



R

Programmable Controller MELSEE-F



FX-USB-AW

USER'S MANUAL



Manual Number	JY997D13201
Revision	R
Date	March 2020

This manual describes the part names, dimensions, mounting, and specifications of the product. Before use, read this manual and the manuals 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.

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

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Effective March 2020

Specifications are subject to change without notice.

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Safety Precautions (Read these precautions before use.)

This manual classifies the safety precautions into two categories:

↑ WARNING and **↑** CAUTION

<u></u>MARNING	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
 ⚠CAUTION	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 /FX3U-USB-BD User's Manual - USB Driver Installation Edition	JY997D32601	Explains procedures for installing the USB driver software for the FX-USB-AW or 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 your local Mitsubishi Electric sales representative.

Notification of CE marking●

This notification does not guarantee that an entire mechanical module produced in accordance with the contents of the notification comply with the following standards. Compliance to EMC standards of the entire mechanical module should be checked by the user / manufacturer.

This product is designed for use in industrial applications

Standards with which this product complies

Type: Programmable Controller (Open Type Equipment) Models: Products manufactured from August 1st, 2004.

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Electromagnetic Compatibility Standards (EMC)	Remark				
EN61000-6-4:2007 Generic emission standard Industrial environment	Compliance with all relevant aspects of the standard. • Emission-Enclosure port • Emission-Low voltage AC mains port • Emission-Telecommunications/network port				
EN61131-2:2007 Programmable controllers - Equipment requirements and tests	Compliance with all relevant aspects of the standard. EMI Radiated Emission • Conducted Emission EMS Radiated electromagnetic field • Fast transient burst • Electrostatic discharge + ligh-energy surge • Voltage drops and interruptions • Conducted RF • Power frequency magnetic field				
EN61000-6-2:2005 - Generic immunity standard Industrial environment	Compliance with all relevant aspects of the standard. Radio-frequency electromagnetic field. Amplitude modulated Fast transients Surges Voltage interruptions Radio-frequency common mode Power-frequency magnetic field				

Notes for compliance to EMC regulation.

It is necessary to install the (FX-USB-AW) in a shielded metal control panel. For more details please contact the local Mitsubishi Electric sales site

1. Outline

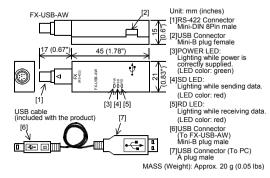
The FX-USB-AW is a RS-422/USB conversion interface unit to connect the FX series PLC to a personal computer with LISB ports

1.1 Incorporated Items

Verify that the following product and items are included in the package:

Product	FX-USB-AW type interface unit
	USB cable (3 m (118.1")) User's Manual (this manual)

1.2 External Dimensions and Part Names



2. Specifications

INSTALLATION **CAUTION** PRECAUTIONS

Use the product within the generic environment specifications described in PLC main unit manual (Hardware Edition).

Never use the product in areas with excessive dust, oily smoke, conductive dusts corrosive gas (salt air, Cl₂, H₂S, SO₂ or NO₂), flammable gas, vibration or impacts or expose it to high temperature, condensation, or rain and wind.

If the product is used in such conditions, electric shock, fire, malfunctions deterioration or damage may occur.

2.1 General Specifications

The general specifications are equivalent to the PLC main unit For general specifications, refer to the manual of the PLC main unit.

2.2 Performance Specifications of FX-USB-AW

Current consumption		15 mA / 5 V DC (5 V DC power is supplied from the internal power supply of PLC) 30 mA / 5 V DC (5 V 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)			

2.3 USB Cable Specifications

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

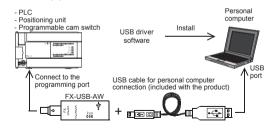
2.4 System Requirements

os	Microsoft® Windows® 98*1, Windows® 98SE*1 Microsoft® Windows® Millennium Edition (Windows® Me)*1 Microsoft® Windows® 2000*1 Microsoft® Windows® XP*2*3 Microsoft® Windows® XP*2*3 Microsoft® Windows® 7*4 Microsoft® Windows® 8*5 Microsoft® Windows® 8*5 Microsoft® Windows® 8.1*6 Microsoft® Windows® 10*7
Software	GX Works2 (SWIDNC-GXW2-J, SWIDNC-GXW2-E) GX Developer (SWID5C-GPPW-J, SWID5C-GPPW-E) FX-PCSWIN*, F.X-PCS-WIN-E*9 FX-PCS-VPS/WIN, FX-PCS-VPS/WIN-E
Programmable controller	FX0, FX0S, FX0N, FX1S, FX1N, FX2N, FX3U, FX1NC*10, FX2NC, FX3UC, FX2N-10GM, FX2N-20GM, FX2N-1RM(-E)-SET

