

CONTROL SYSTEM SELECTION BROCHURE

PLCThermostatHMI

Power Solutions

- ☐ Telecom Power
- ☐ Server Power
- ☐ Electric Power
- ☐ Medical Power
- ☐ Display Power
- ☐ LED Power
- ☐ Laser Power
- ☐ OA Power
- ☐ Flat Panel Power
- ☐ Bi-directional Inverters for Portable Power
- ☐ Solar & BESS & EV Charging Solution

Industry Automation

- ☐ Servo System
- ☒ Control System
- ☐ Elevator Controller
- ☐ Linear Motors
- ☐ IOT Solution
- ☐ Encoder
- ☐ Variable Frequency Drive
- ☐ Internal Gear Pump

New Energy Solutions

- ☐ Multiplexed EV Charging System(OBC & DC-DC)
- ☐ Power Electronic Unit(2-in-1, 3-in-1)
- ☐ E-Compressor
- ☐ TV EDU
- ☐ Motor Control Unit
- ☐ Construction Machinery Controller
- ☐ Intelligent Active Hydraulic Suspension (i-AHS)
- ☐ Railway A/C Controller
- ☐ Railway VFD
- ☐ Light Electric Vehicle Controller
- ☐ Thermal Mgmt. System

Home Appliance Control Solutions

- ☐ Residential A/C Controller
- ☐ Commercial A/C Controller
- ☐ Heat Pump Controller
- ☐ Vehicle A/C Controller
- ☐ Solar A/C Controller
- ☐ Mini Compressor Controller
- ☐ Refrigerator Controller
- ☐ Washer/Dryer Controller
- ☐ Residential Microwave
- ☐ Industrial Microwave
- ☐ Smart Bidet
- ☐ RF Thawing System

Precision Connection

- ☐ FFC
- ☐ FPC
- ☐ Coaxial Cable
- ☐ CCS
- ☐ Litz Wire
- ☐ Peek Wire

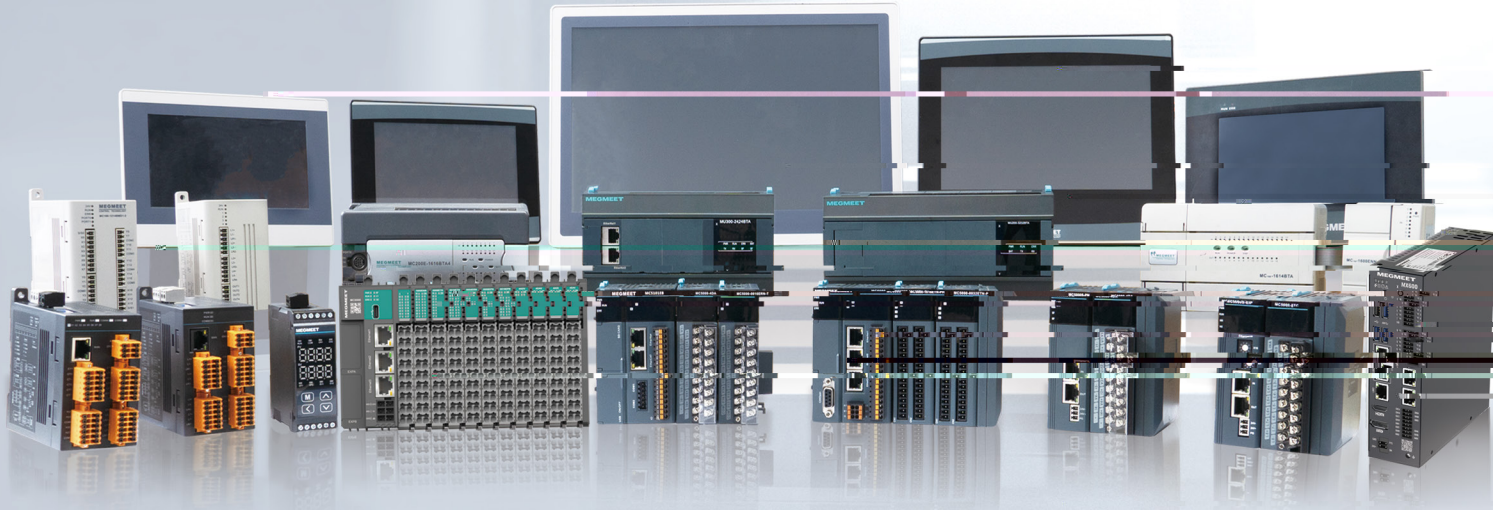
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Version: 202405
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MX600 Series Medium PLC

