USB-SC09-FX Programming Cable Driver Procedure

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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.

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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 °C
- 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.
- 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.

Found New Hardware Wize	ard		
	Welcome to the Found New Hardware Wizard This wizard helps you install software for: CP2102 USB to UART Bridge Controller		
	If your hardware came with an installation CD or floppy disk, insert it now.		
	What do you want the wizard to do?		
	< <u>Back</u> <u>Next</u> Cancel		

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.

Browse For Folder
Select the folder that contains drivers for your hardware.

I USB编程电缆使用手册 To view any subfolders, click a plus sign above.
OK Cancel

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.

Found New Hardware Wizard				
	Completing the Found New Hardware Wizard The wizard has finished installing the software for: CP2101 USB Composite Device			
Llick Finish to close the wizard.				
	K Back Finish Cancel			

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

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"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.

🐻 Add or Re	move Programs		
5	Currently installed programs:	odates Sort by: Name	*
C <u>h</u> ange or Remove	✓×Ĭ⁴â≫³ÓîÆ 'ÒôÊäÈë' "¥6.1	Size	5.51MB
Programs	➡ 360±£ĪÕÏä		
	360°2È«ÎÂÊ¿		
<u> 10</u>	🔤 ACDSee 3.1 SR1 美化版	Size	8.97MB
Add <u>N</u> ew Programs	Automation License Manager V1.0 + SP1 + HF1	Size	5.41MB
-	🔂 CP2101 USB to UART Bridge Controller		
Add/Remove	To change this program or remove it from your computer, click Change/Remove.	Chang	e/Remove
<u>W</u> indows Components	🔂 Intel(R) Extreme Graphics 2 Driver		
	Intel(R) PRO Network Connections Drivers		
	Hicrosoft Office Lite Edition 2003	Size	285.00MB
Set Program	BMSXML 4.0 SP2 Parser and SDK	Size	1.23MB
Access and Defaults	SIMATIC STEP 7 V5.3 + HF1	Size	290.00MB
	WinRAR ???????	Size	3.26MB

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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.

2101	USD TO UAR	i bridge contro	nter (COMS) Proper	
General	Port Settings	Driver Details		
6				
		<u>B</u> its per second:	115200	*
		<u>D</u> ata bits:	8	*
		<u>P</u> arity:	None	*
		<u>S</u> top bits:	1	~
		<u>F</u> low control:	None	~
		<u>A</u> dv	vanced <u>R</u> estore De	faults
			ОКС	Cance

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CP2101 USB to UA	RT Bridge Contro	ller (COM3) Pro	per ? 🗙		4	-
Advanced Settings	s for COM3				[? 🗙
I Use FIFO b Select lowe Select high	ouffers (requires 16550 er settings to correct co er settings for faster pe	compatible UART) nnection problems. Iformance.			OK Canc Defau	
Receive Buffer:	Low (1)	150		High (14)	(14)	Ko j
Transmit Buffer:	Low (1)	х.		High (16)	(16)	
r COM Port Number: r						
i	COM4 COM5				s Update	
F	COM6 COM7 COM8 COM9				up and store	
n	COM10 COM11					1
6	COM12 COM13 COM14 COM15	ОК	Cancel	~	re 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.



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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.

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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.