Elitech ECB-5080S

Elitech ECB-5080S Electrical Control Box Temperature Control Panel User Manual

Model: ECB-5080S

1. Product Overview

The Elitech ECB-5080S is an advanced electrical control box designed for precise temperature management in various applications. It integrates an MTC-6000N controller to manage cooling, defrosting, and fan operations. This unit is suitable for systems requiring 3-phase 380V power and up to 15Hp capacity, offering comprehensive protection features for reliable operation.

Image 1: Front view of the Elitech ECB-5080S Electrical Control Box, showing the control panel with two digital displays, indicator lights for Power, Comp, Defr, Fan, and Fault, and an ON/OFF switch.

2. Key Features

- **Remote Monitoring:** Parameters can be viewed or set remotely via website and mobile application. Data and graph reports are available in real-time.
- **Dual Display:** Shows temperature on both integrated temperature controllers. Multiple indicator lights display the operational status of each connected device.
- **Multi-Alarms:** Provides alerts for temperature over-limit, over-range conditions, or sensor malfunctions.
- **Comprehensive Protection:** Includes high-pressure, low-pressure, module, overload, phase sequence, phase loss, three-phase unbalance, and inverse time protection.
- **Functionality:** Offers refrigeration, defrosting, and fan three-way output. Equipped with two storage temperature sensors and one defrosting temperature sensor.

3. Setup and Installation

Proper installation is crucial for the safe and efficient operation of the ECB-5080S control box. It is recommended that installation be performed by a qualified electrician.

1. **Mounting:** Securely mount the control box in a suitable location, ensuring adequate ventilation and protection from environmental elements.
2. **Power Connection:** Connect the 3-phase 380V power supply to the designated terminals. Verify correct phase sequence and voltage.
3. **Load Connections:** Connect the refrigeration unit, defrosting heaters, and fan motors to their respective output terminals as per the wiring diagram (refer to the detailed wiring diagram provided with the product packaging).
4. **Sensor Installation:** Install the two storage temperature sensors and one defrosting temperature sensor in their appropriate locations within the controlled environment. Ensure sensors are correctly positioned for accurate readings.
5. **Grounding:** Ensure the control box is properly grounded to prevent electrical hazards.

Image 2: Angled view of the Elitech ECB-5080S Electrical Control Box, highlighting the side ventilation and overall robust construction.

4. Operating Instructions

The ECB-5080S utilizes an MTC-6000N controller for its primary functions. Familiarize yourself with the controller's interface for optimal use.

- **Power On/Off:** Use the main ON/OFF switch on the front panel to power the unit.
- **Temperature Display:** The dual digital displays show current temperatures. Refer to the MTC-6000N controller manual for specific display interpretations.
- **Setting Parameters:** Access the controller's menu to set desired temperature ranges, defrost cycles, fan operation modes, and alarm thresholds. Consult the MTC-6000N controller's dedicated manual for detailed parameter setting procedures.
- **Indicator Lights:**
  - **POWER:** Indicates the unit is receiving power.
  - **COMP:** Indicates the compressor (cooling) is active.
  - **DEFR:** Indicates the defrost cycle is active.
  - **FAN:** Indicates the fan is operating.
  - **FAULT:** Illuminates when an error or alarm condition is detected. Refer to troubleshooting for details.
- **Remote Access:** Utilize the Elitech website or mobile application for remote monitoring and parameter adjustments. Ensure the unit is connected to a network as per its network configuration guide.

Image 3: Close-up view of the Elitech ECB-5080S control panel, emphasizing the ON/OFF switch and the two integrated temperature controllers.

5. Maintenance

Regular maintenance ensures the longevity and optimal performance of your ECB-5080S control box.

- **Cleaning:** Periodically clean the exterior of the control box with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Ventilation:** Ensure that ventilation openings are clear of dust and obstructions to prevent overheating.
- **Connections:** Annually inspect all electrical connections for tightness and signs of corrosion. Tighten any loose connections.
- **Sensor Check:** Verify that temperature sensors are clean and securely mounted. Check sensor cables for damage.
- **Software Updates:** Check the Elitech website or app for any available firmware updates for the MTC-6000N controller to ensure optimal functionality and security.

6. Troubleshooting

This section provides solutions to common issues. For complex problems, contact Elitech technical support.

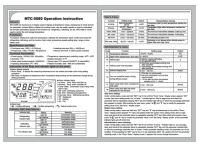
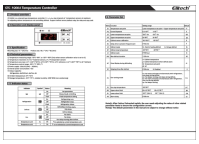
Problem	Possible Cause	Solution
Unit does not power on.	No power supply; main switch off; faulty wiring.	Check power source; ensure main switch is ON; inspect wiring connections.
Temperature display is inaccurate.	Faulty sensor; sensor incorrectly placed; wiring issue.	Check sensor connections; verify sensor placement; replace faulty sensor if necessary.
FAULT indicator is lit.	Over-limit temperature; sensor error; protection activated (e.g., phase loss).	Check alarm messages on controller; inspect sensors; verify power supply and phase integrity.
Cooling/Defrost/Fan not operating.	Incorrect parameter settings; faulty output relay; motor/component failure.	Verify controller settings; check indicator lights; inspect connected components.

7. Specifications

Brand	Elitech
Model Number	ECB-5080S
Voltage	380 Volts (3 Phase)
Maximum Horsepower	15 Hp
Controller Type	MTC-6000N
Functions	Refrigeration, Defrosting, Fan Control
Protection Features	High/Low Pressure, Module, Overload, Phase Sequence/Loss, Three-phase Unbalance, Inverse Time
ASIN	B097MXGKFP
UPC	781454242337

Related Documents - ECB-5080S

	Elitech Industrial Refrigeration and Process Temperature Control Solutions Elitech offers a comprehensive range of temperature control solutions for industrial refrigeration and process applications. This document details various thermostats, electrical control panels, and all-purpose protectors, highlighting their features, technical specifications, and application scenarios.
	Elitech MTC-2120S Temperature Controller User Manual User manual for the Elitech MTC-2120S, a versatile single-sensor temperature controller with refrigeration, defrost, and over-temperature alarm functions. Includes technical parameters, operation instructions, wiring diagrams, and troubleshooting.

	[MTC-5080 Operation Instructions and Technical Specifications] Comprehensive guide to the MTC-5080 digital temperature controller, detailing its functions, specifications, operation, and safety guidelines for cold storage temperature control.
	[Elitech RCW-600WIFI IoT Temperature Monitor User Manual] User manual for the Elitech RCW-600WIFI, a two-channel IoT temperature monitor with WiFi connectivity for remote data viewing, monitoring, and management in food, catering, logistics, and HACCP industries.
	[Elitech Product Selection Guide: Refrigeration and Industrial Control Solutions] A comprehensive product selection guide from Elitech, featuring a wide range of refrigeration and industrial control equipment, including temperature controllers, data loggers, leak detectors, pressure transducers, and more. This guide provides detailed specifications, applications, and technical parameters for various Elitech products.
	[Elitech STC-9200A Temperature Controller User Manual] User manual for the Elitech STC-9200A, a universal-type temperature controller. This document provides details on product overview, operation, specifications, technical parameters, indicator status, button functions, parameter lists, safety rules, and control outputs.