

MITSUBISHI ELECTRIC
PROGRAMMABLE CONTROLLERS
MELSEC-F

FX3G-EEPROM-32L

INSTALLATION MANUAL

Manual Number	JY997D32401
Revision	F
Date	April 2013

FX3G

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:
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Effective April 2013
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Safety Precaution (Read these precautions before use.)

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 medium or slight personal injury or physical damage.

Depending on the circumstances, procedures indicated by **CAUTION** may also cause severe injury. It is important to follow all precautions for personal safety.

Associated Manuals

Manual name	Manual No.	Description
FX3S Series User's Manual - Hardware Edition	JY997D48601 MODEL CODE: 09R535	Explains the FX3S Series PLC specifications for I/O, wiring, installation, and maintenance.
FX3G Series User's Manual - Hardware Edition	JY997D31301 MODEL CODE: 09R521	Explains the FX3G Series PLC specifications for I/O, wiring, installation, and maintenance.

How to obtain manuals

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

Applicable standards

FX3G-EEPROM-32L memory cassette made in November, 2008 or later comply with the EC Directive (EMC Directive). Further information can be found in the following manual.

- **FX3S Series Hardware Manual (Manual No. JY997D48301)**
- **FX3G Series Hardware Manual (Manual No. JY997D46001)**

Attention

- This product is designed for use in industrial applications.

Note

- Manufactured by: Mitsubishi Electric Corporation
2-7-3 Marunouchi, Chiyoda-ku, Tokyo, 100-8310 Japan
- Manufactured at: Mitsubishi Electric Corporation Himeji Works
840 Chiyoda-machi, Himeji, Hyogo, 670-8677 Japan
- Authorized Representative in the European Community:
Mitsubishi Electric Europe B.V.
Gothaer Str. 8, 40880 Ratingen, Germany

1. Outline

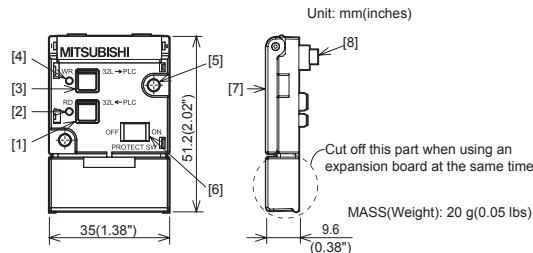
The memory cassette can be installed at the FX3S/FX3G PLC main unit, and when installed, the memory cassette's internal program is used in place of the internal EEPROM memory.

The memory cassette offers also the loader function to transfer (read and write) programs between the memory cassette and the internal EEPROM memory.

1.1 Incorporated Items

Product	FX3G-EEPROM-32L Memory cassette
Included items	<ul style="list-style-type: none"> M3x8 tapping screws for installation: 2 pcs. (Use them when fixing the memory cassette directly to the main unit.) M3x16 tapping screws for installation: 2 pcs. (Use them when using the memory cassette together with the expansion board/connector conversion adapter.) Side cover Installation Manual (This manual)

1.2 External Dimensions and Part Names



- [1] RD key (Reading: PLC ⇒ memory cassette)
- [2] RD LED
- [3] WR key (writing: memory cassette ⇒ PLC)
- [4] WR LED
- [5] Memory cassette securing screw holes (2-φ3.2 mounting holes)
- [6] PROTECT switch
- [7] Detachment lever
- [8] Main unit connector

2. Installation

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.

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, 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.
- Use screwdrivers carefully when performing installation work, thus avoiding accident or product damage.
- When drilling screw holes or wiring, make sure cutting or wire debris does not enter the ventilation slits. Failure to do so may cause fire, equipment failures or malfunctions.
- Do not touch the conductive parts of the product directly. Doing so may cause device failures or malfunctions.
- Connect memory cassette securely to their designated connectors. Loose connections may cause malfunctions.

Turn off the power to the PLC before installing the memory cassette.

Use M3x16 tapping screws when always using the memory cassette together with the expansion board/connector conversion adapter.

The following section describes the method for installing the memory cassette directly to the main unit (FX3G-24M□ in this example).

For installation/uninstallation details of other PLCs, refer to the following manuals.

