SINOTIMER MC701

MC701 LCD Display Thermostat Heating Temperature Controller User Manual

Model: MC701 | Brand: SINOTIMER

1. Product Overview

The SINOTIMER MC701 is a versatile digital PID temperature controller designed for precise heating and cooling applications. It features an LCD display, supports various input types including PT100 and K-type thermocouples, and provides SSR/Relay output with alarm functions. This manual provides essential information for the safe and effective operation of your MC701 controller.

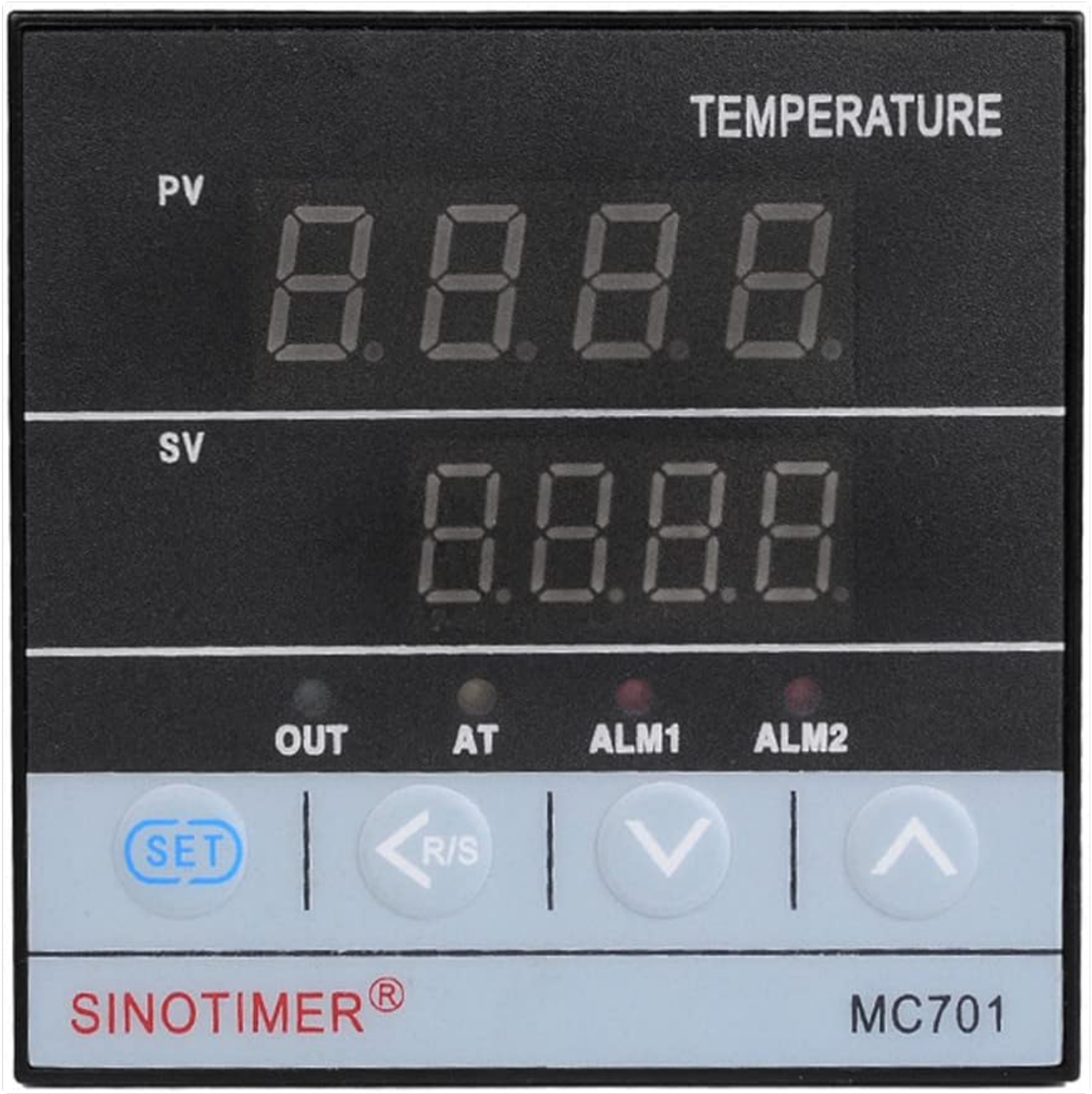


Figure 1.1: Front view of the MC701 controller showing the PV and SV displays, and control buttons.

