**MU300 Series Basic Module User Quick Start Manual**

Thank you for using MU300 series PLC. Before using the product, please carefully read this manual so as to better understand it, fully use it, and ensure safety. This quick start manual is to offer you a quick guide to the design, installation, connection and maintenance of MU300 series PLC, convenient for on-site reference.

This manual is for the following MU200 series members:

Version 1.2

Revision Date 2024-11-11

BOM Code R33011245

For detailed product information, please refer to *MU Series PLC User Manual*, *MEGreator Programming Software User Manual*, and *MU Series PLC Programming Reference Manual*. For ordering the above user manuals, contact your Megmeet distributor or sales office.

## 1. Appearance and Part Names

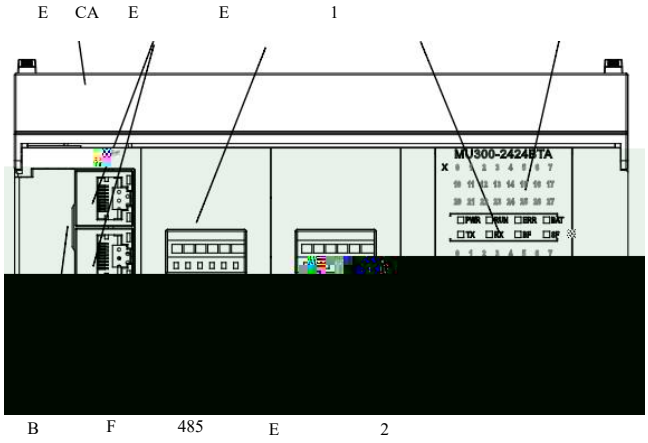


Fig 1-1Appearance and part name of module

## 2. Model Description

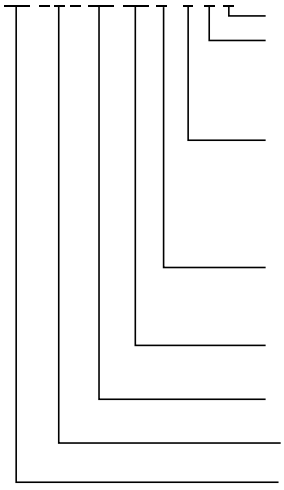

Fig 2-1 Model description

## 3. Installation Description

Temperature range for PLC usage 0 ~55 . A well-ventilated place should be selected when the ambient temperature exceeds 55° C for a long time.

Place without corrosion, flammable and explosive gas and liquid.

Solid place without vibration.

This controller is designed for II standard installation environment and 2-level pollution occasions.

The PLC must be installed horizontally on the backplane of the electrical cabinet, and maintain a distance of more than 20cm from the peripheral equipment or cabinet wall. The installation in other directions is not conducive to the PLC heat dissipation, and there can be no heating equipment under the PLC. As shown in the picture below:

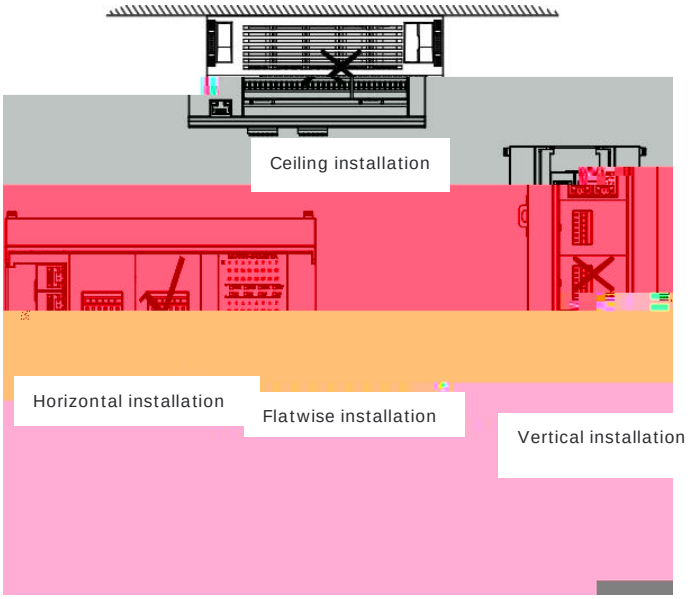


Fig 3-1 Installation position diagram

Generally, you can mount the PLC onto a 35mm-wide rail (DIN). Open the DIN snap-fit at the bottom of the module and lock the bottom of the module onto the DIN rail;

Rotate module close to the DIN guide rail and close the DIN snap-fit with a double-checking, as the following figure

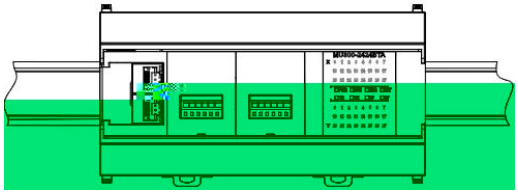

Fig 3-2 Diagram of installation on DIN rail

Fixing the PLC with screws can stand greater shock than DIN rail mounting. M3 or M4 screws can be chosen to fix the PLC onto the backboard of the electric cabinet through the mounting holes on PLC enclosure, as the following figure.

