DTECH

USB2.0TO Rs422/ RS485 CABLE

Please read the product manual carefully before using the product

1、Summarize

With the continuous development of the PC industry, USB interface is substituting the old industrial and low speed PC interface, but there are so much important equipment still use the RS485/ RS422 interface in the industrial environment. So many users have to use the USB to RS485 / RS422 converter to realize the data transfer between PC and RS485 / RS422 equipment.

The universal USB2.0 TO RS422 / RS485 converter, which is without addition power supply, compatible with USB, RS422, RS485 standards. It can convert USB signals to a balanced differential RS422 or RS485 signals. Each line has surge protection, and various surge voltage protections. The tiny capacitance distance guarantees RS422 / RS485 interface of high–speed transmission. RS422, RS485 connect by DB9 interface. Converter with zero delay automatic transceiver inside, unique I/O circuit automatically control data flow direction, without any handshake signals (such as RTS, DTR,etc.) and jumpers set realize full–duplex, half–duplex mode conversion, plug and play. Ensure the product fix for all existing communication software and hardware interface.

USB TO RS422/RS485 converters for point–to–point, point–to–multi point reliable communications. Provides the point to more each converter allows connecting256RS422 or RS485 devices, data rate of 300 to3000000bps. The power and data flow indicator light will show fault if any breakdown. Support of communication has USB to RS422, USB to RS485.

2、Function

USB TO RS422/485convertor supports four communication modes:

1. Point–to–point / 4–line full–duplex;
2. Point–to–multi point / 4–line full–duplex;
3. Point–to–point / 2–line half–duplex;
4. Point–to–multi point / 2–line half–duplex.

When the convertor is working at full–duplex or half–duplex, needs to add a matched resistance to avoid reflects and disturbance of signal. (120Ω， 1/4W)

3、Installation and utilization

Please read carefully product manual before install DT – 5019 converter, then insert USB cable which attached to USB port. This product use USB/DB 9, general connectors for input/output interface without jumpers, automatically identify RS422 or RS485 communication mode. Fit for twisted–pair cable or shielding wire connection, very convenient to disassemble. Point–to–point, point to more, full–duplex communication that connect four wire T/R +, T/R and RXD +, RXD –, point–to–point, point to more, half–duplex communication that connect two lines T/R +, T/R –.

4、Performance parameter

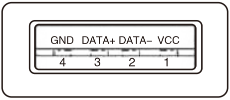
(1) standard: conforming to USB2.0 standard, downward compatible and Rs422 and RS485 standard
(2) USB signals: VCC, DATA+, DATA-, GND
(3) RS422 signals: T/R+, T/R-, RXD+, RXD-, GND
(4) RS485 signal: T/R+, T/R-, GND
(5) operation way: asynchronous work, point-to-point or multi-point, 4-line full duplex, 2-line half duplex
(6) direction control: automatic data flow control technology is adopted to automatically identify and control the direction of data transmission
(7) load capacity: support point to multi-point, each converter can connect 256pcs of RS422 or RS485 interface devices
(8) transmission distance: rs422/485 end 1200 meters, USB cable up to 5 meters

(9) interface protection: surge 600W protection power, ±15KV electrostatic protection
(10) interface form: connector connection of USB end type A interface male head and DB9 male head
(11) signal indication: red lamp power supply, green lamp send signal, yellow lamp receive signal
(12) transmission medium: twisted pair or shielded wire
(13) transmission rate: 300-3000000 BPS
(14) operating environment: -25°C to 70°C, with a relative humidity of 5% to 80%;
(15) support Windows/Mac/ operating system.
(16) support data bits 5, 6, 7, 8; Support stop bits 1, 1.5, 2; Support verification bits: none, even, odd, mark, space
(17) support 512 byte transmit buffer and 512 byte receive buffer

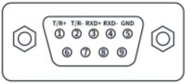
5、Interface and signal

Db9 PIN: RS422/RS485 pin assignment for the output signal&terminals block			
DB9 pin	Output signal	RS422 Full-duplex conntction	RS422 Half-duplex conntction
1	T/R+	TXD(A+)	RS485(A+)
2	T/R-	TXD(B–)	RS485(B–)
3	RXD+	RXD(A+)	N/A
4	RXD-	RXD(B–)	N/A
5	GND	GND	GND

