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Power Supply Product

- ☐ Communication PS
- ☐ Server Power Supply
- ☐ Electric Power Supply
- ☐ Medical Power Supply
- ☐ Industrial Microwave Power Supply
- ☐ Display Power Supply
- ☐ Photovoltaic (PV)
- ☐ Energy Storage System
- ☐ Charging Pile component
- ☐ Guide Rail Power Supply
- ☐ OA Power Supply
- ☐ Flat Panel Power Supply

Industrial Automation

- ☐ Inverter
- ☐ Servo System
- ■ Control System
- ☐ Sensor
- ☐ Internal Gear Pump
- ☐ Industrial IOT
- ☐ Elevator Integrated Controller
- ☐ Engineering Vehicle Controller

New Energy Vehicle & Rail Transit

- ☐ Rail Transit Inverter
- ☐ Motor Controller
- ☐ PFC
- ☐ Electric Compressor
- ☐ Heating Managment System
- ☐ Rail Transit Air Conditioning Controller
- ☐ In-vehicle Integrated Charging System
- ☐ All-in-one High Voltage Integrated Driver

Intelligent equipment

- ☐ Intelligent Digital Welding Machine
- ☐ Industrial Microwave Equipment
- ☐ Intelligent Submersible Screw Pump Oil Recovery System

Smart Appliance Electronic Control

- ☐ Intelligent Sanitary Ware
- ☐ Space Heating
- ☐ Microwave Oven
- ☐ Electromagnetic Heating
- ☐ Cold Chain
- ☐ Heating Ventilation Air Conditioner (HVAC)
- ☐ Washing (Drying) Machine

Precision Connection

- ☐ Flexible Flat Cable(FFC)
- ☐ FPC
- ☐ Coaxial Line
- ☐ Varnished Wire

Shenzhen Megmeet Electrical Co.,Ltd

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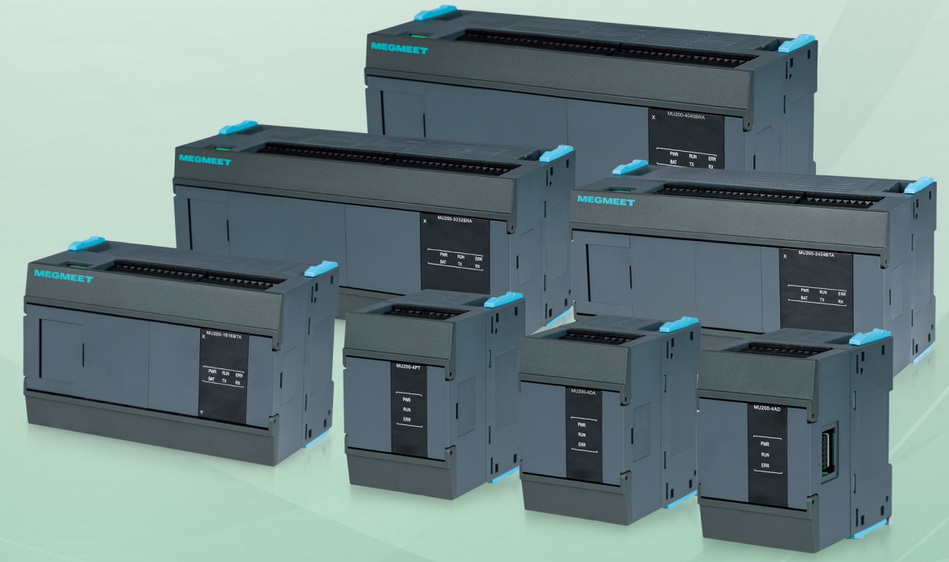
V.23.06

MEGMEET

ShenZhen SC: 002851

MU200 Series Programmable Logic Controller

——A New Generation of High Performance Small PLC



2800+
R&D Personnels

7800+
Employees

10
R&D Centers

8
Manufacturing Bases

About MEGMEET

Shenzhen Megmeet Electrical Co., Ltd.(Stock Code:002851) is a one-stop solution provider for the R&D, production, sales and services of hardware and software in electrical automation field, highlighting in power electronics and automatic control technology. Company's main business covers six parts: power supply products, industrial automation, new energy vehicle& rail transit, intelligent equipment, smart appliance electronic control and precision connection.

Our company has established a strong platform of R&D, manufacturing, marketing and service with more than 2800 R&D personnel and a total of more than 7800 employees. We have established R&D centers in Shenzhen City, Changsha City, Xi'an City, Wuhan City, Zhuzhou City, Hangzhou City, Taizhou City and Chengdu City; overseas research institutes in the United States, Germany, and Sweden; manufacturing centers in Zhuzhou City, Dongguan City, Heyuan City, Taizhou City, and Yiwu City; overseas factories in Thailand and India; overseas marketing station in the United States, Japan, Korea, Southeast Asia, India, Germany, Poland, Romania, Turkey, Sweden to provide quality service resources.

MEGMEET is committed to helping people achieve a more efficient use of electricity, creating a cleaner living environment, continuously improving production efficiency and creating a better life for human beings. Our company aspires to become a global first-class product and solution provider in the field of electrical control and energy saving.

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Four Major Product Features ---------- P01

Introduction of CPU Module Port ------ P07

Industrial Application and Solution ---- P08

Model of MU200 Series PLC ---------- P09

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PLC

MU200 Series

4 A New Generation of High-performance PLC Major Product Features

Excellent performance
Widespread application

Multiple Communication
Convenient Networking

Flexible expansion
Stable & reliable

Simplified programming
Upgrading of function

01 Excellent performance Widespread application

Excellent performance

The design of ARM +FPGA dual-core processor provides the faster arithmetic speed, more precise motion control and more stable process control.

