



PROGRAMMABLE CONTROLLERS

MELSEC iQ-F
series



MELSEC iQ-F
FX5 User's Manual (Startup)

SAFETY PRECAUTIONS

(Read these precautions before use.)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay attention to safety in order to handle the product correctly.

This manual classifies the safety precautions into two categories: [⚠️ WARNING] and [⚠️ CAUTION].

| | |
|--|---|
|  WARNING | 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 minor or moderate injury or property damage. |

Depending on the circumstances, procedures indicated by [⚠️ CAUTION] may also cause severe injury.

It is important to follow all precautions for personal safety.

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

[DESIGN PRECAUTIONS]

WARNING

- Make sure to set up the following safety circuits outside the PLC to ensure safe system operation even during external power supply problems or PLC failure. Otherwise, malfunctions may cause serious accidents.
 - Most importantly, set up the following: an emergency stop circuit, a protection circuit, an interlock circuit for opposite movements (such as forward vs. reverse rotation), and an interlock circuit to prevent damage to the equipment at the upper and lower positioning limits.
 - Note that when the CPU module detects an error, such as a watchdog timer error, during self-diagnosis, all outputs are turned off. Also, when an error that cannot be detected by the CPU module occurs in an input/output control block, output control may be disabled. External circuits and mechanisms should be designed to ensure safe machine operation in such a case.
 - Note that the output current of the 24 V DC service power supply varies depending on the model and the absence/presence of extension modules. If an overload occurs, the voltage automatically drops, inputs in the PLC are disabled, and all outputs are turned off. External circuits and mechanisms should be designed to ensure safe machine operation in such a case.
 - Note that when an error occurs in a relay or transistor of an output circuit, the output might stay on or off. For output signals that may lead to serious accidents, external circuits and mechanisms should be designed to ensure safe machine operation.
 - Construct an interlock circuit in the program to ensure safe operation for the whole system when executing control (for data change) of the PLC in operation.
Read the manual thoroughly and ensure complete safety before executing other controls (for program change, parameter change, forced output and operation status change) of the PLC in operation. Otherwise, the machine may be damaged and accidents may occur due to erroneous operations.
 - In an output circuit, when a load current exceeding the current rating or an overcurrent caused by a load short-circuit flows for a long time, it may cause smoke and fire. To prevent this, configure an external safety circuit, such as a fuse.
 - For the operating status of each station after a communication failure of the network, refer to relevant manuals for the network. Incorrect output or malfunction may result in an accident.
-

[DESIGN PRECAUTIONS]

CAUTION

- When an inductive load such as a lamp, heater, or solenoid valve is controlled, a large current (approximately ten times greater than normal) may flow when the output is turned from off to on. Take proper measures so that the flowing current does not exceed the value corresponding to the maximum load specification of the resistance load.
 - After the CPU module is powered on or is reset, the time taken to enter the RUN status varies depending on the system configuration, parameter settings, and/or program size.
Design circuits so that the entire system will always operate safely, regardless of this variation in time.
 - Simultaneously turn on and off the power supplies of the CPU module and extension modules.
 - If a long-time power failure or an abnormal voltage drop occurs, the PLC stops, and output is turned off. When the power supply is restored, it will automatically restart (when the RUN/STOP/RESET switch is on RUN).
-

[INSTALLATION PRECAUTIONS]

WARNING

- Make sure to cut off all phases of the power supply externally before attempting installation or wiring work. Failure to do so may cause electric shock or damage to the product.
 - Use the product within the generic environment specifications described in the FX5 User's Manual (Hardware).
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.
-

[INSTALLATION PRECAUTIONS]

CAUTION

- Do not touch the conductive parts of the product directly. Doing so may cause device failures or malfunctions.
 - When drilling screw holes or wiring, make sure that cutting and wiring debris do not enter the ventilation slits of the PLC. Failure to do so may cause fire, equipment failures or malfunctions.
 - For product supplied together with a dust proof sheet, the sheet should be affixed to the ventilation slits before the installation and wiring work in order to block foreign objects such as cutting and wiring debris.
However, when the installation work is completed, make sure to remove the sheet to provide adequate ventilation. Failure to do so may cause fire, equipment failures or malfunctions.
 - Install the product on a flat surface. If the mounting surface is rough, undue force will be applied to the PC board, thereby causing nonconformities.
 - Install the product securely using a DIN rail or mounting screws.
 - Connect the expansion board and expansion adapter securely to their designated connectors. Loose connections may cause malfunctions.
 - Make sure to affix the expansion board with tapping screws. Tightening torque should follow the specifications in the manual. If the screws are tightened outside of the specified torque range, poor connections may cause malfunctions.
-

