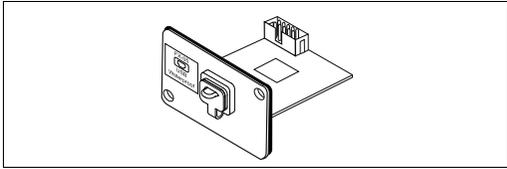# FX-05

USB Interface for FZ / FX / FZ-WP / FX-WP

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Instruction Manual

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Safety Precautions

To prevent accidents due to inappropriate handling, this manual contains the following warning signs and marks. The meanings of these warning signs and marks are as follows.

Note	Contains a description of precautions to follow to ensure correct use.

1. Introduction

FX-05 is a USB interface option for A&D precision electronic balance FZ/FX/FZ-WP/FX-WP series. This document is a product outline of FX-05 and a manual for installation and use.

2. Features

- Connects via USB to send weighing values to your computer. Compatible with Windows 7 or later.
- There are two communication methods: quick USB mode (one-way communication) and virtual COM mode (two-way communication).
- The above methods can be selected by switching the "USB operation mode (UFnc)" settings in the balance's internal "Optional interface (oP-iF)" settings.
- USB cable (about 1.8m in length) is included.
- Communication on the FZ-WP/FX-WP does not compromise the dust-proof and drip-proof specifications (IP65) of the balance.

2-1. Quick USB mode
- In quick USB mode, connect the balance to your PC with the included USB cable to directly input balance output to Excel, Word or other software on your PC.
- This mode uses the standard Windows driver (HID), so a dedicated driver is not required and communication is enabled simply by connecting your PC and the balance.

Note
- Only measurement data can be sent to the PC (Except Header, Unit).
- Quick USB mode is one-way communication from the balance to the PC. It is not possible to send commands to control the balance from the PC.
- Do not use quick USB mode when the data output mode of the balance is stream mode. In stream mode, the balance continues to output weighing data to the PC, which may cause unintended PC operations.

2-2. Virtual COM mode
- In virtual COM mode, connect the balance to your PC with the included USB cable to create a COM port on your PC to enable two-way communication.
- A dedicated driver is required to enable use on PCs running an OS other than Windows 10 or 11.
- For the driver, download the "virtual COM mode driver" from A&D website https://www.aandd.jp（The driver to be used is common with the GX-A/GF-A series.)

- Select a COM port with WinCT data communication software to enable communication equivalent to RS-232C.
- In virtual COM mode, it is not necessary to set the baud rate, data bit, parity, or stop bit for the data communication software.

Note
Allow for extra time when first installing the virtual COM mode driver.

3. How To Install

Note
Remove the AC adapter from the balance and turn off the power before performing the following operations.

Steps	Description	Operations
1.	Remove the panel and screws (2 pieces) on the back of the balance. For FZ-WP/FX-WP, also remove the rubber packing attached with the panel.	Back of the balance Step 2 Step 1
2.	Peel off the cable connector attached to the panel with double-sided tape, and pull it out of the balance case.	
3.	Pass the cable through the hole in the rubber packing that comes with FX-05. Note: If the rubber packing is not installed correctly, the weighing display of the balance may become unstable. This may also affect the dust/splash-proof specifications of the FZ-WP/FX-WP.	Back of the balance Step 3 Step 4 Rubber packing
4.	Insert the connector into FX-05. Note: Do not pull the cable forcibly.	FX-05
5.	Secure the FX-05 with the two screws removed in step 1. Note: Fix firmly so that there are no gaps between the back of the balance, the rubber packing, and the FX-05 panel.	Back of the balance Step 5 FX-05

4. Function Table

- Installing FX-05 on the balance adds the following "Optional interface (oP-iF)" after the balance's internal "Serial interface (SiF)" setting.