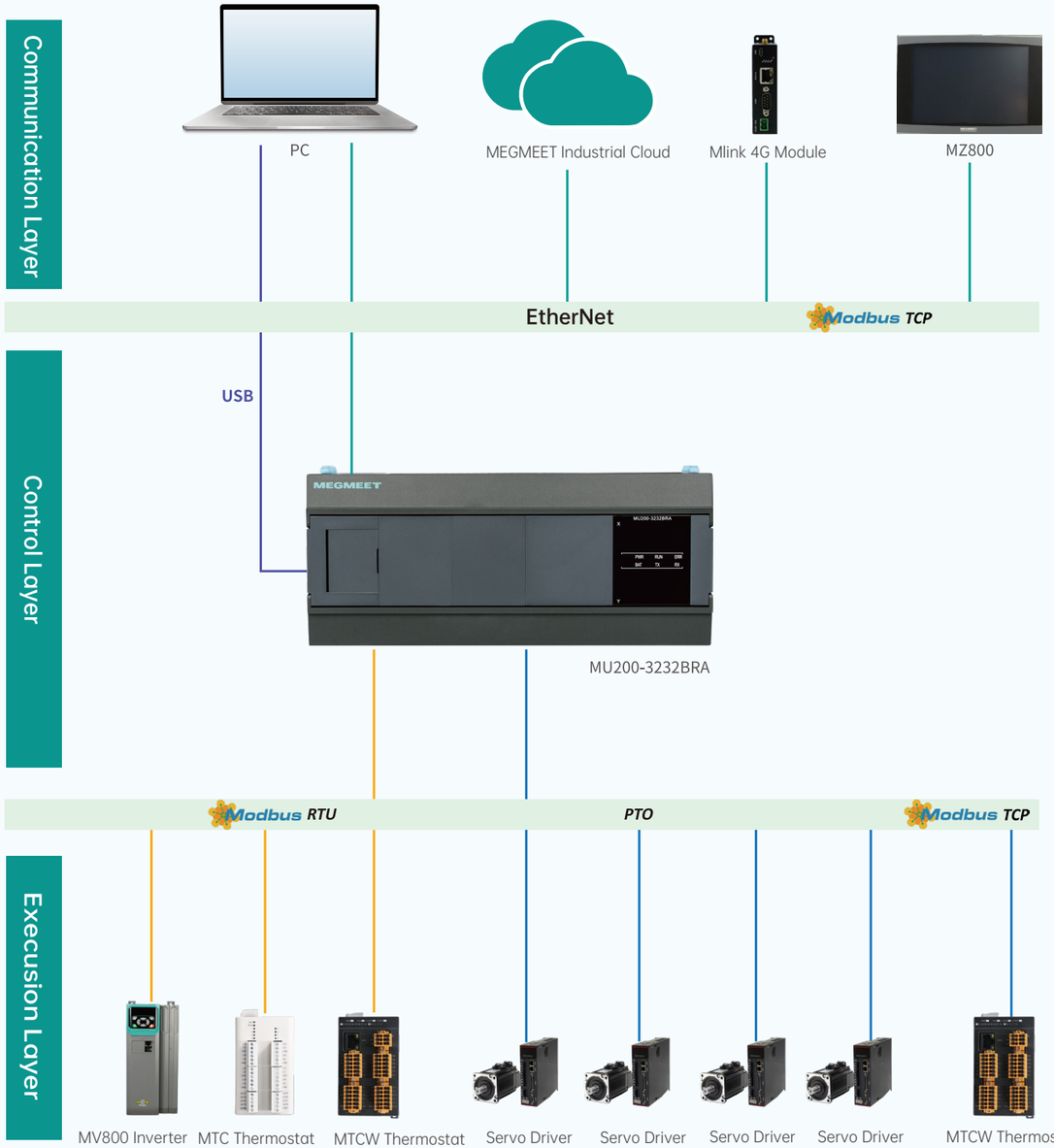
Multi-mode Control

Supporting up to 12 channels 200K high-speed pulse output and 8 channels high-speed count, linear interpolation and electronic gear function.

Widespread application

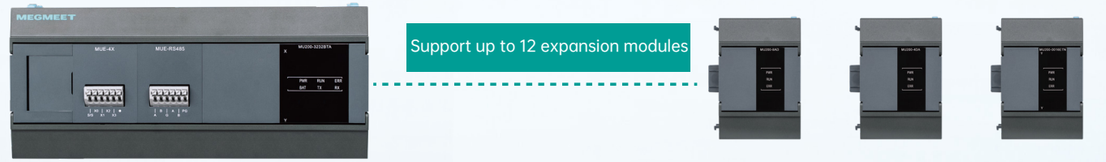
Since its release, MU200 has been used in 3C industry, packaging industry, hydraulic industry and other industries.

02 Multiple Communication Convenient Networking



03 Flexible expansion Stable & reliable

- **Flexible expansion:** Support up to 12 expansion modules and 2 expansion cards to expand small-point IO and communication conveniently.
- **Stable & reliable:** With the horizontal expansion design, the expansion modules are connected by pins, which stabilize the connection and facilitate the disassembly.

