USB-SC09-FX Programming Cable Driver Procedure

Setting Guideline

Introduction……2

Functions……3

System requirement……4

The setting of driver procedure……5

How to change COM setting……10

Setting of GX Developer……12

About Long Distance Communication……13

Notes and Troubleshoot……14

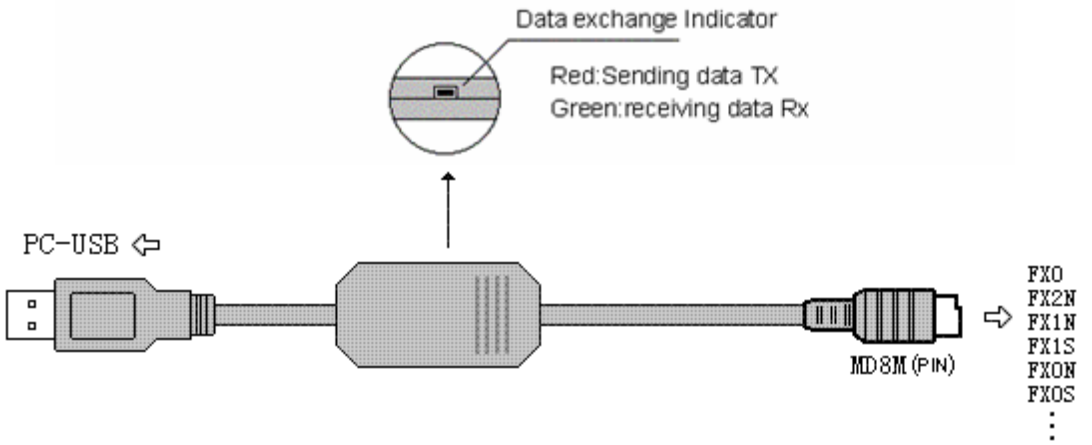
Introduction

USB-SC09-FX is the programming cable in which USB interface provides both the serial connection and RS422 signal conversion. Under the control of driver, the programming cable makes it possible to simulate the computer's USB interface as traditional serial (known as COM interface), thus various existing programming softwares,communication softwares, monitoring softwares and other applications can be normally used. The working power supply of this cable is directly from the USB port, but not the PLC programming interface. The two-color LED on the converter box indicates data's transceiving status.

USB-SC09-FX is applicable to Mitsubishi FX series PLC which has the MD 8F round socket,such as FX2N/FX1N/FX0/FX0N/FX0S/FX1S/FX3U, and it can substitute the FX-232AW module. The largest communication distance is two kilometers.

Please choose the USB-SC09 programming cable for Mitsubishi A and all FX series PLC (including the old products FX2/FX2C).

USB-SC09-FX principle and figure structure:



USB-SC09-FX programming cable simulate USB port as traditional serial port (usually COM3), which enables existing programming software(GX Developer) to communicate through simulated traditional port and PLC devices.

Functions

● Support USB-SC09-FX operating system: Windows2000/XP (WinNT4/95/98/Me/DOS not support)
● Support USB-SC09-FX programming software version: FXGP / WIN V1.0, GPP V4.0, GX Developer V7.0 and above.
● Fully compatible with USB V1.1 norms and USB CDC V1.1
● USB-bus powered, with current consumption of 50 mA
● Baud rate: 300 bps ~ 1Mbps automatically adapt to the standard baud rate
● Support UART data format: data bits: 5-6-7-8; stop bit: 1, 2; check-bit: odd / even / no parity
● Support long-distance communications, the largest communications is two kilometers (9600 bps)
● Each PC only supports one USB cable programming
● Working temperature: -20 ~ +75 ℃
● Cable length: 2.5m; Color: black

System requirement

Please make sure your PC is IBM PC compatible and has the following system requirements before using the USB programming cable.