CAUTION

- Work carefully when using a screwdriver during product installation. Failure to do so may cause damage to the product or accidents.
 - Connect the extension cables, peripheral device cables, input/output cables and battery connecting cable securely to their designated connectors. Loose connections may cause malfunctions.
 - When using an SD memory card, insert it into the SD memory card slot. Check that it is inserted completely. Poor contact may cause malfunction.
 - Turn off the power to the PLC before attaching or detaching the following devices. Failure to do so may cause device failures or malfunctions.
 - Peripheral devices, expansion board and expansion adapter
 - Extension modules and bus conversion module
 - Battery
-

[WIRING PRECAUTIONS]

WARNING

- Make sure to cut off all phases of the power supply externally before attempting installation or wiring work. Failure to do so may cause electric shock or damage to the product.
 - Make sure to attach the terminal cover, provided as an accessory, before turning on the power or initiating operation after installation or wiring work. Failure to do so may cause electric shock.
 - The temperature rating of the cable should be 80°C or more.
 - Make sure to wire the screw terminal block in accordance with the following precautions. Failure to do so may cause electric shock, equipment failures, a short-circuit, wire breakage, malfunctions, or damage to the product.
 - Wire terminals should follow the dimensions described in the FX5 User's Manual (Hardware).
 - Tightening torque should follow the specifications in the FX5 User's Manual (Hardware).
 - Tighten the screws using a Phillips-head screwdriver No. 2 (shaft diameter 6 mm (0.24") or less). Make sure that the screwdriver does not touch the partition part of the terminal block.
 - Make sure to wire the terminal block (European type) in accordance with the following precautions. Failure to do so may cause electric shock, equipment failures, a short-circuit, wire breakage, malfunctions, or damage to the product.
 - Wire terminals should follow the dimensions described in the FX5 User's Manual (Hardware).
 - Tightening torque should follow the specifications in the FX5 User's Manual (Hardware).
 - Twist the ends of stranded wires and make sure that there are no loose wires.
 - Do not solder-plate the electric wire ends.
 - Do not connect more than the specified number of wires or electric wires of unspecified size.
 - Affix the electric wires so that neither the terminal block nor the connected parts are directly stressed.
-

[WIRING PRECAUTIONS]

CAUTION

- Do not supply power to the [24+] and [24V] terminals (24 V DC service power supply) on the CPU module or extension modules. Doing so may cause damage to the product.
 - Perform class D grounding (grounding resistance: 100 Ω or less) of the grounding terminal on the CPU module and extension modules with a wire 2 mm² or thicker.
However, do not use common grounding (refer to the FX5 User's Manual (Hardware)) with heavy electrical systems.
 - Connect the power supply wiring to the dedicated terminals described in the FX5 User's Manual (Hardware). If an AC power supply is connected to a DC input/output terminal or DC power supply terminal, the PLC will burn out.
 - Do not wire vacant terminals externally. Doing so may cause damage to the product.
 - Install module so that excessive force will not be applied to terminal blocks, power connectors, I/O connectors, communication connectors, or communication cables. Failure to do so may result in wire damage/breakage or PLC failure.
 - Make sure to observe the following precautions in order to prevent any damage to the machinery or accidents due to malfunction of the PLC caused by abnormal data written to the PLC due to the effects of noise.
 - Do not bundle the power line, control line and communication cables together with or lay them close to the main circuit, high-voltage line, load line or power line. As a guideline, lay the power line, control line and connection cables at least 100 mm (3.94") away from the main circuit, high-voltage line, load line or power line.
 - Ground the shield of the shield wire or shielded cable at one point on the PLC. However, do not use common grounding with heavy electrical systems.
 - Ground the shield of the analog input/output cable at one point on the signal receiving side. Do not use common grounding with heavy electrical systems.
-

[STARTUP AND MAINTENANCE PRECAUTIONS]