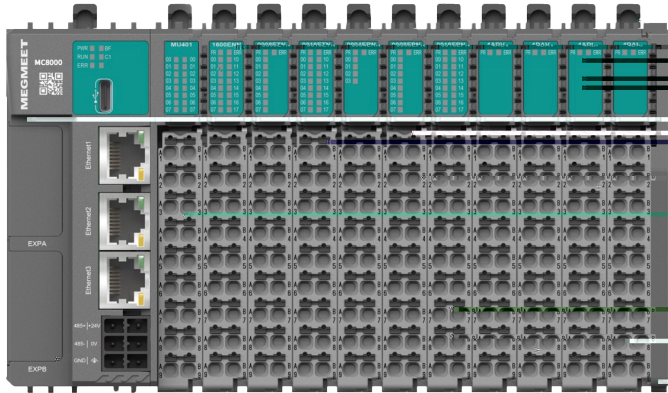
MX600 series intelligent controller breaks through the 256-axis μ s-level synchronous control, supports EtherCAT, EtherNET / IP, ProfiNet and other bus protocols, and the redundant architecture ensures 99.999 % extreme condition stability. It covers high-precision scenarios such as lithium battery winding, semiconductor, photovoltaic, etc., and synchronously meets the ms-level sequential control requirements of 3C assembly, five-axis machining and high-speed packaging.

Product Feature

- Support 16-axis/250us, 64-axis/500us and 256-axis/2ms sync cycles, and 20us jitter to ensure high-precision control.

MC8000 Series Medium PLC *

MC8000 series product is a new generation of high-performance and cost-effective medium PLC based on the mOPAX platform of MEGMEET. It is fully compatible with the IEC61131-3 programming specification and supports LD, ST, SFC, CFC, FBD, and IL programming languages; adopts the blade-type module design, and supports multi-core processor. Based on multi-bus protocols such as EtherCAT and Profinet, a multi-axis motion control system is constructed, to meet the high-speed response requirements of intelligent devices.



* Developing
Coming soon

Product Feature

Strong expansion & networking

- Expand up to 32 modules, support the expansion of digital, analog, CAN, RS485, RS232, etc.
- Full protocol compatibility, support Modbus/ EtherCAT/EtherNet IP/Profinet and others.

Reliably excellent performance

- Four-core A55 processor, communication, logic and algorithm are completely independent.
- 8*200K high-speed input, 8*200K pulse output (single pulse, pulse + direction, AB phase, FWD+REV, etc.)

Precise Multi-axis control

- 1ms/16-axis sync, support 16/32/64-axis EtherCAT control

Flexible & convenient operation

- 12mm machine body, saving space
- PUSH In terminal, easily wiring and replacing without tools

Ultra-large capacity

- Support 10M program capacity, 20M data capacity, 512KB retention, for complex logic and data processing

MEGMEET

[illegible][illegible]

MU400 is a new generation of economical PLC based on mOPAX platform. It uses LD, ST and FBD languages in accordance with IEC-61131-3 / PLCopen standard; is equipped with EtherCAT, Ethernet, CAN, RS485 and other interfaces; owns 1M program capacity, 1M data capacity; The body is as thin as 12 mm, and supports



MU300 Series Small PLC

MU300 series is a new bus-type small PLC launched by MEGMEET, equipped with high-performance CPU and EtherCAT/CANopen high-speed communication protocol. It supports multi-axis bus control, interpolation, E-CAM, E-gear and other control function, to achieve high-speed operation and efficient communication, flexible configuration and programming in 3C, packaging, hydraulic industry or other control scenarios.



