JY997D32601A



his manual describes the installation procedure of the USB driver software for FX-USB-AW and FX3U-USB-BD. Before use, read this manual and the manual of all relevant products fully to acquire proficiency in handling and operating the product. Make sure to learn all the product information, safety information, and , precautions

Date

Store this manual in a safe place so that it can be taken out and read wheneve necessary. Always forward it to the end user

Registration

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Effective May 2008

Specifications are subject to change without notice.

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May 2008

Safety Precaution (Read these precautions before use.)

This manual classifies the safety precautions into two categories:

DANGER and ACAUTION

Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage.

Depending on the circumstances, procedures indicated by ACAUTION may also cause severe injury.

It is important to follow all precautions for personal safety

Associated Manuals

Manual name	Manual No.	Description
FX-USB-AW User's Manual	JY997D13201	Explains the mounting and specifications of the FX-USB-AW.
FX3U-USB-BD User's Manual	JY997D13501	Explains the mounting and specifications of the FX3U-USB-BD.
FX Series User's Manual - Data Communication Edition	JY997D16901 MODEL CODE: 09R715	Explains N:N network, Parallel Link, Computer Link, Non-Protocol communication by RS and RS2 instructions/FX2N-232IF.

How to obtain manuals

For product manuals or documents, consult with the Mitsubishi Electric dealer from who you purchased your product.

1. Outline

This manual explains the installation method of the USB driver software for FX-USB-AW and FX3U-USB-BD. For the mounting, hardware specification and applicable standard of the FX-USB-

AW or FX3U-USB-BD, refer to the each product user's manual.

2. Specifications

For the hardware specifications of the FX-USB-AW or FX3U-USB-BD, refer to the each product user's manual

2.1 Performance Specifications 1) FX-1198 AM

	1) FX-03D-AW		
1	tem	Specification	
Current consumption		 15mA / DC 5V (5V DC power is supplied from the internal power supply of PLC) 30mA / DC 5V (5V DC power is supplied from the USB connector of personal computer) 	
Level Conversion		Bidirectional between RS-422 and USB (Between signals are isolated by photocoupler.)	
Baud Rate		115200 bps, maximum (The baud rate is different in PLC.)	
Transmission standard		USB2.0 (For full speed)	
Signal name To PLC		RS-422 (MINI DIN 8Pin male)	
(Port)	To a cable	USB (MINI B plug female)	
2) FX3u-USB-BD			
ŀ	tem	Specification	
l Current const	tem Imption	Specification 15mA / DC 5V (5V DC power is supplied from the main unit) 30mA / DC 5V (5V DC power is supplied from the USB connector of personal computer)	
Current consu	tem Imption	Specification 15mA / DC 5V (5V DC power is supplied from the main unit) 30mA / DC 5V (5V DC power is supplied from the USB connector of personal computer) Photocoupler isolation (Between communication line and CPU)	
Current consu Isolation Baud Rate	tem umption	Specification 15mA / DC 5V (5V DC power is supplied from the main unit) 30mA / DC 5V (5V DC power is supplied from the USB connector of personal computer) Photocoupler isolation (Between communication line and CPU) 9600/19200/38400/57600/115200 bps	
Isolation Baud Rate Transmission	tem umption standard	Specification 15mA / DC 5V (5V DC power is supplied from the main unit) 30mA / DC 5V (5V DC power is supplied from the USB connector of personal computer) Photocoupler isolation (Between communication line and CPU) 9600/19200/38400/57600/115200 bps USB2.0 (For full speed)	
Current consu Isolation Baud Rate Transmission Port	tem umption standard	Specification 15mA / DC 5V (5V DC power is supplied from the main unit) 30mA / DC 5V (5V DC power is supplied from the USB connector of personal computer) Photocoupler isolation (Between communication line and CPU) 9600/19200/38400/57600/115200 bps USB2.0 (For full speed) USB (MINI B plug female)	

Signal name	To FX-USB-AW or FX3U-USB-BD	USB (MINI B plug male)
(FOIL)	To PC	USB (A plug male)
Length of cable		5m (196.9") at most (Included cable is 3m(118.1").)

2.3 System Requirements

- Microsoft® Windows® 98*1, Windows® 98SE* Microsoft® Windows® Millennium Edition (Windows® Me)*1 os Microsoft® Windows® 2000*1
 - Microsoft® Windows® XP*1
 - Microsoft® Windows Vista®*2
- GX Developer (SWID5C-GPPW-J, SWID5C-GPPW-E) Software FX-PCS/WIN*3, FX-PCS/WIN-E*4
- FX-PCS-VPS/WIN, FX-PCS-VPS/WIN-E

Programmable EX0. EX0S. EX0N. EX1S. EX1N. EX2N. EX3U. EX1NC*5. EX2NC. controller EX3UC EX2N-10GM EX2N-20GM EX2N-1RM(-E)-SET

- *1 The USB driver for Windows® 98, Windows® 98SE. Windows® Millennium Edition, Windows® 2000 and Windows® XP included in the USB driver software Ver 1 10 is used. This USB driver is the same driver as the USB driver for software previous to Ver 1 10
- *2 Use the USB driver for Windows Vista® from the USB driver software Ver.1.10.
- *3 For versions earlier than 4.30, the communication port setting can be selected from COM1-COM4 For versions 4.30 or later, the communication port setting can be selected from
- COM1-COM9 *4 For versions earlier than 3.30, the communication port setting can be selected
- from COM1-COM4 For versions 3.30 or later, the communication port setting can be selected from
- COM1-COM9

3. System Configuration

For details of the programming communication, refer to the following manual \rightarrow Refer to the FX Series User's Manual - Data Communication Edition

3.1 FX-USB-AW



*1 EX1NC Series PLC specification details for I/O, wiring.

installation, and maintenance can only be found in the Japanese Manual. Please refer to the specific PLC manual for a PLC not mentioned above.