- *1 Use the USB driver for Windows® 98. Windows® 98SE, Windows® Millennium Edition and Windows® 2000 included in the USB driver software Ver. 1.70.
- *2 Use the USB driver for Windows® XP and Windows Vista® included in the USB driver software Ver 1 70
- *3 Only the 32-bit version of this operating system is supported.
- *4 USB driver Ver. 1.30 or later is applicable to Windows® 7 32-bit version. USB driver Ver. 1.40 or later is applicable to Windows® 7 64-bit version. Use the applicable USB driver for Windows® 7 included in the USB driver
- *5 Use the USB driver for Windows® 8 included in the USB driver software Ver. 1.70.
- *6 Use the USB driver for Windows® 8.1 included in the USB driver software Ver. 1.70.
- *7 Use the USB driver for Windows® 10 included in the USB driver software Ver. 1.70
- *8 FX-PCS/WIN for versions earlier than 4.30, the communication port setting can he selected from COM1-COM4
 - For versions 4.30 or later, the communication port setting can be selected from COM1-COM9
- *9 FX-PCS/WIN-E 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
- *10 FX1NC Series PLC specification details for I/O, wiring.
- installation, and maintenance can only be found in the Japanese Manual

3. System Configuration

Connected equipment and connected cable



Cable for personal Connected equipment Baud rate computer connection FYN FYNS FYNN FY1S 6 khns FX1N FX1NC*1 19.2 kbps or less FX2N (Earlier than Ver. 3.00) 9.6 kbps Programmable EYanc/Earlier than Ver 3.00 USB cable of controller FX2N (Ver. 3.00 or later). 19.2 kbps or less 5 m (196.9") at FX2NC(Ver. 3.00 or later) moet (Included 115.2 kbps or cable is 3 m EX311 EX311C (118 1")) Positionina EX2N-10GM EX2N-20GM 9 6 khns Programmable FX2N-1RM-F-SET a 6 khns cam ewitch

- *1 FX1NC 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

4. Connecting Procedure

- 1) Power off the PLC
- 2) Connect the USB (Mini-B plug male) connector of the USB cable to the FX-
- 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 nersonal computer)

5. Driver Installation

Please connect the USB cable to the personal computer. Install USB driver software. For USB driver software, consult with your local Mitsubishi Electric sales representative.

Caution

- · Please confirm whether the installation is performed normally after the installation of the driver. Regarding confirmation, refer to Chapter 6
- . The driver is not installed properly when the process is canceled during installation. To complete installation, uninstall the driver, and install again. For the uninstallation procedure of the driver, refer to the following manual.

→ FX-USB-AW/FX3u-USB-BD User's Manual - USB Driver Installation Edition

 This product requires USB Driver Installation for each USB port to be used. To use multiple USB ports, connect this product to each port, and install the driver

The driver is not installed properly if the driver of a different version has already been installed. To complete installation, uninstall the driver, and install again, (With Windows Vista®, Windows® 7, Windows® 8/8.1 or Windows® 10, driver installation will occur automatically

In other OS, depending on the PC environment, driver installation may occur automatically, or the location for the file may be required to be specified.)

USB driver software (Ver. 1.70) folder structure

<Unzipped folder name>

- <Win2000 MF 98> The USB driver for Windows® 98, Windows® 98SE, Windows® Millennium Edition (Me) and Windows® 2000 is stored.

<WinVista XP: The USB driver for Windows® XP and Windows Vista® is stored.

The USB driver for Windows® 7 32-bit version is stored. <Win7 64>

The USB driver for Windows® 7 64-bit version is stored.

