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> Table instrument temperature controller FY900-701000 Valve temperature controller 70100B 702000 (Side modelFY900-701000)

## zatagen FY900-701000

# User Manual for zatagen FY900-701000 Temperature Controller

Model: FY900-701000

Brand: zatagen

## 1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of the zatagen FY900-701000 Table Instrument Temperature Controller. This device is designed for precise temperature regulation in various industrial and scientific applications. Please read this manual thoroughly before operating the controller to ensure safe and efficient use.

## 2. SAFETY INSTRUCTIONS

Always adhere to the following safety precautions to prevent injury, damage to the device, or property damage:

- Ensure the power supply voltage matches the specifications of the controller.
- Disconnect power before performing any wiring, installation, or maintenance.
- Do not operate the device in environments with excessive dust, moisture, corrosive gases, or high temperatures.
- Only qualified personnel should perform installation and wiring.
- Avoid touching internal components when the device is powered on.
- Securely mount the controller to prevent accidental dislodgement.

### 3. PRODUCT OVERVIEW AND COMPONENTS

The FY900-701000 temperature controller features a user-friendly front panel for monitoring and control.



Figure 3.1: Front Panel of the FY900-701000 Temperature Controller

This image displays the front panel of the FY900-701000 temperature controller. It features a dual digital display, with the upper red display showing the Process Value (PV) and the lower green display showing the Set Value (SV). Below the displays, there is a bar graph indicator for output percentage (OUT1) ranging from 0% to 100%. Control buttons are located at the bottom: 'SET', 'A/M' (Auto/Manual), and four arrow keys (left, down, up, right) for navigation and value adjustment. Various indicator lights for OUT1, OUT2, AT, AL1, AL2, AL3, MAN, and PRO are visible above the bar graph.

#### Front Panel Description:

- **PV Display (Red):** Shows the current measured process value (e.g., actual temperature).
- **SV Display (Green):** Shows the desired set value (e.g., target temperature).
- **OUT1/OUT2 Indicators:** Indicate the status of output relays.
- **AT Indicator:** Auto-tuning status indicator.

- **AL1/AL2/AL3 Indicators:** Alarm status indicators.
- **MAN Indicator:** Manual control mode indicator.
- **PRO Indicator:** Program mode indicator.
- **Output Bar Graph:** Displays the output percentage (0-100%).
- **SET Button:** Used to enter parameter setting mode or confirm selections.
- **A/M Button:** Toggles between Automatic and Manual control modes.
- **Arrow Buttons (<, V, ^):** Used to navigate menus and adjust parameter values.

## 4. INSTALLATION AND SETUP

### 4.1 Mounting

The controller is designed for panel mounting. Ensure adequate space for ventilation and wiring. Cut a panel opening of the specified dimensions (refer to product specifications for exact cutout size). Insert the controller into the opening and secure it using the provided mounting brackets.

### 4.2 Wiring

All wiring should be performed with the power supply disconnected. Refer to the wiring diagram on the side of the unit or in the full technical datasheet for specific terminal connections. Common connections include:

- **Power Supply:** Connect to the designated power terminals (e.g., AC 100-240V).
- **Sensor Input:** Connect your temperature sensor (e.g., thermocouple, RTD) to the input terminals. Ensure correct polarity for thermocouples.
- **Control Output:** Connect your heating/cooling element or other controlled device to the output relay terminals (OUT1, OUT2).
- **Alarm Outputs:** If utilizing, connect alarm devices to the alarm relay terminals (AL1, AL2, AL3).

Ensure all connections are secure and properly insulated to prevent short circuits or electrical hazards.

## 5. OPERATING INSTRUCTIONS

### 5.1 Power On

Once wiring is complete and verified, apply power to the controller. The PV and SV displays will illuminate, showing the current process value and the default or last set value.

### 5.2 Setting the Set Value (SV)

1. Press the **SET** button once. The SV display will begin to flash.
2. Use the **Up (^)** and **Down (V)** arrow buttons to adjust the SV to your desired temperature.
3. Use the **Left (<)** arrow button to shift the cursor for faster adjustment of individual digits.
4. Press the **SET** button again to confirm the new SV. The display will stop flashing.

### 5.3 Auto/Manual Mode

Press the **A/M** button to toggle between Automatic and Manual control modes. In Manual mode, the MAN indicator will light up, and you can directly adjust the output percentage using the arrow keys.

### 5.4 Parameter Settings

To access advanced parameter settings (e.g., PID parameters, alarm settings, input type), press and hold the **SET** button for several seconds until the first parameter code appears on the PV display. Use the arrow keys to navigate through parameters and adjust their values. Press **SET** to confirm each parameter change and move to the next, or to exit the setting mode.

## 6. MAINTENANCE AND CARE

Regular maintenance ensures the longevity and accuracy of your temperature controller:

- **Cleaning:** Wipe the front panel with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure no liquid enters the device.
- **Inspection:** Periodically check all wiring connections for looseness or damage. Inspect the controller for any signs of physical damage or overheating.
- **Environment:** Maintain the operating environment within specified temperature and humidity ranges to prevent premature failure.
- **Calibration:** If accuracy issues are suspected, professional calibration may be required. Refer to a qualified technician.

## 7. TROUBLESHOOTING

This section addresses common issues you might encounter:

Problem	Possible Cause	Solution
No display/No power	No power supply; Incorrect wiring; Blown fuse.	Check power connections; Verify wiring against diagram; Check and replace fuse if necessary.
PV display shows "HHHH" or "LLLL"	Sensor open circuit (HHHH) or short circuit (LLLL); Sensor not connected; Incorrect sensor type setting.	Check sensor wiring; Ensure sensor is properly connected; Verify sensor type setting in parameters.
Output not activating	SV not reached; Output parameter incorrect; Wiring issue.	Check SV and PV values; Verify output control parameters; Inspect output wiring.
Temperature unstable/oscillating	PID parameters not tuned correctly; Sensor placement issue.	Perform auto-tuning (refer to advanced settings); Relocate sensor closer to the control point.

## 8. TECHNICAL SPECIFICATIONS

Feature	Specification
Manufacturer	zatagen
Model Number	FY900-701000
Part Number	FY900-701000
Pattern	Side modelFY900-701000
ASIN	B0BJBX2D17
Date First Available	October 16, 2022
Description	Table instrument temperature controller FY900-701000 Valve temperature controller 70100B 702000

## 9. WARRANTY AND SHELF LIFE

The product has a stated shelf life of 120 days. Please refer to the manufacturer's official warranty policy for detailed terms and conditions regarding defects and returns. Keep your purchase receipt for warranty claims.

## 10. CUSTOMER SUPPORT

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact zatagen customer support through their official website or the retailer from whom the product was purchased. Please have your model number (FY900-701000) and purchase details ready when contacting support.

*Note: Specific contact details are not provided in this manual. Please refer to the product packaging or manufacturer's website for the most current support information.*