3.2 FX3U-USB-BD



Conn	ected equipment	Baud rate	computer connection	
rogrammable	FX3U	115.2 kbps or less	USB cable of 5m (196.9") at most	
ontroller	FX3UC-32MT-LT	110.2 Kbps of less	(Included cable is 3m (118.1"))	

4. Connecting Procedure

4.1 Connecting Procedure of FX-USB-AW

1) Power off the PLC.

2) Connect the USB (MINI B plug male) connector of the USB cable to the FX-USB-AW

- 3) Connect the RS-422 (MINI DIN 8Pin male) connector of the FX-USB-AW to the PLC.
- 4) Connect the USB (A plug male) connector of the USB cable to the Personal computer
- 5) Power ON the PLC.
- 6) Power ON the Personal computer
- 7) Make sure the POWER lamp of the FX-USB-AW is lit.
- (The POWER lamp of FX-USB-AW lights when power is supplied normally by the personal computer.)

4.2 Connecting Procedure of FX3U-USB-BD

1) Power off the PLC

- 2) Connect the USB (MINI B plug male) connector of the USB cable to the EX2ULUSE BD
- 3) Connect the USB (A plug male) connector of the USB cable to the personal computer
- 4) Turn ON the power supply of the PLC.
- 5) Turn ON the power supply of the personal computer

5. Driver Installation

Caution

The driver is not installed properly when canceled during the installation. To complete the installation, uninstall the driver, and install again. For the uninstallation procedure of the driver, refer to the Chapter 7.

Note: This product requires USB Driver Installation for each USB port to be connected. To use multiple USB ports, connect this product to each port. and install the driver individually. (With Windows Vista®, Driver installation will occur automatically. In other OS, depending on the PC environment. Driver installation may occur automatically.)

USB driver software folder structure

The folder structure is as follows according to the USB driver software version.

Ver. 1.10 or higher CD ROM Drives

<WinXP 2000 ME 98>

The USB driver for Windows® 98. Windows® 98SE. Windows® Millennium Edition (Me), Windows® 2000 and Windows® XP is stored

</WinVista>

The USB driver for Windows Vista® is stored.

Versions previous to Ver. 1.10

The USB driver for software previous to Ver. 1.10 does not have a folder. structure. The USB driver is stored in the main directory of the CD-ROM drive.

5.1 Windows[®] 98. Windows[®] 98SE. Windows[®] Millennium Edition, Windows[®] 2000, and Windows[®] XP

Please install the driver by the following procedure. The installation procedure is explained when connecting a personal computer with Windows® XP to the FX-USB-AW.

- Windows® 98. Windows® 98SE, Windows® Millennium Edition, and Windows® 2000, the installation method will vary
- 1) When the USB cable is connected to the personal computer, the following screen is displayed



Insert the included CD-ROM into the personal computer's CD-ROM drive. Click [Next >].

- The installation of the USB driver software will begin - If using Windows® 98 and Windows® 98SE
- A window to select the location of the installation files will appear. Specify the USB driver software version as follows:

Ver. 1.10 or higher

Please select the "Include this location in the search", and install by the specifying the "\WinXP_2000_ME_98" directory from the CD-ROM drive.

Versions previous to Ver. 1.10 Please select the CD-ROM drive.

If using Windows® Millennium Edition, and Windows® 2000 A window to select the location of the installation files will appear. Please select the CD-ROM drive

2) The following screen is displayed. (Only in Windows® XP)



Click Einish to close the wizard

If using Windows® 2000 or Windows® XP, proceed to step 4).

The installation of the USB driver software is finished.

- If Windows® 98, Windows® 98SE or Windows® Millennium Edition is used.

Welcome to the Found New

wizard beins you install software for

What do you want the wizard to do? Install the software automatically (Recommended)

If your hardware came with an installation CD or floopy disk. insert it now.

Install from a list or specific location (Advanced)

- If using Windows[®] 2000, a screen to select the location of the installation

<Back Next> Cancel

Hardware Wizard

USB Serial Port

Click Next to continue

The installation of the USB Serial Port software will begin.

installation of the USB Serial Port software begins, and ends automatically. The CD-ROM can be removed from the personal computer at this time.

Click [Finish].

Click [Next >].

files is displayed.

Click [Continue Anyway].

Please select the CD-ROM drive. 5) The screen of 2) is displayed. (Only in Windows® XP)

The following screen is displayed.

Found New Hardware Wizard

< Back Finish Cancel

6) The following screen is displayed.



Click [Finish].

The installation of the USB Serial Port software will finish. The CD-ROM (USB driver software) can be removed from the personal computer at this time

5.2 Windows Vista®

Please install the driver by the following procedure.

The installation procedure is explained when connecting a personal computer with Windows Vista® to the EX LISE AW

1) When the USB cable is connected to the personal computer, the following screen is displayed.



Click [Located and install driver software (recommended)].

2) Only when user account control is enabled, "user account control" screen is displayed. Click [Continue], when displayed,

3) The following screen is displayed.

(The following screen may be displayed when connected to a Network.)



4) The following screen is displayed.



Insert the included CD-ROM into the personal computer's CD-ROM drive. The driver in CD-ROM is searched automatically and installation of the USB driver software will begin

If the included CD-ROM was already inserted into the personal computer's CD-ROM drive before displaying the above screen, click [Next]. 5) The following screen is displayed.



6) The following screen is displayed.

Click [Close].



 Found New Hardware - USB Serial Port Allow Windows to search online for driver software for your LISB Serial Port?

- Yes, always search online (recommended) Windows will automatically search for the latest drivers and applications for your hardware and download them to your computer.
- ✤ Yes, search online this time only Windows will search for the latest drivers and applications for this device and download them to your computer.