- Intel is compatible with 586DX4-100MHz CPU or higher
- A standard USB port (4-pin A plug)
- Operating system is Windows2000 or Windows XP

The setting of driver procedure

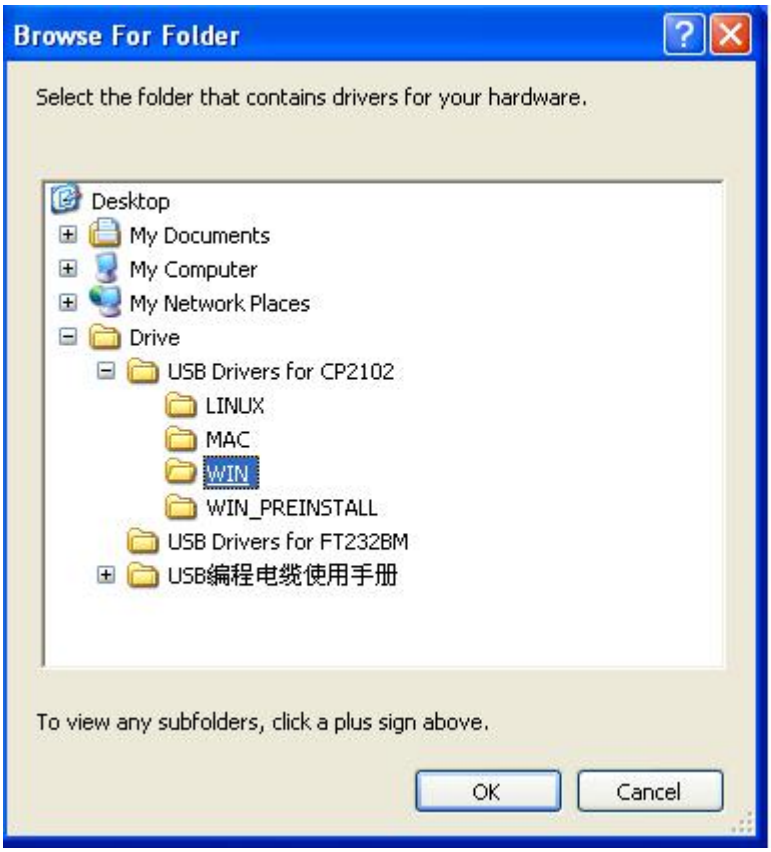
Please set the driver procedure according to the following steps:

1. Turning on PC power then connect the USB programming cable and make sure the USB port working well.
2. Put the USB programming cable into USB port and Windows will detect the device and help to add new hardware and jump to new device setting. Insert the driver CD and click “next” to continue, or select the driver on the hard disk.

If Windows does not show “Found New Hardware Wizard”, please click “Universal Serial bus controllers” in the hardware list of device manager, and choose the USB device with question mark. Click the right key of mouse and operate to update driver procedure.

If insert the driver CD,you should select the recommended item and click “Next”

If the driver is saved on the hard disk, you should select the second item and click “Next”. You can find the driver on the “WIN” folder.



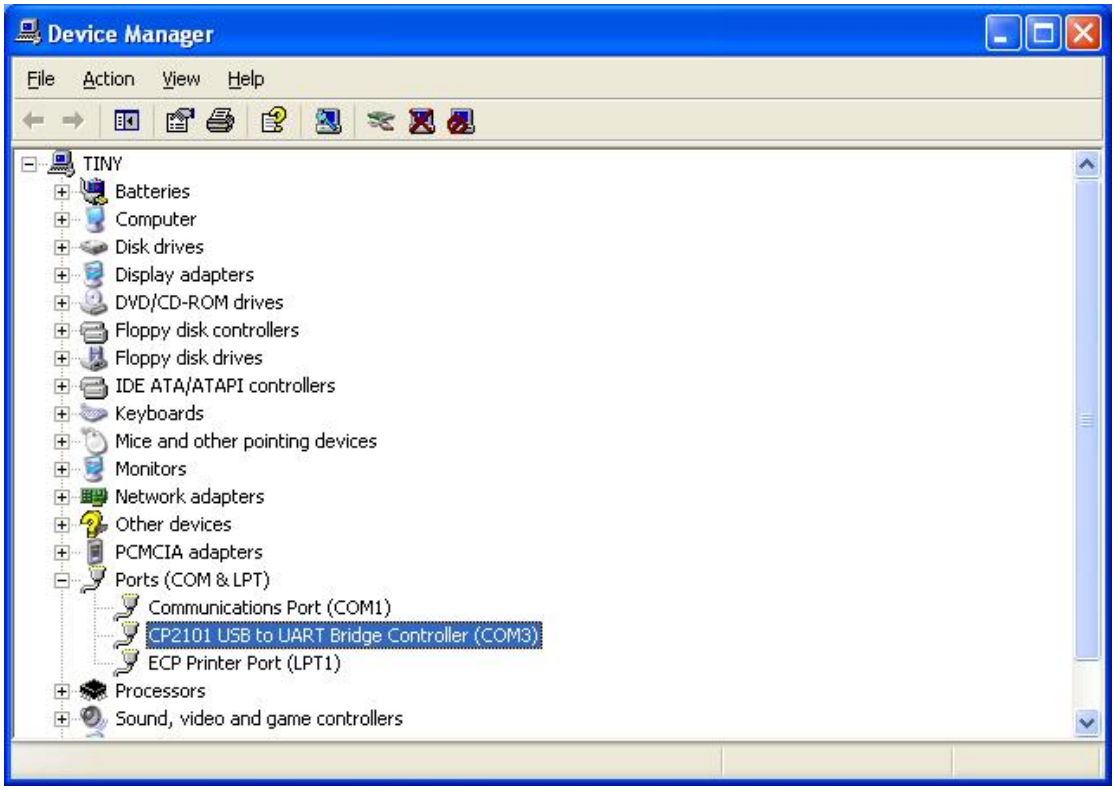
3. Windows will detect the setting information, and load the driver to install.