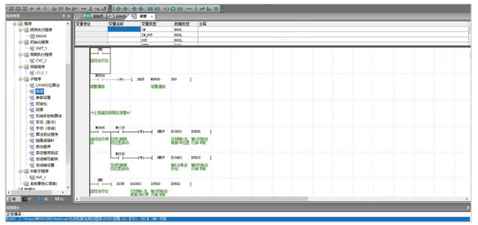


04 Simplified programming Upgrading of function

Efficient programming environment

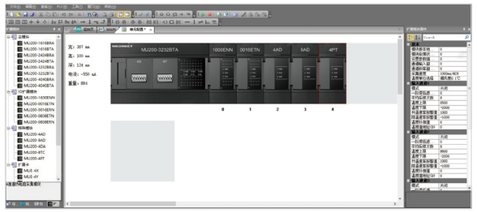
Support online modification and incremental compilation to improve compilation efficiency;

User-program can pinpoint errors for finding and maintenance easily.



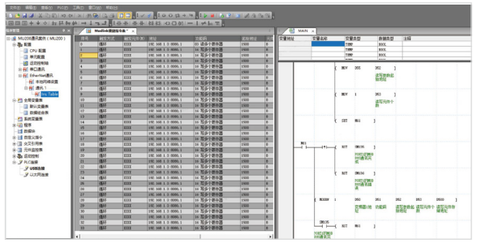
Convenient hardware configuration

The more convenient and intuitive configuration, the more flexible operation.



Tabulation communication

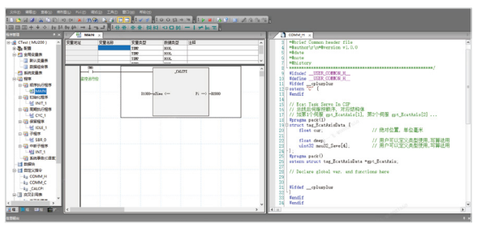
The communication tasks of serial port and Ethernet can be configured through table without invoking complex communication instructions.



Tabulation communication Instruction communciation

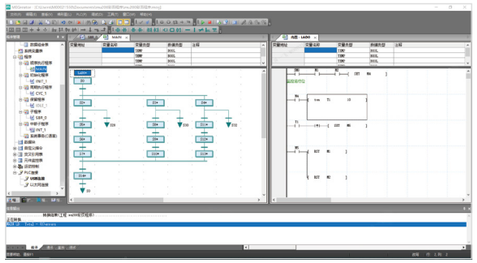
High-level language programming

Support C language transaction program and user-defined function instruction.



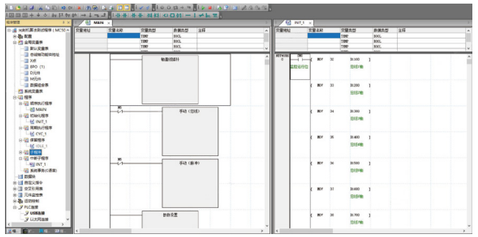
Modularization programming

Support a maximum of 8 main programs, cycle program, initialization program and 255 subroutines at the same time.



Multi-window display programming

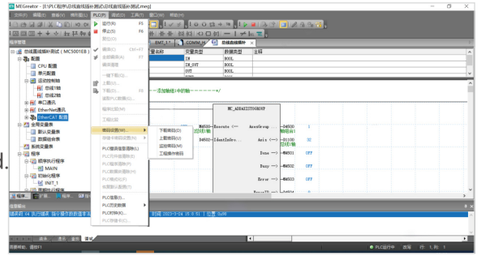
Easy to monitor and search contrastively.



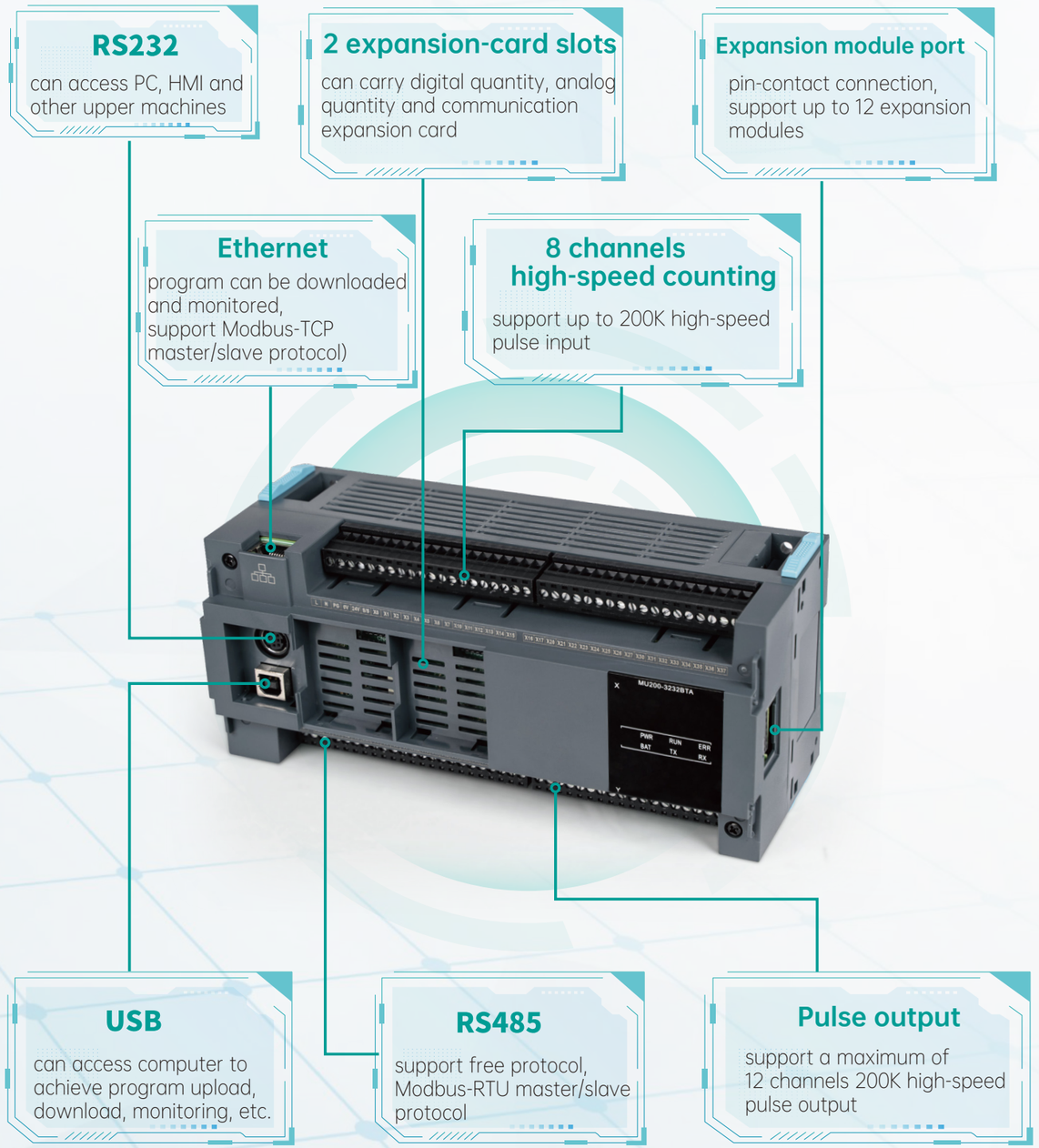
Safe and reliable with multiple protections