Cancel

(The following screen may be displayed when connected to a Network.)

- Don't search online
- our device may not function properly until you get the latest software
- Please read Microsoft's privacy statement

Click [Don't search online]

8) The following screen is displayed

7) The following screen is displayed.

Θ	Found New Hardware - USB Serial Port
	Insert the disc that came with your USB Serial Port Hyou have the disc that came with your divice, insert it now. Windows will automatically search the disc for driver software.
	✤ I don't have the disc. Show me other options.
	Next Cancel
lick	[Next]. Installation of the USB Serial Port software will begin.

×

Close

- 9) The screen of 5) is displayed. Click [Install this driver software anyway].
- 10)The following screen is displayed.



Click [Close]. The installation of the USB Serial Port software will finish. The CD-ROM (USB driver software) can be removed from the personal computer at this time.

Click [Don't search online].

6. Installation Confirmation of Driver

Procedure for confirming the installation of the driver is described below. Windows® XP example follows

- In Windows[®] XP, click [Start] \rightarrow [Control Panel] \rightarrow [Performance and Maintenance $] \rightarrow [$ System $] \rightarrow [$ Hardware $] \rightarrow [$ Device Manager] and the window below will be displayed.
- Please confirm the COM number to which the driver is allocated (COM and LPT). If using Windows[®] 98. Windows[®] 98SE. Windows[®] Millennium Edition or Windows® 2000
- A screen that is equivalent to the one below is displayed by clicking [My Computer] → [Control Panel] → [System] → [Device Manager] in the menu of the personal computer
- If using Windows Vista[®]
- A screen that is equivalent to the one below is displayed by clicking [Start] \rightarrow [Control Panel $1 \rightarrow [$ Hardware and Sound $1 \rightarrow [$ Device Manager 1 in the menu of the nersonal computer

When user account control is enabled

Only when user account control is enabled will the "user account control" screen be displayed.

Click [Continue], when displayed



Check following:

- FX-USB-AW/FX3U-USB-BD is indicated at A).
- FX-USB-AW/FX3U-USB-BD (COM *) is indicated at B). * indicates the COM number used in the FX-USB-AW or FX3U-USB-BD.
- Install the driver again when ! is displayed.

Select the programming software COM number as the COM number currently assigned on the screen above. Setting GX Developer:

Double-click [Online] \rightarrow [Transfer setup] \rightarrow [Serial] of personal computer side I/F

Select the same COM number as the COM number of the personal computer when the personal computer side I/F serial setting Dialog Box appears. Click [OK] of [Connection Setup] screen to end.



7. Uninstalling Driver

7.1 Windows[®] 98. Windows[®] 98SE. Windows[®] Millennium Edition. Windows[®] 2000, and Windows[®] XP

Please uninstall the driver by the following procedure. A Windows XP example follows.

- 1) Detach the USB cable from the personal computer.
- Click [Start] \rightarrow [Control Panel] \rightarrow [Add or Remove Programs] in the menu of the personal computer, the window below will be displayed.
- In case of Windows Me of Windows 98 and Windows 98SE, Windows 2000 A screen that is equivalent to the one below is displayed by clicking [My Computer] \rightarrow [Control Panel] \rightarrow [Add/Remove Programs] in the menu of
- the personal computer.



Click [Change/Remove]. 2) The following screen is displayed.



3) The following screen is displayed.

alling VI()_06D38	PID_0	284			
ng registr ng files	y entries					
all compl	ete, pres	s Finis	h to exit			
	tall compl	tall complete, pre:	tall complete, press Finis	tall complete, press Finish to exit	tall complete, press Finish to exit.	tall complete, press Finish to exit.

Click [Finish].

7.2 Windows Vista®

Please uninstall the driver by the following procedure.

"Universal Serial Bus Controllers" should be uninstalled.

Caution

Driver software must be uninstalled in the order of "Ports (COM & LPT)" after which the "Universal Serial Bus Controllers" should be uninstalled.

If uninstalling directly from the "Universal Serial Bus Controllers", the driver software for the FX-USB-AW and FX3U-USB-BD will not uninstall correctly. When uninstalling from "Universal Serial Bus Controllers", uninstall USB driver software after re-installation in the order of "Ports (COM & LPT)" after which the 1) Connect the FX-USB-AW or FX3U-USB-BD to the personal computer via a USB cable

Click [Start] → [Control Panel] → [Hardware and Sound] → [Device Manager] and the window below will be displayed.



Double-click [FX-USB-AW/FX3U-USB-BD (COM*)] in the [Ports (COM & LPT)]. * indicates the COM number used in the FX-USB-AW or FX3U-USB-BD.

When user account control is enabled

Only when user account control is enabled will the "user account control" screen be displayed. Click [Continue], when displayed.

2) The following screen is displayed.



Select [Driver] tab.

Click [Uninstall].



4) The following screen is displayed.



Add a check mark to [Delete the driver software for this device]. and click LOK J The USB Serial Port software is uninstalled

And then, uninstall a USB driver by operation of 5) to 8).

5) Double-click [FX-USB-AW/FX3U-USB-BD] in the [Universal Serial Bus Controllers] from the device manager

Device Manager	×
Eile Action View Help	
> → m B B m Q B Q G	
Image: Image	*
🗓 🖳 Monitors	
Portable Devices	
🖶 🖤 Ports (COM & LPT)	
- Transmission Port (COM1)	
Printer Port (LPT1)	
Processors	
Storage controllers	
👜 👰 System devices	
😑 🖶 Universal Serial Bus controllers	
FX-USB-AW/FX3U-USB-BD	
🟺 Intel(R) 82801EB USB Universal Host Controller - 24D2	-

6) The following screen is displayed

FX-USB-	AW/FX3U-USB-BD	Properties	? ×
General	Driver Details		
s	FX-USB-AW/FX	3U-USB-BD	
	Device type:	Universal Serial Bus controllers	
	Manufacturer:	FTDI	
	Location:	Port_#0002.Hub_#0004	
Devi	ce status		
Thia	i device is working ;	roperly.	*
			-
		ОК	Cancel

Select [Driver] tab.