WARNING

- Do not touch any terminal while the PLC's power is on. Doing so may cause electric shock or malfunctions.
 - Before cleaning or retightening terminals, cut off all phases of the power supply externally. Failure to do so may cause electric shock.
 - Before modifying the program in mid-operation, forcing output, running or stopping the PLC, read through this manual carefully, and ensure complete safety. An operation error may damage the machinery or cause accidents.
 - Do not change the program in the PLC from two or more peripheral equipment devices at the same time. (i.e. from an engineering tool and a GOT) Doing so may cause destruction or malfunction of the PLC program.
-

WARNING

- Use the battery for memory backup in conformance to the FX5 User's Manual (Hardware).
 - Use the battery for the specified purpose only.
 - Connect the battery correctly.
 - Do not charge, disassemble, heat, put in fire, short-circuit, connect reversely, weld, swallow or burn the battery, or apply excessive force (vibration, impact, drop, etc.) to the battery.
 - Do not store or use the battery at high temperatures or expose to direct sunlight.
 - Do not expose to water, bring near fire or touch liquid leakage or other contents directly.
- Incorrect handling of the battery may cause excessive heat, bursting, ignition, liquid leakage or deformation, and lead to injury, fire or failures and malfunction of facilities and other equipment.
-

[STARTUP AND 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.
 - After the first use of the SD memory card, do not insert/remove the memory card more than 500 times. Insertion/removal 500 times or more may cause malfunction.
 - Turn off the power to the PLC before connecting or disconnecting any extension cable. Failure to do so may cause device failures or malfunctions.
 - Turn off the power to the PLC before attaching or detaching the following devices. Failure to do so may cause device failures or malfunctions.
 - Peripheral devices, expansion board and expansion adapter
 - Extension modules and bus conversion module
 - Battery
-

[OPERATION PRECAUTIONS]

CAUTION

- Construct an interlock circuit in the program to ensure safe operation for the whole system when executing control (for data change) of the PLC in operation. Read the manual thoroughly and ensure complete safety before executing other controls (for program change, parameter change, forced output and operation status change) of the PLC in operation. Otherwise, the machine may be damaged and accidents may occur by erroneous operations.
-

[DISPOSAL PRECAUTIONS]

CAUTION

- Please contact a certified electronic waste disposal company for the environmentally safe recycling and disposal of your device.
 - When disposing of batteries, separate them from other waste according to local regulations. For details on the Battery Directive in EU countries, refer to the FX5 User's Manual (Hardware).
-

[TRANSPORTATION PRECAUTIONS]

CAUTION

- When transporting the PLC with the optional battery, turn on the PLC before shipment, confirm that the battery mode is set in PLC parameters and the BAT LED is OFF, and check the battery life. If the PLC is transported with the BAT LED on or the battery exhausted, the battery-backed data may be lost during transportation.
 - The PLC is a precision instrument. During transportation, avoid impacts larger than those specified in the general specifications of the FX5 User's Manual (Hardware) by using dedicated packaging boxes and shock-absorbing pallets. Failure to do so may cause failures in the PLC. After transportation, verify operation of the PLC and check for damage of the mounting part, etc.
 - When transporting lithium batteries, follow required transportation regulations. For details on the regulated products, refer to the FX5 User's Manual (Hardware).
 - Fumigants that contain halogen materials such as fluorine, chlorine, bromine, and iodine used for disinfecting and protecting wooden packaging from insects will cause malfunction in Mitsubishi products. Please take necessary precautions to ensure that residual fumigants do not enter the product, or treat packaging with methods other than fumigation (heat method). Additionally, disinfect and protect wood from insects before packing.
-

INTRODUCTION

This manual contains text, diagrams and explanations which will guide the reader in the correct installation, safe use and operation of the FX5 Programmable Controllers and should be read and understood before attempting to install or use the module.

Always forward it to the end user.

Regarding use of this product

- 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 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.

Note

- If in doubt at any stage during the installation of the product, always consult a professional electrical engineer who is qualified and trained in the local and national standards. If in doubt about the operation or use, please consult the nearest Mitsubishi Electric representative.
- Since the examples indicated by this manual, technical bulletin, catalog, etc. are used as a reference, please use it after confirming the function and safety of the equipment and system. Mitsubishi Electric will accept no responsibility for actual use of the product based on these illustrative examples.
- This manual content, specification etc. may be changed without a notice for improvement.
- The information in this manual has been carefully checked and is believed to be accurate; however, if you notice a doubtful point, an error, etc., please contact the nearest Mitsubishi Electric representative. When doing so, please provide the manual number given at the end of this manual.