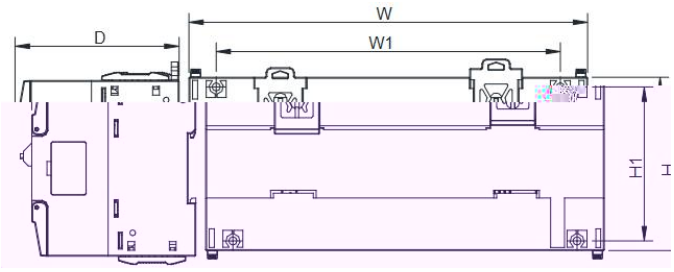


Fig 3-3 Dimensions of MU300 series main module

| Model | W | W1 | H | H1 | D |
|---|---|---|---|---|---|
| MU300-0808BTA | 105 | 78.3 | 90 | 80 | 85 |
| MU300-1210BTA<br>MU300-1210BRA | | | | | |
| MU300-2424BTA | 210 | 181.3 | 90 | 80 | 85 |

## 4. Cable specification

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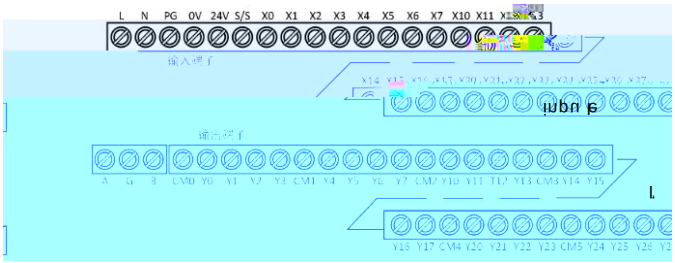
MU300-2424BTA terminal diagram



MU300 series PLC can provide a S/S terminal, in which user can select the sig input

## 8. Function Characteristic

| Model / Function | MU300-0808BTA | MU300-1210BTA | MU300-1210BRA | MU300-2424BTA |
|---|---|---|---|---|
| High-speed input | X0~X3 200KHz | X0~X3 200KHz | | X0~X7 200KHz |
| High-speed output | Y0~Y3 200KHz | Y0~Y3 200KHz | / | Y0~Y7 200KHz |
| USB | Support for program download and monitoring with TYPE-C port. | | | |
| Ethernet | Two front ports integrated with switch, can be configured as EtherNet/IP master/slave or ModBUS TCP master/slave | | | |
| EtherCAT | Support 16-axis EtherCAT motion control; Min.EtherCAT cycle: 1000us, support up to 16 EtherCAT slaves | | | |
| CANopen | MUE-CAN expansion card needs to be installed. | | | |
| Expansion card | 1 | | | 2 |
| Expansion module* | 6 | | | 12 |
| TF card | Supported | | | |

*The expansion module is applicable to MU200 series.

## 9. Input and Output Characteristic of Switch Quantity

Table 8-1 Input port specification

| Item | | Specification |
|---|---|---|
| Signal Input Mode | | Source type/leakage type, user can choose through the S/S terminal. |
| Electrical parameter | Detection Voltage | 24VDC |
| | Input Impedance | High-speed input port: 2.4K<br>other ports: 4.3K |
| | Input as ON | External circuit resistance 400 |
| | Input as OFF | External circuit resistance 24K |
| Filter function | Digital filter | All ports support the digital filter function, and the filter time can be set |
| | Hardware filter | The ports have the hardware filter function, and the filter time is about 0.5ms |
| High-speed function | | Functions like high-speed counting, interrupt, pulse capture can be achieved<br>The port counting frequency can be up to 200KHz |
| wiring minal | | A put channels share one input common terminal |

| Item | | Specification |
|---|---|---|
| Rated voltage of loop power supply | | Below AC250V/DC30V |
| Circuit insulation | | Relay mechanical insulation |
| Operation indication | | LED lights up when the output contact of the relay pulls in. |
| Leakage current of open circuit | | —— |
| Min. load | | 2mA (5VDC) |
| Max. output current | Resistive load | 2A/1 point, the total current of CM terminal at 8 points is less than 8A. |
| | Inductive load | AC220V/80VA |
| ON response time | | 20ms MAX |
| OFF response time | | 20ms MAX |

The output terminals of MU300 series PLC are composed of several groups, which are electrically isolated each other, and the output contacts of different groups are connected to different power circuits; The output type can be divided into relay and transistor. Transistor output can only be used in 24Vdc load circuit with the attention of power supply polarity. For the inductive load of DC circuit, adding freewheeling diode should be considered; For the inductive load of AC circuit, the RC instantaneous voltage absorption circuit should be considered in external circuit.