Click [Uninstall].

7) The following screen is displayed.



8) The following screen is displayed.



Add a check mark to [Delete the driver software for this device], and click [OK].

The USB driver is uninstalled.

8 Caution on Use

MAINTENANCE PRECAUTIONS	
 Before modifying or carefully read throug the safety of the oper the operation or or m 	disrupting the program in operation or running the PLC, h this manual and the associated manuals and ensure ration.
An operation error m	ay damage the machinery of cause accidents.
STARTUP AND MAINTENANCE PRECAUTIONS	
 Do not disassemble of Doing so may cause For repair, contact y Since the FX-USB-A impact to it. Doing so may cause 	or modify the PLC. fire, equipment failures, or malfunctions. /our local Mitsubishi Electric distributor. W case is made of resin, do not drop it or exert strong damage.
DISPOSAL PRECAUTIONS	
 Please contact a or environmentally safe 	certified electronic waste disposal company for the recycling and disposal of your device.
	A
STORAGE PRECAUTIO	
The product is a p impacts. Failure to do so may After transportation,	PONS <u>LCAUTION</u> recision instrument. During transportation, avoid any cause failures in the product. verify the operations of the product.
 The product is a p impacts. Failure to do so may After transportation, ' The FX-USB-AW or F the PLC is turned on, are tried for the first message may be disp In such a case, clear I The expansion board FX3UC-32MT-LT. Only one expansion b Additional expansion 	CAUTION CAUTION Instrument. During transportation, avoid any cause failures in the product. verify the operations of the product. X3U-USB-BD is connected to a personal computer, and and then an operations such as write, read, and monitor time using a programming tool, a communication error layed. the message and try the operations again. cannot be connected to FX3UC Series PLC other than oard can be used per main unit. boards such as the FX3U-232-BD, FX3U-422-BD or

- The programming tool may not be operated properly due to a contact failure at connectors or wire breakage.
- Make sure to save the program before transferring or changing it.

9. Troubleshooting

9.1 FX-USB-AW

· If communication cannot be established between the PLC (as well as a positioning unit or a programmable cam switch) and a PC using EX-USB-AW confirm the following status by checking POWER LED, SD LED, and RD LED in EX-USB-AW

State of POWER LED	Contents
POWER LED is lit.	The DC5V power supply from the personal computer is normally supplied. In case of no communication, check the status of SD LED and RD LED.
POWER LED is not lit.	The DC 5V power supply from the personal computer is not supplied. Check the items below. Confirm that the specified cable is used to connect the FX-USB-AW and the personal computer. Confirm whether the power supply is supplied to personal computer.

The LED	status of SD and RD LED.	Contents
	Blinking	Communicating correctly
SD	Extinguished	Confirm that the power is supplied to the personal computer. Confirm the personal computer and the PLC are connected properly with the specified cable. Confirm that the communication settings and connected PLC are correctly set in the software. Refer to the software manual.
	Blinking	Data receiving
RD	Extinguished	 Confirm that the power is supplied to PLC. The PLC will not operate when a configuration that exceeds the DC 5V or DC 24V capacity is used. It will also be impossible to communicate normally. Confirm that the specified cable is used to connect the personal computer and PLC. Confirm that the communication settings and connected PLC are correctly set in the software. Refer to the software manual.

When driver installation is required after already establishing USB communication.

→ This product requires USB Driver Installation for each USB port to be connected. Connect the product to a driver-installed USB port, or install the driver to the current port.

.2 FX3U-USB-BD

If communication cannot be established between the PLC and a personal computer using FX3U-USB-BD, confirm the following status by checking SD LED and RD LED in FX3U-USB-BD.

The status of SD LED and RD RED

The LED	status of SD and RD LED.	Contents	
	Blinking	Communicating correctly	
SD	Extinguished	Confirm that the power is supplied to the personal computer. Confirm the personal computer and the PLC are connected properly with the specified cable. Confirm that the communication settings and connected PLC are correctly set in the software. Refer to the software manual.	
	Blinking	Data receiving	
RD	Extinguished	Confirm that the power is supplied to PLC. The PLC will not operate when a configuration that exceeds the DC SV or DC 24V capacity is used. It will also be impossible to communicate normally. Confirm that the specified cable is used to connect the personal computer and PLC. Confirm that the communication settings and connected PLC are correctly set in the software. Refer to the software manual.	

When driver installation is required after already establishing USB communication.

→ This product requires USB Driver Installation for each USB port to be connected. Connect the product to a driver-installed USB port, or install the driver to the current port.

This manual confers no industrial property rights or any rights of any other kind, nor does it confer any patent licenses. Mitsubishi Electric Corporation cannot be held responsible for any problems involving industrial property rights which may occur as a result of using the contents noted in this manual.

Warranty

Misubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; opportunity loss or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

/ For safe use

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- · Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi Electric.
- This product has been manufactured under strict quality control. However when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

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Safety Precaution (Read these precautions before use.)

This manual classifies the safety precautions into two categories: DANGER and CAUTION

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How to obtain manuals

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1. Outline

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2) The following screen is displayed. (Only in Windows® XP)

has not passed Windows Logo testing to verify its compatibility with Windows XP. [Tell me why this testing is important.]

Continuing your installation of this software may impain or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.

Continue Anyway STOP Installation

Completing the Found New

The wizard has finished installing the software for FX-USB-AW/FX3U-USB-BD

Hardware Wizard

Click Finish to close the wizard

The software you are installing for this hardware

FX-USB-AW/FX3U-USB-BD

Click [Continue Anyway].

