

Aoleaby XR30CX-4N1F1

Aoleaby XR30CX-4N1F1 Electronic Temperature Controller

User Manual

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Aoleaby XR30CX-4N1F1 Electronic Temperature Controller. This device is designed for precise temperature control in cold storage and refrigerator applications. Please read this manual thoroughly before installation and operation to ensure correct usage and optimal performance.

2. SAFETY INFORMATION

- **Electrical Safety:** Installation and wiring must be performed by qualified personnel in accordance with local electrical codes and regulations. Ensure the power supply is disconnected before performing any wiring or maintenance.
- **Voltage Compatibility:** Verify that the power supply voltage matches the specifications of the controller (120V~ 50-60Hz as indicated on the device label).
- **Environmental Conditions:** Do not expose the controller to excessive moisture, dust, or corrosive environments. Operate within the specified temperature and humidity ranges.
- **Proper Use:** Use the controller only for its intended purpose of temperature regulation. Any unauthorized modifications or misuse may result in damage to the device or personal injury.

3. PRODUCT OVERVIEW

The Aoleaby XR30CX-4N1F1 is an electronic temperature controller featuring a user-friendly interface, fast response, high stability, and capabilities for data recording and analysis. It is equipped with various terminals for power, probes, and control outputs.



Figure 3.1: Front view of the Aoleaby XR30CX-4N1F1 Temperature Controller. This image displays the front panel of the controller, including the display area (not illuminated in this view), control buttons (not clearly visible but implied), and the detailed wiring diagram label. The label specifies model XR30CX-4N1F1, power requirements (3.5VA Max), operating temperature range (T 32-+140°F), relative humidity (R.H. 20-+85%), and probe type (Probe NTC). It also shows the terminal block connections for power, alarm, line, compressor, supply, and hot key functions.



Figure 3.2: Side view of the Aoleaby XR30CX-4N1F1 Temperature Controller. This image provides a perspective view of the controller, highlighting the robust terminal blocks at the bottom for secure electrical connections. The wiring diagram label on the top surface is also visible, detailing the connection points for various functions such as Line, Alarm, N.C. (Normally Closed), Compressor, Supply, and Hot Key (TTL-Pb4).

3.1. Wiring Diagram Details

Refer to the label on the device for specific wiring connections. Key connections include:

- **Terminals 1-2:** Alarm (8(3)A 250V~)
- **Terminals 3-4:** N.C. Line
- **Terminals 4-5:** Line (Input)
- **Terminals 6-7:** Compressor (16FLA/96LRA 20(8)A 250V~)
- **Terminals 7-8:** Supply (120V~ 50-60Hz)
- **Terminals 9-10-11-12:** Probe connections (Pb1, Pb2, Room) and Hot Key (TTL-Pb4).

Always ensure correct polarity and secure connections to prevent malfunction or damage.

4. SETUP

4.1. Mounting

The controller is designed for panel mounting. Ensure adequate space for ventilation and access to wiring terminals. Secure the unit firmly in place using appropriate mounting hardware (not included).

4.2. Electrical Connections

1. **Disconnect Power:** Before making any connections, ensure the main power supply is turned off.

2. **Power Supply:** Connect the 120V~ 50-60Hz power supply to terminals 7 and 8 as indicated on the wiring diagram.
3. **Load Connections:** Connect the compressor or other controlled load to terminals 6 and 7. Ensure the load's current rating does not exceed the controller's specifications (16FLA/96LRA 20(8)A 250V~).
4. **Probe Connections:** Connect the NTC temperature probes to the designated terminals (9, 10, 11, 12) as per your application requirements (e.g., evaporator probe, room probe).
5. **Alarm/Auxiliary Connections:** If using, connect alarm or auxiliary devices to terminals 1 and 2.
6. **Verify Connections:** Double-check all wiring for correctness and security before restoring power.

5. OPERATING INSTRUCTIONS

The XR30CX-4N1F1 controller is designed for ease of operation. Upon power-up, the display will show the current temperature. Specific operational modes and parameter settings are typically accessed via front panel buttons (not explicitly detailed in provided information, but standard for such devices).

5.1. Basic Operation

- **Temperature Display:** The primary display shows the measured temperature from the active probe.
- **Setting Temperature:** Use the designated buttons (e.g., 'SET' or arrow keys) to enter the setpoint adjustment mode. Adjust the desired temperature value and confirm.
- **Mode Selection:** The controller may have different operating modes (e.g., cooling, heating, defrost). Refer to the full product documentation for specific button sequences to change modes.

5.2. Data Recording and Analysis

The controller supports data recording. This feature allows for monitoring temperature trends over time. Data export and analysis capabilities are available, typically through a dedicated interface or software (details not provided in current information).

6. MAINTENANCE

Regular maintenance ensures the longevity and accuracy of the temperature controller.

- **Cleaning:** Periodically clean the front panel with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Inspection:** Annually inspect all wiring connections for tightness and signs of wear or corrosion.
- **Probe Check:** Verify that temperature probes are securely in place and free from damage. Replace damaged probes immediately.
- **Ventilation:** Ensure that the controller's ventilation openings (if any) are not obstructed to prevent overheating.

7. TROUBLESHOOTING

If the controller is not functioning as expected, perform the following basic checks:

- **No Display/Power:** Check the power supply connection to terminals 7 and 8. Ensure the circuit breaker or fuse is not tripped.
- **Incorrect Temperature Reading:** Verify that the temperature probes are correctly connected to

terminals 9-12 and are not damaged. Ensure probes are placed in the correct sensing location.

- **Load Not Activating:** Check the wiring to the compressor/load (terminals 6-7). Ensure the setpoint is correctly configured and the temperature is outside the deadband.
- **Error Codes:** If an error code appears on the display, consult the full product manual for specific error definitions and troubleshooting steps.

If issues persist after performing these checks, contact technical support.

8. SPECIFICATIONS

Feature	Specification
Model	XR30CX-4N1F1
Brand	Aoleaby
Power Supply	120V~ 50-60Hz
Power Consumption	3.5VA Max
Operating Temperature Range	32°F to 140°F (0°C to 60°C)
Relative Humidity	20% to 85% (non-condensing)
Probe Type	NTC
Compressor Relay Output	16FLA/96LRA 20(8)A 250V~
Alarm Relay Output	8(3)A 250V~
Item Weight	800 Grams

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact Aoleaby customer service. Keep your purchase receipt as proof of purchase.