Figure 1.2: Angled view of the MC701 controller, highlighting the model number (MC701-611) and default input type (K).

2. Key Features

- High-precision digital PID temperature control.
- Dual LCD display for Process Value (PV) and Set Value (SV).
- Supports multiple input types: K-type thermocouple, PT100 RTD.
- SSR (Solid State Relay) and Relay output options.
- Configurable heating and cooling control modes.
- Integrated alarm functions (ALM1, ALM2).
- Temperature unit selection: Celsius (°C) or Fahrenheit (°F).

3. Safety Information

Please read and understand all safety instructions before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Ensure the power supply voltage matches the controller's specifications (100-240V AC).
- All wiring should be performed by a qualified electrician.

- Disconnect power before making any wiring connections or performing maintenance.
- Do not operate the controller in environments with excessive moisture, dust, or corrosive gases.
- Ensure proper ventilation to prevent overheating.
- This device is not intended for life-support systems or applications where malfunction could lead to severe injury or property damage.

4. Setup and Installation

Proper installation is crucial for the accurate and reliable operation of the MC701 controller.

4.1 Mounting

The MC701 is designed for panel mounting. Ensure adequate space for ventilation and wiring connections.

Figure 4.1: MC701 controller shown with its included mounting clips for panel installation.

4.2 Wiring Connections

Refer to the wiring diagram on the side of the unit and the instructions below for correct connections. Use appropriate gauge wires for all connections.

Figure 4.2: Detailed wiring diagram on the side of the MC701 unit, showing connections for power, sensor input, SSR, and relay outputs.

- Power Supply (85-265VAC): Connect to terminals 8 and 9.
- SSR Output (OUT): Connect to terminals 10 (+) and 11 (-).
- Relay Output (RELAY): Connect to terminals 13 (NO - Normally Open) and 14 (NC - Normally Closed). Terminal 12 is the common (COM).
- RTD Input (PT100): Connect to terminals 4 (A), 5 (B), and 6 (B).
- Thermocouple Input (TC): Connect to terminals 5 (+) and 6 (-).
- Alarm Outputs (AL1, AL2): Connect to terminals 1, 2, and 3.

5. Operating Instructions

5.1 Display Overview

The MC701 features a dual display:

- PV (Process Value): Displays the current measured temperature.
- SV (Set Value): Displays the desired target temperature.

Indicator lights:

- OUT: Indicates output status (heating/cooling).
- AT: Auto-tuning indicator.
- ALM1, ALM2: Alarm indicators.

5.2 Button Functions

- SET: Enters parameter setting mode or confirms a setting.
- < (R/S): Shifts cursor during setting, or resets alarm.
- V (Down Arrow): Decreases value during setting.
- ^ (Up Arrow): Increases value during setting.

5.3 Setting the Target Temperature (SV)

1. Press the **SET** button once. The SV display will start flashing.
2. Use the **^** and **V** buttons to adjust the desired temperature.
3. Use the **<** button to shift the cursor for faster adjustment.
4. Press **SET** again to confirm the new SV and exit the setting mode.

5.4 Advanced Parameter Settings

To access advanced parameters (e.g., PID parameters, alarm settings, input type, temperature unit), press and hold the **SET** button for several seconds until the first parameter code appears on the PV display.

- Use **^** and **V** to navigate through parameters.
- Press **SET** to view or edit a parameter's value.
- Adjust the value using **^**, **V**, and **<**.
- Press **SET** to save the value and return to the parameter list.
- To exit advanced settings, press and hold **SET** again, or wait for a timeout.

6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your MC701 controller.

- Cleaning: Wipe the display and casing with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- Ventilation: Ensure the ventilation slots on the sides of the unit are not obstructed to prevent overheating.
- Connections: Periodically check all wiring connections for tightness and signs of wear or corrosion.
- Storage: If storing the unit, keep it in a dry, dust-free environment within its specified operating temperature range.