3) The following screen is displayed

1) FX-USB-AV	v		
	ltem	Specification	
Current consumption		15mA / DC 5V (5V DC power is supplied from the internal power supply of PLC) 30mA / DC 5V (5V DC power is supplied from the USB connector of personal computer)	
Level Conver	sion	Bidirectional between RS-422 and USB (Between signals are isolated by photocoupler.)	
Baud Rate		115200 bps, maximum (The baud rate is different in PLC.)	
Transmission	standard	USB2.0 (For full speed)	
Signal name	To PLC	RS-422 (MINI DIN 8Pin male)	
(Port)	To a cable	USB (MINI B plug female)	
2) FX3U-USB-	BD		
	ltem	Specification	
Current cons	umption	 15mA / DC 5V (5V DC power is supplied from the main unit) 30mA / DC 5V (5V DC power is supplied from the USB connector of personal computer) 	
Isolation		Photocoupler isolation (Between communication line and CPU)	
Baud Rate		9600/19200/38400/57600/115200 bps	
Transmission	standard	USB2.0 (For full speed)	
Port		USB (MINI B plug female)	
2.2 USB Ca	able Specificati	ions	
Signal name	To FX-USB-AW or FX3U-USB-BD	USB (MINI B plug male)	
(Port)	To PC	USB (A plug male)	
Length of cab	le	5m (196.9") at most (Included cable is 3m(118.1").)	
2.3 System	n Requirements	;	
os	Microsoft [®] Win Microsoft [®] Win Microsoft [®] Win Microsoft [®] Win Microsoft [®] Win	dows [®] 98* ¹ , Windows [®] 98SE ⁺¹ dows [®] Millennium Edition (Windows [®] Me)* ¹ dows [®] 2000 ⁺¹ dows [®] XP ⁺¹ dows Vista ^{®+2}	
Software	GX Developer FX-PCS/WIN*3 FX-PCS-VPS/V	(SW⊡D5C-GPPW-J, SW⊡D5C-GPPW-E) ⁸ , FX-PCS/WIN-E ^{≠4} WIN, FX-PCS-VPS/WIN-E	
Programmabl controller	FX0, FX0S, FX FX3UC, FX2N-1	Kon, FX1s, FX1n, FX2n, FX3u, FX1nc*5, FX2nc, 0GM, FX2n-20GM, FX2n-1RM(-E)-SET	

2. Specifications

2.1 Performance Specifications

For the

*1 The USB driver for Windows® 98, Windows® 98SE, Windows® Millennium Edition, Windows® 2000 and Windows® XP included in the USB driver so Ver. 1.10 is used. This USB driver is the same driver as the USB driv software previous to Ver.1.10.

- *2 Use the USB driver for Windows Vista® from the USB driver software Ver. *3 For versions earlier than 4.30, the communication port setting can be selected from COM1-COM4
- For versions 4.30 or later, the communication port setting can be selected from COM1-COM9. *4 For versions earlier than 3.30, the communication port setting can be selected
- from COM1-COM4. For versions 3.30 or later, the communication port setting can be selected from COM1-COM9.

3.1 FX-USB-AW



	FX0, FX0S, FX0N, FX1S	9.6 kbps	
	FX1N, FX1NC*1	19.2 kbps or less	
Programmable controller	FX2N (Earlier than Ver.3.00), FX2NC(Earlier than Ver.3.00)	9.6 kbps	
	FX2N (Ver.3.00 or later), FX2NC(Ver.3.00 or later)	19.2 kbps or less	(196.9") at most (Included cable
	FX3U, FX3UC	115.2 kbps or less	is 3m (118.1"))
Positioning unit	FX2N-10GM, FX2N-20GM	9.6 kbps	
Programmable cam switch	FX2N-1RM-E-SET	9.6 kbps	

*1 FX1NC Series PLC specification details for I/O, wiring,

· Please refer to the specific PLC manual for a PLC not mentioned above



Conn	ected equipment	Baud rate	computer connection
Programmable	FX3U	115.2 kbps or less	USB cable of 5m (196.9") at most
controller	FX3UC-32MT-LT	110.2 1000 01 1000	(Included cable is 3m (118.1"))

4. Connecting Procedure

Connect the USB (A plug male) connector of the USB cable to the Personal computer.

5) Power ON the PLC.

Order ON the Personal computer.
 Make sure the POWER lamp of the FX-USB-AW is lit. (The POWER lamp of FX-USB-AW lights when power is supplied normally by the personal computer.)

4.2 Connecting Procedure of FX3U-USB-BD

- 1) Power off the PLC. 2) Connect the USB (MINI B plug male) connector of the USB cable to the FX3U-USB-BD. 3) Connect the USB (A plug male) connector of the USB cable to the personal
- 4) Turn ON the power supply of the PLC.
- 5) Turn ON the power supply of the personal computer

5. Driver Installation

Caution The driver is not installed properly when canceled during the installation. To complete the installation, uninstall the driver, and install again. For the uninstallation procedure of the driver, refer to the Chapter 7.

Note: This product requires USB Driver Installation for each USB port to be connected. To use multiple USB ports, connect this product to each port, and install the driver individually. (With Windows Vista®, Driver installation will occur automatically.) In other OS, depending on the PC environment, Driver installation may occur automatically.)

USB driver software folder structure

The folder structure is as follows according to the USB driver software version. Ver. 1.10 or higher

<CD-ROM Drive>

<WinXP_2000_ME_98> The USB driver for Windows® 98, Windows® 98SE, Windows® Millennium Edition (Me), Windows® 2000 and Windows® XP is stored.

<WinVista>

The USB driver for Windows Vista® is stored. Versions previous to Ver. 1.10

The USB driver for software previous to Ver. 1.10 does not have a folder structure. The USB driver is stored in the main directory of the CD-ROM drive.