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RELEVANT MANUALS

User's manuals for the applicable modules

| Manual name <manual number> | Description |
|--|--|
| MELSEC iQ-F FX5 User's Manual (Startup) <JY997D58201> (This manual) | Performance specifications, procedures before operation, and troubleshooting of the CPU module. |
| MELSEC iQ-F FX5U User's Manual (Hardware) <JY997D55301> | Describes the details of hardware of the FX5U CPU module, including input/output specifications, wiring, installation, and maintenance. |
| MELSEC iQ-F FX5UC User's Manual (Hardware) <JY997D61401> | Describes the details of hardware of the FX5UC CPU module, including input/output specifications, wiring, installation, and maintenance. |
| MELSEC iQ-F FX5 User's Manual (Application) <JY997D55401> | Describes basic knowledge required for program design, functions of the CPU module, devices/labels, and parameters. |
| MELSEC iQ-F FX5 Programming Manual (Program Design) <JY997D55701> | Describes specifications of ladders, ST, FBD/LD, and other programs and labels. |
| MELSEC iQ-F FX5 Programming Manual (Instructions, Standard Functions/Function Blocks) <JY997D55801> | Describes specifications of instructions and functions that can be used in programs. |
| MELSEC iQ-F FX5 User's Manual (Serial Communication) <JY997D55901> | Describes N:N network, MELSEC Communication protocol, inverter communication, non-protocol communication, and predefined protocol support. |
| MELSEC iQ-F FX5 User's Manual (MODBUS Communication) <JY997D56101> | Describes MODBUS serial communication. |
| MELSEC iQ-F FX5 User's Manual (Ethernet Communication) <JY997D56201> | Describes the functions of the built-in Ethernet port communication function. |
| MELSEC iQ-F FX5 User's Manual (SLMP) <JY997D56001> | Explains methods for the device that is communicating with the CPU module by SLMP to read and write the data of the CPU module. |
| MELSEC iQ-F FX5 User's Manual (Positioning Control) <JY997D56301> | Describes the built-in positioning function. |
| MELSEC iQ-F FX5 User's Manual (Analog Control) <JY997D60501> | Describes the analog function. |
| GX Works3 Operating Manual <SH-081215ENG> | System configuration, parameter settings, and online operations of GX Works3. |

TERMS

Unless otherwise specified, this manual uses the following terms.

- indicates a variable part to collectively call multiple models or versions.

(Example) FX5U-32MR/ES, FX5U-32MT/ES ⇒ FX5U-32M□/ES

- For details on the FX3 devices that can be connected with the FX5, refer to the following manual.

□ MELSEC iQ-F FX5U User's Manual (Hardware)

□ MELSEC iQ-F FX5UC User's Manual (Hardware)