<\//in8>

The USB driver for Windows® 8 is stored

<\/i>\/in8 1>

The USB driver for Windows® 8.1 is stored

<Win10 32>

The USB driver for Windows® 10 32-bit version is stored

The USB driver for Windows® 10 64-bit version is stored

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

Please install the driver with the following procedure

The installation procedure is explained when connecting to a personal computer with Windowe® YD

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



- Windowe® YD

Add a check mark to [Install from a list or specific location (Advanced)] and click [Next > 1. The window to select the installation path for the files will

Add a check mark to "Specify search location", and install by specifying the folder of USB driver software

 Windows® 98. Windows® 98SE. Windows® Millennium Edition. Windows® 2000

Click [Next>] and the window to select the location of the installation files will appear

Add a check mark to "Specify search location", and install by specifying the folder of USB driver software

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



Click [Continue Anyway].

3) The completion screen is displayed.

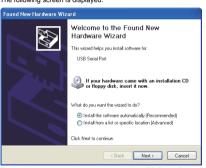
Click [Finish].

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 installation of the USB driver software is completed.

Next, please confirm whether the installation is performed normally. Regarding confirmation, refer to Chapter 6.

4) The following screen is displayed



Follow the same procedure as 1) to install the USB Serial Port software.

5) The screen of 2) is displayed. (Only in Windows® XP) Click [Continue Anyway].

The completion screen is displayed.

Click [Finish]

The installation of the USB Serial Port software will finish

Next, please confirm whether the installation is performed normally. Regarding confirmation, refer to Chanter 6

5.2 Windows Vista® Windows® 7 Windows® 8/8.1 Windows® 10

For the installation procedure of the driver, refer to the following manual.

→ FX-USB-AW/FX3u-USB-BD User's Manual - USB Driver Installation Edition

6. Installation Confirmation of Driver Procedure for confirming the installation of the driver is described below

Please perform the following procedure, where the FX-USB-AW is connected to the personal computer.

Windows® XP example follows.

 In Windows® XP, click [Start] → [Control Panel] → [Performance and Maintenance] → [System] → [Hardware] → [Device Manager] and the window below will be

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 Vieta®

A screen that is equivalent to the one below is displayed by clicking ∫ Start 1 → ∫ 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

If using Windows® 7

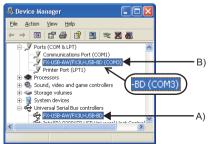
A screen that is equivalent to the one below is displayed by clicking ∫ Start 1 → ∫ Control Panel 1 → [System and Security 1 → [Device Manager] in the menu of the personal computer

If using Windows® 8/8 1

A screen that is equivalent to the one below is displayed by clicking [Start] → [All apps] → [Control Panel] → [System and Security] → [Device Manager] in the menu of the personal compute

If using Windows® 10

A screen that is equivalent to the one below is displayed by clicking [Start] → [Windows System 1 → [Control Panel] → [Hardware and Sound] → [Device Manager 1 in the menu of the personal computer.



Check following:

- 1) "FX-USB-AW/FX3U-USB-BD" is displayed at A), as part of the list of the "Universal Serial Bus controllers"
- 2) "FX-USB-AW/FX3U-USB-BD (COM*)" is displayed at B), as part of the serial port list. * indicates the COM number used in FX-USB-AW.

3) Is not displayed

Identification result:

. If 1) through 3) are all confirmed, installation is normal. Select the programming software COM number as the COM number currently assigned on the screen above.

 If any one of 1) through 3) is not satisfied, installation is not normal. (If the USB serial port software is not installed or the installation procedure is canceled in process are possible causes)

In this case, please start the installation procedure again from the beginning, after uninstalling the driver. For the installation procedure of the driver, refer to Chapter 5. For the uninstallation procedure of the driver, refer to the following manual.

→ FX-USB-AW/FX3U-USB-BD User's Manual - USB Driver Installation Edition

7. Uninstalling Driver

For the uninstallation procedure of the driver, refer to the following manual.

8 Caution on Use

STARTUP AND MAINTENANCE PRECALITIONS

M WARNING

Before modifying or disrupting the program in operation or running the PLC carefully read through this manual and the associated manuals and ensure the safety of the operation.

An operation error may damage the machinery or cause accidents.

MAINTENANCE PRECAUTIONS

∴ CAUTION

Do not disassemble or modify the PLC

Doing so may cause fire equipment failures or malfunctions

* For repair, contact your local Mitsubishi Electric representative.