USB output sigal and lead foot



RS485/RS422 Pin definition diagram

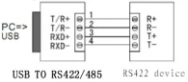


the 9-Pin pin diagram is as shown above

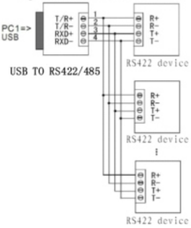
6、Connection instruction

▶USB to RS422

1. RS422 Point-to-point / full duplex 4-line communication

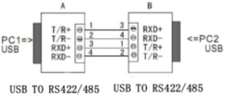


2. RS422 Point-to-more / full duples 4-line communication



3. fullduplex communication between

2pcs RS422/485 converters



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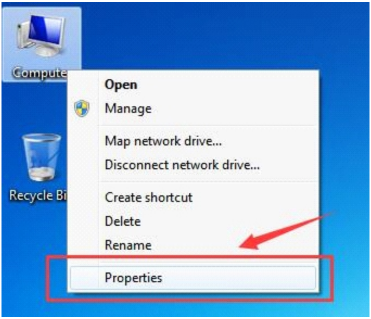
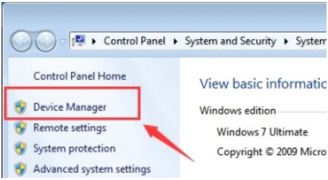
USB2.0TO Rs422/RS485 CABLE Driver installation instructions

Please read the product manual carefully before using the product

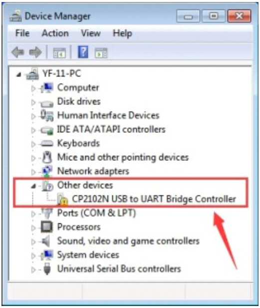
Step 1: Put the mouse on the "Computer" icon, click the "right mouse button", and then click "Properties”



Step 2: Click the “Device Manager”



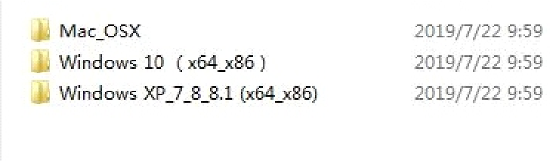
Step 3: When the driver is not installed, you can see the following information on the device manager



Step 4: Before installing the driver, check the computer system

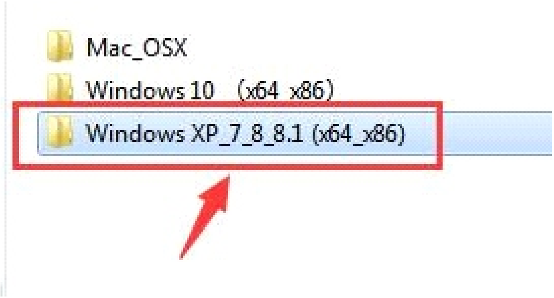
- YF-11-PC
  - Computer
  - Disk drives
  - Human Interface Devices
  - IDE ATA/ATAPI controllers
  - Keyboards
  - Mice and other pointing devices
  - Network adapters
  - Other devices
    - CP2102N USB to UART Bridge Controller
  - Ports (COM & LPT)
  - Processors
  - Sound, video and game controllers
  - System devices
  - Universal Serial Bus controllers

Step 5: After confirming the system, open the "Drive CD" that comes with this product, the content of the CD is shown



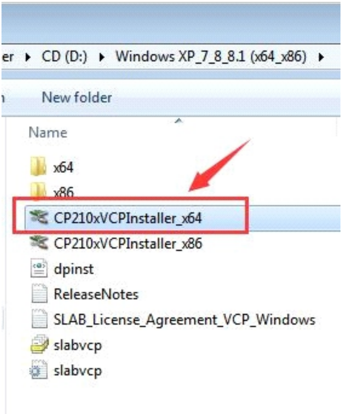
Mac_OSX	2019/7/22 9:59
Windows 10 (x64_x86)	2019/7/22 9:59
Windows XP_7_8_8.1 (x64_x86)	2019/7/22 9:59

Step 6: Select the corresponding system file to install (take windows 7_64 bit system as an example)