5.1 Windows[®] 98, Windows[®] 98SE, Windows[®] Millennium Edition, Windows[®] 2000, and Windows[®] XP

Please install the driver by the following procedure. The installation procedure is explained when connecting a personal computer with Windows[®] XP to the FX-USB-AW.

- Windows[®] 98, Windows[®] 98SE, Windows[®] Millennium Edition, and Windows[®] 2000, the installation method will vary.
- 1) When the USB cable is connected to the personal computer, the following



- Insert the included CD-ROM into the personal computer's CD-ROM drive Click (Next >]. The installation of the USB driver software will begin.
- - If using Windows[®] 98 and Windows[®] 98SE A window to select the location of the installation files will appear. Specify the USB driver software version as follows: Ver. 1.10 or higher Please select the "Include this location in the search", and install by the

specifying the "\WinXP_2000_ME_98" directory from the CD-ROM drive. Versions previous to Ver. 1.10 Please select the CD-ROM drive.

- If using Windows® Millennium Edition, and Windows® 2000 A window to select the location of the installation files will appear. Please select the CD-ROM drive.

6	🕖 🔟 Found New Hardware - USB Serial Port
	Allow Windows to search online for driver software for your USB Serial Port?
	Yes, always search online (recommended) Windows will automatically search for the latest drivers and applications for your hardware and download them to your computer.
	★ Yes, search online this time only Windows will search for the latest drivers and applications for this device and download them to your computer.
	Don't search online Your device may not function properly until you get the latest software.
	Please read Microsoft's, privacy statement
	Cance
Clic	ck [Don't search online].
Clic 8) The	ck [Don't search online]. e following screen is displayed.
Clic 8) The	ck [Don't search online]. e following screen is displayed. J Found New Hardware - USB Serial Port
Clic 8) The	ck [Don't search online]. e following screen is displayed. Found New Hardware - USE Serial Port Insert the disc that came with your USE Serial Port
Clic 8) The	ck [Don't search online]. e following screen is displayed.
Clic 8) The	ck [Don't search online]. e following Screen is displayed.

Click [Finish].

If using Windows® 2000 or Windows® XP, proceed to step 4) If Windows® 98, Windows® 98SE or Windows® Millennium Edition is used, installation of the USB Serial Port software begins, and ends automatically. The CD-ROM can be removed from the personal computer at this time. The installation of the USB driver software is finished. 4) The following screen is displayed.

Finish

6) The following sc The wizard has finished installing the software for FX-USB-AW/FX3U-USB-BD 7 Click Finish to close the wizard Back Finish Click [Finish]. The installation of the USB Serial Port software will finish. The CD-ROM (USB driver software) can be removed from the personal computer at this time 5.2 Windows Vista® Please install the driver by the following procedure. The installation procedure is explained when connecting a personal computer with Windows Vista® to the FX-USB-AW. 1) When the USB cable is connected to the personal computer, the following screen is displayed. Found Net × Windows needs to install driver software for your FX-USB-AW

Locate and install driver software (recommended) Windows will guide you through the process of installing driver softw for your device. <u>Ask me again later</u> Windows will ask again the next time you plug in your device or log or

Don't show this message again for this device Your device will not function until you install driver software.

3. System Configuration the hardware specifications of the FX-USB-AW or FX3U-USB-BD, refer to the each duct user's manual.

nication, refer to the following manual. For d unication Edition

ails of the programming communication, reter to ute ionown → Refer to the FX Series User's Manual - Data Com

installation, and maintenance can only be found in the Japanese Manual

3.2 FX3U-USB-BD

Cable for

ftware er for	Programmable	FX3U	115.2 kbps or less	US (1
.10.	controller	FX3UC-32MT-LT	110.2 Kbps of less	(Ir is
lootod				

4.1 Connecting Procedure of FX-USB-AW

1) Power off the PLC.

2) Connect the USB (MINI B plug male) connector of the USB cable to the FX-USB-AW.

3) Connect the RS-422 (MINI DIN 8Pin male) connector of the FX-USB-AW to the PLC.

6) Power ON the Personal computer

4) The following screen is displayed.

Insert the disc that came with your FX-USB-AW

G D Found New Hardware - FX-USB-AW

I don't have the disc. Show me other options. Cancel Insert the included CD-ROM into the personal computer's CD-ROM drive. driver in CD-ROM is searched automatically and installation of the USB di software will begin. If the included CD-ROM was already inserted into the personal computer's ROM drive before displaying the above screen, click [Next].

If you have the disc that came with your device, insert it now. Windows will autom search the disc for driver software.

5) The following screen is displayed.

👿 Wind Don't install this driver software You should check your manufacturer's website for updated driver software for your device. Install this driver software anyway Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or s information. See details

Click [Install this driver software anyway].

6) The following screen is displayed.

Click [Next]. The installation of the USB Serial Port software will begin

The screen of 5) is displayed. Click [Install this driver software anyway].

Next Cancel

reen i	s displayed.
ıre Wiz	ard
	Completing the Found New



- If using Windows[®] 2000, a screen to select the location of the installation files is displayed. Please select the CD-ROM drive.
- 5) The screen of 2) is displayed. (Only in Windows® XP) Click [Continue Anyway].



- Click [Located and install driver software (recommended)].
- 2) Only when user account control is enabled, "user account control" screen is displayed. Click [Continue], when displayed.
- The following screen is displayed. (The following screen may be displayed when connected to a Network.)



Click [Don't search online].

G	Found New Hardware - FX-USB-AW/FX3U-USB-BD	
	The software for this device has been successfully installed	
	Windows has finished installing the driver software for this device:	
	FX-USB-AW/FX3U-USB-BD	
	-	
		Close

Click [Close].