| Terms | Description |
|--|---|
| ■ Devices | |
| FX5 | Generic term for FX5U and FX5UC PLCs |
| FX3 | Generic term for FX3S, FX3G, FX3GC, FX3U, and FX3UC PLCs |
| FX5 CPU module | Generic term for FX5U CPU module and FX5UC CPU module |
| FX5U CPU module | Generic term for FX5U-32MR/ES, FX5U-32MT/ES, FX5U-32MT/ESS, FX5U-64MR/ES, FX5U-64MT/ES, FX5U-64MT/ESS, FX5U-80MR/ES, FX5U-80MT/ES, and FX5U-80MT/ESS |
| FX5UC CPU module | Generic term for FX5UC-32MT/D and FX5UC-32MT/DSS |
| Extension module | Generic term for FX5 extension modules and FX3 function modules |
| • FX5 extension module | Generic term for I/O modules, FX5 extension power supply module, and FX5 intelligent function module |
| • FX3 extension module | Generic term for FX3 extension power supply module and FX3 intelligent function module |
| Extension module (extension cable type) | Input modules (extension cable type), Output modules (extension cable type), Bus conversion module (extension cable type), and Intelligent function modules |
| Extension module (extension connector type) | Input modules (extension connector type), Output modules (extension connector type), Input/output modules, Bus conversion module (extension connector type), and Connector conversion module (extension connector type) |
| I/O module | Generic term for input modules, output modules, Input/output modules, and powered input/output modules |
| Input module | Generic term for Input modules (extension cable type) and Input modules (extension connector type) |
| • Input module (extension cable type) | Generic term for FX5-8EX/ES and FX5-16EX/ES |
| • Input module (extension connector type) | Generic term for FX5-C32EX/D and FX5-C32EX/DS |
| Output module | Generic term for output modules (extension cable type) and output modules (extension connector type) |
| • Output module (extension cable type) | Generic term for FX5-8EYR/ES, FX5-8EYT/ES, FX5-8EYT/ESS, FX5-16EYR/ES, FX5-16EYT/ES, and FX5-16EYT/ESS |
| • Output module (extension connector type) | Generic term for FX5-C32EYT/D and FX5-C32EYT/DSS |
| Input/output modules | Generic term for FX5-C32ET/D and FX5-C32ET/DSS |
| Powered input/output module | Generic term for FX5-32ER/ES, FX5-32ET/ES, and FX5-32ET/ESS |
| Extension power supply module | Generic term for FX5 extension power supply module and FX3 extension power supply module |
| • FX5 extension power supply module | Different name for FX5-1PSU-5V |
| • FX3 extension power supply module | Different name for FX3U-1PSU-5V |
| Intelligent module | The abbreviation for intelligent function modules |
| Intelligent function module | Generic term for FX5 intelligent function modules and FX3 intelligent function modules |
| • FX5 intelligent function module | Generic term for FX5 intelligent function modules |
| • FX3 intelligent function module | Different name for FX3 special function blocks |
| Simple motion module | Different name for FX5-40SSC-S |
| Expansion board | Generic term for board for FX5U CPU module |
| • Communication board | Generic term for FX5-232-BD, FX5-485-BD, and FX5-422-BD-GOT |
| Expansion adapter | Generic term for adapter for FX5U CPU module |
| • Communication adapter | Generic term for FX5-232ADP and FX5-485ADP |
| • Analog adapter | Generic term for FX5-4AD-ADP and FX5-4DA-ADP |
| Bus conversion module | Generic term for Bus conversion module (extension cable type) and Bus conversion module (extension connector type) |
| • Bus conversion module (extension cable type) | Different name for FX5-CNV-BUS |
| • Bus conversion module (extension connector type) | Different name for FX5-CNV-BUSC |
| Battery | Different name for FX3U-32BL |