7. Troubleshooting

Problem	Possible Cause	Solution
Display shows "HHHH" or "LLLL"	Sensor open circuit or short circuit; temperature exceeds range.	Check sensor wiring and connection. Verify sensor type matches setting. Ensure temperature is within range.
Controller not heating/cooling	Output wiring incorrect; SV not set correctly; PID parameters need tuning.	Check output wiring (SSR/Relay). Confirm SV is set to desired temperature. Perform auto-tuning if necessary.
Temperature fluctuates widely	PID parameters not optimized; sensor placement.	Perform auto-tuning. Ensure sensor is placed correctly and securely.

Problem	Possible Cause	Solution
No display/Power issue	No power supply; incorrect wiring.	Check power connections (terminals 8 & 9). Verify power source is active.

8. Specifications

Figure 8.1: Side view of the MC701 controller displaying its detailed specification label.

Parameter	Value
Model	MC701
Brand	SINOTIMER
Input Type	K-type Thermocouple (default), PT100 RTD
Temperature Range	0-1300°C (K-type), configurable for other types
Output Type	Relay / SSR

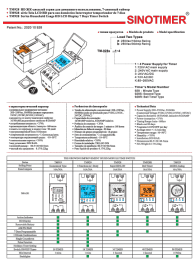
Parameter	Value
Power Supply	100-240V AC, 50/60Hz
Display Type	LED (PV: Red, SV: Green)
Accuracy Class	0.5
Operating Temperature	0-50°C (approximate, typical for electronics)
Country of Origin	China
UPC	780744817811

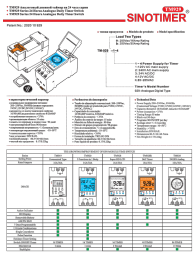
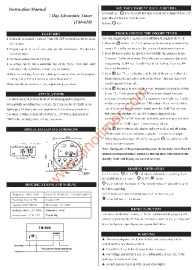
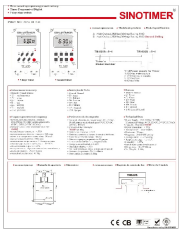
9. Warranty and Support

For technical support or warranty inquiries, please contact SINOTIMER customer service through the retailer or the official SINOTIMER website. Please have your product model number (MC701) and purchase details ready.
This product is manufactured by SINOTIMER.

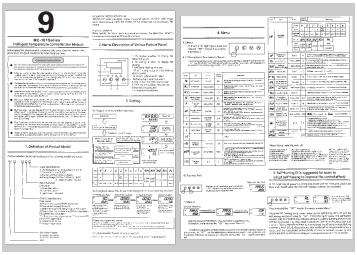
Manual Version: 1.0

Related Documents - MC701

	SINOTIMER SVP719 User Manual: Voltage Protector, Energy Meter, and Power Consumption Monitor Comprehensive user manual for the SINOTIMER SVP719, detailing its features as an adjustable over/under voltage protector, surge protector, over-current limit relay, and a Watt/kWh energy meter for monitoring power consumption.
	SINOTIMER TM928 Series HD LCD Digital Timer Switch - User Manual and Specifications Comprehensive guide to the SINOTIMER TM928 series digital timer switches, covering features, specifications, setup, and wiring for models like TM919, TM920, TM928, TM928S, TM928R, and TM929.
	SINOTIMER DDS6619 Series Guide Rail Metering Switch Instruction Manual Instruction manual for SINOTIMER DDS6619 series guide rail type metering switches. Details technical specifications, wiring, app control via Smart Life/Tuya, operating instructions, and safety precautions for smart energy monitoring.

	[SINOTIMER TM929: Guía del Temporizador Analógico Diario de 24 Horas] Explore el temporizador analógico diario SINOTIMER TM929 de 24 horas. Este manual proporciona información detallada sobre sus características, especificaciones técnicas y diagramas de cableado para una fácil instalación y operación.
	[Sinotimer TM-618 7-Day Electronic Timer Instruction Manual] Comprehensive instruction manual for the Sinotimer TM-618 7-Day Electronic Timer, detailing features, programming, manual operation, and safety warnings.
	[SINOTIMER TM-630A/TM-630S Digital Timer: Features and Specifications] Detailed technical specifications and features for the SINOTIMER TM-630A and TM-630S digital programmable timers, including power supply, timing range, dimensions, and wiring.

Documents - SINOTIMER – MC701



[MC-101 Series Intelligent Temperature Controller User Manual]
User manual for the MC-101 Series Intelligent Temperature Controller, detailing its features, operation, and settings for precise temperature control.
lang: score:40 filesize: 953.11 K page_count: 1 document date: 2017-11-29