Provide the upload password, download password and monitor password.

The functions of prohibiting formatting and prohibiting upload protect user program security from being cracked.



Port Introduction



Industrial Applications and Solution

Packaging Industry——Sorting Packaging Baler

This system adopts MU200-3232BTA module, which interacts with upper machine through USB port to proceed program uploading, program downloading and data monitoring. PLC also interacts the data with HMI using Ethernet protocol through network port and controls the servo driver through pulse so that the system has accurate positioning control and stable process control to solve the inaccurate and inefficient problems.

3C industry——Vertical Furnace

This system adopts MU200-3232BTA module, which interacts with upper machine via USB port to achieve data monitoring management and program modification. PLC also interacts the data with HMI using Ethernet protocol via network port, communicates with inverter and thermostat using Modbus RTU protocol via RS485 port, and controls servo drive through pulse for the aims of achieving accurate motion control and stable process control.

Model of MU200 Series

Basic Module Specification

Model		MU200-1616	MU200-2424	MU200-3232	MU200-4040
Product Picture					
		MU200 BRA Series	MU200BTA Series		MU200-4040BTA Series
Pulse Resoure	High-speed Pulse Output	-	8*200KHZ pulse output(Y0~Y7)		12*200KHZ pulse output(Y0~Y13)
	Single-phase Count Channel	8X200KHz, AB phase counting 4X100KHz			8*200KHz, AB phase count 4*100KHz, high-speed filter parameter can be set independently
IO Resource	Max. Logical IO Point	X0～X1777 Y0～Y1777 (Octal)			
	Digital Filter Function	X0-X7 adopt the first group digital filter, the range of input filter constant is 0-60ms; others adopt the second group digital filter, the range of input filter constant is 0-60ms			
Execution Speed	Simple Instruction	30nS			
Register	Program Power-down Permanent Protection	Yes			
	User Program	64k Step			
	Power-down Retention	Element M、S、D、C、T can be configured the power-down retention function			
Program Type	Initialization Program	0~8			
	Sequential Function Program	1~8, Min. 1 sequential execution program			
	Cycle Execution Program	0~8			
	Subroutine	0~256			
	Script Program(C)	0~4096, supporting standard C language			
Data Block	Data Block Capacity	Element D and R can set a maximum of 12000			
Number of Soft Element	Input Relay X	1024(Note 1)			
	Output Relay Y	1024(Note 1)			
	Auxiliary Relay M	8192			
	Special Auxiliary Relay SM	1536			
	Status Relay S	2048			
	Timer T	Total number 512 100ms precision, 210: T0~T209 10ms precision, 170: T210~T479 1ms precision, 32: T480~T511			
	Counter C	Total number 308 16-bit general U-counter: C0~C199, 200 points 32-bit general bi-directional counter: C200~C235, 36 points 32-bit high-speed counter: C236~C307, 72 points			
	Data Register D	16000			
	Expansion Data Register R	16000			
	Partial Data Register LM	256			
	Partial Auxiliary Relay V	256			
	Indexed Addressing Register Z	256			
	Special Digital Register SD	1536			
	Forced Element Function	Supported(Note 2)			

Model		MU200-1616	MU200-2424	MU200-3232	MU200-4040
Product Picture					
		MU200BRA Series	MU200BTA Series		MU200-4040BTA Series
Interrupt Resource	External Interrupt	8 rising/falling edge triggering be supported			
	High-speed Count Interrupt	8			
	Serial Port Interrupt	8			
	PTO Output Complete Interrupt	8			12
	Interpolation Complete Interrupt	1			
	Passing Position Interrupt	6			
	Power Failure Interrupt	1			
Serial Port Communication	Communication Port of Expansion Card	1 channel(Note 4)	2 channels		
	Local Host Communication Port	1-channel RS485, 1-channel RS232			
	Communication Protocol	Modbus master/ Modbus slave/ free port/ Mcbus			
Ethernet	Programming Debugging	Support to upload and download operation through Ethernet, monitor program, online modifying			
	Supporting Multi-socket	5 Sockets, 20 connections			
	Modbus/TCP	1)supporting master/slave station 2)supporting configuration and networking communication			
	Free Port	1)transmit-receive of free protocol 2)supporting multiple Sockets			
USB Port	Programming & Debugging	Support to upload and download operation through USB, monitor program, online modifying			
Real-time Clock	Real-time Clock	Battery retention			
Online Modification	Online Modifying	Supported(Note 3)			
Accessing Control and User Program Protection	Password Setting	Upload password, download password, and monitor password			
	Upload Prohibition	Supported			

Note 1: The number of X and Y elements are addressed based on octal, for example, the address X10 represents the 8th input point.