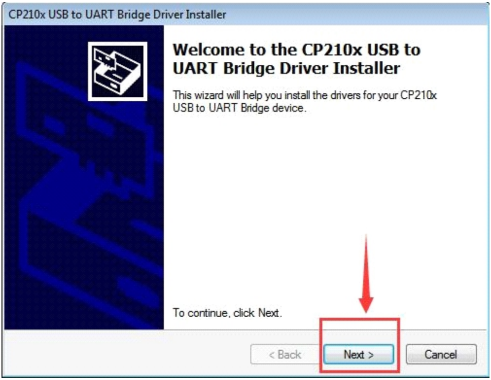
Mac_OSX
Windows 10 (x64 x86)
Windows XP_7_8_8.1 (x64_x86)

Step 7: Enter the folder and double-click the "CP210xVCPInstaller_x64" file



er ▸ CD (D:) ▸ Windows XP_7_8_8.1 (x64_x86) ▸

Step 8: Please click ‘Next’



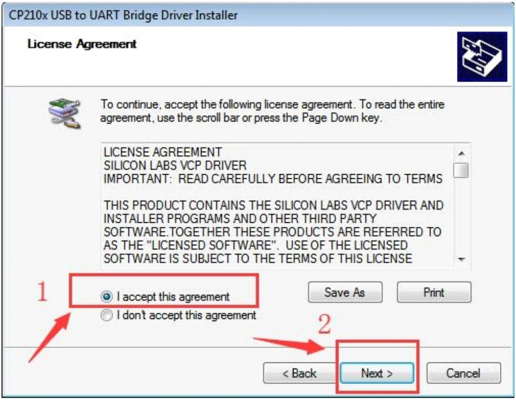
CP210x USB to UART Bridge Driver Installer

Welcome to the CP210x USB to UART Bridge Driver Installer

This wizard will help you install the drivers for your CP210x USB to UART Bridge device.

To continue, click Next.

Step 9: please click "I accept this agreement", and then click "Next"



CP210x USB to UART Bridge Driver Installer

License Agreement

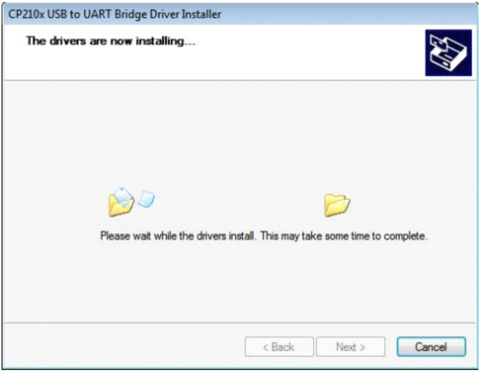
To continue, accept the following license agreement. To read the entire agreement, use the scroll bar or press the Page Down key.

LICENSE AGREEMENT
SILICON LABS VCP DRIVER
IMPORTANT: READ CAREFULLY BEFORE AGREEING TO TERMS

THIS PRODUCT CONTAINS THE SILICON LABS VCP DRIVER AND INSTALLER PROGRAMS AND OTHER THIRD PARTY SOFTWARE.TOGETHER THESE PRODUCTS ARE REFERRED TO AS THE "LICENSED SOFTWARE". USE OF THE LICENSED SOFTWARE IS SUBJECT TO THE TERMS OF THIS LICENSE

● I accept this agreement
○ I don't accept this agreement

Step 10: The driver is being installed, please wait

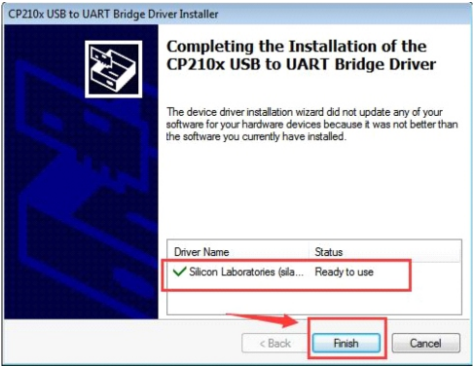


CP210x USB to UART Bridge Driver Installer

The drivers are now installing...

Please wait while the drivers install. This may take some time to complete.

