3. Wiring

**WARNING**

- Failure to do so may cause electric shock, equipment failures, or malfunctions.
- Affix the electric wires so that neither the terminal block nor the connected parts are directly stressed. Doing so may cause device failures or malfunctions.
- Tightening torque should follow the specifications in the manual.
- Failure to do so may cause electric shock, equipment failures, or malfunctions.
- The gap between the control cabinet and its door must be as small as possible by securing it with screws or engaging internal mechanisms.
- Grounding methods may be employed, such as "shared grounding" of the power supplies of the PLC, power supplies for the control cabinet, etc., thereby causing nonconformities.

- Ground the control cabinet with the thickest possible grounding cable.
- Grounding connector cover is not provided. Please use terminal block cover from Mitsubishi Electric Corporation.

1. Outline

The MELSEC iQ-F FX5-4DA-ADP expansion adapter for analog output (two-channel 4DA-ADP) is an expansion adapter to feed analog output points.

Verify that the following protection devices are included in the package:

- Fuse and replacement fuse
- Outer case or expansion adapter
- Terminal block assembly
- Expansion adapter cover

2. Installation

**PRECAUTIONS**

- Make sure that all the protection devices are installed before installing or wiring work.
- Use the product within the general environmental specifications described in the manual. Failure to do so may result in overheating, fire, malfunctions, or other problems.
- Use only Terminal block screws that meet the specifications in the manual.
- Failure to do so may cause electric shock or damage to the product.
- The product is for use in purposes related to human life.

- The grounding wire size should be AWG 22 to 20 (100 to 240 x 1.3 mm²) or more.
- For an grounding point close to the PLC, at least on or both sides on the ground cable can be identified.

3.4 Grounding

Grounding should be performed in the following steps:

- Connect the grounding terminal in the expansion adapter to the power supply and the protective conductor (PE, etc.) of the control cabinet using a grounding wire sized at least 100 to 240 x 1.3 mm² or more.
- Connect the other end of the grounding wire to the grounding point close to the PLC using a grounding wire, etc., where the grounding wire size should be AWG 22 to 20 (100 to 240 x 1.3 mm²) or more.

3.5 Performance Specifications

**Table:**

<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Voltage</td>
<td>DC 24 V ± 10%</td>
</tr>
<tr>
<td>Current</td>
<td>±20 mA</td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>Voltage</td>
<td>0 to 10 V</td>
</tr>
<tr>
<td>Current</td>
<td>±20 mA</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

- The specifications in the table are for the range of the product. For specific values, refer to the specifications provided by Mitsubishi Electric Corporation.

- The operating ambient temperature is 10 to 55°C, for products manufactured before June 2018.

4. Conclusion

This manual explains the precautions related to the use of the MELSEC iQ-F FX5-4DA-ADP expansion adapter for analog output. It is recommended to read this manual thoroughly before using the product.

For more information, please refer to the MELSEC iQ-F User's Manual (Hardware) and MELSEC iQ-F FX5UC User's Manual (Hardware).
**3.1.1 European type terminal block**

- **Outline**
  - The FX5-4DA-ADP requires that the cable used for power supply is 30 m or less.
  - **Installation**
    - Connect the expansion board and expansion adapter securely to their terminals.
    - Verify that the following protected devices are included in the package.

**Specifications**

- **Excitation current**
  - 5 V DC ±10 % 10 mA
  - 24 V DC ±20 % 160 mA

**Application**

- **Terminal block**
  - For the FX5-4DA-ADP (30 m or less), the analog input/output cable is used for the power supply.

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**DISPOSAL PRECAUTIONS**

- In order to suppress the leakage of radio waves, the control cabinet structure should be attached with EMI gaskets between them.
- To ensure that there is electric contact between the control cabinet and its door, attach the anti-static gaskets to all of the control cabinet and its door.
- Do not touch the insulating film of the control cabinet.

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**Note**

- The FX5-4DA-ADP is designed for use in the control cabinet, not on points.
- The FX5-4DA-ADP can be used in a control cabinet where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.