4. Continue to set up, copy the driver procedure files to your hard disk by Windows.

5. When Windows appears “Completing the Found New Hardware Wizard”, click “finish” to end setting up.

6. After setting up, please make sure the "port (COM and LPT)" of "Start \ Settings \ Control Panel \ system \ hardware \ Device Manager" appears

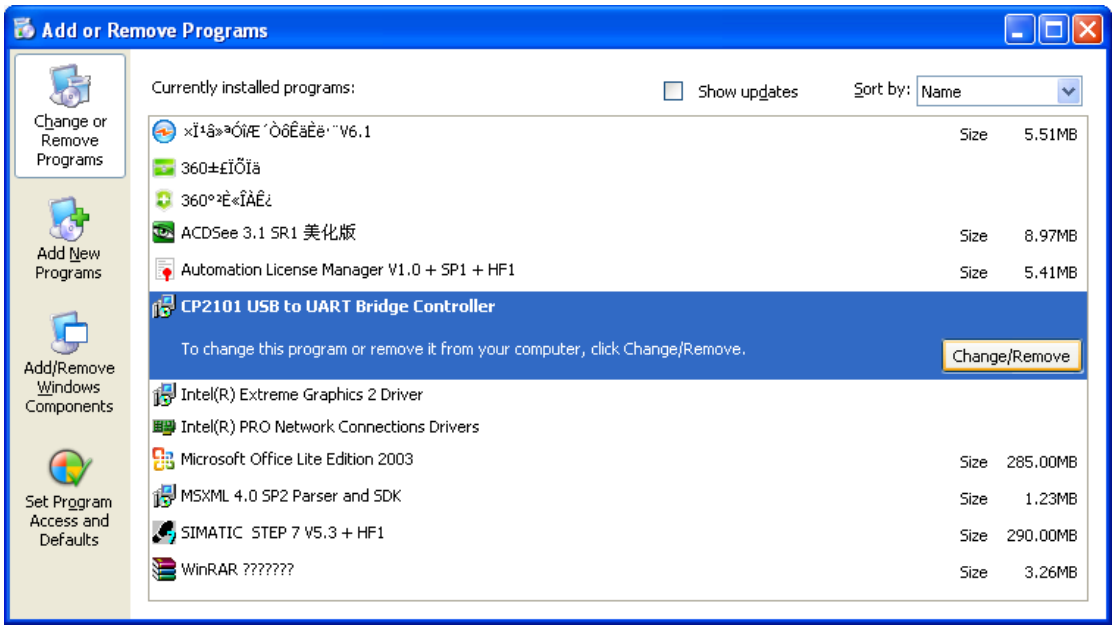
"CP2101 USB to UART Bridge Controller(COMx)". This COMx is the COM message of the USB programming cable. From then on, as long as you insert the programming cable, the COM port will appear. You just have to choose this COM port in application software such as programming software or communication software.



