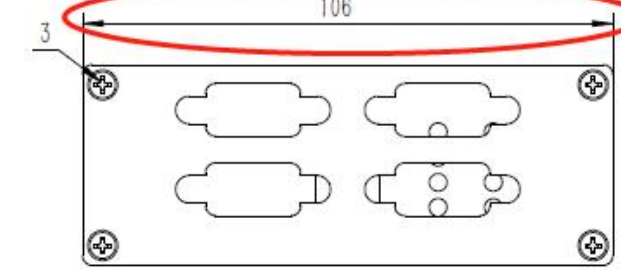
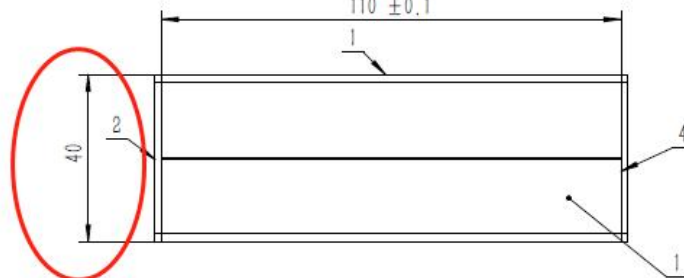
RS232-0	Interface 0
RS232-1	Interface 1
RS232-2	Interface 2
RS232-3	Interface 3

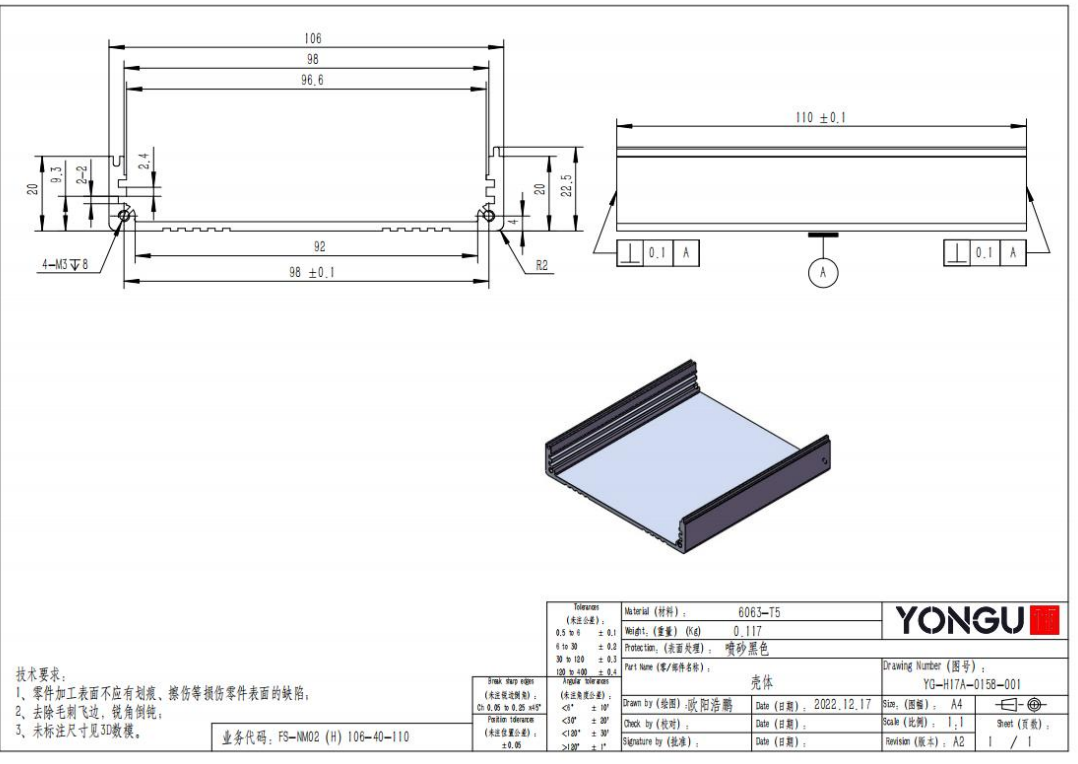
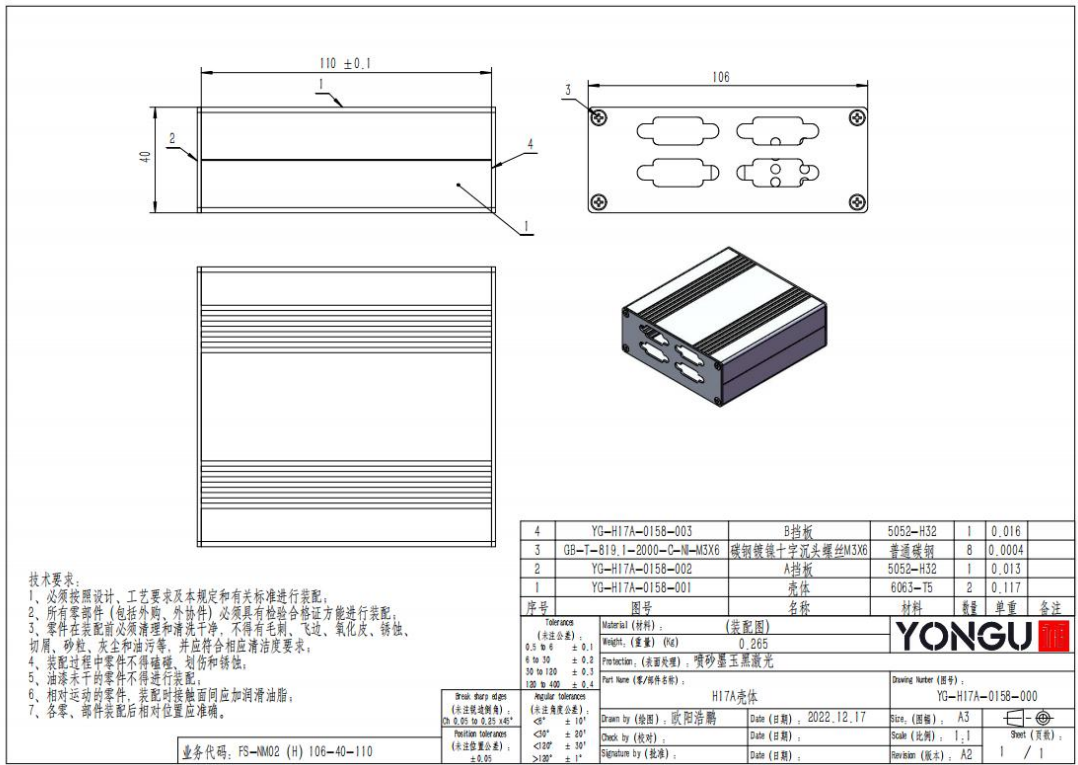
RS232-0	TX0	Green LED Blinking, RS232-0 Sending Data
	RX0	RED LED Blinking, RS232-0 Receiving Data
RS232-1	TX1	Green LED Blinking, RS232-1 Sending Data
	RX1	RED LED Blinking, RS232-1 Receiving Data