Flexible expansion

- IO point expands up to 240
- Support a maximum of 12 expansion modules and 2 function expansion cards

Excellent performance for precise control

- Arithmetic speed and control performance are significantly improved based on ARM+FPGA dual-core processor
- Support 8-channel 200K high-speed pulse output and single-phase pulse count, or 4-channel 100K AB-phase, CW/CCW, pulse+direction
- Support linear interpolation and E-gear

EtherCAT Control

- Min. 500µs control cycle, support up to 16 bus axis
- Communication port: 1*EtherCAT+2*EtherNet, support up to 32 slave stations

Networking based on multi-communication

- Support MODBUS protocol, CAN free-port protocol and CANopen protocol
- Support USB and MODBUS-TCP communication with a maximum of 5 sockets and 20 connections
- Support Ethernet programming, USB upload and download

MU200 Series Small PLC

MU200 new generation of small PLC uses ARM+FPGA dual-core processor for the powerful processing function, while owns the RS232/ RS485/ Ethernet communication ports, and supports linear interpolation and electronic gear. This product is widely used in 3C industry, packaging industry, hydraulic industry, etc.



Networking based on multi-communication

- Support MODBUS protocol, free protocol, CAN free-port protocol and CANopen protocol
- Support USB and MODBUS-TCP communication with a maximum of 5 sockets and 20 connections

Excellent performance for precise control

- Arithmetic speed and control performance are significantly improved based on ARM+FPGA dual-core processor
- Support up to 12-channel 200K high-speed pulse output and 8-channel high-speed count
- Support linear interpolation and E-gear

Flexible expansion

- IO point expands up to 272
- Support up to 12 special function modules and 2 expansion cards

- Convenient hardware configuration
- Tabulation communication
- High-level C language programming
- Modularization programming
- Multi-window display programming
- Safe and reliable with multiple protections

MC280/MC200E Series PLC



※MC280-specific function

MC200 Series Small PLC

MC200 series PLC is a high stability and high reliability product, with fast instruction processing speed and large program capacity based on its built-in high-performance microprocessor and core computing control system. Itsultra-wide voltage range and excellent networking capability make it widely used in municipal equipment, textile, printing, HVAC, and others.



High speed and large capacity

- Program capacity: 12K
- Basic instruction speeds up to 0.09μs

Strong expansion capability

- IO expands up to 512 points
- Special function module can extend up to 8 modules
- Provide IO module with power supply

High stability and reliability

- Ultra-wide voltage range: 85V~280V
- Input filter protection and power loss protection
- Strict three - defense protection processing

Excellent communication networking

- Support MCBUS network communication protocol, MODBUS protocol, and OPC service
- Support CAN free protocol, CANopen protocol
- Support Ethernet, MODBUS TCP/IP protocols

Reliable program security

- 8-bit password protection, can be set to prohibit program upload and prevent unauthorized program replication



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1. Introduction

2. Background

3. Methodology

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6. Discussion

MQT Series Temperature Controller

MQT series product, a new generation cascade temperature controller, is composed of communication module, temperature control module and expansion module, realizing high-precision temperature control by matching modules flexibly and integrating internal intelligent PID algorithm; it has the advantages of cascade, high precision, multi-point temperature control, background upgrade, free combination, small size and so on.



High precision:

High performance:

Strong function:

Simple installation:

Complete module:

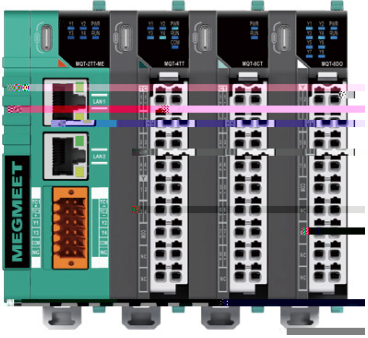
Measure precision: full scale of ± 0.15 %

0.1s sampling cycle and perfect PID self-tuning function, to achieve multi-channel cascade control

A single module can operate PID control and simple logic operation, and monitor analog value

PUSH IN terminal, different terminals connection can be realized only need to gently push into