The deletion of driver procedure

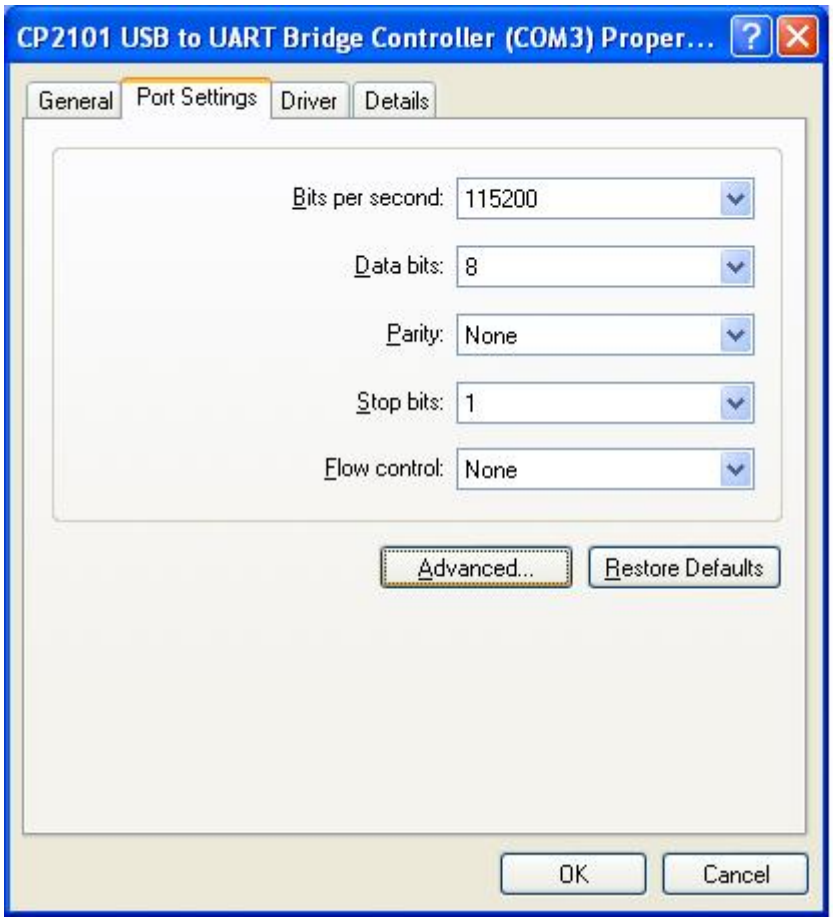
Deleting driver procedure is to discharge source of COM port so that other device can be used. When driver procedure has error, it should be deleted and reset up. Please delete the driver procedure as follows:

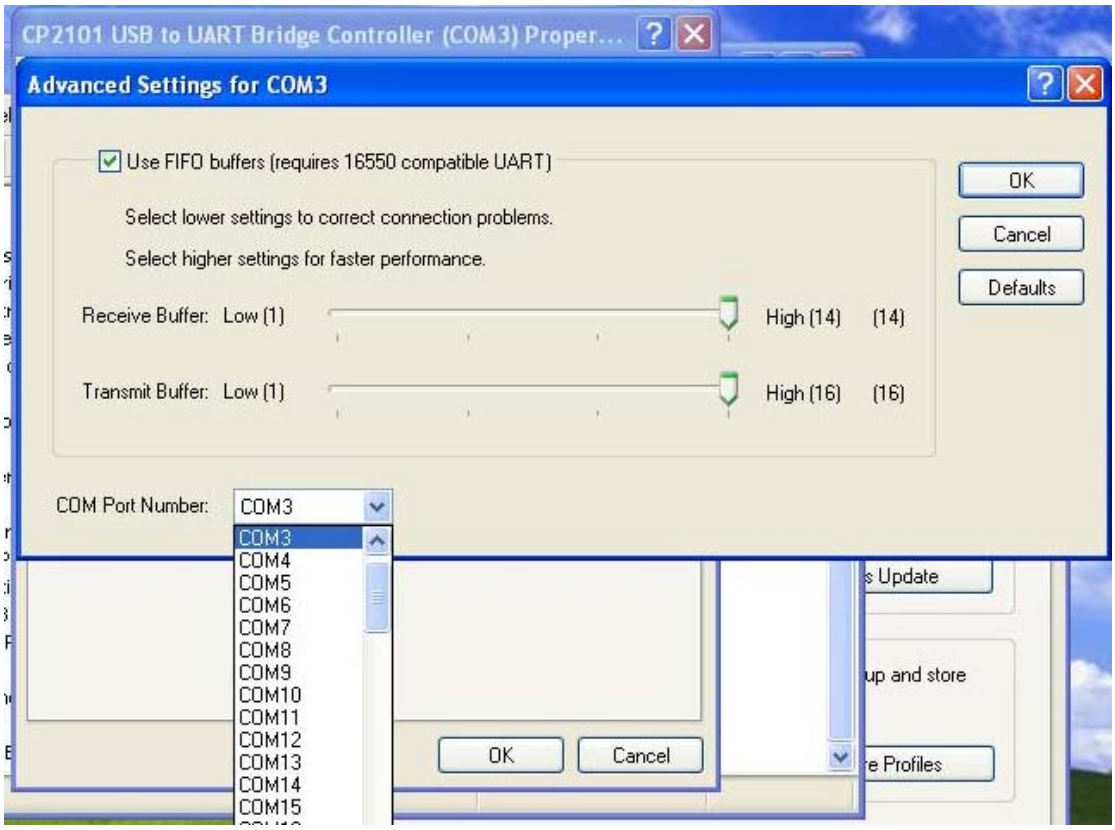
1. Unplug the USB programming cable from you PC.
2. Choose “USB Serial Converter Drivers”from "Add or Delete Programs” in operation panel, and click the “Change/Remove” button.