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RS232-2	TX2	Green LED Blinking, RS232-2 Sending Data
	RX2	RED LED Blinking, RS232-2 Receiving Data
RS232-3	TX3	Green LED Blinking, RS232-3 Sending Data
	RX3	RED LED Blinking, RS232-3 Receiving Data

1.5 Product Size

	Length:110mm
	Width:106mm
	Height:40mm



1.6 Produc Pictures

2 Driver Install

2.1 Driver Download

Visit Below link for more information:

<https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers?tab=downloads>

CP210x Universal Windows Driver v11.2.0 10/21/2022	https://www.silabs.com/documents/public/software/CP210x_Universal_Windows_Driver.zip
CP210x VCP Mac OSX Driver v6.0.2 10/27/2021	https://www.silabs.com/documents/public/software/Mac_OSX_VCP_Driver.zip
CP210x VCP Windows v6.7 9/4/2020	https://www.silabs.com/documents/public/software/CP210x_VCP_Windows.zip
CP210x Windows Drivers v6.7.6 9/4/2020	https://www.silabs.com/documents/public/software/CP210x_Windows_Drivers.zip
CP210x Windows Drivers with Serial Enumerator v6.7.6 9/4/2020	https://www.silabs.com/documents/public/software/CP210x_Windows_Drivers_with_Serial_Enumeration.zip
CP210x_5x_AppNote_Archive 9/4/2020	https://www.silabs.com/documents/public/software/CP210x_5x_AppNote_Archive.zip
CP210x_VCP_Win2K 9/4/2020	https://www.silabs.com/documents/public/software/CP210x_VCP_Win2K.exe
Linux 2.6.x VCP Revision History 9/4/2020	https://www.silabs.com/documents/public/release-notes/Linux_CP210x_VCP_2.6.x_Release_Notes.txt
Linux 3.x.x/4.x.x/5.x.x VCP Driver v3.x.x/4.x.x/5.x.x 1/29/2021	https://www.silabs.com/documents/login/software/Linux_3.x.x_4.x.x_VCP_Driver_Source
VCP Driver for WinCE60 v2.1 9/4/2020	https://www.silabs.com/documents/public/software/VCP_WinCE60.zip
VCP Drivers for WinCE50 v2.1 9/4/2020	https://www.silabs.com/documents/public/software/VCP_WinCE50.zip

2.2 Install Guide For Windows





2.2.1 We take windows 10 for example,

Download driver and extract:



CP210x Windows Drivers v6.7.6 9/4/2020	https://www.silabs.com/documents/public/software/CP210x_Windows_Drivers.zip
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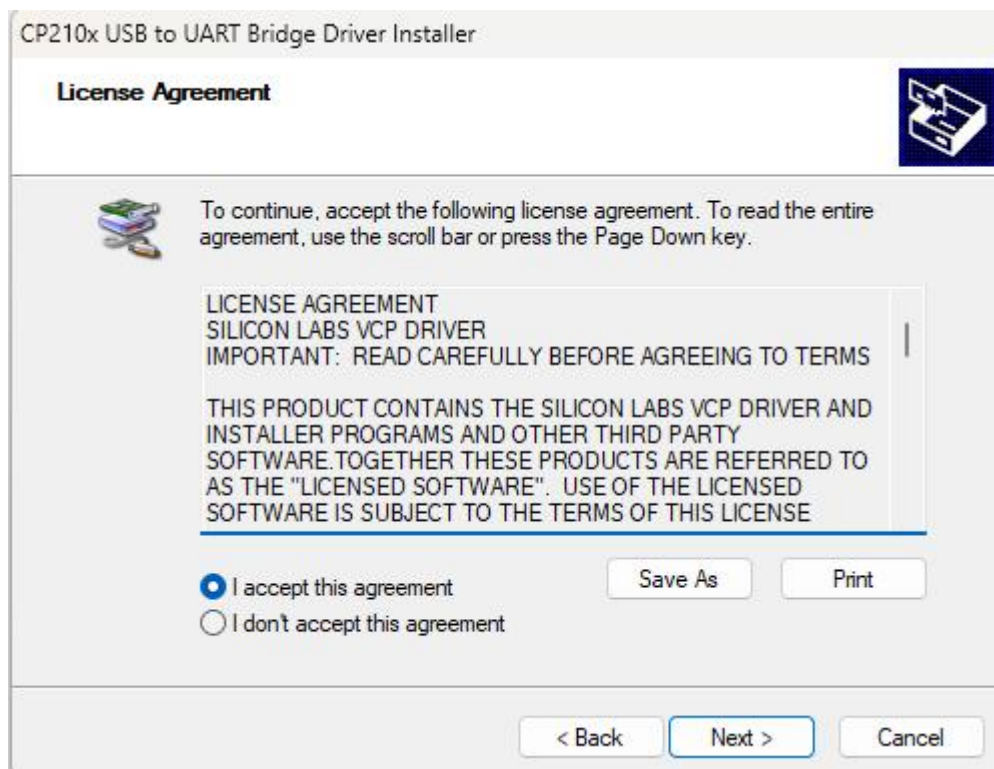
When connect device to your computer, it shows as below from your **Device Manager**

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-  CP2108 Interface 0
-  CP2108 Interface 1
-  CP2108 Interface 2
-  CP2108 Interface 3

Select the x64 or x86 driver and Select next, accept

 CP210xVCPInstaller_x64.exe	28/09/2017 01:58	Application	1,026 KB
 CP210xVCPInstaller_x86.exe	28/09/2017 01:58	Application	903 KB



After install, the COMs show be display as below:

- ▼  Ports (COM & LPT)
 -  Silicon Labs Quad CP2108 USB to UART Bridge: Interface 0 (COM13)
 -  Silicon Labs Quad CP2108 USB to UART Bridge: Interface 1 (COM14)
 -  Silicon Labs Quad CP2108 USB to UART Bridge: Interface 2 (COM15)
 -  Silicon Labs Quad CP2108 USB to UART Bridge: Interface 3 (COM16)

Normally after you install drivers, it should be:

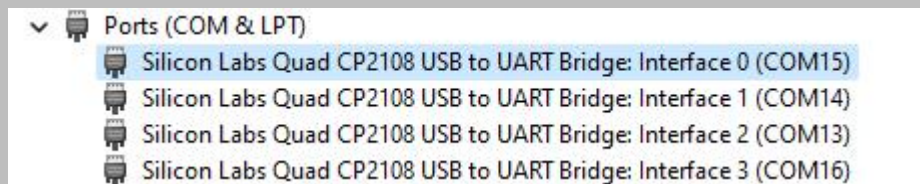
RS232-0	Interface 0	COM(N)
RS232-1	Interface 1	COM(N+1)
RS232-2	Interface 2	COM(N+2)
RS232-3	Interface 3	COM(N+3)

N means the COM Number from your system. For example,

- When it starts from 0, it should be COM0, COM1, COM2, COM3;
- When it starts from 10, it should be COM10, COM11, COM12, COM13

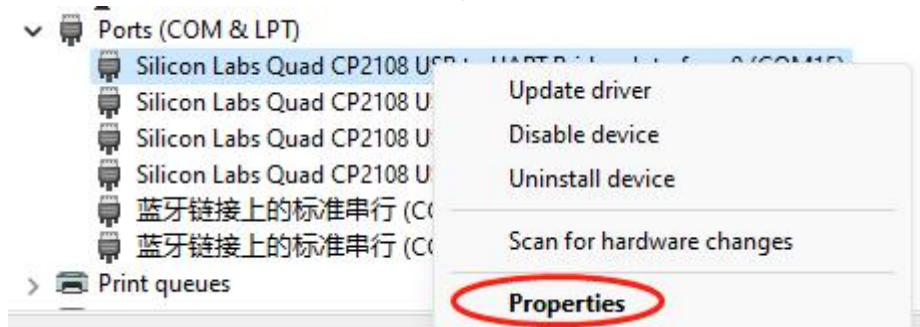
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Note: When you find the COM Number not in order ,like below,follow chanpter 2.2.2 solve it:

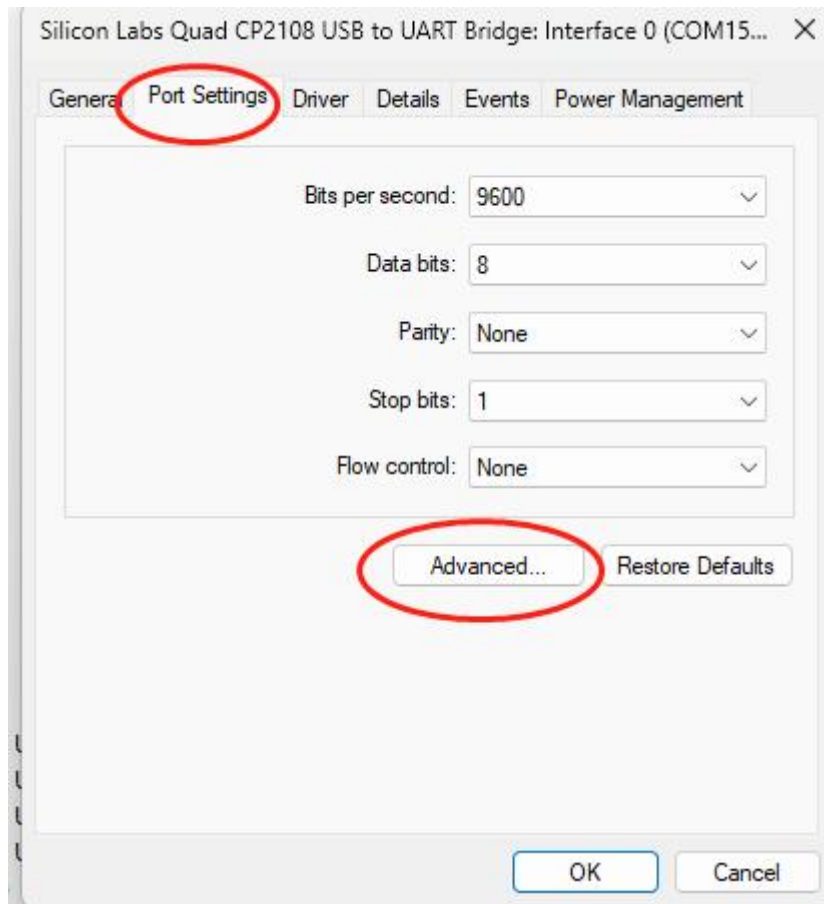


2.2.2 Change COM Order Number Reference (Must Read)

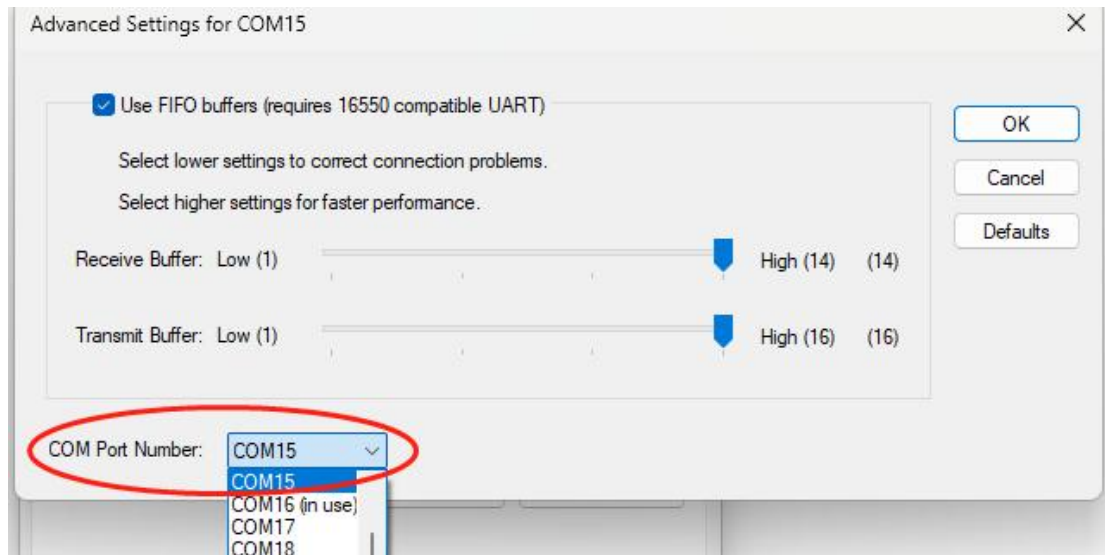
Select the COM port and click the right mouse button, Select Properties