Step 11: The driver installation has been completed, please click "Finish"



CP210x USB to UART Bridge Driver Installer

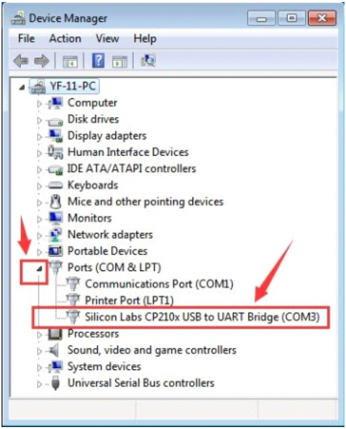
Completing the Installation of the CP210x USB to UART Bridge Driver

The device driver installation wizard did not update any of your software for your hardware devices because it was not better than the software you currently have installed.

Driver Name	Status
✓ Silicon Laboratories (sila...	Ready to use

If you need to change the port number, please do as follows

Step 1: Open the device manager, you can see the current device port number is "COM3", select "Silicon Labs CP210xUSB to UART Bridge (COM3)", click the right mouse button



- YF-11-PC
  - Computer
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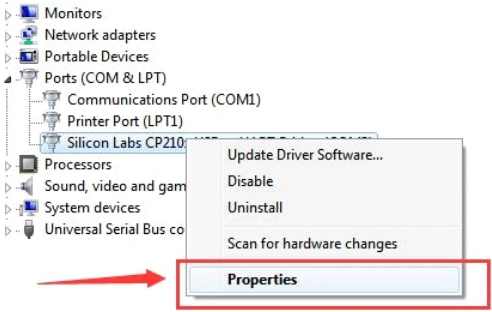
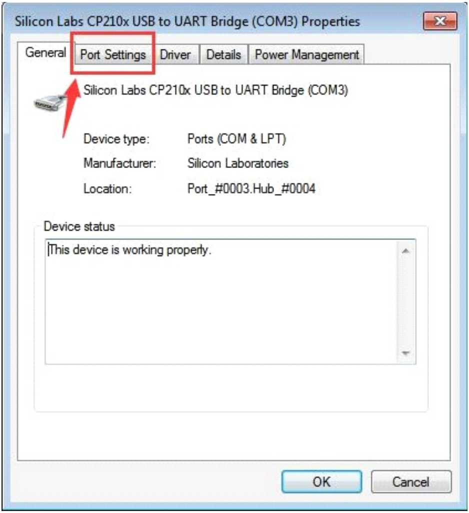
  - Mice and other pointing devices
  - Monitors
  - Network adapters
  - Portable Devices
  - Ports (COM & LPT)
    - Communications Port (COM1)
    - Printer Port (LPT1)
    - Silicon Labs CP210x USB to UART Bridge (COM3)
  - Processors
  - Sound, video and game controllers
  - System devices
  - Universal Serial Bus controllers

Step 2: click” properties”



Step 3: click “port settings”



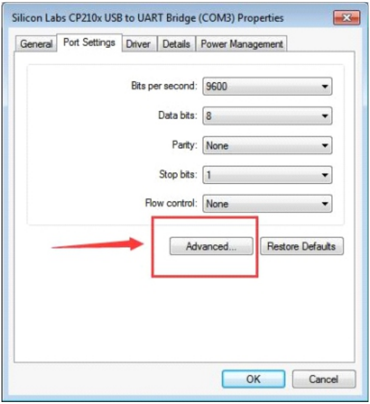
Silicon Labs CP210x USB to UART Bridge (COM3)

Device type: Ports (COM & LPT)
Manufacturer: Silicon Laboratories
Location: Port_#0003.Hub_#0004

Device status

This device is working properly.

Step 4: click "Advanced"



Silicon Labs CP210x USB to UART Bridge (COM3) Properties

Bits per second: 9600

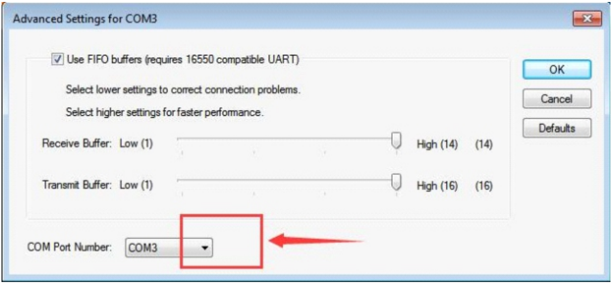
Data bits: 8

Parity: None

Stop bits: 1

Flow control: None

Step 5: click "COM Port Number"



Advanced Settings for COM3

☑ Use FIFO buffers (requires 16550 compatible UART)

Select lower settings to correct connection problems.

