MU200 Series I/O Expansion Module

User Manual

Thank you for using MU200 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 hardware specification, characteristic and usage of MU200 series expansion module.

For the detailed usage and program design, please refer to *MU200 Series PLC User Manual*, *MU200 Series PLC Programming Reference Manual*. For ordering the above user manuals, contact your Megmeet distributor or or scan the code to enter the official website.

This manual is suitable for the following MU200 series members:

MU200-0016ERN
MU200-0016ETN
MU200-1600ENN
MU200-0808ERN
MU200-0808ETN

Version： A00

Revision Date： 2022-04-24

1. Product Introduction

1.1 Outline structure

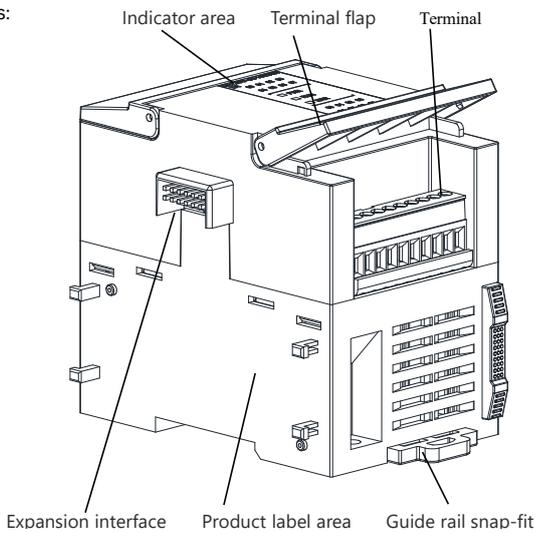The outline structure of MU200 series I/O expansion module is shown as follows:

Figure 1-1   Outline and part of I/O expansion module
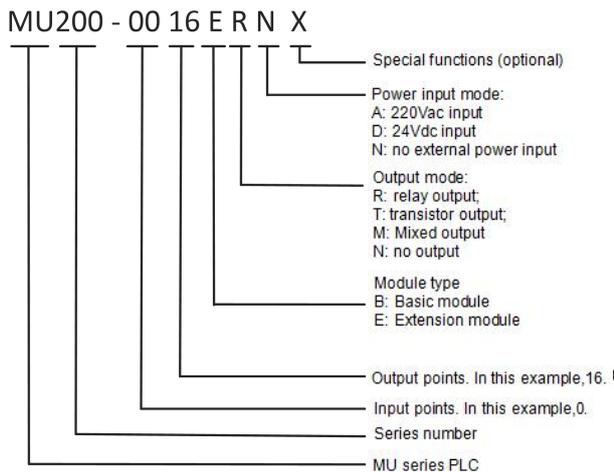
1.2 Model Description

Fig 1-2 MU200 PLC model description

1.3 Outline and terminal diagram

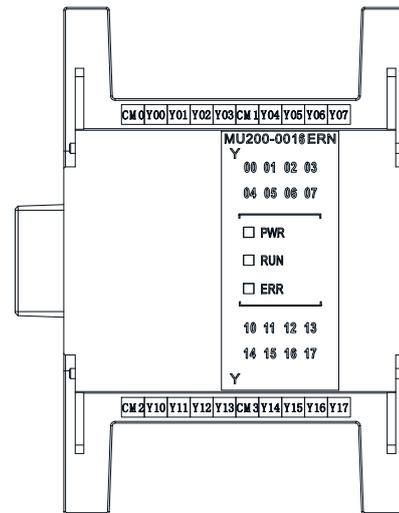The following figure shows the outline and terminals of MU200-0016ERN:

Fig 1-3 Outline and terminal diagram of MU200-0016ERN

The following figure shows the outline and terminals of MU200-0016ETN:
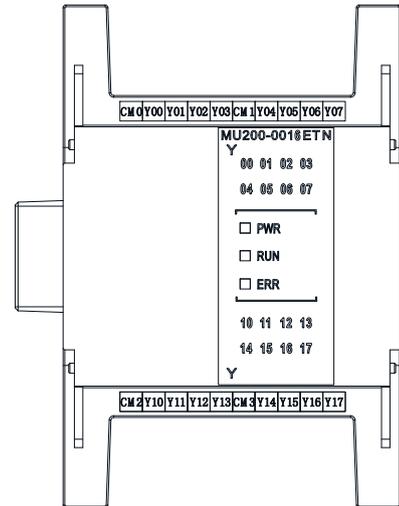