Click Port Settings And Select Advanced



Select a New COM Number from COM Port number



Note: Must replug the usb cable after change port number

2.3 Install Guide For Linux

We take Ubuntu18.04 for example, not drivers needed above linux kernel 3.2

When you connect device to your linux computer, type:

```
~$ ls /dev/ttyUSB*
```

```
ubuntu18@ubuntu18-VirtualBox:~$ ls /dev/ttyUSB*  
/dev/ttyUSB0 /dev/ttyUSB1 /dev/ttyUSB2 /dev/ttyUSB3
```

It shows ttyUSB0,ttyUSB1,ttyUSB2,ttyUSB3,

2.4 Install Guide For Mac Os

Download driver and extract

CP210x VCP Mac OSX Driver
v6.0.2 10/27/2021

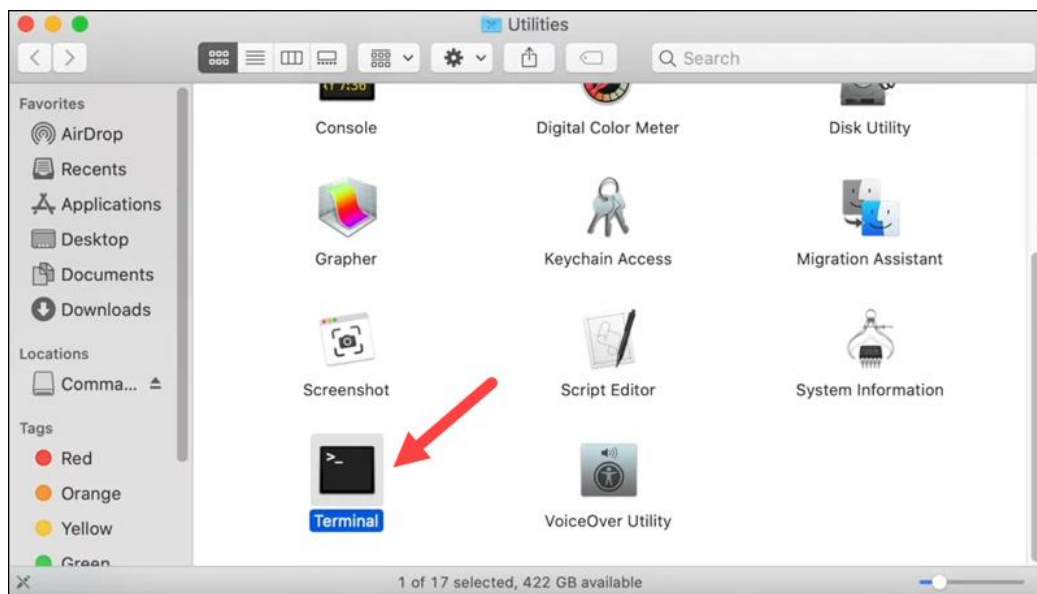
https://www.silabs.com/documents/public/software/Mac_OSX_VCP_Driver.zip

Extract and run SiLabsUSBDriverDisk.dmg, run Install CP210x VCP Driver.app

SiLabsUSBDriverDisk

Install CP210x VCP Driver.app

Use Terminal check status



3 Software Usage

This chapter is samples of software usage for windows/linux/Macos

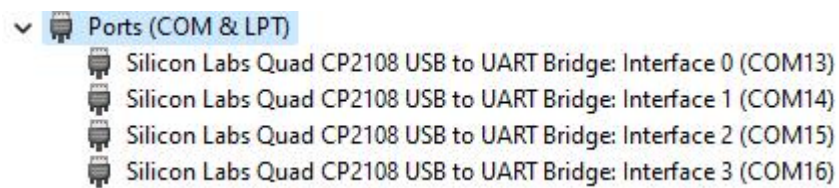
Hardware Connection is as below, use high quality usb2.0 industrial cable connect and db9-db9 cross signal cable