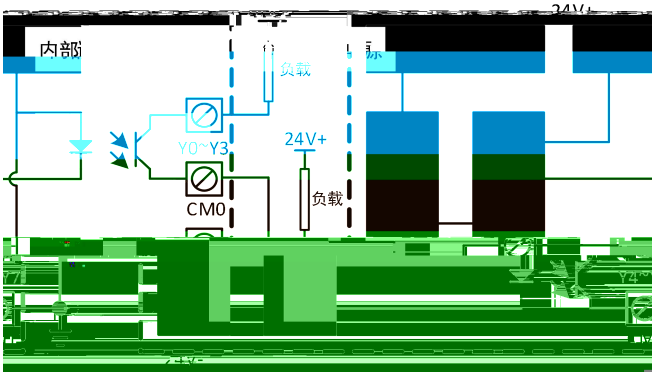



Fig 9-3 Internal equivalent diagram for pulse output

## 10. Expansion Card Function

MU300 Series basic modules support the expansion card function. 1 or 2 MUE series expansion cards can be installed in modules to meet the need of small IO points.The following expansion card types are supported:

| Model | Description |
|---|---|
| MUE-4X | 4-channel digital quantity input |
| MUE-4Y | 4-channel digital quantity output |
| MUE-4XY | 2-channel digital quantity input and 2-channel digital quantity output |
| MUE-2AD | 2-channel analog quantity input |

The MU300-0808BT, MU300-1210BTA and MU300-1210BRA modules support only one expansion card, and the other modules support two expansion cards.

## 11. Power-on Operation and Routine Maintenance

Check the connection item by item after wiring, to ensure that no foreign connections fall into the cabinet inside and heat flow:

1. Switch on the POWER of the PLC, PWR light should be light;
2. Start the PC software programming, and then download the program into the controller;

Table 11-1 Common problem and solution

| Phenomenon | Possible cause | Solution |
|---|---|---|
| PWR and other indicators are OFF | Power supply voltage loss or low voltage | Check the power supply condition |
| | Disconnect the power switch or fuse blown | Check the switch, wire or fuse condition |
| | Abnormal power wiring | |
| | Power board damage | Check and confirm Whether the voltage between LN terminals is within the normal range; whether exist short circuit or overload between 24V and 0V terminal |
| PWR indicator flash intermittently | Poor contact of power circuit | |
| | Over-connection of expansion modules, to cause current limiting | |
| | Short circuit in external power supply, to cause current limiting | |
| ERR indicator flashing | User program error | Re-edit program by MEGreator and download after exclusion |
| | Actual running time exceeds WDT setting | Increase WDT set time |
| | Expansion module fault | Check and rectify faults |
| Inconsistency between input status indicator and input terminal status | Over on-resistance of user circuit | Set the external-circuit electrical parameters to appropriate range, like shortening wire length, and nonuse of extremely thin wires |
| | Poor signal circuit contact | Check the cable connection and troubleshoot the fault |
| Output cannot be closed | Poor external wiring | |
| | Output channel damage | Swap with idle port |
| Inconsistency between output status indicator and output terminal status | Indicator damage or output channel damage | |
| Upload, download, and monitor disable | Poor cable connection | Use the special cable of Megmeet PLC |
| Non-response of expansion module | Unreliable connection | Check in power-down status, and power on after rectifying the fault |
| Serial port controls other equipment unsuccessfully | Poor cable connection or incorrect wiring signal property | Connect communication cables correctly |
| | Inconsistent settings of communication master and slave devices, such as baud rate, parity check, data bit, and address | Set the same communication parameter |
| | Communication protocol is inconsistent with the master and slave | Set the same communication protocol |
| High speed miscounting | In most cases, the input signal is interfered | Route the low voltage sensitive signal cable separately from the power cable |

**Notice**

1. The warranty range is confined to the PLC only.

2. Warranty period is 18 months, within which period Megmeet conducts free maintenance and repairing to the PLC that has any fault or damage under the normal operation conditions.

3. The start time of warranty period is the delivery date of the product, of which the product SN is the sole basis of judgment. PLC without a product SN shall be regarded as out of warranty.

4. Even within 18 months, maintenance will also be charged in the following situations:

Damages incurred to the PLC due to mis-operations, which are not in compliance with the User Manual;

Damages incurred to the PLC due to fire, flood, abnormal voltage, etc;

Damages incurred to the PLC due to the improper use of PLC functions.

Remove the PLC personally.

5. The service fee will be charged according to the actual costs. If there is any contract, the contract prevails.

6. If you have any question, please contact the distributor or our company directly.

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