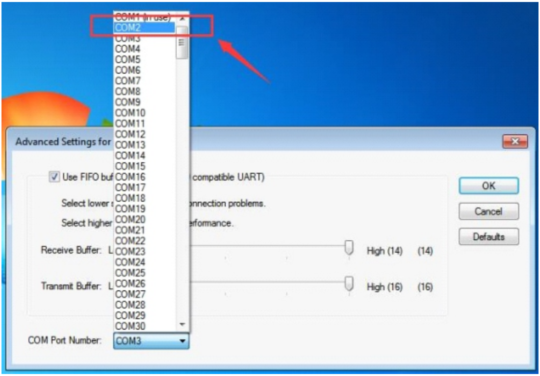
Select higher settings for faster performance.

Receive Buffer: Low (1) High (14) (14)

Transmit Buffer: Low (1) High (16) (16)

COM Port Number: COM3

Step 6: Select the port number you want to modify (take port COM2 as an example)



Advanced Settings for

☑ Use FIFO buf… compatible UART)

Select lower s… onnection problems.

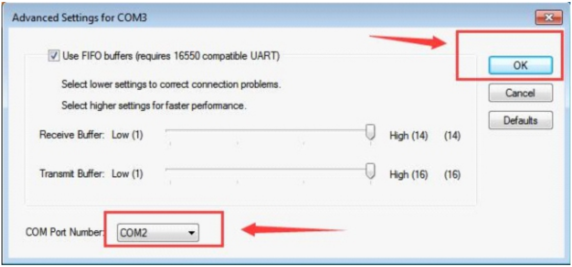
Select higher… erformance.

Receive Buffer: L… High (14) (14)

Transmit Buffer: L… High (16) (16)

COM Port Number: COM3

Step 7: After selecting the port "COM2", click "OK"



Advanced Settings for COM3

☑ Use FIFO buffers (requires 16550 compatible UART)

Select lower settings to correct connection problems.

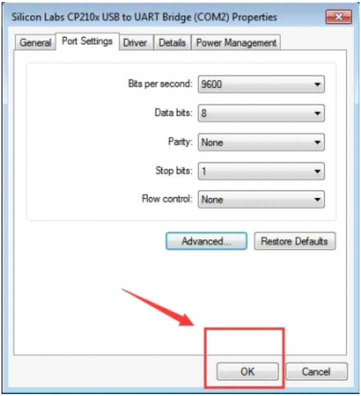
Select higher settings for faster performance.

Receive Buffer: Low (1) High (14) (14)

Transmit Buffer: Low (1) High (16) (16)

COM Port Number: COM2

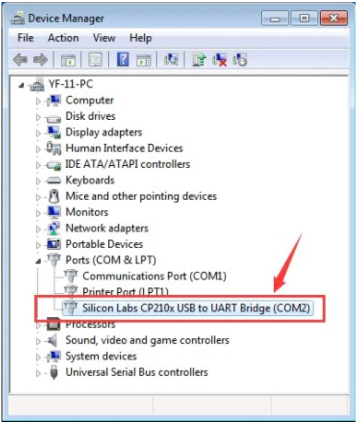
Step 8: Click “Ok”



Silicon Labs CP210x USB to UART Bridge (COM2) Properties

Bits per second: 9600
Data bits: 8
Parity: None
Stop bits: 1
Flow control: None

Step 9: In the device manager, you can see that the port has been modified to port "Silicon Labs CP210xUSB to UART



Device Manager

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  - Silicon Labs CP210x USB to UART Bridge (COM2)
- Processors
- Sound, video and game controllers
- System devices
- Universal Serial Bus controllers

Product Warranty Card

Customer Information

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

Intenance Records

Repair times	Date	Fault	Treatment measures	Repair work NO.