Click [Close]. The installation of the USB Serial Port software will finish. The CD-ROM (USB driver software) can be removed from the personal computer at this time.

6. Installation Confirmation of Driver

- Procedure for confirming the installa Windows[®] XP example follows. n of the driver is described below
- In Windows[®] XP, click [Start] → [Control Panel] → [Performance and Maintenance] → [System] → [Hardware] → [Device Manager] and the window below will be displayed.
 Please confirm the COM number to which the driver is allocated (COM and LPT).
- If using Windows® 98, Windows® 98SE, Windows® Millennium Edition or Windows[®] 2000
- A screen that is equivalent to the one below is displayed by clicking [My Computer] \rightarrow [Control Panel] \rightarrow [System] \rightarrow [Device Manager] in the menu of the personal computer.
- If using Windows Vista®
- A screen that is equivalent to the one below is displayed by clicking [Start] \rightarrow [Control Panel] → [Hardware and Sound] → [Device Manager] in the menu of the personal computer

When user account control is enabled Only when user account control is enabled will the "user account control" screen be displayed. Click [Continue], when displayed.



Check following:

- FX-USB-AW/FX3U-USB-BD is indicated at A). FX-USB-AW/FX3U-USB-BD (COM *) is indicated at B). * indicates the COM number used in the FX-USB-AW or FX3U-USB-BD.
- Install the driver again when ! is displayed. Select the programming software COM number as the COM number currently assigned on the screen above.

assigned of the solution bore. Setting GX Developer: Double-click [Online] → [Transfer setup] → [Serial] of personal computer

Double-click [Online] → [Interset setup] / [Contar], protection of the personal computer side UF. Select the same COM number as the COM number of the personal computer setup. The personal computer setup. when the personal computer side I/F serial setting Dialog Box appears Click [OK] of [Connection Setup] screen to end.



7. Uninstalling Driver

7.1 Windows[®] 98, Windows[®] 98SE, Windows[®] Millennium Edition, Windows[®] 2000, and Windows[®] XP

Please uninstall the driver by the following procedure. A Windows XP example follows. 1) Detach the USB cable from the personal computer.

- - becauting objection the personal computer, the window below will be displayed.
 - In case of Windows Ne of Windows 98 and Windows 98SE, Windows 2000 A screen that is equivalent to the one below is displayed by clicking [My Computer] \rightarrow [Control Panel] \rightarrow [Add/Remove Programs] in the menu of the personal computer.



In dimissioning directly from the oniversal serial bus Controllers , the direct software for the FX-USB-AW and FX3U-USB-BD will not uninstall correctly. When uninstalling from "Universal Serial Bus Controllers", uninstall USB driver software after re-installation in the order of "Ports (COM & LPT)" after which the "Universal Serial Bus Controllers" should be uninstalled.

) Connect the FX-USB-AW or FX3U-USB-BD to the personal computer via a USB	
cable.	
Click [Start] \rightarrow [Control Panel] \rightarrow [Hardware and Sound] \rightarrow [Device Manager]	



Double-click [FX-USB-AW/FX3U-USB-BD (COM*)] in the [Ports (COM & LPT)]. * indicates the COM number used in the FX-USB-AW or FX3U-USB-BD.

When user account control is enabled Only when user account control is enabled will the "user account control" screen

be displayed. Click [Continue], when displayed. 2) The following screen is displ

General	Port Settings Dr	iver Details	
	FX-USB-AW/FX	3U-USB-BD (COM3)	
	Device type:	Ports (COM & LPT)	
	Manufacturer:	FTDI	
	Location:	on FX-USB-AW/FX3U-USB-BD	
Devic	ce status		
This	device is working p	property.	-

OK Cancel

Select [Driver] tab.

Click [Uninstall].

The following screen is displayed.
FX-USB-AW/FX3U-USB-BD (COM3) Properties
General Port Settings Driver Details
FX-USB-AW/FX3U-USB-BD (COM3)
Driver Provider: FTDI
Driver Date: 3/13/2008
Driver Version: 2.4.6.0
Digital Signer: Not digitally signed
Driver Details To view details about the driver files.
Ugdate Driver To update the driver software for this device.
Roll Back Driver Fite device fails after updating the driver, roll back to the previously installed driver.
Disable Disables the selected device.
Uninstall To uninstall the driver (Advanced).

🚔 Device Manager - • • A Mice and other pointing devic Monitors Portal Devices Porta (COM & LPT) Ports (COM & LP versal Serial Bus controller FX-USB-AW/FX3U-USB-6) The following screen is displayed. FX-USB-AW/FX3U-USB-BD Properties ? × General Driver Details FX-USB-AW/FX3U-USB-BD T Universal Serial Bus controllers FTDI Port_#0002.Hub_#0004 Device status This device is a OK Cancel

FX-USB-AW/FX3U-USB-BD	D Properties
General Advanced Driv	ver Details
FX-USB-AW/FX	K3U-USB-BD
Driver Provider:	FTDI
Driver Date:	3/13/2008
Driver Version:	2.4.6.0
Digital Signer:	Not digitally signed
Driver Details	To view details about the driver files.
Update Driver	To update the driver software for this device.
Roll Back Driver	If the device fails after updating the driver, roll back to the previously installed driver.
Disable	Disables the selected device.
Uninstall	To uninstall the driver (Advanced).
	OK Cancel Help

Click [Uninstall].