Since the FX-USB-AW case is made of resin, do not drop it or exert strong impact

Doing so may cause damage

DISPOSAL DECVILLONS

↑ CAUTION

Please contact a certified electronic waste disposal company for the environmentally safe recycling and disposal of your device

TRANSPORTATION AND STORAGE PRECAUTIONS

↑CAUTION

 The product is a precision instrument. During transportation, avoid impacts large. than those specified in the general specifications by using dedicated packaging hoves and shock-absorbing palettes

Failure to do so may cause failures in the product

After transportation, verify operation of the product and check for damage of the mounting part, etc.

- FX-USB-AW and a personal computer are connected and the PLC is turned on, and then 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.
- If a communication error message appears 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.

9. Troubleshooting

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

State of the POWER LED	Contents			
POWER LED is lit	The 5 V DC 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 5 V DC 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 status of the SD LED and RD LED		Contents		
	Blinking	Communicating correctly		
SD	OFF	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, such as the COM number, and connected PLC are correctly set in the software. Refer to the software manual. Please check whether the driver can be installed normally. Regarding confirmation, refer to Chapter 6.		

LED and RD LED		Contents		
	Blinking	Data receiving		
RD	OFF	Confirm that the power is supplied to PLC. The PLC will not operate when a configuration that exceeds the \$ V DC or 24 V DC 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, such as the COM number, connected PLC are correctly set in the software. Refer to the software manual. Please check whether the driver can be installed normally. Reparating confirmation, refer to Chanter 6.		

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 for the current port.

The driver is not installed properly if the driver of a different version has already been installed. To complete installation, uninstall the driver, and

| 由器由子产品有害物质限制使用标识要求 | 的表示方式



The status of the SD

Note: This symbol mark is for China only.

含有有害6物质的名称,含有量,含有部品

本产品中所含有的有害6物质的名称,含有量,含有部品加下表 所示。

产品中有害物质的名称及含量

部件名称		有害物质					
		铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴 二苯醚 (PBDE)
可编程 空制器	外壳	0	0	0	0	0	0
	印刷基板	×	0	0	0	0	0

本表格依据ST/T 11364的规定编制。

- 〇:表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。
- ×:表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572规定的限量要求。

基于中国标准法的参考规格: GB/T15969.2

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Exclusion of loss in opportunity and secondary loss from warranty liability Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to:

(1) Damages caused by any cause found not to be the responsibility of Mitsubishi. (2) Loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products.

(3) Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.

(4) Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

/!\ 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.

MITSUBISHI ELECTRIC CORPORATION

MITSUBISHI



Side



USER'S MANUAL



Manual Number	JY997D13201
Revision	R
Date	March 2020

This manual describes the part names, dimensions, mounting, and specifications of the product. Before use, read this manual and the manuals 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. Store this manual in a safe place so that it can be taken out and read whenever necessary. Always forward it to the end user

Registration: Microsoft, Windows, Windows Vista, and Windows XP are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The company names, system names and product names mentioned in this manual are either registered trademarks or trademarks of their respective companies. In some cases, trademark symbols such as $^{\mbox{\tiny TIM}}$ or $^{\mbox{\tiny SS}}$ are not specified in this manual.

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 $\textbf{Safety Precautions} \ (\textbf{Read these precautions before use.})$ This manual classifies the safety precautions into two categories

MARNING and **MCAUTION**

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⚠CAUTION	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

Associated Manuals

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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.		

For product manuals or documents, consult with your local Mitsubishi Electric

This notification does not guarantee that an entire mechanical module produced in accordance with the contents of the notification comply with the following standards. Compliance to EMC standards of the entire mechanical module should be checked by the user / manufacturer.

This product is designed for use in industrial applications

Standards with which this product complies

Type: Programmable Controller (Open Type Equipment) dels: Products manufactured from August 1st. 2004

Electromagnetic Compatibility Standards (EMC)						
EN61000-6-4:2007 Generic emission standard Industrial environment	Compliance with all relevant aspects of the standard. • Emission-Enclosure port • Emission-Low voltage AC mains port • Emission-Telecommunications/network port					
EN61131-2:2007 Programmable controllers - Equipment requirements and tests	Compliance with all relevant aspects of the standard. EMI Radiated Emission • Conducted Emission EMS Radiated electromagnetic field Fast transient burst • Electrostatic discharge High-energy surge Voltage drops and interruptions • Conducted RF Power frequency magnetic field					
EN61000-6-2:2005 - Generic immunity standard Industrial environment	Compliance with all relevant aspects of the standard. Radio-frequency electromagnetic field. Amplitude modulated Fast transients Surges Voltage interruptions Radio-frequency common mode Power-frequency magnetic field					