Note 2: The forced element function is provided to facilitate debugging and analysis of user programs and improve debugging efficiency. A maximum of 128-bit elements and 16-word elements can be forced simultaneously.

Note 3: The user program can be modified online during PLC operation.

Note 4: MU200-1616 module supports one expansion card only.

MU200 Main Module Specification

Model			MU200-1616	MU200-2424	MU200-3232	MU200-4040
Product Picture						
Electric Specification of Input Port						
Mode of Signal Input			Source type/leakage type , user can choose through S/S port			
Electric Parameter	Detection Voltage		24VDC			
	Input Impedance		X0~X7 ports: 3.3KΩ, other ports 4.3 KΩ			
	Input ON		External loop resistance is less than 400Ω, input voltage＞15V			
	Input OFF		External loop resistance is greater than 24KΩ, input voltage＜5V			
Filter Function	Digital Filter		X0~X7 own digital filter function, filter time can be set by programming(0~64ms adjusted)			
	Hardware Filter		Other I/O ports own hardware filter function except X0~X7, filter time is about 10ms			
High-speed Function			X0~X7 can achieve functions like high-speed count, interrupt, pulse capture			
			The count frequency of X0~X7 ports can up to 200KHZ			
Common Wiring Port			One common port, S/S port			
Electric Specification of Output Port						
Transistor Output Port	Loop-power Rated Voltage		5～24VDC			
	Electric Isolation		Optocoupler isolation			
	Motion Indication		LED lights up when optocoupler be driven			
	Conduction Impedance		Less than 0.3Ω			
	Min. Load		5mA(5～24VDC)			
	Max. Output Frequency		200KHZ			
	Max. Output Current	Resistance Load	0.3A/ 1 point			
		Inductive Load	7.2W/24VDC			
	ON Response Time		0.5ms MAX(100mA/DC24V)			
	OFF Response Time					
	Output Common Port		One group with 4 channels			
Relay Output Port	Loop-power Rated Voltage		5-30VDC/220VAC			
	Electric Isolation		Relay isolation			
	Motion Indication		LED lights up when relay be closed			
	Conduction Impedance		Less than 0.3Ω			
	Min. Load		/			
	Max. Output Frequency		1HZ			
	Max. Output Current	Resistance Load	2A/channel			
		Inductive Load	80VA@220Vac			
	ON Response Time		No greater than 10ms			
	OFF Response Time					
	Output Common Port		One group with 4 channels			

Expansion Card Specification

Model		MUE-2AD	MUE-2AM	MUE-2DA
Product Picture				
Product Description		2-CH analog quantity input	1-CH input, 1-CH output (analog quantity)	2-CH analog quantity output
Range of Analog Quantity Input		Voltage: 0~+10V 0~+5V 1~5V	Current: 0~20mA 4~20mA	/
Digital Input		Default: 0～10000		
Resolution		5mV(Voltage) / 10uA(Current)		/
Conversion Speed		2ms/channel		
Conversion Precision		±1% of the full scale		
Input Impedance	Voltage	500KΩ		/
	Current	250KΩ		
Range of Analog Quantity Output		/	Voltage: 0~+10V 0~+5V 1~5V	Current: 0~20mA 4~20mA
Min. Load(Voltage)		/	1KΩ	
Max. Load(Current)			500Ω	

Model	MUE-4X	MUE-4XY	MUE-4Y
Product Picture			
Product Description	4-point 24VDC input	2-point input 2-point transistor output	4-point transistor output
Input Mode	Source type/leakage type		/
Input Voltage Level	24VDC(-15%～+20%)		
Port Filter Time	1ms～64ms (default 8ms, can be adjusted by software)		
Input Impedance	4.3KΩ		
Signal Frequency	1KHZ(MAX)		
Isolation Mode	Optocoupler isolation		
Loop-control Voltage	/	DC 5V ~ 24V	
Load Current	/	0.3A/1 point; 0.8A/4 points	
Min. Load		5mA(DC 5～24)	
Open-path Leakage Current		Less than 0.1mA/DC 24V	
ON Response Time		0.5ms MAX(100mA/DC24V)	
OFF Response Time			

Model	MUE-RS485	MUE-RS232
Product Picture		
Product Description	RS485 communication expansion card	RS485 communication expansion card
Communication Rate	1200、2400、4800、9600、19200、38400、57600、115200	
Protocol	Free port protocol, Modbus-RTU (master/slave)	
Terminal Matching Resistance	/	
Isolation Model	Magnetic couple isolation	