- **FX3S Series User's Manual - Hardware Edition**
- **FX3G Series User's Manual - Hardware Edition**

2.1 When Installing the Memory Cassette Directly to the Main Unit

- Remove the top cover.
- Attach the side cover.

Caution

- Make sure the side cover is attached before attaching the memory cassette. It is not necessary to attaching the side cover when using only the loader function and sometimes connecting the memory cassette.

- Raise the memory cassette detachment lever.
- Install the memory cassette on the main unit. The memory cassette can be fixed with provided M3x8 tapping screws.

- Tightening torque : 0.3 to 0.6 N·m

Caution

- Two types of M3 tapping screws are provided as accessories. Use M3x8 (shorter) screws. Do not use M3x16 (longer) screws. They may damage the main unit.

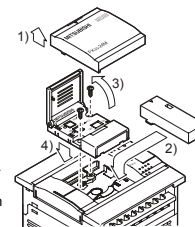
2.2 When Using the Memory Cassette Together with an Expansion Board/Connector Conversion Adapter

To attach of the expansion board/connector conversion adapter, refer to the following manual.

- **FX3S Series User's Manual - Hardware Edition**
- **FX3G Series User's Manual - Hardware Edition**

Caution

- Two types of M3 tapping screws are provided as accessories. Use M3x16 (longer) screws when using the memory cassette together with the expansion board.



3. Loader Function (Program Transfer Procedure)

The FX3G-EEPROM-32L loader function (WR) and (RD) key operation is explained in this section. (The FX3G-EEPROM-32L is abbreviated as "32L", and the programmable controller is abbreviated as "PLC".)

- Program transfers (reading/writing) are possible between the 32L and the PLC's internal EEPROM memory.
 - The loader function is enabled while the PLC is stopped.
 - When using a display module with the memory cassette, the memory cassette's loader function cannot be used. Therefore use the display module to transfer the program.
- For details, refer to the following manual.
→ **FX3G Series User's Manual - Hardware Edition**

3.1 Write to the PLC(32L→PLC)

Required condition: The PLC must be stopped

- Attach the 32L to the PLC while the PLC power is off.
- Turn on the power of the PLC. Press the WR key of the 32L once. The WR LED lights and the 32L is ready for write.
- Press the WR key once more. The WR LED flickers and the 32L starts to write.
- When the program is finished loading the LED is extinguished. (Turn off the power of the PLC, and remove the 32L.)

3.2 Read from the PLC(PLC→32L)

Required condition: The PLC must be stopped

- Turn off the PROTECT switch in the lower right of the 32L.
- Attach the 32L to the PLC while the PLC power is off.
- Turn on the power of the PLC. Press the RD key of the 32L once. The RD LED lights and the 32L is ready for the read operation.
- Press the RD key once more. The RD LED flickers, and the 32L starts to read.
- When the read is finished, the RD LED is extinguished. (Turn off the power of the PLC and remove the 32L. Turn the write protect switch on.)

4. Specifications

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.
- Do not drop the product or exert strong impact to it. Doing so may cause damage.

DISPOSAL PRECAUTIONS **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 any impacts. Failure to do so may cause failures in the product. After transportation, verify the operations of the product.

4.1 Applicable PLC

Model name	Applicability
FX3S Series PLC	Ver. 1.00 or later (from first production)
FX3G Series PLC	Ver. 1.00 or later (from first production)

4.2 Specifications

Item	Specification
Max. Memory Capacity	32,000 steps The FX3S Series PLC can hold 16,000 steps of memory, but user program capacity is limited to 4000 steps.
Memory Type	EEPROM memory
Max. Allowable Write	10000 times
PROTECT switch	Provided
Loader Function	Provided

5. Cautions on Handling

For handling of the memory cassette, refer to the following manual.

- **FX3S Series User's Manual - Hardware Edition**
- **FX3G Series User's Manual - Hardware Edition**

- Make sure to turn the PLC power off before attaching or detaching the 32L or switching the PROTECT switch.
- When the 32L is used for the first time, the ERR LED in the PLC may flicker to indicate a program error. Perform "All Clear" or transfer a program using the programming tool.
- Only one memory cassette may be connected to the FX3S/FX3G Series PLCs main units.

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

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.

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.