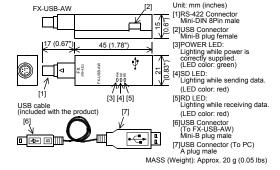
Notes for compliance to EMC regulation. It is necessary to install the (FX-USB-AW) in a shielded metal control panel. For more details please contact the local Mitsubishi Electric sales site.

The FX-USB-AW is a RS-422/USB conversion interface unit to connect the FX series PLC to a personal computer with USB ports.

1.1 Incorporated Items

voiny that the leneming p	only that the lenewing product and nome are included in the passage.				
Product	FX-USB-AW type interface unit				
Included items	USB cable (3 m (118.1")) User's Manual (this manual)				

1.2 External Dimensions and Part Names



2. Specifications

INSTALLATION PRECAUTIONS	 ∴ CAUTION

Use the product within the generic environment specifications described in PLC main unit manual (Hardware Edition). Never use the product in areas with excessive dust, oily smoke, conductive dusts corrosive gas (salt air. Ctz, HzS, SOz or NOz), flammable gas, vibration or impacts or expose it to high temperature, condensation, or rain and wind. If the product is used in such conditions, electric shock, fire, malfunctions deterioration or damage may occur.

2.1 General Specifications The general specifications are equivalent to the PLC main unit

eneral specifications, refer to the manual of the PLC main unit

2.2 Performance Specifications of FX-USB-AW

Current consu	umption	the internal power supply of PLC) 30 mA / 5 V DC (5 V DC power is supplied from the USB connector of personal computer)			
Level Convers	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)			
2.3 USB Ca	ble Specificati	ons			
Signal name	To FX-USB-AW	USB (Mini-B plug male)			
(Port)	To PC	USB (A plug male)			
Length of cab	le	5 m (196.9") at most (Included cable is 3 m (118.1").)			

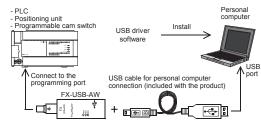
2.4 System R	equirements
os	Microsoft® Windows® 98*1, Windows® 98SE*1 Microsoft® Windows® Millennium Edition (Windows® Me)*1 Microsoft® Windows® 2000*1 Microsoft® Windows® XP*2*3 Microsoft® Windows® XP*2*3 Microsoft® Windows® 7*4 Microsoft® Windows® 8*5 Microsoft® Windows® 8*5 Microsoft® Windows® 8*5 Microsoft® Windows® 8.1*6 Microsoft® Windows® 10*7
Software	GX Works2 (SWIDNC-GXW2-J, SWIDNC-GXW2-E) GX Developer (SWID5C-GPPW-J, SWID5C-GPPW-E) FX-PCSWIN*, FX-PCSAWIN-E*9 FX-PCS-VPS/WIN, FX-PCS-VPS/WIN-E
Programmable controller	FX0, FX0S, FX0N, FX1S, FX1N, FX2N, FX3U, FX1NC*10, FX2NC, FX3UC· FX2N-10GM, FX2N-20GM, FX2N-1RM(-E)-SET

- *1 Use the USB driver for Windows® 98, Windows® 98SE, Windows® Millennium Edition and Windows® 2000 included in the USB driver software Ver. 1.70.
- *2 Use the USB driver for Windows® XP and Windows Vista® included in the USB
- *3 Only the 32-bit version of this operating system is supported
- *4 USB driver Ver. 1.30 or later is applicable to Windows® 7 32-bit version. USB driver Ver. 1.40 or later is applicable to Windows® 7 64-bit version. Use the applicable USB driver for Windows® 7 included in the USB driver software Ver. 1.70.
- *5 Use the USB driver for Windows® 8 included in the USB driver software Ver. 1.70.
- *6 Use the USB driver for Windows® 8.1 included in the USB driver software Ver. 1.70.
- *7 Use the USB driver for Windows® 10 included in the USB driver software Ver. 1.70. *8 FX-PCS/WIN 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
- *9 FX-PCS/WIN-E 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

- *10 FX1NC Series PLC specification details for I/O, wiring, installation, and maintenance can only be found in the Japanese Manual.