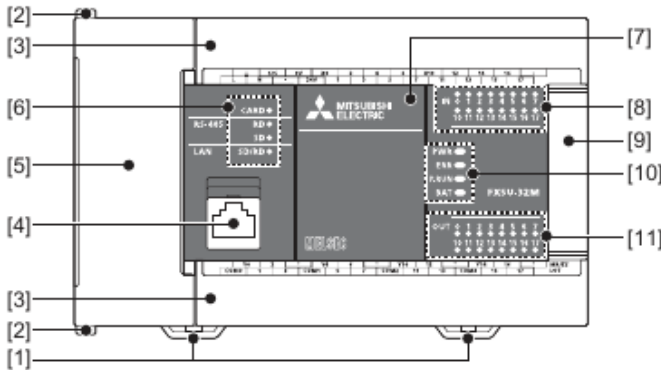
| Terms | Description |
|---|---|
| SD memory card | Generic term for NZ1MEM-2GBSD, NZ1MEM-4GBSD, L1MEM-2GBSD and L1MEM-4GBSD SD memory cards Abbreviation of Secure Digital Memory Card. Device that stores data using flash memory. |
| Peripheral device | Generic term for engineering tools and GOTs |
| GOT | Generic term for Mitsubishi Graphic Operation Terminal GOT1000 and GOT2000 series |
| ■Software packages | |
| Engineering tool | The product name of the software package for the MELSEC programmable controllers |
| GX Works3 | The product name of the software package, SWnDND-GXW3, for the MELSEC programmable controllers (The 'n' represents a version.) |
| ■Manuals | |
| User's manual | Generic term for separate manuals |
| • User's manual (Startup) | Abbreviation of MELSEC iQ-F FX5 User's Manual (Startup) |
| • FX5 User's manual (Hardware) | Generic term for MELSEC iQ-F FX5 User's Manual (Hardware) and MELSEC iQ-F FX5UC User's Manual (Hardware) |
| • FX5U User's manual (Hardware) | Abbreviation of MELSEC iQ-F FX5U User's Manual (Hardware) |
| • FX5UC User's manual (Hardware) | Abbreviation of MELSEC iQ-F FX5UC User's Manual (Hardware) |
| • User's manual (Application) | Abbreviation of MELSEC iQ-F FX5 User's Manual (Application) |
| Programming manual (Program Design) | Abbreviation of MELSEC iQ-F FX5 Programming Manual (Program Design) |
| Programming manual (Instructions, Standard Functions/Function Blocks) | Abbreviation of MELSEC iQ-F FX5 Programming Manual (Instructions, Standard Functions/Function Blocks) |
| Communication manual | Generic term for MELSEC iQ-F FX5 User's Manual (Serial Communication), MELSEC iQ-F FX5 User's Manual (MODBUS Communication), MELSEC iQ-F FX5 User's Manual (Ethernet Communication), and MELSEC iQ-F FX5 User's Manual (SLMP) |
| • Serial communication manual | Abbreviation of MELSEC iQ-F FX5 User's Manual (Serial Communication) |
| • MODBUS communication manual | Abbreviation of MELSEC iQ-F FX5 User's Manual (MODBUS Communication) |
| • Ethernet communication manual | Abbreviation of MELSEC iQ-F FX5 User's Manual (Ethernet Communication) |
| • SLMP manual | Abbreviation of MELSEC iQ-F FX5 User's Manual (SLMP) |
| Positioning manual | Abbreviation of MELSEC iQ-F FX5 User's Manual (Positioning Control) |
| Analog manual | Abbreviation of MELSEC iQ-F FX5 User's Manual (Analog Control) |
| ■Program relation | |
| FB instance | A function block that is inserted to a program |
| Global label | A label that is valid for all the program data when multiple program data are created in the project. There are two types of global label: a module specific label (module label), which is generated automatically by the engineering tool, and an optional label, which can be created for any specified device. |
| Device | A device (X, Y, M, D, or others) in a CPU module |
| POU | A unit that configures a program. Units are categorized and provided in accordance with functions. Use of POU enables dividing the lower-layer processing in a hierarchical program into some units in accordance with processing or functions, and creating programs for each unit. |
| Program block | A group of POU's that configure a program |
| Module label | A label that represents one of memory areas (buffer memory areas) specific to each module in a given character string. For the module used, the engineering tool automatically generates this label, which can be used as a global label. |
| Label | A label that represents a device in a given character string |

1 PART NAMES

This section describes the part names of the CPU module.