Expansion Module Specification

Model	MU200-0808ERN	MU200-0808ETN	MU200-1600ENN	MU200-0016ERN	MU200-0016ETN
Product Picture					
Mode of Signal Input	Source type/leakage type			/	
Detection Voltage	24VDC				
Input Resistance	4.3KΩ				
Max. Input Frequency	1KHZ				
Hardware Filter	About 0.5ms				
Digital Filter	1～128ms，default 8ms				
Loop-power Rated Voltage	Under AC250V/DC30V	5～24VDC	/	Under AC250V/DC30V	5～24VDC
Circuit Insulation	Relay mechanical insulation	Optocoupler insulation		Relay mechanical insulation	Optocoupler insulation
Motion Indication	LED lights up when the relay output contact draws	LED lights up when the optocoupler is driven		LED lights up when the relay output contact draws	LED lights up when the optocoupler is driven
Open-path Leakage Current	/	Less than 0.1mA/24VDC		/	Less than 0.1mA/24VDC
Min. Load	2mA(5VDC)	5mA(5～24VDC)		2mA(5VDC)	5mA(5～24VDC)
Max. Output Frequency	/	1KHZ		/	1KHZ
Max. Output Current – Resistance Load	2A/1 point, 8 points in all at CM end total current is less than 8A	0.3A/1 point, 0.8A/4 points 1.6A/8 points		2A/1 point, 8 points in all at CM end total current is less than 8A	0.3A/1 point, 0.8A/4 points 1.6A/8 points
Max. Output Current – Inductive Load	AC220V/80VA	7.2W/24VDC		AC220V/80VA	7.2W/24VDC
ON Response Time	20ms MAX	0.5msMAX (100mA/DC24V)		20ms MAX	0.5msMAX (100mA/DC24V)
OFF Response Time	20ms MAX	0.5msMAX (100mA/DC24V)		20ms MAX	0.5msMAX (100mA/DC24V)
Output Common Port	4 channels share 1 port	Each group is isolated		4 channels share 1 port	Each group is isolated

Expansion Module Specification

Model	MU200-4AD	MU200-8AD	MU200-4DA
Product Picture			
Number of Analog Quantity Output Point	4 points	8 points	4 points
Range of Analog Quantity Output	Voltage: -10~+10V Current: 0~20mA -5~+5V 4~20mA 0~5V 1~5V 0~10V(scale switched by upper machine)		Voltage: -10~+10V Current: 0~20mA 0~10V 4~20mA (0~10V and 0~20mA are synchronized) (scale switched by upper computer)
Resolution	5mV(Voltage) / 10uA(Current)		
Number of ADC Bit	14bit	16bit	/
Conversion Speed	8ms/4 channels	16ms/8 channels	2ms/ channels
Sampling Precision	±1%		
Conversion Precision	/		±1% of the full scale
Input Impedance – Voltage	400KΩ		/
Input Impedance – Current	250Ω		
Load Impedance – Voltage	/		1KΩ (Min.)
Load Impedance – Current			500Ω (Max.)
Isolation	The analog circuit and digital circuit are separated with a photoelectric coupler and the analog channels are not separated with each other.		
24V Power Consumption	30mA	45mA	20mA

Expansion Module Specification

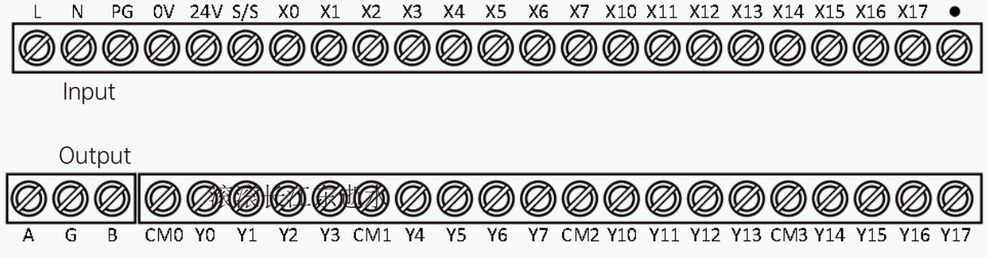
Model	MU200-4PT			MU200-8TC
Product Picture				
Input Channel	4			8
Sensor Type	PT100、CU50、CU100、0～300R			J-type, K-type, R-type, S-type, T-type, E-type, N-type, B-type thermocouple
Display Mode	℃，℉			℃，℉
Temperature Resolution	0.1℃			0.1℃
Sampling Cycle	250ms/4CH, 500ms/4CH, 1000ms/4CH (Optional)			/
Response Time	/			800ms/8CH
Whole Precision	Full scale ： ±1%			±0.5% of F.S.(@25℃±5℃) ±1%of F.S.(@0～50°℃)
Sensitivity	/			0.1℃
Measurement Range	PT100	"-200～850°C"	18.520Ω ～390.48Ω	/
	Cu100	"-50～150°C"	78.4Ω ～164.27Ω	
	Cu50	"-50～150°C"	39.242Ω ～82.135Ω	
	NTC	/	0～300R	
Isolation Mode	The analog circuit and digital circuit are separated with a photoelectric coupler and the analog channels are not separated with each other.			Channels are isolated from each other(400VDC) Analog and digital channels are isolated from each other(1500VDC)
Isolation withstand voltage	Between digital circuit and ground (500VAC)			/
	Between analog circuit and ground (500VAC)			
	Between digital circuit and analog circuit (500VAC)			
Function	First-order delay filter function Overrun detection function Slope over-alarm function Temperature compensation function			Disconnection detection, over-limit alarm, slope alarm
Bus 24V Power Consumption	⩽30mA			⩽30mA