3.1 Usage For Windows

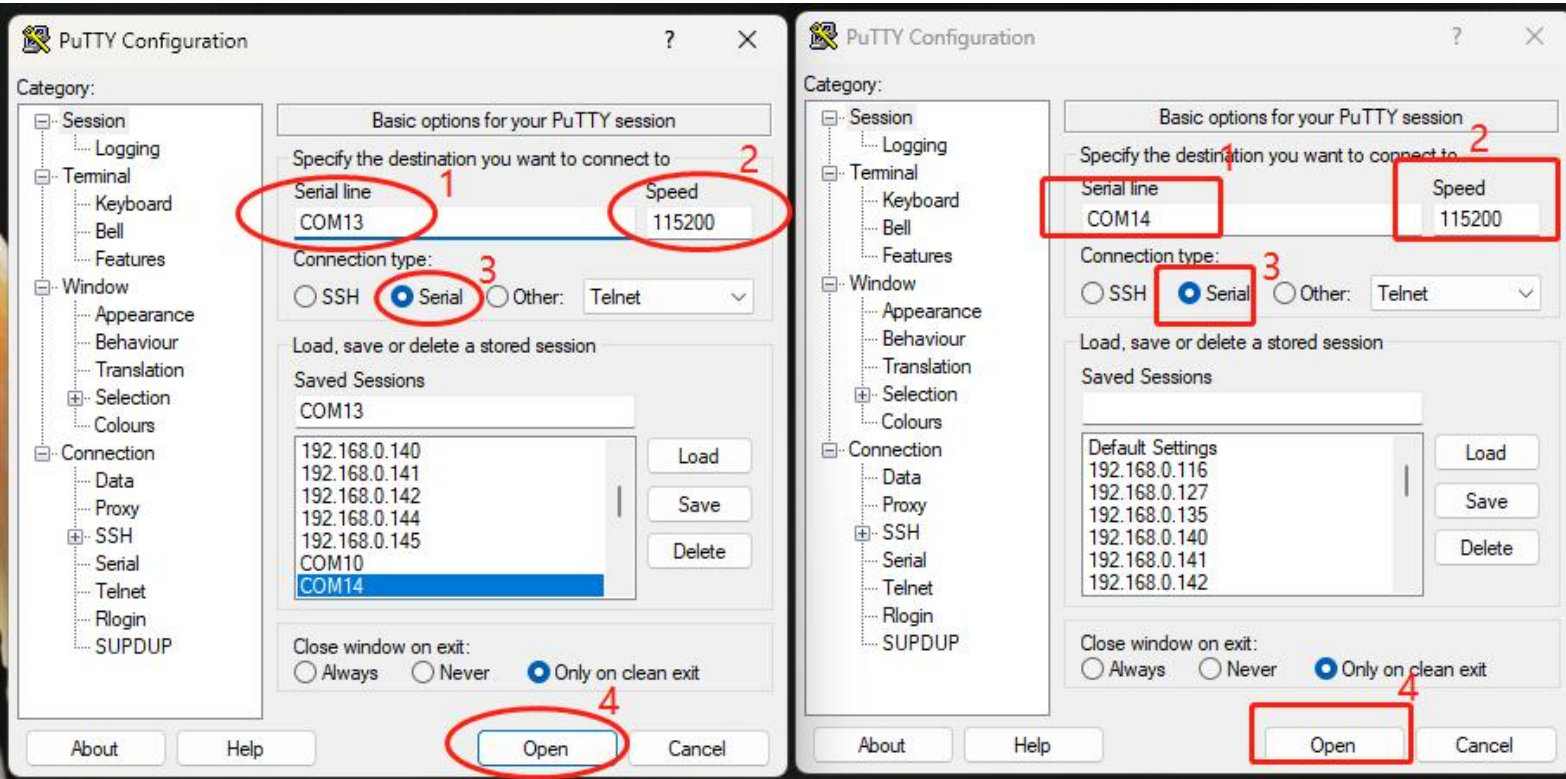
3.1.1 Check device status

check if the com port order is right, if not, refer to chapter 2.2.2.



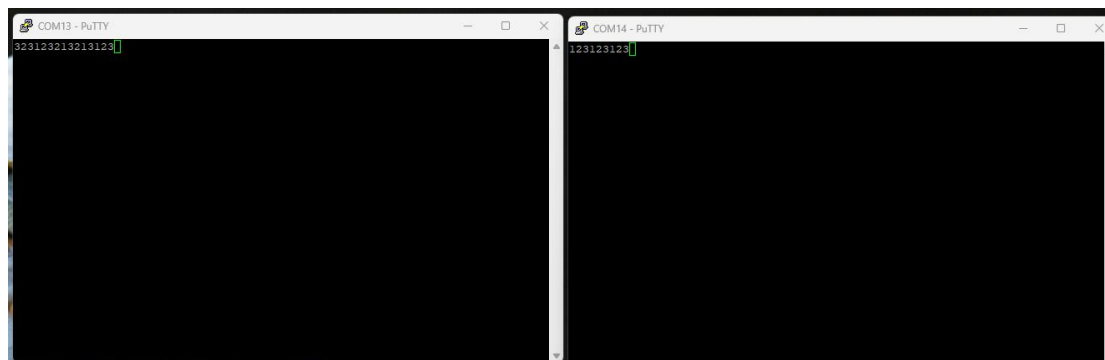
3.1.2 Open 2 Putty windows

Setting is as below, one for RS232-0, one for RS232-1.
Here RS232-0 is COM13, RS232-1 is COM14



1	Com13 Or com14
2	Baud Rate 115200
3	Serial
4	Open Port

3.2.3 Send/Receive Data



3.2 Usage For Linux

3.2.1 Check device

Connect device to your linux computer, connect RS232-0 And RS232-1 with the cross-serial-cable

```
~$ ls /dev/ttyUSB*
```

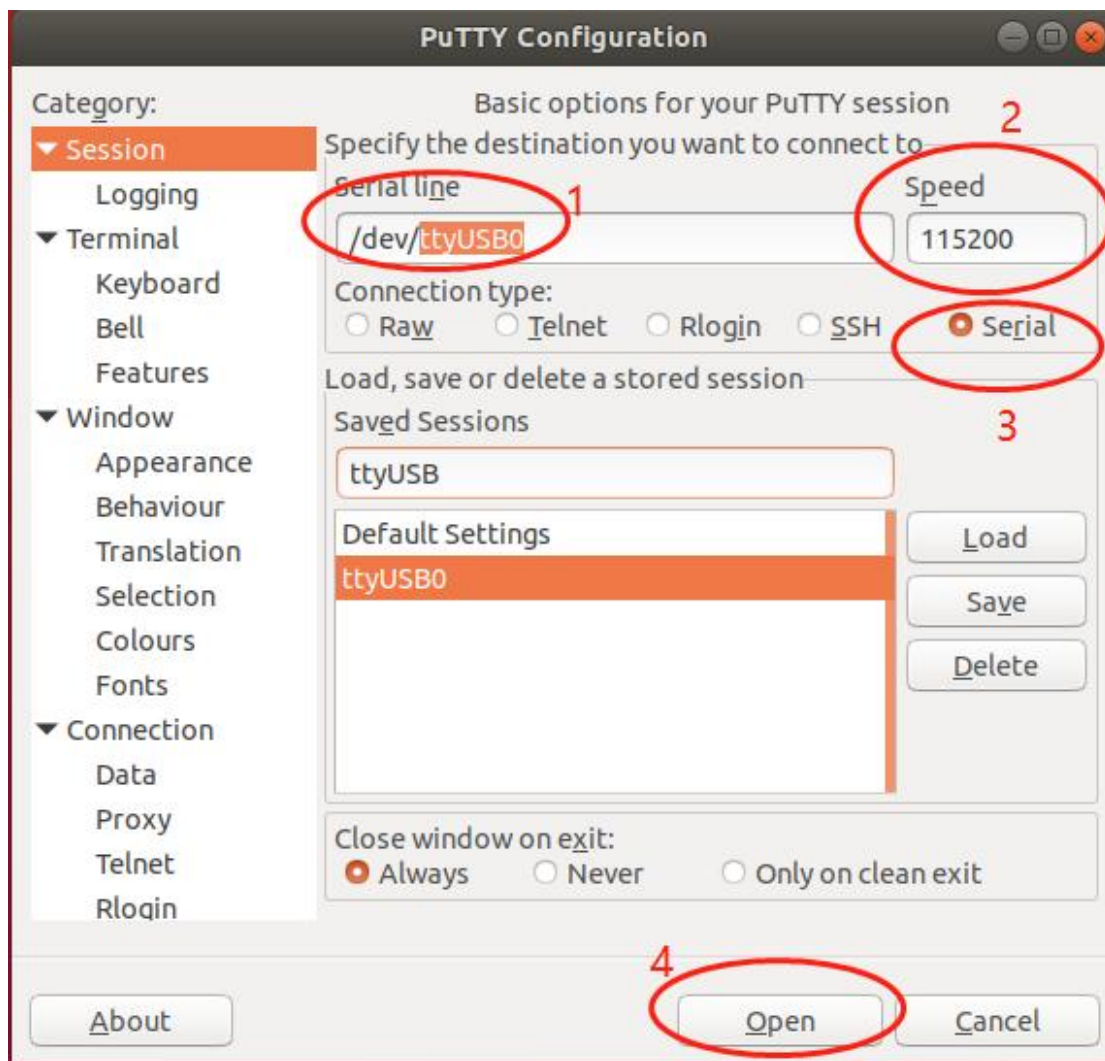
```
ubuntu18@ubuntu18-VirtualBox:~$ ls /dev/ttyUSB*  
/dev/ttyUSB0 /dev/ttyUSB1 /dev/ttyUSB2 /dev/ttyUSB3
```