1.1 FX5U CPU module

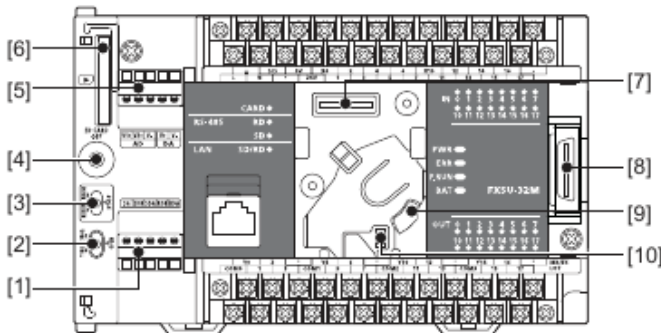
Front panel



| No. | Name | Description |
|------|---|--|
| [1] | DIN rail mounting hooks | Hook for mounting the CPU module on a DIN rail of DIN46277 (35 mm (1.38") wide). |
| [2] | Expansion adapter connecting hooks | When connecting an expansion adapter, secure it with these hooks. |
| [3] | Terminal block cover | Cover for protecting the terminal block. The cover can be opened for wiring. Keep the covers closed while equipment is running (power is on). |
| [4] | Built-in Ethernet communication connector | Connector for connection with Ethernet-compatible devices. (with cover) For details, refer to □□MELSEC IQ-F FX5 User's Manual (Ethernet Communication). |
| [5] | Top cover | Cover for protecting the SD memory card slot, the RUN/STOP/RESET switch, and others. The built-in RS-485 communication terminal block, built-in analog I/O terminal block, RUN/STOP/RESET switch, SD memory card slot, and others are located under this cover. |
| [6] | CARD LED | Indicates whether an SD memory card can be used or not. Lit: Can be used or cannot be removed. Flashing: In preparation Off: Not inserted or can be removed. |
| | RD LED | Lit when the CPU module is receiving data through built-in RS-485 communication. |
| | SD LED | Lit when the CPU module is sending data through built-in RS-485 communication. |
| | SD/RD LED | Lit when the CPU module is sending or receiving data through built-in Ethernet communication. |
| [7] | Expansion board connector cover | Cover for protecting expansion board connector, battery, or others. Connect the battery under this cover. |
| [8] | Input display LED | Lit when input is on. |
| [9] | Extension connector cover | Cover for protecting the extension connector. Connect the extension cable of an extension module to the extension connector under the cover. |
| [10] | PWR LED | Indicates whether the CPU module is powered or not. Lit: Powered Off: Not powered or hardware error |
| | ERR LED | Indicates the error status of the CPU module. Lit: Error or hardware error Flashing: Factory default setting, error, hardware error, or resetting Off: Operating normally |
| | P.RUN LED | Indicates the program running status. Lit: Operating normally Flashing: Paused Off: Stopped or stop error |
| | BAT LED | Indicates the battery status. Flashing: Battery error Off: Operating normally |

| No. | Name | Description |
|------|--------------------|------------------------|
| [11] | Output display LED | Lit when output is on. |

With cover open

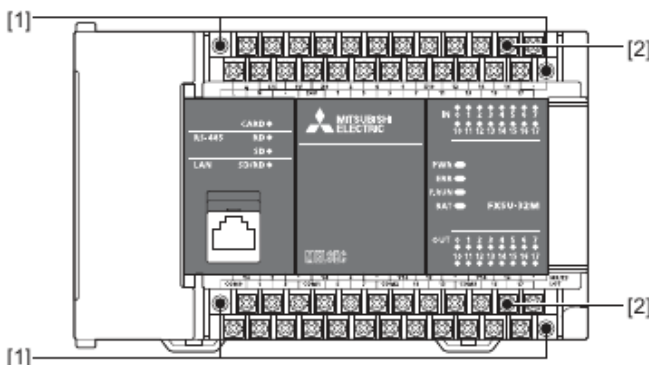


| No. | Name | Description |
|------|--|--|
| [1] | Built-in RS-485 communication terminal block | Terminal block for connection with RS-485-compatible devices For details, refer to MELSEC iQ-F FX5U User's Manual (Hardware) . |
| [2] | RS-485 terminal resistor selector switch | Switch for switching terminal resistance for built-in RS-485 communication. |
| [3] | RUN/STOP/RESET switch | Switch for operating the CPU module. RUN: Runs the program STOP: Stops the program RESET: Resets the CPU module (hold the switch on the RESET side for approximately 1 second.) |
| [4] | SD memory card disable switch | Switch for disabling access to the SD memory card when the card is to be removed. |
| [5] | Built-in analog I/O terminal block | Terminal block for using the built-in analog function. For details, refer to MELSEC iQ-F FX5U User's Manual (Hardware) . |
| [6] | SD memory card slot | Slot for inserting an SD memory card. |
| [7] | Expansion board connector | Connector for connecting an expansion board. |
| [8] | Extension connector | Connector for connecting the extension cable of an extension module. |
| [9] | Battery holder | Holder for storing an optional battery. |
| [10] | Battery connector | Connector for connecting an optional battery. |

Point

Use a tool such as a screwdriver to operate RS-485 terminal resistor selector switch.
Make sure that the edge of the tool does not damage the switch or the case.

When the terminal block covers are open



| No. | Name | Description |
|-----|--------------------------------|---|
| [1] | Terminal block mounting screws | Gradually loosen the left and right screws (alternately), and remove the top of the terminal blocks. |
| [2] | Terminal | Terminals for power, input, and output. For details on the terminal layout, refer to MELSEC iQ-F FX5U User's Manual (Hardware) . |