Fig 1-4 Outline and terminal diagram of MU200-0016ETN

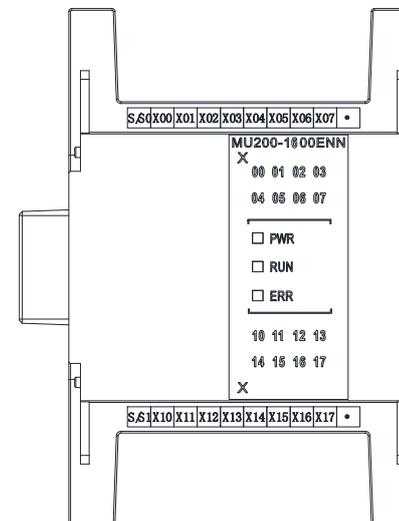The following figure shows the outline and terminals of MU200-1600ENN:

Fig 1-5 Outline and terminal diagram of MU200-1600ENN

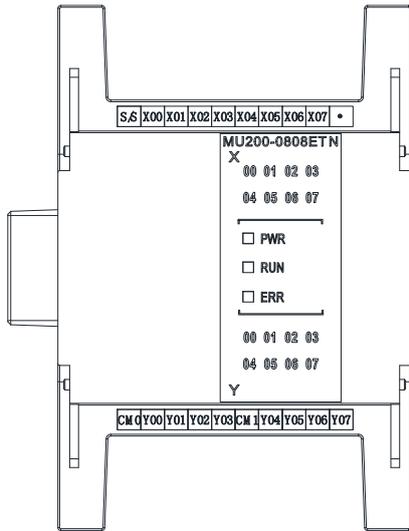The following figure shows the outline and terminals of MU200-0808ETN:

Fig 1-6 Outline and terminal diagram of MU200-0808ETN

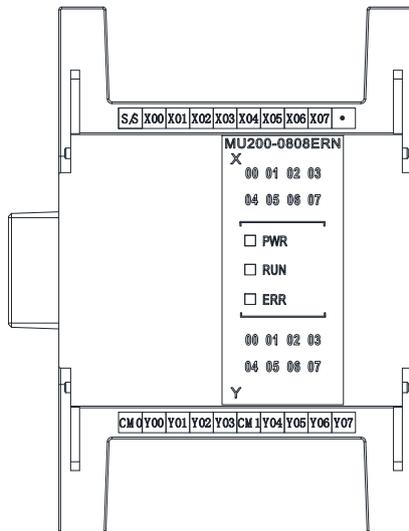The following figure shows the outline and terminals of MU200-0808ERN:

Fig 1-7 Outline and terminal diagram of MU200-0808ERN

2. Product Specification

Table 2-1 I/O expansion module type and configuration

Model	Supply voltage	I/O point	Output type
MU200-0016ERN	--	0/16	relay
MU200-0016ETN	--	0/16	transistor
MU200-1600ENN	--	16/0	-
MU200-0808ERN	--	8/8	relay
MU200-0808ETN	--	8/8	transistor

Table 2-2 I/O expansion module power supply requirement

model	DC24V-GND	S/S-CM
MU200-0016ERN	140mA	--
MU200-0016ETN	35mA	--
MU200-1600ENN	25mA	80mA
MU200-0808ERN	75mA	40mA
MU200-0808ETN	30mA	40mA
Note： DC24V-GND：The logic circuit power supply of expansion module is provided by the expansion bus.		

It is necessary to calculate the sum of the current consumed by all power supplies of expansion modules before the connection operation to ensure that the current of all power supplies is less than the output current provided by the corresponding power supply of the main module.

3. Technical Specification

3.1 Input characteristic

The expansion module needs to access the external power supply (DC24V), and the internal equivalent resistance of the input circuit is about 4.3k Ω, the signal detection adopts two-way optocoupler, and the source type or leakage type connecting both can be supported.