3.2.2 Putty

Putty for one port

```
~$ sudo apt-get install putty
```

```
~$ sudo putty
```

Settings

1	ttyUSB0 (Accoring to your system com number)
2	115200
3	Choose serial
4	open

3.2.3 Gtterm

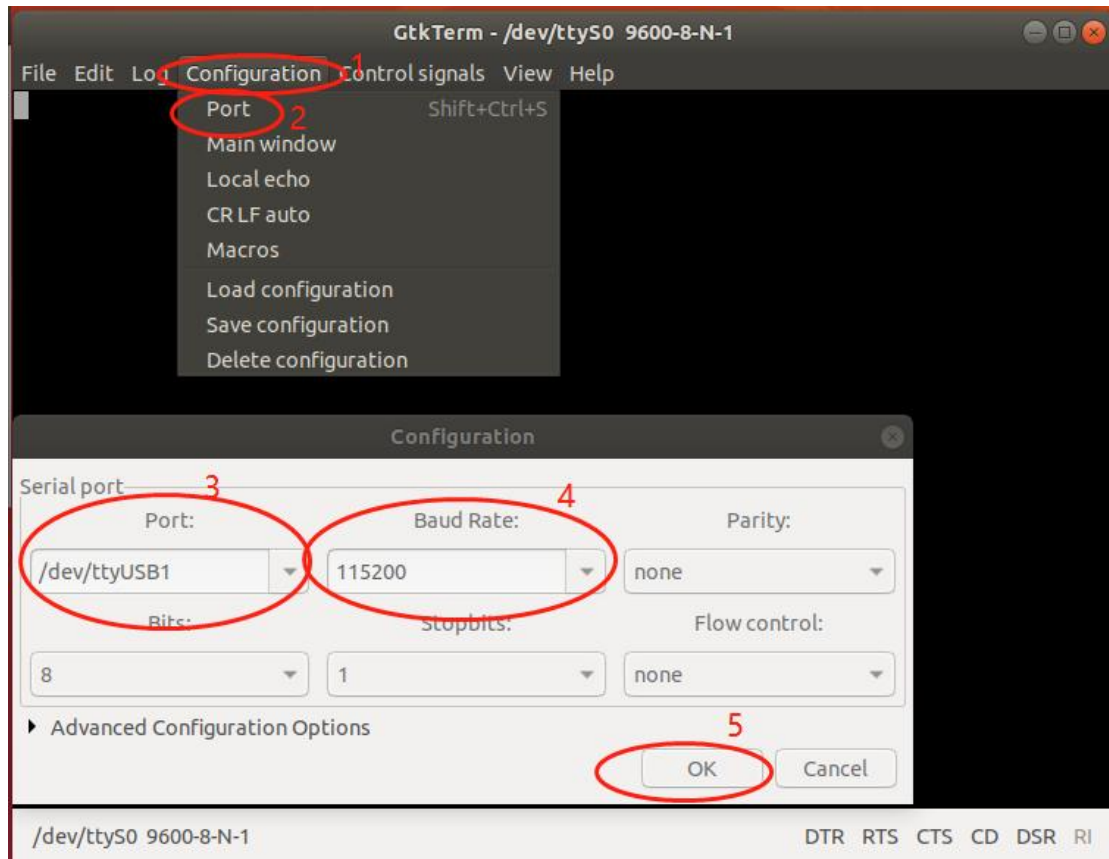
Open new terminal window set Gtterm for one port

```
~$ sudo apt-get install gtterm
```