How to change COM setting

1. Delete the driver procedure of all USB to UART products to discharge COM port source, and reset up USB programming cable driver procedure. The device manager will display the cable address **COM3.**
2. In Windows 2000/XP the COM slogan can be changed directly. Please double click COM port device that is need changing in the device manager, and the device attribute information window will appear. Choose “port setting” as the picture shows. Click "Advanced" button, and the advanced setting information window will appear. Set the COM port to the serial number you want and click "OK" button to complete.



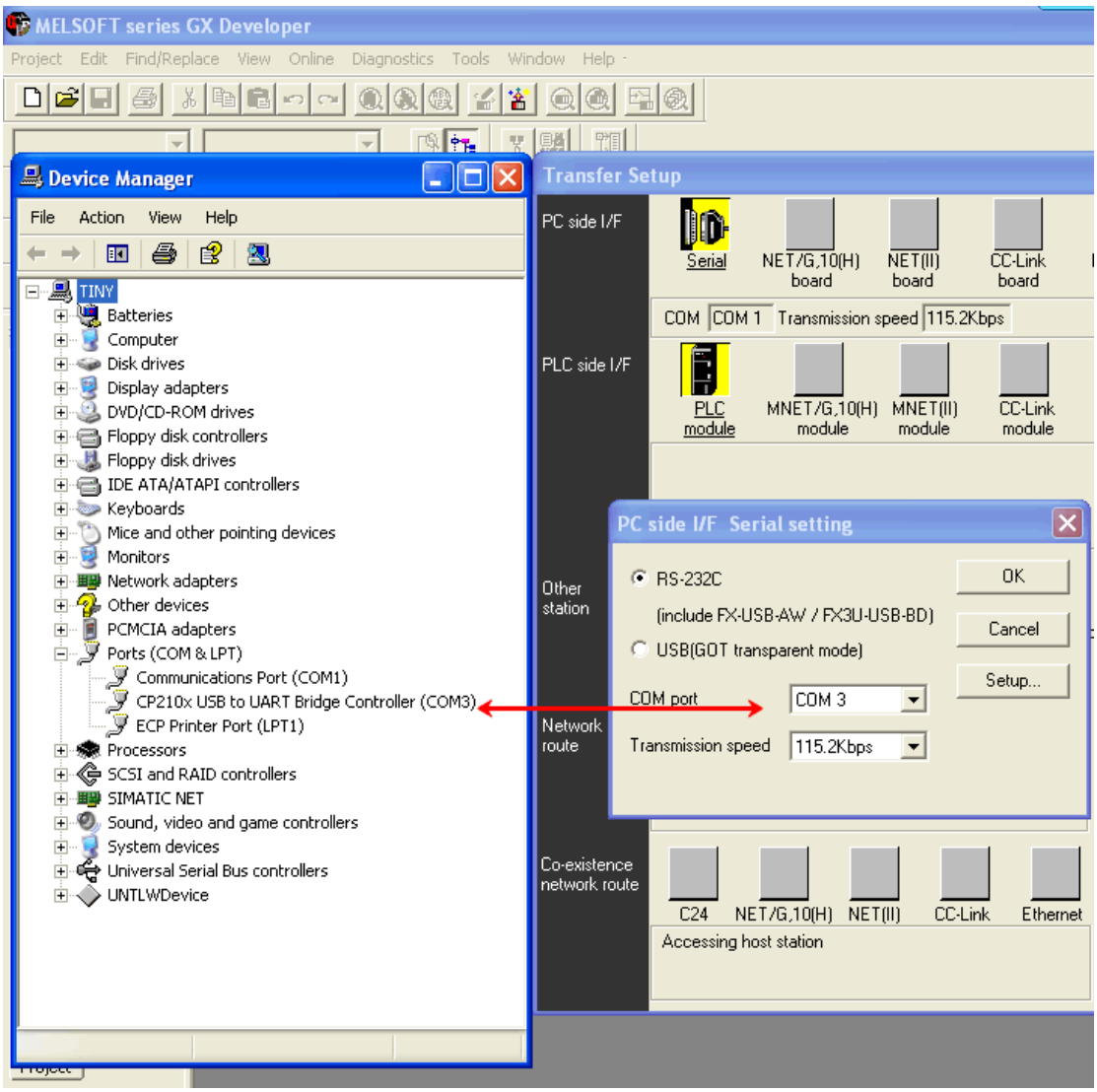

CP2101 USB to UART Bridge Controller (COM3) Proper...
Advanced Settings for COM3
Use FIFO buffers (requires 16550 compatible UART)
Select lower settings to correct connection problems.
Select higher settings for faster performance.
Receive Buffer: Low (1) High (14) (14)
Transmit Buffer: Low (1) High (16) (16)
OK
Cancel
Defaults
COM Port Number: COM3
COM3
COM4
COM5
COM6
COM7
COM8
COM9
COM10
COM11
COM12
COM13
COM14
COM15
OK
Cancel
s Update
up and store
e Profiles

Setting of GX Developer

After completing Driver installation, the corresponding COM port for the USB-SC09-FX programming cable will be displayed in the “Device Manager” of Window. The next step is just to choose this COM port in the programming software and other application software and keep other communication parameters as in the Default settings. And the following steps are exactly the same as the traditional programming cables with RS232 interfaces.

