1. Outline
FX3G-8AV-BD is an expansion board equipped with eight analog set points which can be used as an analog timer.

1.1 Incorporated Items
- Analog volume expansion board FX3G-8AV-BD
- Three-way tapping screws for installation: 2 pcs
- Trimmer layout cover: 1 pc
- Side cover: 1 pc
- Installation Manual (This manual)

1.2 External Dimensions and Part Names

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimension (mm)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VR7</td>
<td>36 (1.38&quot;)</td>
<td>0.056</td>
</tr>
</tbody>
</table>

| Connector cover is removed. | (1) Analog volume points | (2) Mounting holes (2-3.2) | (3) Connector cover | (4) Mount unit connector | (5) Memory card/Display module connector |

2. Installation

**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.

**CAUTION**
- Use the product within the general environment specifications described in PLC main unit manual (Hardware Edition).
- Never use the product in areas with excessive dust, oil smoke, conductive dust, corrosive gas (salt air, Cl, H2S, SO2, or NOx), flammable gas, vibration or impacts, or exposed to high temperature, condensation, or rain and wind.
- If the product is used in such conditions, electric shocks, fire, malfunctions, vibration or damage may occur.
- Use screen cables carefully when performing installation work, thus avoiding accident or product damage.
- 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.
- Do not touch the conductive parts of the product directly.
- Do not connect an external device to the product.
- Do not use the product in areas with excessive dust, oil smoke, conductive dust, corrosive gas (salt air, Cl, H2S, SO2, or NOx), flammable gas, vibration or impacts, or exposed to high temperature, condensation, or rain and wind.
- When using the product in such conditions, electric shocks, fire, malfunctions, vibration or damage may occur.

3. Specifications

**STARTUP AND MAINTENANCE PRECAUTIONS**
- • 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**
- • Please contact a certified electronic waste disposal company for the environmentally safe recycling and disposal of your device.

3.1 Applicable PLC
- FX3S Series PLC: Ver. 1.00 or later (from first production)
- FX3G Series PLC: Ver. 1.10 or later
- Only one analog volume expansion board can be used per main unit.
- Never stack up two or more expansion boards.

For details on the system configuration, refer to the following manuals:

3.2 General Specifications
- The general specifications are equivalent to the PLC main unit.
- For general specifications, refer to the following manuals:

3.3 Performance specifications
- For the installation, refer to the following manuals:

For the input/output points, refer to the following manuals:
- → FX3S/FX3G/FX3G/FX3U Series Programming Manual

Model name | Applicability
---|---
FX3S Series PLC: Ver. 1.00 or later (from first production) | FX3G Series PLC: Ver. 1.10 or later

4.2 Analog volume points
- UNIT

4.3 Instruction
- VR0R/VNR (FNC 85) Volume Read
- VRSC/VNS (FNC 86) Volume Scale

5.1 Digital conversion value
- 0 to 255
- 0 to 10

For the installation, refer to the following manuals:

**NOTICE**
- This manual contains 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**
- Exclusion of loss in opportunity and secondary loss from warranty liability.

In the event that the product is defective, the user will be entitled to a replacement within the warranty period. However, Mitsubishi Electric Corporation shall not be liable for compensation to:
- (1) Damages caused by any cause found not to be the responsibility of Mitsubishi Electric.
- (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 unit 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, nuclear 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 fail-safe functions in the system.

**Manual Number** JY997D33701

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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.

The company and product names described in this manual are registered trademarks or the trademarks of their respective companies.

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

**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.

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

**Applicable standards**
FX3G-8AV-BD units made in November, 2008 or later comply with the EC Directive (EMC Directive). Further information can be found in the following manuals:
- → FX3G Series Hardware Manual (Manual No. JY997D49001)
- → FX3G Series Software Manual (Manual No. JY997D40001)