Model and Dimensions of MU200 Series

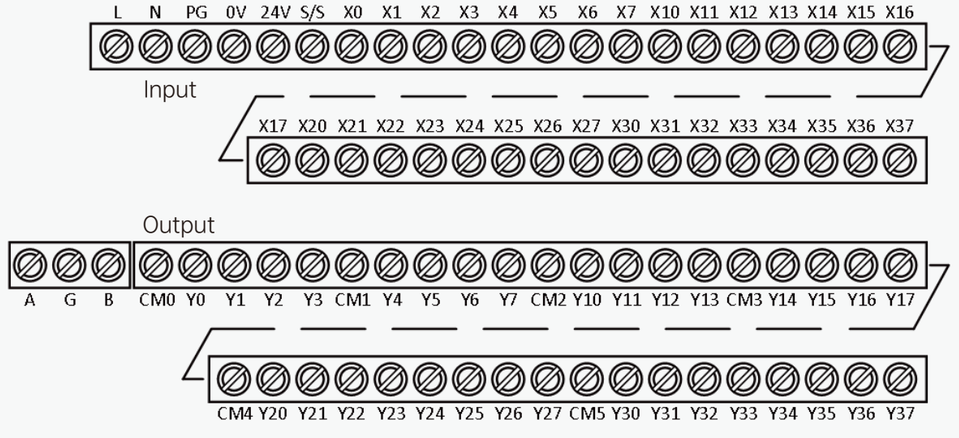
Classification	Model	Description	Dimensions(L×W×H)
Basic Module	MU200-4040BTA	40-point DC24V input, 40-point transistor output	246x90x85(mm)
	MU200-4040BRA	40-point DC24V input, 40-point relay output	246x90x85(mm)
	MU200-3232BTA	32-point DC24V input, 32-point transistor output	210x90x85(mm)
	MU200-3232BRA	32-point DC24V input, 32-point relay output	210x90x85(mm)
	MU200-2424BTA	24-point DC24V input, 24-point transistor output	180x90x85(mm)
	MU200-2424BRA	24-point DC24V input, 24-point relay output	180x90x85(mm)
	MU200-1616BTA	16-point DC24V input, 16-point transistor output	145x90x85(mm)
	MU200-1616BRA	16-point DC24V input, 16-point relay output	145x90x85(mm)
IO Expansion Module	MU200-0016ERN	16-point relay output	60x90x85(mm)
	MU200-0016ETN	16-point transistor output	60x90x85(mm)
	MU200-1600ENN	16-point DC24V input	60x90x85(mm)
	MU200-0808ERN	8-point DC24V input, 8-point relay output	60x90x85(mm)
	MU200-0808ETN	8-point DC24V input, 8-point transistor output	60x90x85(mm)
Analog Quantity Expansion Module	MU200-4AD	4-channel analog quantity input	60x90x85(mm)
	MU200-4DA	4-channel analog quantity output	60x90x85(mm)
	MU200-8AD	8-channel analog quantity input	60x90x85(mm)
	MU200-8TC	8-channel thermocouple	60x90x85(mm)
	MU200-4PT	4-channel thermal resistance	60x90x85(mm)
Expansion Card	MUE-4X	4-point input	38x46.4x11.5(mm)
	MUE-4Y	4-point output	38x46.4x11.5(mm)
	MUE-4XY	2-point input, 2-point output	38x46.4x11.5(mm)
	MUE-2AD	2-channel analog quantity input	38x46.4x11.5(mm)
	MUE-2DA	2-channel analog quantity output	38x46.4x11.5(mm)
	MUE-2AM	1-channel analog quantity input, 1-channel analog quantity output	38x46.4x11.5(mm)
	MUE-RS232	RS232 communication	38x46.4x11.5(mm)
	MUE-RS485	RS485 communication	38x46.4x11.5(mm)
	MUE-CAN	CAN communication	38x46.4x11.5(mm)

Terminal Diagram of Basic Module

MU200-1616



MU200-3232



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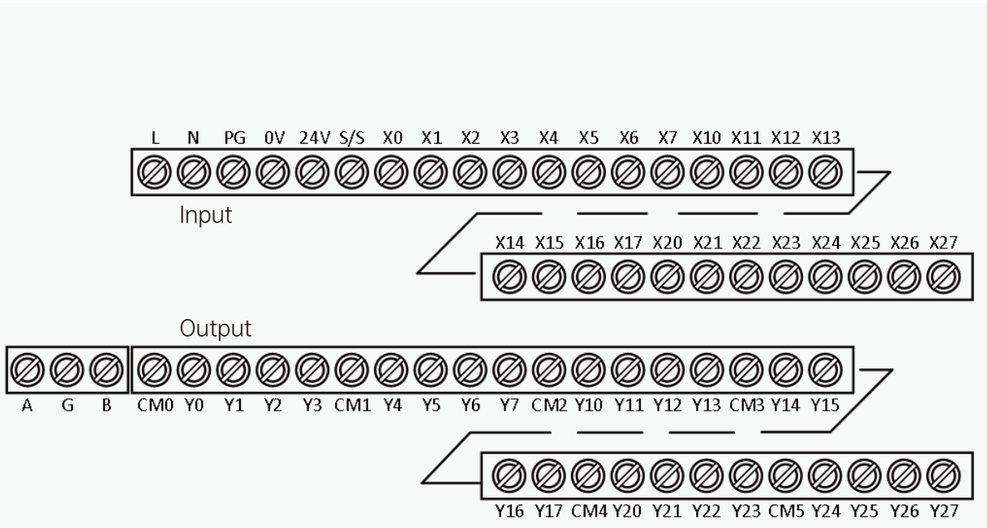