Digital I/O, analog I/O, CT input, temperature input, communication and others



Item	Description	
Power supply	24VDC -15% ~ 20%	
Signal input	Input type	Thermocouple K J E N T R B For all channel
		Thermal resistance Pt100 JPt100 Cu100 Ni120 For all channel
	Precision	Thermocouple 0.15% Full scale + cold compensation
		Thermal resistance 0.3% Full scale
	Sampling cycle	25ms/channel 100ms/8 channels 100ms/4 channels
Control output	Output form	Transistor output (SSR drive output), relay output, current output, voltage output
	Control action	Manual, ON / OFF, single PID, heating & cooling PID, position proportional PID
Alarm output	Alarm form	14 alarms, such as upper and lower limit alarm, deviation alarm and so on.
	Output form	Transistor and relay output (output state can be directly controlled by writing registers)
	Output channel	8 channels
Digital input	Input form	Transistor input
	Input channel	4 channels
Control cycle	0.1s - 10s or 1s - 100s	
Acquisition channel	4 channels and 8 channels	
Isolation	Exist between power and communication, power and channel, communication and channel, channel and channel	
Communication port	RS485/Modbus-TCP/EtherNet/EtherCAT/Profinet	
Generals	Ambient temperature	Working: -20 ~ 60 °C, storage: -40 ~ 70 °C
	Ambient humidity	Working: 10 ~ 90 % RH (no condensation), keeping: 5 ~ 95 % RH (no condensation)
	Altitude	Below 2000m
	Protection level	IP20
C & S	Conform to IEC/EN 61326-1 For use in industrial locations CE	

Model	Acquisition channel	Temperature control output	Alarm output	Input type
Communication module				
MQT-2TT-ME	2-CH	Modbus TCP/IP/Ethernet	Transistor(4-CH)	TC
MQT-2RT-ME	2-CH	Modbus TCP/IP/Ethernet	Transistor(4-CH)	RTD
MQT-2TT-ET	2-CH	EtherCAT	Transistor(4-CH)	TC
MQT-2RT-ET	2-CH	EtherCAT	Transistor(4-CH)	RTD
MQT-2TT-RS	2-CH	Modbus RS485	Transistor(4-CH)	TC
MQT-2RT-RS	2-CH	Modbus RS485	Transistor(4-CH)	RTD
MQT-2TT-PN	2-CH	Profinet	Transistor(4-CH)	TC
MQT-2RT-PN	2-CH	Profinet	Transistor(4-CH)	RTD
Temperature control module				
MQT-4TT	4-CH	Modbus RS485	Transistor(4-CH)	TC
MQT-4TA	4-CH	Modbus RS485	Analog(4-CH)	TC
MQT-4TR	4-CH	Modbus RS485	Relay(4-CH)	TC
MQT-4RT	4-CH	Modbus RS485	Transistor(4-CH)	RTD
MQT-4RA	4-CH	Modbus RS485	Analog(4-CH)	RTD
MQT-4RR	4-CH	Modbus RS485	Relay(4-CH)	RTD
Expansion module				
MQT-8DI	8-CH	8-channel digital input	-	Digital (8-CH)
MQT-8DO	8-CH	8-channel digital output	Digital (8-CH)	-
MQT-8CT	8-CH	8-channel current detection	-	Transformer current
MQT-8DM	8-CH	4-channel digital input, 4-channel digital output	Digital (4-CH)	Digital (4-CH)
MQT-8AI	8-CH	8-channel analog current input	-	Analog (8-CH)
MQT-8AV	8-CH	8-channel analog voltage input	-	Analog (8-CH)
MQT-8AO	8-CH	8-channel analog output	Analog (8-CH)	-

MTC/MTCW/MTCV Series Temperature Controller

MTC/MTCW/MTCV series products are multi-channel and high-precision temperature controllers, which are suitable for various occasions of temperature control. Its main feature is compatible with TC and RTD, high measure accuracy; high integration (one module supports up to 12 channels of temperature control and 16 channels of measurement), space saving, easy data exchange, remote monitoring, and high cost performance.

Dedicated software:

Provide special software - MtcCompanion

Dual-PID function:

Heating&cooling dual-PID control function, 14 alarms like upper and lower limits, deviation, etc

High precision

Intelligent self-tuning and multi-stage temperature setting functions to achieve high-precision temperature control

Multi-way control

Integrated multi-channel temperature control to centralize data management

Easy exchange

Data exchange easily between thermostat and PLC, thermostat and HMI, thermostat and computer through Ethernet and serial port

