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:

MU300-0808BTA MU300-1210BTA

MU300-1210BRA MU300-2424BTA

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

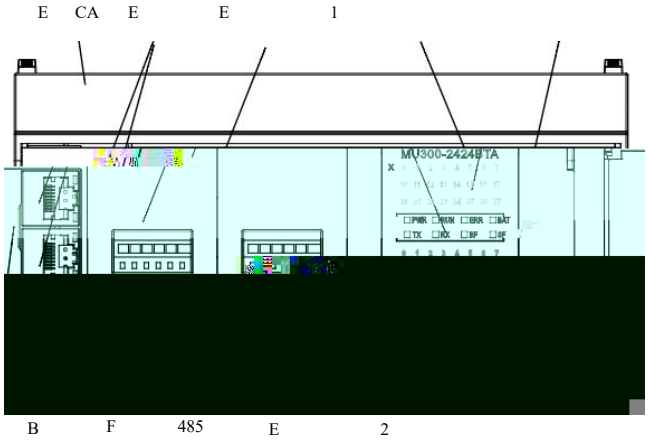

Fig 1-1Appearance and part name of module

2. Model Description

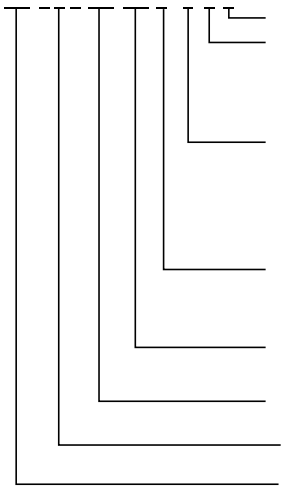

Fig 2-1 Model description

3. Installation Description

3.1 Environmental Temperature

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.

3.2 Installation Site

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.

3.3 Installation Method

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:

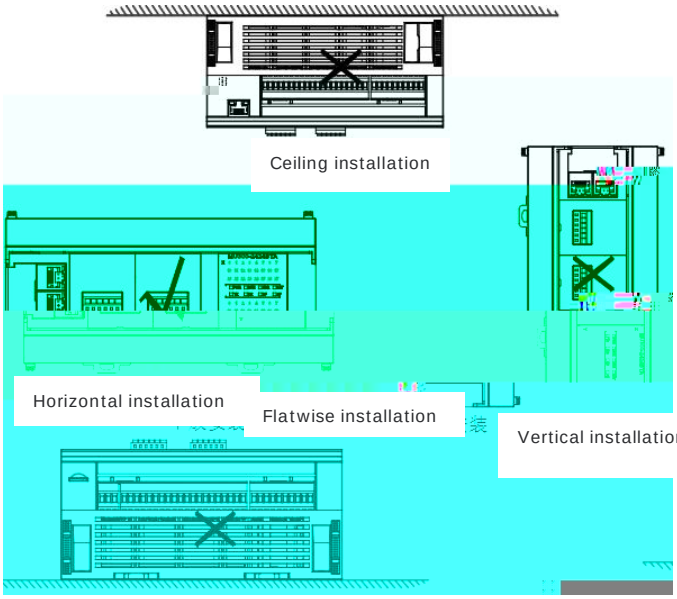

Fig 3-1 Installation position diagram

3.4 Installation Method

DIN rail mounting

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

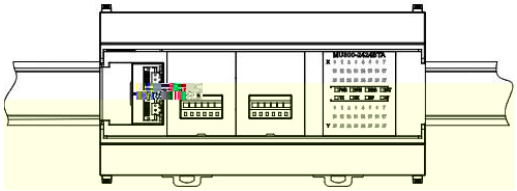

Fig 3-2 Diagram of installation on DIN rail

Screw fixing

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.

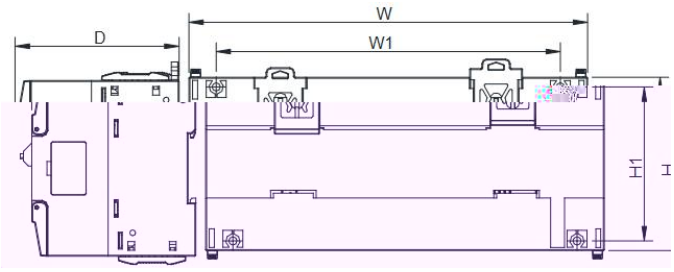

Fig 3-3 Dimensions of MU300 series main module

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

4. Cable specification

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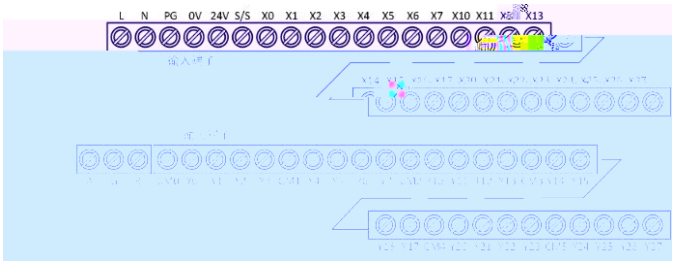
MU300-2424BTA terminal diagram



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

9.1 Input Characteristic and Signal Specification

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 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 The port counting frequency can be up to 200KHz
Common wiring terminal		All input channels share one input common terminal

Rated voltage of loop power supply		Below AC25 DC30
Circuit insulation		Relay mechanical insulation
Operation indication		LED lights up when the output conta 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.

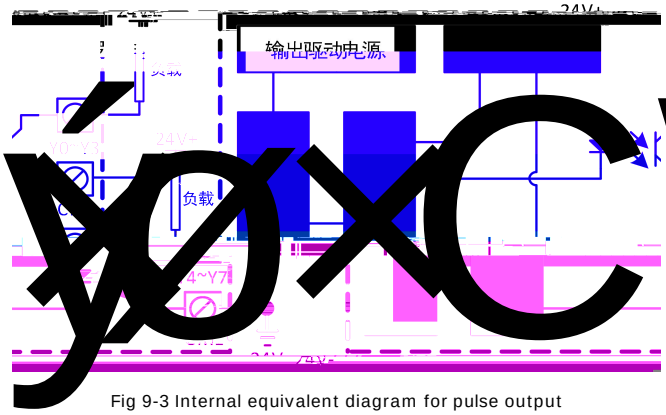


Fig 9-3 Internal equivalent diagram for pulse output

10. Expansion Card Function

MU 0 Series basic modules support the expansion card function. 1 or 2 MUE se s expansion cards can be installed in modules to meet the need of small p oints.The following expansion card types are supported:

M el	cription
M 4X	4-channel tal quantity input
M 4Y	-channel al quantity output
MU	hannel di l quantity input and 2-channel digital quantity output
	2-channel analog quantity input
-2D	y output
	put

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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