MEGMEET

## 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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MEGMEET

Power Supply Product | Industrial Automation | Smart Appliance Electronic Control

New Energy Vehicles& Rail Transit | Intelligent Equipment | Precision Connection

# TEMPERATURE CONTROLLER

## SELECTION BROCHURE

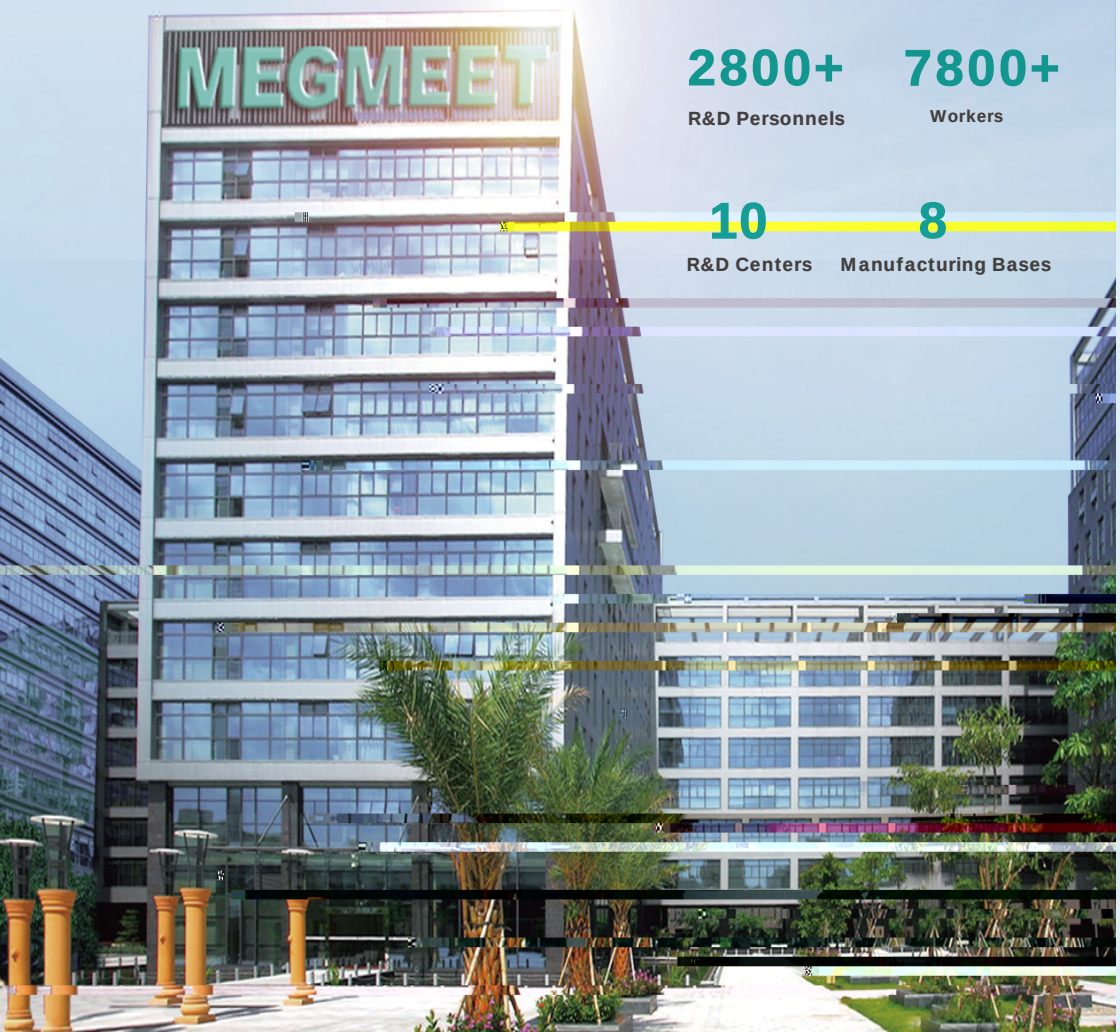
Global Leading Solution Provider in Electrical Automation

## MEGMEET

Shenzhen Megmeet Electrical Co., Ltd.(Stock Code:002851) is a one-stop solution provider for the R&D, electronics and automatic control echnology. 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.

control and energy saving.




**2800+** R&D Personnels

**7800+** Workers

**10** R&D Centers

**8** Manufacturing Bases

# Contents


MTC/MTCW/MTCV Series 01/02

MQT Series 03/04

MTCE Series 05

MCAS Series 06

MDT Series 07

Applications 08

# MTC/MTCW/MTCV

## Series

## Product Overview

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.