Table 3-1 Input electrical specification

Item	Specification
Signal Input Mode	Source type/leakage type
Detection Voltage	24VDC
Input Impedance	4.3KΩ
Max. input frequency	1KHz
Hardware filter	About 0.5ms
digital filter	0~128ms

The equivalent wiring diagram of transistor source input is as follows:
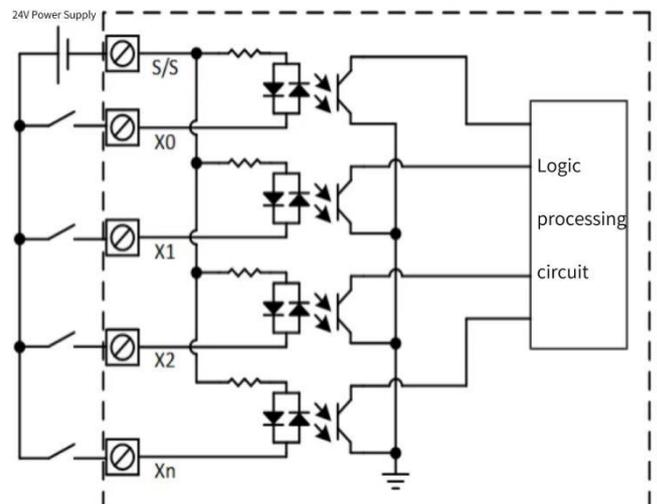

Fig 3-1 Equivalent wiring diagram of transistor source-type output

3.2 Output Characteristic

3.2.1 Transistor output characteristic

Table 3-2 Transistor output characteristic

Item		Transistor output port
Loop-power rated voltage		5 ~ 24 VDC
Circuit isolation		Optocoupler
Motion indication		LED is ON when optocoupler is driven
Open-circuit leakage current		Less than 0.1mA/24VDC
Minimum load		5mA（5～24VDC）
Max output frequency		1KHz
Max. output current	Resistance load	0.3A/1 point；0.8A/4 point 1.6A/8 point；
	Inductive load	7.2W/24VDC
ON Response time		0.5ms MAX（100mA/DC24V）
OFF Response time		0.5ms MAX（100mA/DC24V）
Output common terminal		Isolation exists in per group

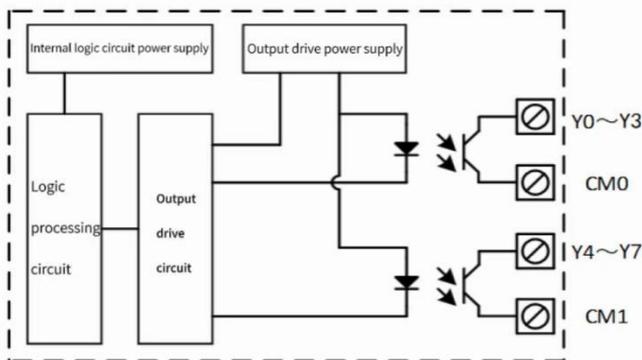The equivalent wiring diagram of transistor output is as follows:

Fig 3-2 Equivalent wiring diagram of transistor output

3.2.2 Relay output characteristic

Table 3-3 Relay output characteristic

Item		Relay output port
Loop-power rated voltage		AC250V/DC30V or less
Circuit isolation		Relay mechanical isolation
Motion indication		LED lights up when relay is closed
Open-circuit leakage current		___
Minimum load		2mA（5VDC）
Max. output current	Resistance load	2A/1 point，total current of 8 points in is less than 8A
	Inductive load	AC220V/80VA
ON Response time		20ms MAX
OFF Response time		20ms MAX

4. Expansion Connection

4.1 Cascade of expansion module

◆ Remove the expansion socket cover at the right end of the main module without power on;

◆ Insert the expansion module into the terminal block in the main module socket, and connect the expansion modules one by one

◆ Install the removed cover on the back end of the last expansion module and push up the latch on the side of each module to secure it.
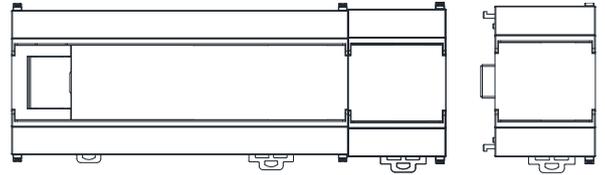

Fig 4-1 Cascade connection diagram of expansion module

4.2 Addressing of expansion module

I/O points are numbered in octal, such as: 0, 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21,… without 8, 9. For example, in the MU200-3232BRA module, the input points are 32 points and the number is X0 to X37 and then X terminal of the expansion module is numbered from X40, same as the addressing of output points.

