**2. Installation**

![Installation diagram](image)

**2.1. Precautions**

**CAUTION**

- Make sure to cut off the power supply externally before attempting installation. Failure to do so may cause electric shock or damage to the product.

**2.2. Specifications**

- **Input terminal**
  - Source input wiring: 5 mA/24 V DC
  - Sink input wiring: 1.5 mA or less

- **Output terminal**
  - Sink output wiring: 1.5 mA or less

**3. Wiring**

- Make sure to cut off the power supply externally before attempting wiring. Failure to do so may cause electric shock or damage to the product.

**3.1. Wiring example**

![Wiring example diagram](image)

**3.2. Precautions**

- **Terminal block wiring**
  - Do not bundle the control line together with or lay it close to the main circuit or power supply circuit. Doing so may cause device failures or malfunctions.
  - Do not enter the ventilation slits of the PLC.

- **5.4. Power supply specifications**

- **AC 200 V**
  - Power consumption: 1 W
  - Input voltage range: 130 V to 270 V

- **DC 24 V**
  - Power consumption: 0.5 W
  - Input voltage range: 18 V to 36 V

**5.5. Specifications**

- **Number of inputs**
  - Source input: 4 points
  - Sink input: 4 points

- **Input and output levels**
  - Source input: OFF: 0 V, ON: 24 V
  - Sink input: OFF: 24 V, ON: 0 V

**5.6. Specifications**

- **Output terminal**
  - Sink output: OFF: 0 V, ON: 24 V

**5.7. Specifications**

- **Output terminal**
  - Sink output: OFF: 0 V, ON: 24 V

- **AC 200 V**
  - Power consumption: 1 W
  - Input voltage range: 130 V to 270 V

- **DC 24 V**
  - Power consumption: 0.5 W
  - Input voltage range: 18 V to 36 V
3.4.1 In the case of input device with built-in series diode

If no-voltage contacts (switches) for large current are used, contact failure may occur.

3.4.2 In the case of input device with built-in parallel resistance

Use a device having a parallel resistance, \( R_p \), of 15 k\( \Omega \) or less for inputs with large currents. Connect the output to the input circuit through a resistor having a value of 10 k\( \Omega \) or less in series.

5.1 General Specifications

The maximum input current can be set at the maximum current indicated in the table below.

5.2 General Specifications

The general specifications for the PLC main unit are as follows.

5.3 Power Supply Specifications

The product can be operated only within the specified power supply range.

5.4 Performance Specifications

The product can be used in the specified DC power supply range.

6. Installation

6.1 Preparation

Prepare the necessary components and materials for installation.

6.2 Installation procedure

1. Prepare the necessary equipment and materials.
2. Install the PLC main unit and input expansion board.
3. Connect the power supply and input devices.
4. Check the connections and tighten the screws.
5. Connect the output devices to the load.
6. Test the system to ensure proper operation.

6.3 Maintenance

Perform regular maintenance to ensure the product's reliability and long life.

7. Accessories

List the necessary accessories for the product.

8. Specifications

List the specifications and technical data for the product.

9. Precautions

List the safety and usage precautions for the product.

10. Troubleshooting

List the troubleshooting procedures for common issues.

11. Dependencies

List any dependencies on other products or components.

12. References

List any references for further information or related products.

13. Glossary

List any glossary terms or definitions.

14. Index

List the index of topics and subtopics.

15. Appendices

List any appendices or supplementary information.

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Appendix E: Safety and compliance certifications

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Appendix AAAA: Technical specifications and data sheet
2. Installation

2.1 Precautions

CAUTION

- Make sure to take all necessary precautions before attempting any wiring.
- Do not allow the product to be turned on while wiring is still in progress.
- Never make contact with the power supply externally before attempting any wiring.
- For any inverter connected, be sure to turn off the power supply externally.

2.2 Wiring

- When using a terminal block, be sure to use the one specified for the PLC system.
- Connect the power supply to the PLC system as specified in the manual.
- Failure to do so may cause a fire, equipment failures or malfunctions.

3. Wiring

- Make sure to use the following wiring kits to ensure safety when using the product:

3.1 Wiring of input

3.2 Wiring of output

4. Device allocation and program example

4.1 In the case of input device with built-in parallel resistance

Use a device having a parallel resistance. If the contact is ON, a contact such as a microswitch is not required. The resistance value, R0, obtained by the following formula is shown in the following figure.

\[ R_{0} = \left( \frac{V_{CC}}{I_{CC}} \right) \times \frac{1}{2} \]

4.2 Program example

Use a device having a parallel resistance as the device specified by each PLC manufacturer.

5. Specification

5.1 General

The PLC system and connecting line specifications are shown in the following table.

5.2 General Specifications

The general specifications are shown in the following table.

5.3 Power Supply Specifications

The power supply specifications are shown in the following table.

6. Accessories

6.1 Integrated Device

The integrated device is shown in the following figure.

6.2 Programming Manual

The programming manual is shown in the following figure.

7. Maintenance

7.1 Maintenance

The maintenance figure is shown in the following figure.

8. Reference

8.1 Reference

The reference figure is shown in the following figure.

9. Appendices

9.1 Appendices

The appendices are shown in the following figure.

10. Index

The index is shown in the following figure.