3. System Configuration



Xo, FXos, FXon, FX1s X1N, FX1NC*1 FX2N (Earlier than Ver. 3.00) 9.6 kbps FX2NC(Earlier than Ver. 3.00 Programmab FX2N (Ver. 3.00 or later) 19.2 kbps or less 5 m (196.9") at nost (Included 115.2 kbps or cable is 3 m FX3U, FX3UC (118.1")) FX2N-10GM, FX2N-20GM 9.6 kbps Programmable cam switch FX2N-1RM-E-SET

- *1 FX1NC 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

4. Connecting Procedure

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

5. Driver Installation

Please connect the USB cable to the personal computer. Install USB driver software. For USB driver software, consult with your local Mitsubishi Electric sales

installation of the driver. Regarding confirmation, refer to Chapter 6. The driver is not installed properly when the process is canceled during installation. To complete installation, uninstall the driver, and install again. For

the uninstallation procedure of the driver, refer to the following manual. \rightarrow FX-USB-AW/FX3 \cup -USB-BD User's Manual

use multiple USB ports, connect this product to each port, and install the driver

The driver is not installed properly if the driver of a different version has already been installed. To complete installation, uninstall the driver, and install again. (With Windows Vista®, Windows® 7, Windows® 8/8.1 or Windows® 10, driver

installation will occur automatically.

In other OS, depending on the PC environment, driver installation may occur automatically, or the location for the file may be required to be specified.)

USB driver software (Ver. 1.70) folder structure

<un><unzipped folder name>└─ <use>USB driver software file name>

<Win2000 ME 98>

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

The USB driver for Windows® XP and Windows Vista® is stored.

The USB driver for Windows® 7 32-bit version is stored

<Win7_64> The USB driver for Windows® 7 64-bit version is stored.

The USB driver for Windows® 8 is stored.

<Win8_1>
The USB driver for Windows® 8.1 is stored.

<Win10_32>

The USB driver for Windows® 10 32-bit version is stored.

<Win10 64> The USB driver for Windows® 10 64-bit version is stored

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

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

• Installation methods for Windows® 98, Windows® 98SE, Windows® Millennium Edition, and Windows® 2000 will vary.

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



Add a check mark to [Install from a list or specific location (Advanced)] and click [Next >]. The window to select the installation path for the files will

appear.

Add a check mark to "Specify search location", and install by specifying the folder of USB driver software. Windows® 98, Windows® 98SE, Windows® Millennium Edition, Windows®

Click [Next>] and the window to select the location of the installation files will appear.
Add a check mark to "Specify search location", and install by specifying the folder of USB driver software.

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



Click [Continue Anyway].

3) The completion 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 installation of the USB driver software is completed. Next, please confirm whether the installation is performed normally.

Regarding confirmation, refer to Chapter 6. 4) The following screen is displayed



5) The screen of 2) is displayed. (Only in Windows® XP)
Click [Continue Anyway].
6) The completion screen is displayed.
Click [Finish].
The installation of the USB Serial Port software will finish.

Next, please confirm whether the installation is performed normally. Regarding

confirmation, refer to Chapter 6. 5.2 Windows Vista®, Windows® 7, Windows® 8/8.1, Windows® 10 he installation procedure of the driver, refer to the following manual.

→ FX-USB-AW/FX₃u-USB-BD User's Manual - USB Driver Installation Edition

6. Installation Confirmation of Driver

Procedure for confirming the installation of the driver is described below. Please perform the following procedure, where the FX-USB-AW is connected to the

Windows® XP example follows.

• 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

VYIIIUUWS™ ZUUU
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

A screen that is equivalent to the one below is displayed by clicking [Start] \rightarrow [Control Panel] \rightarrow [Hardware and Sound] \rightarrow [Device Manager] in the menu of the personal

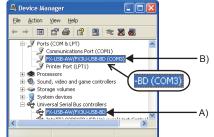
When user account control is enabled Only when user account control is enabled will the "user account control" screen be

Click [Continue], when displayed. Fit using Windows® 7

A screen that is equivalent to the one below is displayed by clicking [Start] → [Control Panel] → [System and Security] → [Device Manager] in the menu of the personal

If using Windows® 8/8.1 A screen that is equivalent to the one below is displayed by clicking [Start] \rightarrow [All apps] \rightarrow [Control Panel] \rightarrow [System and Security] \rightarrow [Device Manager] in the menu of the personal computer

If using windows $^{\circ}$ to $^{\circ}$ A screen that is equivalent to the one below is displayed by clicking [Start] \rightarrow [Windows System] \rightarrow [Control Panel] \rightarrow [Hardware and Sound] \rightarrow [Device Manager] in the menu of the personal computer.