Item	Description	
Power supply	24VDC -15% ~ 20%	
Signal input	Input type	Thermocouple K J E N T R B For all channel
		Thermal resistance Pt100 JPt100 Cu100 Ni120 For all channel
	Precision	Thermocouple 0.2% Full scale + cold compensation Thermal resistance 0.3% Full scale)
	Sampling cycle	25ms/channel 100ms/8 channels 100ms/4 channels
	Output form	Transistor output (SSR drive output), relay output, current output, voltage output
Control output	Control action	Manual, ON / OFF, single PID, heating & cooling PID, position proportional PID
	Alarm form	14 alarms, such as upper and lower limit alarm, deviation alarm and so on.
Alarm output	Output form	Transistor and relay output (output state can be directly controlled by writing registers)
	Output channel	8 channels
IO input	Input form	Transistor input
	Input channel	4 channels
Control cycle	0.1s - 10s or 1s - 100s	
Acquisition channel	4 channels and 8 channels	
Isolation	Exist between power and communication, power and channel, communication and channel, (MTCV)channel and channel	
Communication port	MTC/MTCV: One isolated RS485 serial port; support MODBUS slave and MCBUS slave protocol MTCW: One isolated + one non-isolated RS485 serial port, one Ethernet port; support MODBUS slave protocol	
Generals	Ambient temperature	Working: -20 ~ 60 °C, storage: -40 ~ 70 °C
	Ambient humidity	Working: 10 ~ 90 % RH (no condensation), keeping: 5 ~ 95 % RH (no condensation)
	Altitude	Below 2000m
	Protection level	IP20
C & S	Conform to IEC/EN 61326-1 For use in industrial locations UL61010-1 CE UL	

MTC series

Model	Acquisition channel	Temp _g		
MTC-04-NT	4-CH	Transistor (4-CH)	Flag bit	TC, RTD
MTC-08-NT	8-CH	Transistor (8-CH)	Flag bit	TC, RTD
MTC-04-NTT	4-CH	Transistor (4-CH)	Transistor(8-CH), flag bit	TC, RTD
MTC-04-NTR	4-CH	Transistor (4-CH) Relay (8-CH)	Relay(8-CH), flag bit	TC, RTD
MTC-04-NVT	4-CH	Transistor (4-CH) Current(8-CH 0-20mA or 4-20mA) Voltage(8-CH 0-1V 0-5V 0-10V or 1-5V)	Transistor (4-CH)	TC, RTD

MTCW series (Ethernet 2*RS485)

MTCW-04-NTT	4-CH	Transistor (4-CH)	Transistor (4-CH), flag bit	TC, RTD
MTCW-04-NI	4-CH	Current (4-CH 0-20mA or 4-20mA)	Flag bit	TC, RTD
MTCW-04-NV	4-CH	Voltage (4-CH 0-1V 0-5V 0-10V or 1-5V)	Flag bit	TC, RTD
MTCW-08-NN	8-CH	-	Flag bit	TC, RTD
MTCW-08-NI	8-CH	Current (8-CH 0-20mA or 4-20mA)	Flag bit	TC, RTD
MTCW-08-NV	8-CH	Voltage(8-CH 0-1V 0-5V 0-10V or 1-5V)	Flag bit	TC, RTD
MTCW-08-NTT	8-CH	Transistor (8-CH)	Transistor (8-CH), flag bit	TC, RTD
MTCW-12-NT	12-CH	Transistor (12-CH)	Flag bit	TC, RTD
MTCW-16-NN	16-CH	-	Flag bit	TC, RTD
MTCW-08-CT	8-CH	Transistor (8-CH)	Flag bit	Current transformer (8-CH) TC, RTD
MTCW-08-NTD	8-CH	Transistor (8-CH heating, 8-CH cooling)	-	TC, RTD

MTCV series (Channel isolation RS485)

MTCV-16-NT	16-CH	Transistor (16-CH)	Flag bit	TC, RTD
MTCV-08-NT	8-CH	Transistor (8-CH)	Flag bit	TC, RTD

MTCE Series Temperature Controller

MTCE series product, as a multi-channel high-precision EtherCAT temperature controller, are adapted to various mainstream master stations. Its main feature is compatible with thermocouples and thermal resistors, high measurement accuracy, feature-rich, user-friendly. It has the characteristics of high integration, space saving, easy data exchange, remote monitoring, and high cost performance.