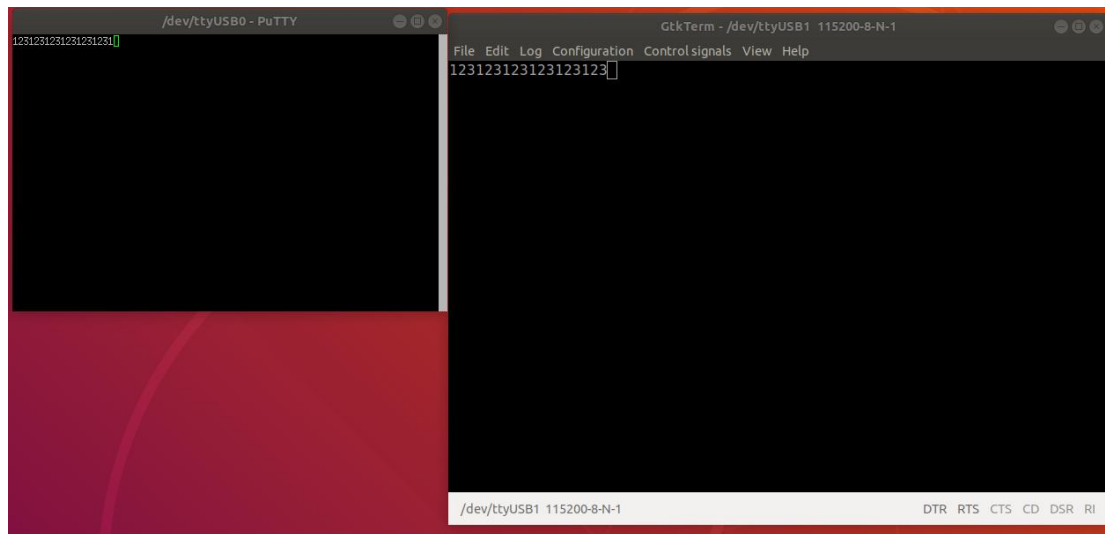


```
~$ sudo gtkterm
```

Settings

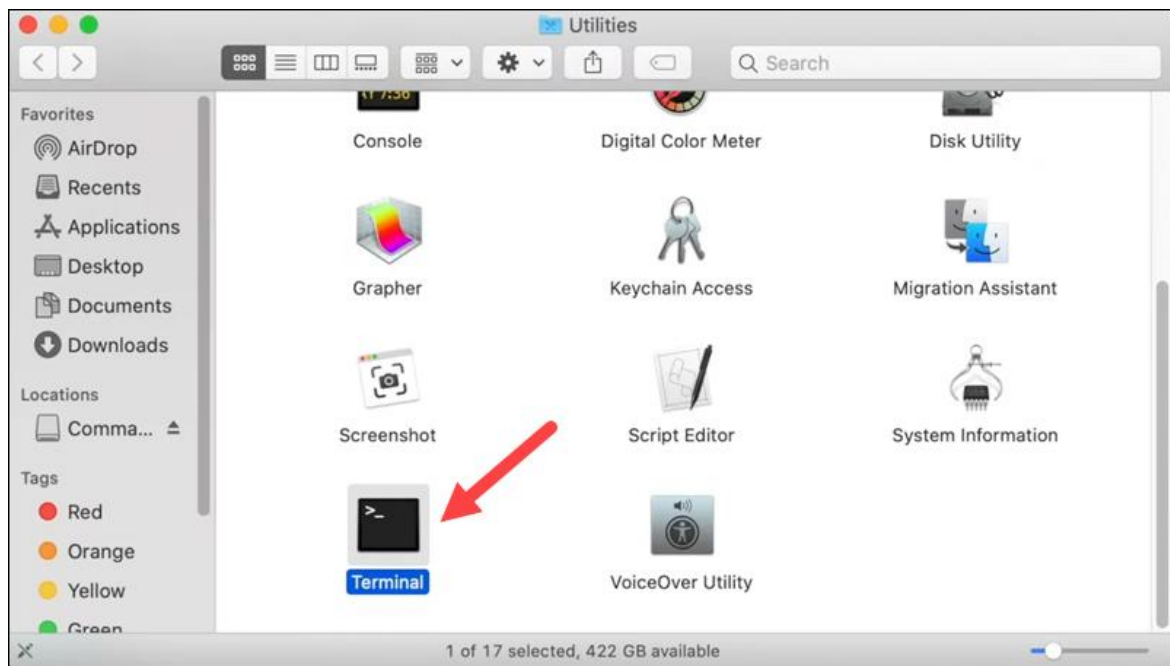


1	Select and click Configuration
2	Select and click Port
3	Set it as /dev/ttyUSB1 (According to you PC)
4	Set Baud Rate 115200
5	Click OK