[OK] The USB driver is uninstalled

8. Caution on Use

STARTUP AND MAINTENANCE PRECAUTIONS	DANGER
 Before modifying or carefully read throug the safety of the ope An operation error m 	disrupting the program in operation or running the PLC, gh this manual and the associated manuals and ensure ration. nay damage the machinery or cause accidents.
STARTUP AND MAINTENANCE PRECAUTIONS	
 Do not disassemble Doing so may cause * For repair, contact Since the FX-USB-/ impact to it. Doing so may cause 	or modify the PLC. fire, equipment failures, or malfunctions. your local Mitsubishi Electric distributor. AW case is made of resin, do not drop it or exert strong e damage.
DISPOSAL PRECAUTIONS	
Please contact a environmentally safe	certified electronic waste disposal company for the e recycling and disposal of your device.
TRANSPORT AND STORAGE PRECAUTI	

• 1

9. Troubleshooting 9.1 FX-USB-AW

f communication cannot init or a programmable ollowing status by checki	be established between the PLC (as well as a positioning cam switch) and a PC using FX-USB-AW, confirm the ng POWER LED, SD LED, and RD LED in FX-USB-AW.
State of POWER LED	Contents
POWER LED is lit.	The DC5V power supply from the personal computer is normally supplied. In case of no communication, check the status of SD LED and RD LED.
	The DC 5V power supply from the personal computer is

The status of SD	Contents
POWER LED is not lit.	not supplied. Check the items below. • Confirm that the specified cable is used to connect the FX-USB-AW and the personal computer. • Confirm whether the power supply is supplied to personal computer.

The LED	status of SD and RD LED.	Contents
	Blinking	Communicating correctly
SD	Extinguished	Confirm that the power is supplied to the personal computer. Confirm the personal computer and the PLC are connected properly with the specified cable. Confirm that the communication settings and connected PLC are correctly set in the software. Refer to the software manual.
	Blinking	Data receiving
RD	Extinguished	Confirm that the power is supplied to PLC. The PLC will not operate when a configuration that exceeds the DC 5V or DC 24V capacity is used. It will also be impossible to communicate normally. Confirm that the specified cable is used to connect the personal computer and PLC. Confirm that the communication settings and connected PLC are correctly set in the software. Refer to the software manual.

• When driver installation is required after already establishing USB communication. This product requires USB Driver Installation for each USB port to be connected.
 Connect the product to a driver-installed USB port, or install the driver to the current port.

		F

elect [[he follo	Driver] tab. wing screer	is displayed
FX-USB-AV	V/FX3U-USB-BD P	roperties
General	Advanced Driver	Details
5	FX-USB-AW/FX3U	I-USB-BD
	Driver Provider:	FTDI
	Driver Date:	3/13/2008
	Driver Version:	2.4.6.0
	Digital Signer:	Not digitally signed
	elect [[he follo FX-USB-AV General	elect [Driver] tab. he following screer FX-USB-AW/FX3U-USB-BD P General Advanced Driver FX-USB-AW/FX3U Drive Provider Drive Provider Drive Vesion: Digital Signer:

/		

4) The following screen is displayed.

· · · · · · · · · · · · · · · · · · ·	
Confirm Device Uninstall	
FX-USB-AW/FX3U-USB-BD (COM3)	
Warning: You are about to uninstall this device from your system.	
Delete the driver software for this device	Add check ma
OK Cancel	

Add a check mark to [Delete the driver software for this device], and click Construct a direct mark to [Delete the time information time device], and direct
 [OK].
 The USB Serial Port software is uninstalled.
 And then, uninstall a USB driver by operation of 5) to 8).
 5)Double-click [FX-USB-AW/FX3U-USB-BD] in the [Universal Serial Bus

Double click [1 X DOD / W// XOD	000 001	 uic	Louiscigai	ocnai	Du
Controllers] from the device mana	iger.				
6					

- The product is a precision instrument. During transportation, avoid any impacts Failure to do so may cause failures in the product. After transportation, verify the operations of the product.
- The FX-USB-AW or FX3U-USB-BD is connected to a personal computer, and the PLC is turned on, and then an operations such as write, read, and monitor are tried for the first time using a programming tool, a communication error message may be displayed.

In such a case, clear the message and try the operations again

- The expansion board cannot be connected to FX3UC Series PLC other than FX3UC-32MT-LT.
- · Only one expansion board can be used per main unit. Additional expansion boards such as the EX311-232-BD_EX311-422-BD or
- Additional expansion boards such as title RXJC232-BD of FX3U-485-BD cannot be installed/used together with the FX3U-585-BD. If a communication error message is indicated while operating the programming tool (when executing 'Write to PLC', Read from PLC', or 'Monitor'), disconnect the USB cable once (from either the PC or the FX-USB-AW) and connect it again. Then clear the error message and choose Write, Read, or Monitor again
- The programming tool may not be operated properly due to a contact failure at connectors or wire breakage. Make sure to save the program before transferring or changing it.

FX3U-USB-BD 9.2

 If communication cannot be established between the PLC and a personal computer using FX3U-USB-BD, confirm the following status by checking SD LED and RD LED in FX3U-USB-BD

The status of SD LED and RD RED

The status of SD LED and RD LED.		Contents		
	Blinking	Communicating correctly		
SD	Extinguished	Confirm that the power is supplied to the personal computer. Confirm the personal computer and the PLC are connected properly with the specified cable. Confirm that the communication settings and connected PLC are correctly set in the software. Refer to the software manual.		
	Blinking	Data receiving		
RD		Confirm that the power is supplied to PLC. The PLC will not operate when a configuration that exceeds the DC 5V or DC 24V capacity is used. It will also be impossible to communicate normally.		
	Extinguished	 Confirm that the specified cable is used to connect the personal computer and PLC. Confirm that the communication settings and connected PLC are correctly set in the software. Refer to the software manual. 		

- Whe When driver installation is required after already establishing USB communication. \rightarrow This product requires USB Driver Installation for each USB port to be connected.
- Connect the product to a driver-installed USB port, or install the driver to the current port.

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Warranty

Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi, opportunity loss or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

A For safe use

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated i a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi Electric.
- This product has been manufactured under strict quality control. However when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

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