Networking capacity

EtherCAT

High precision

Measure accuracy: full scale of $\pm 0.15\%$; control accuracy: $\pm 0.2^{\circ}\text{C}$

High performance

0.1s sampling cycle, and 1ms synchronization cycle; a single module can operate PID control and simple logic operation, and monitor analog value

Item	Description	
Power supply	24VDC -15% ~ 20%	
Signal input	Input type	Thermocouple K J E N T R B For all channel
		Thermal resistance Pt100 JPt100 Cu100 Ni120 For all channel
	Precision	Thermocouple 0.15% Full scale + cold compensation
		Thermal resistance 0.3% Full scale
	Sampling cycle	25ms/channel 100ms/8 channels 100ms/4 channels
Control output	Output form	Transistor output (SSR drive output)
	Output channel	10 channels
	Control action	Manual, ON / OFF, single PID, heating & cooling PID, position proportional PID
Alarm output	Alarm form	14 alarms, such as upper and lower limit alarm, deviation alarm and so on.
	Output form	Transistor output (SSR drive output)
	Output channel	10 channels
Control cycle	0.1s - 10s or 1s - 100s	
Acquisition channel	10 channels	
Isolation	Exist between power and communication, power and channel, communication and channel, channel and channel	
Communication port	EtherCAT	
Generals	Ambient temperature	Working: -20 ~ 60 °C, storage: -40 ~ 70 °C
	Ambient humidity	Working: 10 ~ 90 % RH (no condensation), keeping: 5 ~ 95 % RH (no condensation)
	Altitude	Below 2000m
	Protection level	IP20
C & S	Conform to IEC/EN 61326-1 For use in industrial locations CE	

Model	Acquisition channel	Temperature control output	Alarm output	Input type
MTCE-10T-NT	10-CH	Transistor	Flag bit	TC
MTCE-10R-NT	10-CH	Transistor	Flag bit	RTD

MCAS Series Temperature Controller

MCAS series temperature controller takes the lead in realizing the self-tuning PID and calibration parameters of cascade control in the industry based on the advanced self-tuning and self-learning control algorithm, which greatly simplifies the debugging of complex cascade control.

Cascade control

A single module supports 4-channel cascade temperature control

High performance

0.1s sampling cycle

High precision

Measure accuracy: full scale of $\pm 0.15\%$; cascade control accuracy: ± 0.5

Item	Description	
Power supply	24VDC -15% ~ 20%	
Signal input	Input type	Thermocouple K J E N T R B For all channel
		Thermal resistance Pt100 JPt100 Cu100 Ni120 For all channel
	Precision	TC 0.15% Full scale + cold compensation RTD 0.3% Full scale
	Sampling cycle	25ms/channel 100ms/8 channels 100ms/4 channels
Control output	Output form	Transistor output (SSR drive output)
	Output channel	4/8 channels
	Control action	Manual, ON / OFF, single PID, heating & cooling PID, position proportional PID
Alarm output	Alarm form	14 alarms, such as upper and lower limit alarm, deviation alarm and so on.
	Output form	Transistor output (SSR drive output)
	Output channel	4/8 channels (Transistor)
Control cycle	0.1s - 10s or 1s - 100s	
Acquisition channel	6/8 channels	
Isolation	Exist between power and communication, power and channel, communication and channel, channel and channel	
Communication port	One isolated + one non-isolated RS485 serial port, one Ethernet port; support MODBUS slave protocol	
Generals	Ambient temperature	Working: -20 ~ 60 °C, storage: -40 ~ 70 °C
	Ambient humidity	Working: 10 ~ 90 % RH (no condensation), keeping: 5 ~ 95 % RH (no condensation)
	Altitude	Below 2000m
	Protection level	IP20
C & S	Conform to IEC/EN 61326-1 For use in industrial locations UL61010-1 CE UL	

Model	Acquisition channel	Temperature control output	Alarm output	Input type
MCAS-06-NI	6-CH	Current (6-CH 0-20mA or 4-20mA)	Flag bit	TC, RTD
MCAS-06-NV	6-CH	Voltage (6-CH 0-1V 0-5V 0-10V or 1-5V)	Flag bit	TC, RTD
MCAS-08-NI	8-CH	Current (6-CH 0-20mA or 4-20mA)	Flag bit	TC, RTD
MCAS-08-NV	8-CH	Voltage (8-CH 0-1V 0-5V 0-10V or 1-5V)	Flag bit	TC, RTD
MCAS-08-NTT	8-CH	Transistor (8-CH)	Transistor (8-CH), flag bit	TC, RTD

MZ800 Series Human Machine Interface

MZ800 series HMI seamlessly can support to the G-code function of MEGMEET PLC, which is easy to program, and supports multi-language interface, recipe upload and download, data collection, real-time curve, report function, alarm, etc. MZ800 can communicate with various mainstream PLCs based on the communcation drivers.