1) "FX-USB-AW/FX3U-USB-BD" is displayed at A), as part of the list of the "Universal Serial Bus controllers"

2) "FX-USB-AW/FX3U-USB-BD (COM*)" is displayed at B), as part of the serial port list.
* indicates the COM number used in FX-USB-AW.

3) ! is not displayed. Identification result:

If 1) through 3) are all confirmed, installation is normal.
 Select the programming software COM number as the COM number currently assigned on the screen above.

If any one of 1) through 3) is not satisfied, installation is not normal (If the USB serial port software is not installed or the installation procedure is canceled in process are possible causes) In this case, please start the installation procedure again from the beginning, after

uninstalling the driver. For the installation procedure of the driver, refer to Chapter 5.

For the uninstallation procedure of the driver, refer to the following manual.

→ FX-USB-AW/FX3u-USB-BD User's Manual - USB Driver Installation Edition

7. Uninstalling Driver

STARTUP AND

For the uninstallation procedure of the driver, refer to the following manual.

→ FX-USB-AW/FX3U-USB-BD User's Manual - USB Driver Installation Edition 8. Caution on Use

_MARNING Before modifying or disrupting the program in operation or running the PLO

carefully read through this manual and the associated manuals and ensu safety of the operation An operation error may damage the machinery or cause accidents STARTUP AND MAINTENANCE PRECAUTIONS **ACAUTION**

Do not disassemble or modify the PLC.

Doing so may cause fire, equipment failures, or malfunctions

For repair, contact your local Mitsubishi Electric representative Since the FX-USB-AW case is made of resin, do not drop it or exert strong impa

DISPOSAL PRECAUTIONS			 ∴ CAUTION						
* Dloogo	contact	_	cortified	alaatrania	wasta	dianagal	oomnon/	for	41

TRANSPORTATION AND STORAGE PRECAUTIONS ____CAUTION

environmentally safe recycling and disposal of your device

The product is a precision instrument. During transportation, avoid impacts large than those specified in the general specifications by using dedicated packaging

boxes and shock-absorbing palettes.
Failure to do so may cause failures in the product. After transportation, verify operation of the product and check for damage of the

- FX-USB-AW and a personal computer are connected and the PLC is turned on, and
- In such a case, clear the message and try the operations again If a communication error message appears 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

Make sure to save the program before transferring or changing it.

The status of the SD

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

State of the POWER LED	Contents
POWER LED is lit	The 5 V DC 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 5 V DC 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

LED and RD LED		
	Blinking	Communicating correctly
SD	OFF	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, such as the COM number, and connected PLC are correctly set in the software. Refer to the software manual. Please check whether the driver can be installed normally. Regarding confirmation, refer to Chapter 6.

Contents Confirm that the power is supplied to PLC. The PLC will not operate when a configuration that exceeds the 5 V DC or 24 V DC capacity is used. It will also be impossible to communicate RD Confirm that the specified cable is used to connect the personal computer and PLC Confirm that the communication settings, such as the COM number, connected PLC are correctly set in the software. Refer to the software manual Please check whether the driver can be installed

normally. Regarding confirmation, refer to Chapter 6 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 for the current port.

The driver is not installed properly if the driver of a different version has already been installed. To complete installation, uninstall the driver, and install again.



Note: This symbol mark is for China only.

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		<i>,</i> ,	IH-IH	白コカル	ויורנו	小人口里			
	部件名称			有害物质					
			铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴 二苯醚 (PBDE)	
可编程		外壳	0	0	0	0	0	0	
	控制器	印刷甘槟	~						

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〇:表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572

规定的限量要求以下。 ※:表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T

26572规定的限量要求。 基于中国标准法的参考规格: GB/T15969.2

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Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with

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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