Class	Setting item	Parameter	Description
Optional interface (oP-iF)	UFnc (USB Function) USB operating mode	■ 0	Quick USB mode
		1	Virtual COM mode
	CrLF (Carriage Return, Line Feed) Terminator	■ 0	CRLF
		1	CR
	tYPE (Type) Date format *Only valid in virtual COM mode	■ 0	A&D basic format
		4	NU format
		5	CSV format
		6	NU2 format
		7	TAB format
	5-id (Send ID) Add ID number	■ 0	Do not output ID number
		1	Output ID number
	5-td (Send Time Date) ADD Time Date ★1	■ 0	Do not output Time/Date
		1	Output Time
		2	Output Date
		3	Output Time/Date
	PU5E (Pause)	■ 0	OFF
	Data output interval	1	ON 1.6 second interval
	At-F (Auto Feed)	■ 0	OFF
	Auto feed	1	ON Leave 1 line
	t-UP (Time up)	0	No limit
	Command time out	■ 1	Limited to 1 second
	ErCd (Error code)	■ 0	OFF
	AK, error code	1	ON
	info (Information)	■ 0	OFF
	GLP output	1	ON (Clock date of balance)
		2	ON (Clock date of external device)

■ This is a factory setting. ★1 This is only for FZ/FZ-WP series.

5. How To Switch The USB Operation Mode

- Switch between quick USB mode (one-way communication) and virtual COM mode (two-way communication).

Steps	Description	Display and key operation
1.	Press and hold the SAMPLE key (about 2 seconds) on the weighing display to display bASFnc.	0000 g → (Press and hold Approx. 2 sec) → bASFnc
2.	Press the SAMPLE key multiple times until oP-iF is displayed.	(Press a few times) → oP-iF
3.	Press the PRINT key.	UFnc QUICK
4.	Use the RE-ZERO key to switch the UFnc setting to 0 (quick USB mode) or 1 (virtual COM mode).	UFnc QUICK (Quick USB) / UFnc V COM (Virtual COM)
5.	Press the PRINT key to register the settings.	End / Unit
6.	Press the CAL key to return to weighing display.	0000 g

6. How To Use Quick USB Mode

- Send weighing data using the PRINT key on the balance.

Steps	Description	Display and key operation	Weighing operation
1.	Attach the FX-05 to the balance by referring to "3. How to Install".	0000 g	
2.	Set UFnc to 0 (Quick USB mode) in function table oP-iF by referring to "5. How To Switch The USB Operation Mode".	UFnc QUICK	
3.	Connect the balance and PC with the USB cable that comes with FX-05.	0000 g U5b turns on (Approx. 2 sec)	
4.	When connecting for the first time, the PC will automatically start installing the driver.		
5.	Start the PC software (Excel, etc.) that you will send the weighing data to.		
6.	Place the cursor where you want to enter weighing data.		
7.	Press the PRINT key on the balance to send weighing data from the balance and enter it at the cursor position on the PC.	1234 g Data output	
8.	When finished, unplug the USB cable.	0000 g	

7. How To Use The Virtual Com Mode

- Obtain weighing data using the PRINT key on the balance or a command from a PC (WinCT).

Steps	Description	Display and key operation	Weighing operation
1.	Attach the FX-05 to the balance by refering to "3. How To Install".	0000 g	
2.	Refer to "5. How To Switch the USB Operation Mode" and set the UFnc setting in function table oP-iF to 1 (virtual COM mode).	UFnc V COM	
3.	Connect the balance and PC with the USB cable that comes with FX-05.	0000 g USb turns on (Approx. 2 sec)	
4.	The driver must be installed manually, except when running Windows 10 or 11. For how to install the driver, refer to the PDF file in "Virtual COM mode driver" on A&D website https://aandd.jp.		
5.	Start the PC software (WinCT, etc.) that sends weighing data.		
6.	Select the COM port to enable communication equivalent to RS-232C. In virtual COM mode, it is not necessary to set the baud rate, data bit, parity, or stop bit of the data communication software.		
7.	Weighing data is sent from the balance by sending a data request command from the balance's PRINT key or the PC. Output example: A&D standard format (factory setting) ST,+0001.234␣␣g	1234 g Or send data request Command from PC Data output	
8.	To finish, exit the PC software (WinCT) and then disconnect the USB cable.	0000 g	