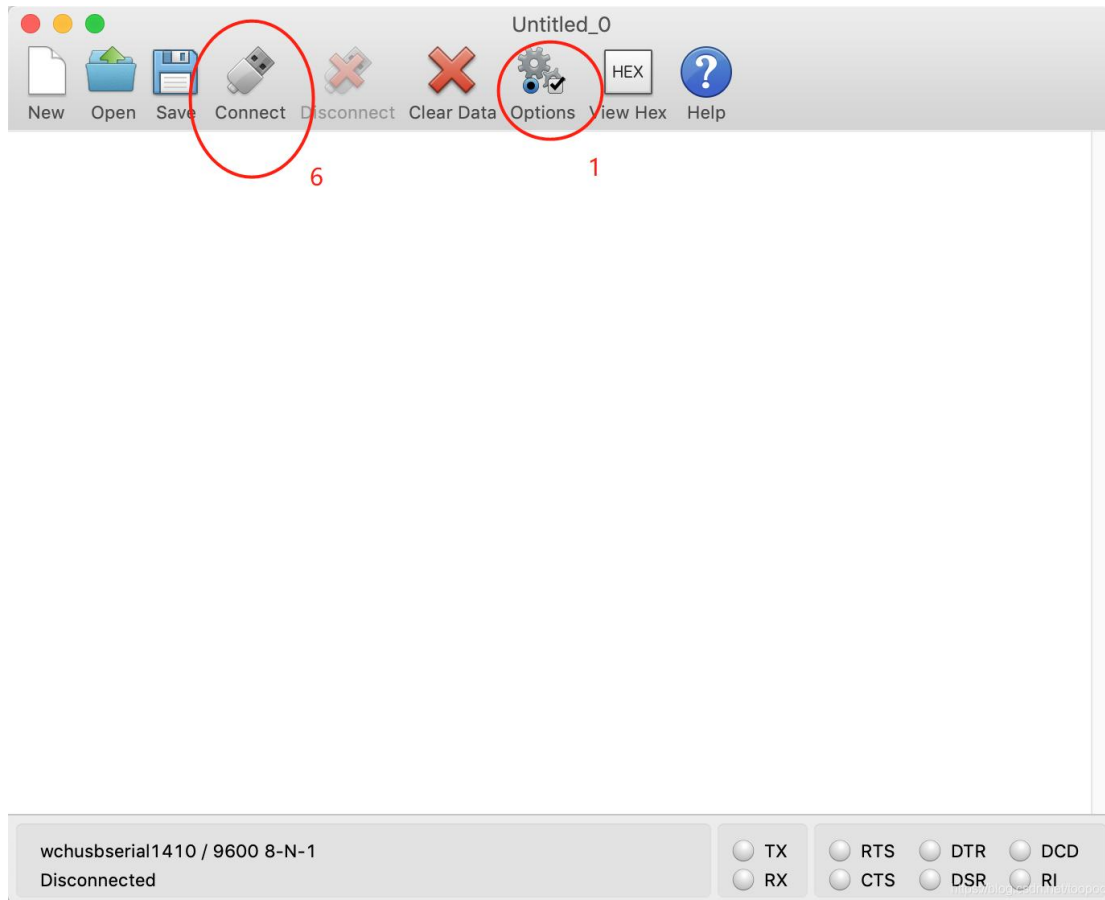
3.3 Usage For Mac Os

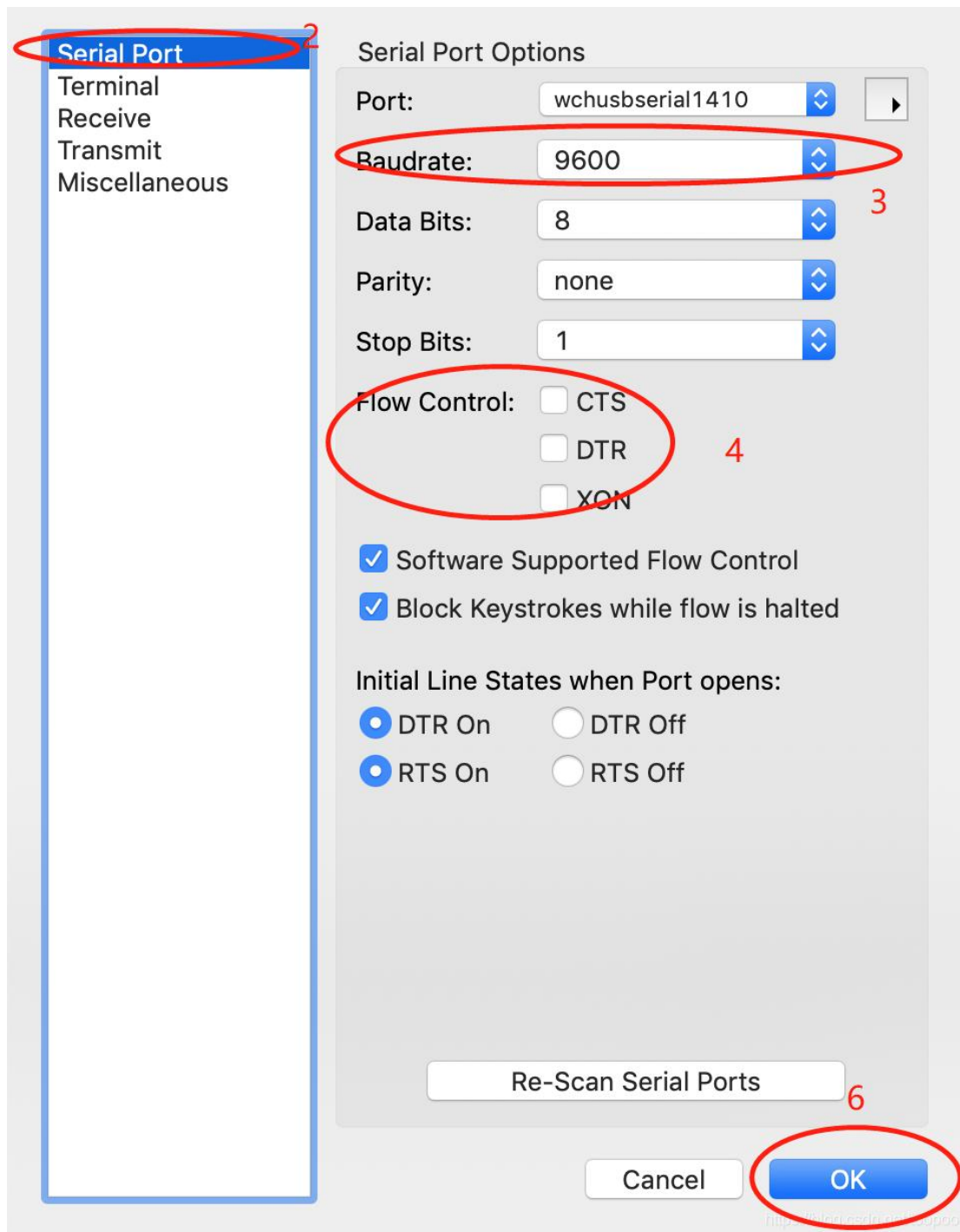
3.3.1 Check Status



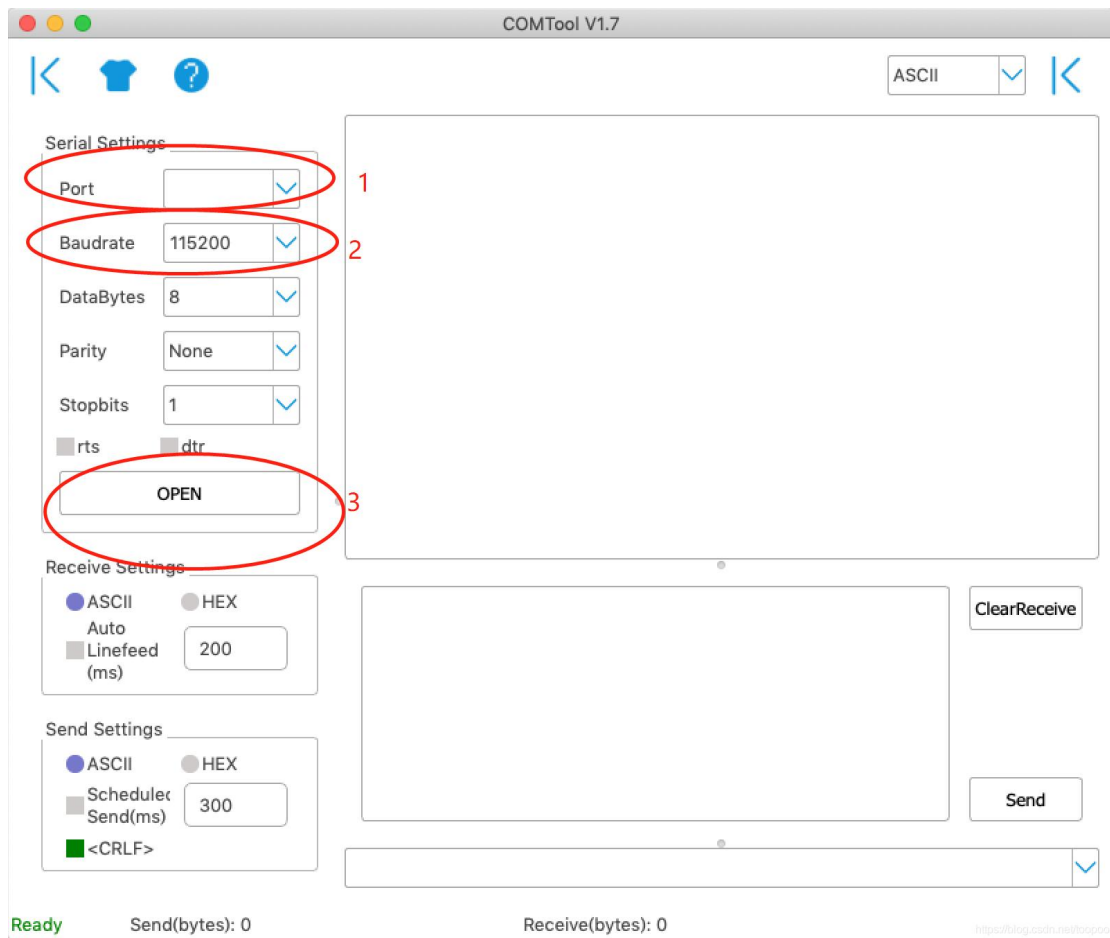
```
$ls /dev/tty.SLAB_USBtoUART*
[macdeMac:~ mac$ ls /dev/tty.SLAB_USBtoUART*
/dev/tty.SLAB_USBtoUART      /dev/tty.SLAB_USBtoUART22    /dev/tty.SLAB_USBtoUART23    /dev/tty.SLAB_USBtoUART24
```

3.3.2 Comtool





3.3.3 CoolTerm



4 Technic Support And Warranty

4.1 Contact Information

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4.2 Warranty

EMTOP Technology provides its product with one-year free technical support including:

- Providing software and hardware resources related to the embedded products of EMTOP Technology;
- Helping customers properly compile and run the source code provided by EMTOP Technology;
- Providing technical support service if the embedded hardware products do not function properly under the circumstances that customers operate according to the instructions in the documents provided by EMTOP Technology;

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- Helping customers troubleshoot the products.