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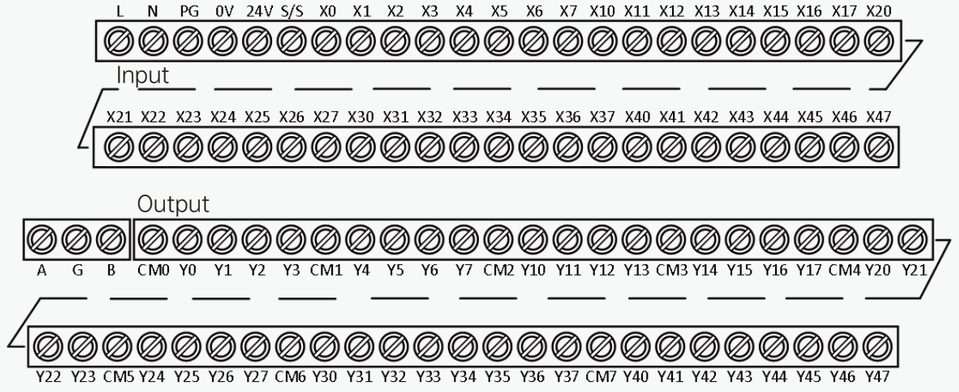
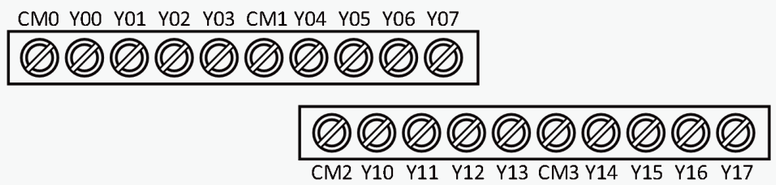


Terminal Diagram of Expansion Module

MU200-0016ETN/ERN



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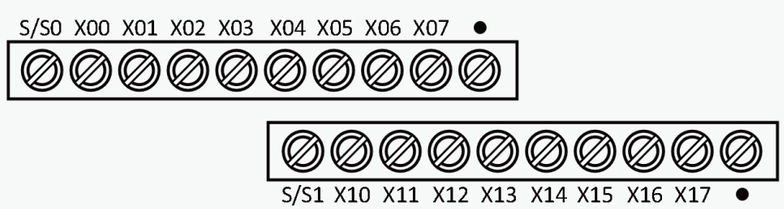

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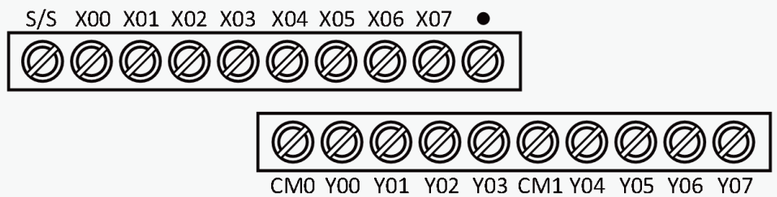

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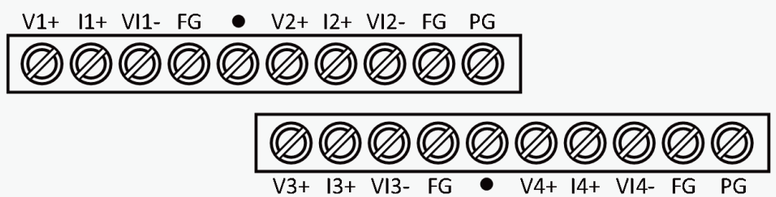

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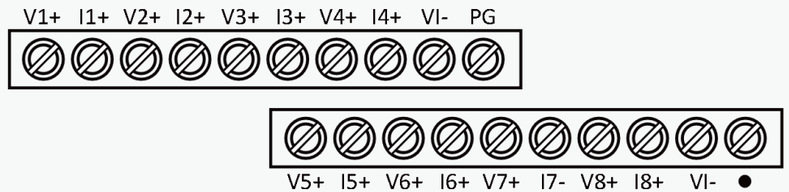

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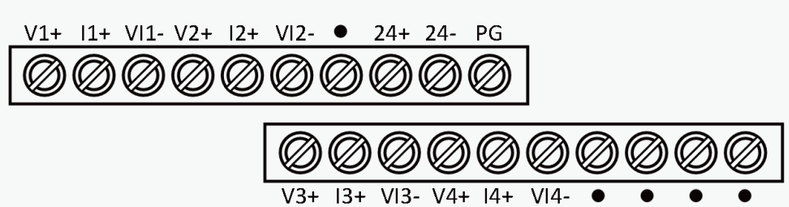

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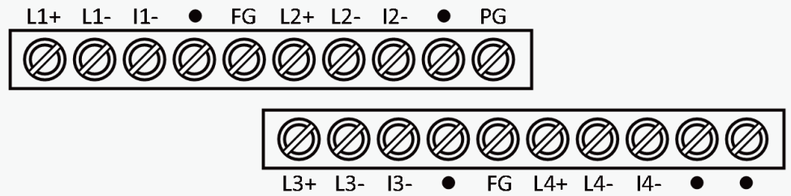
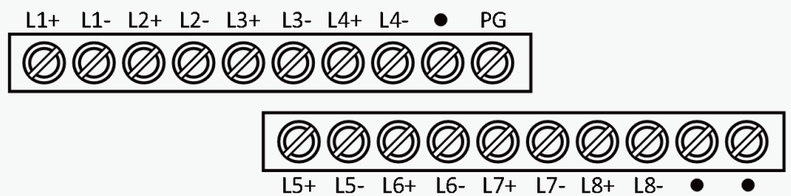
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