

## Elitech STC-9200, STC-8080A, STC-200, STC-9100, STC-1000X, EK-3020

# Elitech Cold Storage Temperature Controller User Manual

Models: STC-9200, STC-8080A, STC-200, STC-9100, STC-1000X, EK-3020

## 1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Elitech Cold Storage Temperature Controller series. These controllers are designed for precise temperature management in various cold storage applications, ensuring optimal conditions for stored goods. Please read this manual thoroughly before installation and operation to ensure safe and efficient use.

## 2. SAFETY PRECAUTIONS

- Ensure all wiring is performed by a qualified electrician in accordance with local electrical codes.
- Disconnect power before performing any installation, wiring, or maintenance.
- Do not operate the controller in environments with excessive moisture, dust, or corrosive gases.
- Verify the power supply voltage matches the controller's specifications.
- Keep the device away from strong electromagnetic interference.

## 3. PRODUCT OVERVIEW

The Elitech temperature controller features a clear digital display, intuitive buttons for parameter setting, and robust construction for reliable performance in demanding environments. It typically includes inputs for temperature sensors and outputs for controlling refrigeration, defrost, and fan operations.



**Figure 1:** Front view of an Elitech temperature controller (model EK-3010 shown). This image displays the digital display, control buttons (Up, OK/Set, Down), and indicators for various functions like refrigeration, defrost, and fan operation. The display shows a temperature reading of -44.5.

## 4. SPECIFICATIONS

Feature	Description
Power Supply	AC 220V $\pm$ 10%, 50/60Hz (Typical, may vary by model)
Temperature Measuring Range	-50°C to 99°C (-58°F to 210°F) (Typical)
Control Range	-40°C to 70°C (-40°F to 158°F) (Typical)
Resolution	0.1°C / 1°F
Sensor Type	NTC sensor (Typical)
Relay Output Capacity	Compressor: 10A/250VAC; Defrost: 10A/250VAC; Fan: 10A/250VAC (Typical)

Feature	Description
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-30°C to 75°C (-22°F to 167°F)
Relative Humidity	20% to 85% (non-condensing)

*Note: Specifications may vary slightly between different models (STC-9200, STC-8080A, STC-200, STC-9100, STC-1000X, EK-3020). Refer to the specific model's packaging or label for precise details.*

## 5. SETUP AND INSTALLATION

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### 5.1 Mounting

- Choose a suitable location for mounting the controller, away from direct heat sources, moisture, and vibrations.
- Ensure adequate ventilation around the unit.
- Cut a rectangular opening in the panel according to the controller's dimensions (refer to the product diagram for exact measurements).
- Insert the controller into the opening and secure it using the provided mounting clips.

### 5.2 Wiring

**WARNING:** Ensure power is disconnected before wiring.

1. **Power Supply:** Connect the main power supply (L and N) to the designated terminals on the controller.
2. **Temperature Sensor:** Connect the NTC temperature sensor to the sensor input terminals. Ensure correct polarity if applicable. The sensor should be placed in the area where temperature needs to be monitored and controlled.
3. **Compressor Output:** Connect the compressor's power line to the compressor relay output terminals.
4. **Defrost Heater Output:** Connect the defrost heater's power line to the defrost relay output terminals.
5. **Fan Output:** Connect the evaporator fan's power line to the fan relay output terminals.

*Refer to the wiring diagram printed on the side of the controller or in the specific model's manual for precise terminal connections.*

## 6. OPERATING INSTRUCTIONS

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### 6.1 Power On/Off

- To power on, connect the main power supply. The display will show the current temperature.
- To power off, disconnect the main power supply.

### 6.2 Viewing Temperature

The current measured temperature is continuously displayed on the front panel.

### 6.3 Setting Parameters

The controller allows adjustment of various parameters such as setpoint temperature, differential, defrost

cycle, and fan operation. The exact procedure may vary slightly by model, but generally follows these steps:

1. Press and hold the **SET/OK** button for 3-5 seconds to enter parameter setting mode.
2. Use the **UP** and **DOWN** buttons to navigate through the parameter codes (e.g., F1, F2, P1, P2).
3. Press **SET/OK** to view the value of the selected parameter.
4. Use the **UP** and **DOWN** buttons to adjust the value.
5. Press **SET/OK** again to confirm the new value and move to the next parameter, or press and hold **SET/OK** to save all changes and exit the setting mode.

*Common parameters include:*

- **Set Point (SP):** The desired temperature.
- **Differential (Hy):** The temperature difference between the set point and the turn-on/off temperature.
- **Defrost Cycle (Id):** Interval between defrost cycles.
- **Defrost Duration (Ed):** Length of the defrost cycle.
- **Fan Control (Fc):** Settings for fan operation during refrigeration and defrost.

## 7. MAINTENANCE

### 7.1 Cleaning

- Regularly clean the front panel with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Ensure the ventilation openings are free from dust and debris to prevent overheating.

### 7.2 Sensor Check

- Periodically inspect the temperature sensor and its wiring for any damage or corrosion.
- Ensure the sensor is securely placed and making proper contact.

## 8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Display shows "EE" or "HH"	Sensor error or temperature out of range.	Check sensor connection and wiring. Replace sensor if damaged. Ensure temperature is within operating range.
Controller not powering on	No power supply or incorrect wiring.	Verify power connection and voltage. Check wiring according to diagram.
Compressor not running	Temperature not reaching set point, compressor delay, or wiring issue.	Check set point and differential. Wait for compressor delay. Verify compressor wiring.
Inaccurate temperature reading	Sensor placement, sensor damage, or calibration needed.	Relocate sensor to a representative area. Check sensor for damage. Refer to manual for calibration procedure if available.

## 9. WARRANTY AND SUPPORT

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Elitech products are typically covered by a limited warranty against defects in materials and workmanship. The warranty period and terms may vary by region and specific product model. Please retain your purchase receipt as proof of purchase.

For technical support, warranty claims, or service inquiries, please contact your authorized Elitech distributor or visit the official Elitech website for contact information. When contacting support, please have your product model number and purchase date available.