

# CONTROL SYSTEM SELECTION BROCHURE

PLC

Thermostat

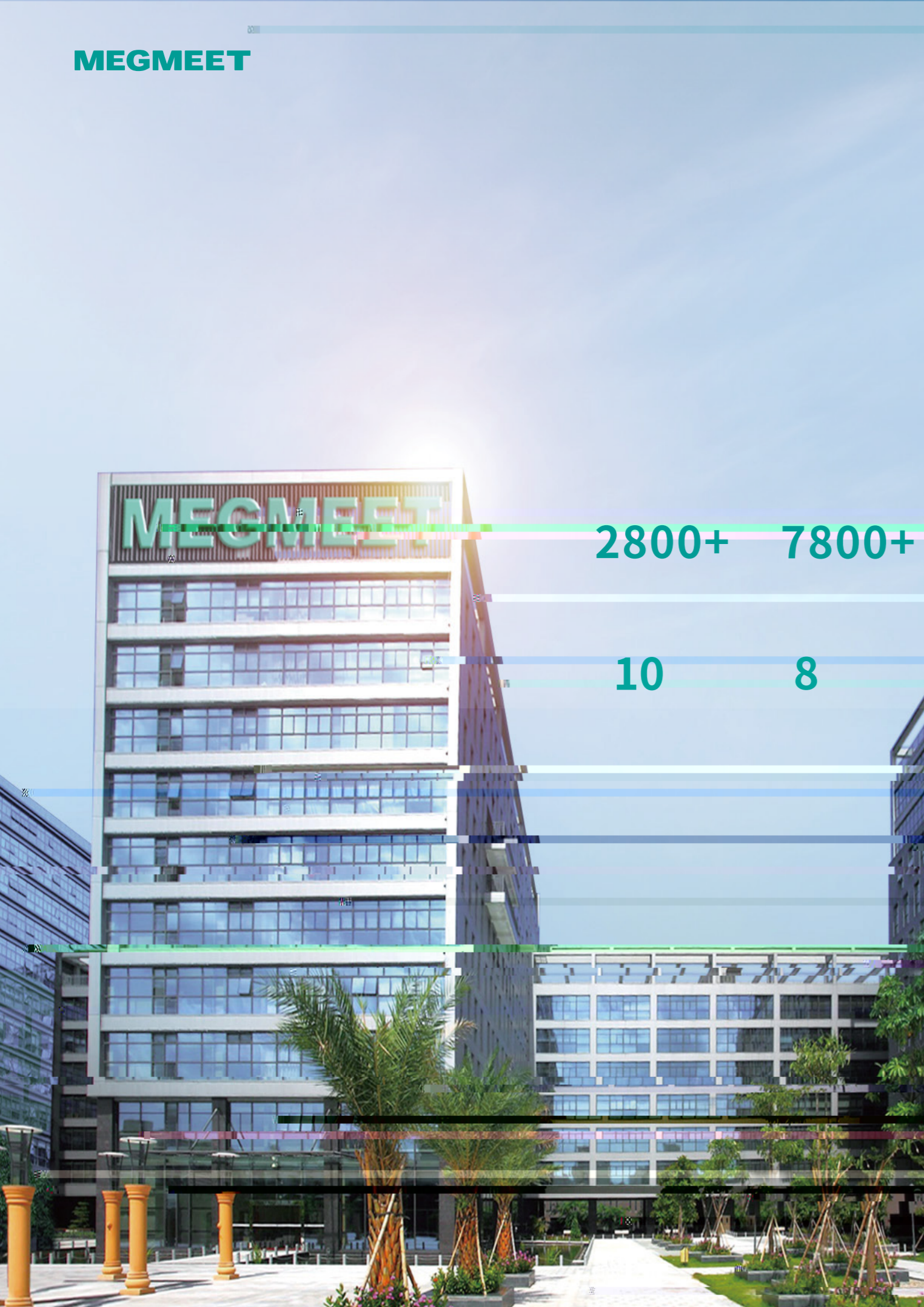
HMI

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## Medium PLC

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MC6000 Series  
MC5000 Series