* Expansion card addressing comes after I/O expansion.

4.3 Indicator and fault removal

Item	Function description	Fault removal
POWER light	Normal: ON in power-on status Abnormal: OFF in power-on status	Check whether the power supply voltage of the main module is normal
RUN light	Address-matching success: Flash Address-matching failure：OFF	Check whether the expansion module is connected and the buckle is fastened
ERR light	Error indicator	
I/O indicator	Each input/output point corresponds to an indicator light, numbered in octal	Check whether cables are connected correctly

5. Applicable Environment

5.1 Dimensions

MU200 Series I/O expansion module: MU200-0016ERN, MU200-0016ETN, MU200-1600ENN, MU200-0808ERN, MU200-0808ETN.
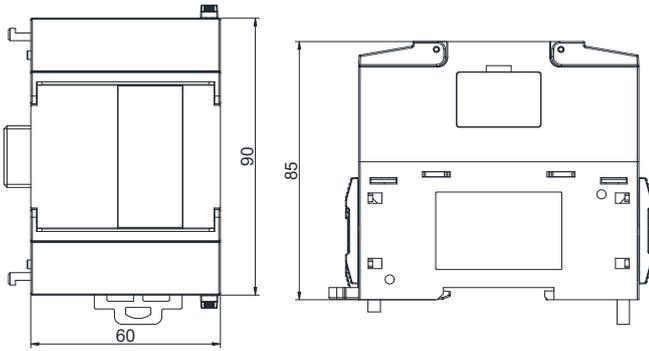
Dimensions are shown below.

Fig 5-1 I/O Expansion module dimensions diagram

5.2 Installation method

The installation method is the same as that of the main module. For details, refer to *MU200 Series Programmable Logic Controller User Manual*.

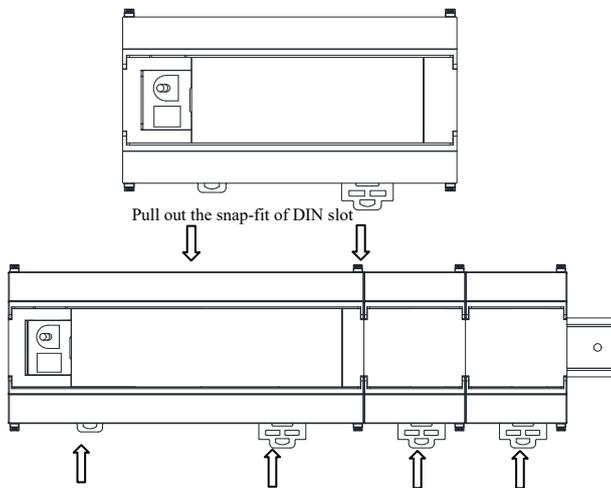The installation diagram is shown in the following figure:

Pull out the snap-fit of DIN slot

Press back the snap-fit after fixed on the DIN slot

Fig 5-2 Installation diagram

5.2 Wiring precautions

◆ Avoid bundling with cables that transmit strong interference signals such as power lines (high-voltage, high currents) when connecting cables to terminals, routing them separately instead of parallel routing;

◆ It is recommended to use shielded cables to improve anti-interference capability.

The following table lists the recommended cross-sectional areas and models of conductors:

Cable	Cross-sectional	Cable No.
Input signal line（X）	0.8~1.0mm^2	AWG18、20
Output signal line (Y)	0.8~1.0mm^2	AWG18、20

5.3 Environment temperature

Environment temperature range of PLC: 0 ℃ ~ 55 ℃ . When the temperature exceeds 45°C for a long time, a well-ventilated place should be selected.

5.4 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.

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.