## Product Feature

- **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

## Model Specification

| 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<br>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 |



## Product Model

### MTC series

| Model | Acquisition channel | Temperature control output | Alarm output | Input type |
|---|---|---|---|---|
| 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)<br>Current(8-CH 0-20mA or 4-20mA)<br>Voltage(8-CH 0-1V 0-5V 0-10V or 1-5V) | Transistor (4-CH) | TC, RTD |

### MTCW series (Ethernet 2*RS485)

| Model | Acquisition channel | Temperature control output | Alarm output | Input type |
|---|---|---|---|---|
| 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)<br>TC, RTD |
| MTCW-08-NTD | 8-CH | Transistor (8-CH heating, 8-CH cooling) | - | TC, RTD |

### MTCV series (Channel isolation RS485

| Model | Acquisition channel | Temperature control output | Alarm output | Input type |
|---|---|---|---|---|
| MTCV-16-NT | 16-CH | Transistor (16-CH) | Flag bit | TC, RTD |
| MTCV-08-NT | 8-CH | Transistor (8-CH) | Flag bit | TC, RTD |

# MQT
## Series

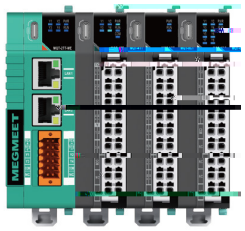
## Product Overview

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

multi-point temperature control, background upgrade, free combination, small size and so on.

## Product Feature

- **High precision** — Measure precision: full scale of ± 0.15 %
- **High performance** — 0.1s sampling cycle and perfect PID self-tuning function, to achieve multi-channel cascade control
- **Strong function** — A single module can operate PID control and simple logic operation, and monitor analog value
- **Simple installation** — PUSH IN terminal, different terminals connection can be realized only need to gently push into
- **Complete module** — Digital I/O, analog I/O, CT input, temperature input, communication and others




## Model Specification

| 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 |

## Product Model

| 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) | - |

# MTCE

Series

# MDT
## Series

## Product Overview

MDT series product with high-brightness LED display function is cost-effective for occasions with few temperature control channels

suppression, supports two input isolation, and the isolation withstand voltage is up to 500VDC.

## Product Feature

- **Dedicated software** — Provide special software - MtcCompanion
- **Easy operation** — Digital tube display, support keyboard and software operation
- **High precision** — Support self-tuning and multi-stage temperature setting function
- **Simple installation** — Small size and guide-rail installation

## Model Specification

| 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 | |
| Control output | Output form | Transistor output (SSR drive output), relay output | |
| | Output channel | 1 channel / 2 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 and relay output (output state can be directly controlled by writing registers) | |
| | Output channel | 1 channel / 2 channels | |
| Control cycle | 0.1s - 10s or 1s - 100s | | |
| Acquisition channel | 1 channel / 2 channels | | |
| Isolation | Exist between power and communication, power and channel, communication and channel, channel and channel | | |
| Communication port | One isolated RS485 serial port; support MODBUS slave and MCBUS 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 CE | | |

## Product Model

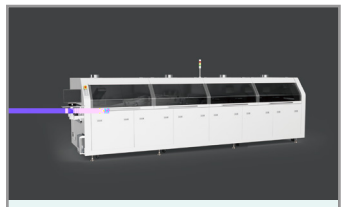
| Model | Acquisition channel | Temperature control output | Alarm output | Input type |
|---|---|---|---|---|
| MDT-01R-R | 1-CH | Relay | Relay | RTD |
| MDT-01R-T | 1-CH | Transistor | Transistor | RTD |
| MDT-01T-R | 1-CH | Relay | Relay | TC |
| MDT-01T-T | 1-CH | Transistor | Transistor | TC |
| MDT-02R-R | 2-CH | Relay | Relay | RTD |
| MDT-02R-T | 2-CH | Transistor | Transistor | RTD |
| MDT-02T-R | 2-CH | Relay | Relay | TC |
| MDT-02T-T | 2-CH | Transistor | Transistor | TC |

## Applications

Photovoltaic

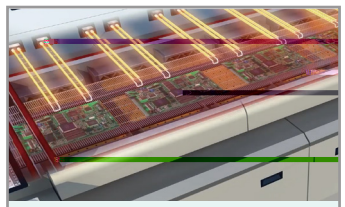
Lithium battery

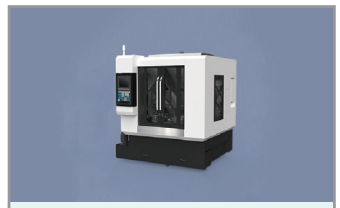
Semiconductor


Wave soldering

Edge bonding machine

Extruder


Reflow soldering


Hot bending machine

Wind power