Note: DB25M plugs and MD8M plugs of the RS422 interface can not be used at the same time.

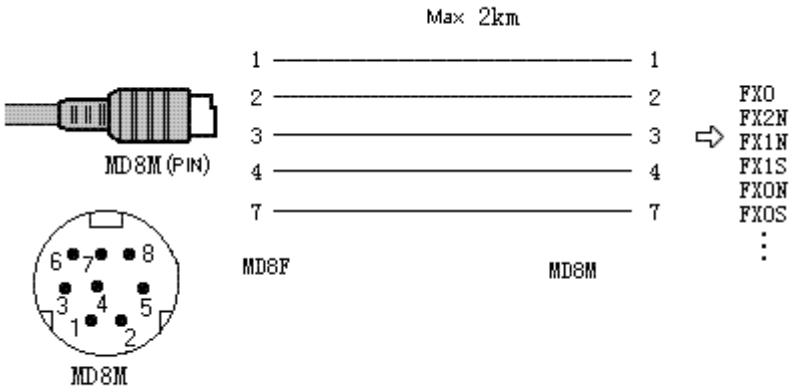
Open the main windows form(GX Developer)， choose “Online” menu then click “Transfer Setup…” and will appear “Transfer Setup” window.
Click “Serial” button of the PC side I/F, and choice the COM X interface as it in the Device Manager.



About Long Distance Communication

For USB-SC09-FX,The largest communication distance is up to two kilometers (9600 bps).The user must follow the self-made plan to extend cable. Transmission Line should be 0.22mm or more, twisted pair wire. When the distance is over 2,000 m,RS422 repeater could be installed to extend the distance.

Please Note: USB interface cable cannot be extended.



Due to internal resistance have been installed in USB-SC09-FX and the PLC, no external terminal resistance is needed.

Notes and Troubleshoot

1. If the USB programming cable could not be detected when opening the PC, or some other outstanding issues occur, please replug it again.
2.USB to UART is plug and play USB device. When data are being transmitted, please don’t disconnect it.
3.Sometimes when Windows System failures or outstanding issues when plug or unplug the USB cable occur, please restart the computer and PLC.

Rejection provision

This document is to provide information, and the contents will not be noticed when revising. Because of the direct or indirect loss or errors caused by revised document, will not be the responsibility of the manufacturer.