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MC280/MC200E Series  
MC200 Series  
MC100 Series

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MCAS Series  
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Cable List

## HMI

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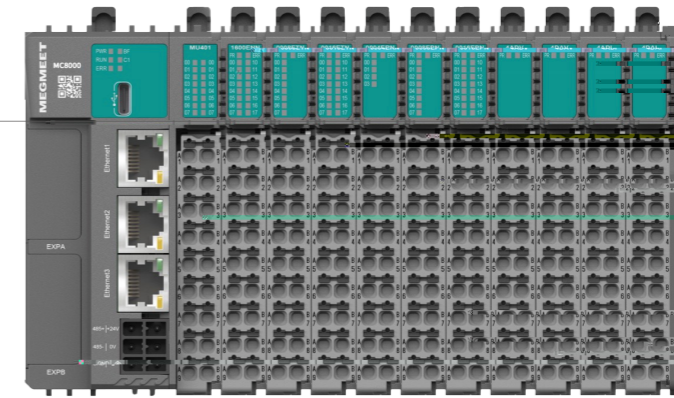
MZ800 Series

MX600 series intelligent controller breaks through the 256-axis  $\mu$ 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/250 $\mu$ s, 64-axis/500 $\mu$ s and 256-axis/2ms sync cycles, and 20 $\mu$ s jitter to ensure high-precision control.

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.



## 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





E-gear and other control function, to achieve high-speed operation and efficient communication, flexible configuration and



[Redacted]

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- $\mu$
- Communication port: 1\*EtherCAT+2\*EtherNet,

[Redacted]

- significantly improved based on ARM+FPGA
- Support 8-channel 200K high-speed pulse output and single-phase pulse count, or 4-channel 100K AB-phase, CW/CCW, pulse+direction
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MU200 new generation of small PLC uses ARM+FPGA dual-core processor for the powerful processing function,



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- significantly improved based on ARM+FPGA
- Support up to 12-channel 200K high-speed pulse output
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- Convenient hardware configuration
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## MC280

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※MC280-specific function





## Technical Specifications

- Program capacity: 12K

- Input voltage: 230V AC

## Protection Features

- Input filter protection and power loss protection

- Overload protection

## Dimensions

- Weight: 1.5kg

## Performance

- Efficiency: 88%

- Power factor: 0.99

- THD: 10%

## Environmental

- Operating temperature: 0°C to 50°C

- Humidity: 5% to 95%

- Storage temperature: -20°C to 70°C

Parameter	Value	Unit
Input Voltage	230V AC	V
Output Voltage	5V DC	V
Output Current	2.5A	A
Power	12.5W	W
Efficiency	88%	%
Power Factor	0.99	
THD	10%	%

Parameter	Value	Unit
Input Voltage	230V AC	V
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Output Current	2.5A	A
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Efficiency	88%	%
Power Factor	0.99	
THD	10%	%
Operating Temperature	0°C to 50°C	°C
Humidity	5% to 95%	%
Storage Temperature	-20°C to 70°C	°C

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Humidity	5% to 95%	%
Storage Temperature	-20°C to 70°C	°C

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THD	10%	%



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modules flexibly and integrating internal intelligent PID algorithm; it has the advantages of cascade, high precision,



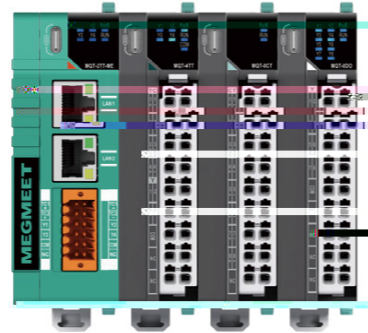
High precision:

High performance:

Strong function:

Simple installation:

Complete module:



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/8channels 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 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			
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 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/8channels 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	

Mdel	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 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:  $\pm 0.5$



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/8channels 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



