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> Aoleaby CB-2000A / CB-2001 Temperature Controller User Manual

Aoleaby CB-2000A, CB-2001

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Model: CB-2000A, CB-2001 | Brand: Aoleaby

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Aoleaby CB-2000A and CB-2001 Temperature Controllers. These controllers are designed for precise temperature management in various industrial and scientific applications. Please read this manual thoroughly before using the device to ensure safe and efficient operation.

Key Features:

- **User-friendly Interface:** Designed for easy operation and configuration.
- **Fast Response Capability:** Ensures quick and accurate temperature adjustments.
- **High Stability:** Maintains stable performance during long-term operation.
- **Data Recording and Analysis:** Supports temperature data recording, export, and analysis.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury and damage to the device:

- Ensure the power supply voltage matches the controller's specifications (e.g., 220V for CB-2000A K400 220V).
- Do not operate the controller in environments with excessive humidity, dust, or corrosive gases.
- Disconnect power before performing any wiring, maintenance, or inspection.
- Only qualified personnel should install and service this equipment.
- Avoid touching internal components when the device is powered on.
- Do not modify the controller. Unauthorized modifications can lead to malfunction or safety hazards.

3. PACKAGE CONTENTS

Verify that all items are present and undamaged upon unpacking:

- Aoleaby CB-2000A or CB-2001 Temperature Controller (1 unit)

- User Manual (this document)
- Mounting Brackets/Hardware (if applicable)
- Sensor (e.g., K-type thermocouple, if included with specific model variant)

4. PRODUCT OVERVIEW

Familiarize yourself with the components of your temperature controller.



Figure 1: Front view of the Aoleaby CB-2000A Temperature Controller. This image displays the digital display, control buttons, and indicator lights for monitoring and adjusting temperature settings.

Front Panel:

- **Digital Display:** Shows current temperature, setpoint, and various parameters.
- **Control Buttons:** Used for navigation, setting parameters, and mode selection.
- **Indicator Lights:** Provide status feedback (e.g., heating/cooling active, alarm).

Rear Panel:

- **Terminal Blocks:** For power input, sensor input (e.g., K-type thermocouple), and control outputs (e.g., relay, SSR).
- **Communication Port (Optional):** For data export and remote control (if applicable to model).

5. SETUP

5.1 Mounting

The controller is designed for panel mounting. Ensure adequate space for ventilation and access to wiring terminals.

1. Cut a panel opening of the specified dimensions (refer to specifications section for exact cutout size).
2. Insert the controller into the opening from the front.
3. Secure the controller using the provided mounting brackets from the rear of the panel.

5.2 Wiring

WARNING: Disconnect all power before wiring. Incorrect wiring can cause damage to the unit or personal injury.

- **Power Supply:** Connect the main power supply (e.g., 220V AC) to the designated power terminals. Observe correct polarity if applicable.
- **Sensor Input:** Connect your temperature sensor (e.g., K-type thermocouple) to the sensor input terminals. Ensure correct polarity for thermocouples.
- **Control Output:** Connect your heating or cooling device to the control output terminals (e.g., relay, SSR). Refer to the wiring diagram specific to your model variant.
- **Alarm Output (Optional):** If using, connect alarm devices to the alarm output terminals.

Refer to the wiring diagram printed on the side of the unit or in the detailed technical appendix for precise terminal assignments.

6. OPERATING INSTRUCTIONS

6.1 Initial Power-On

After completing all wiring, apply power to the controller. The display will typically show the current temperature and then the setpoint.

6.2 Setting the Temperature Setpoint

1. Press the **SET** button once. The setpoint value will begin to flash.
2. Use the **UP** and **DOWN** arrow buttons to adjust the setpoint to your desired temperature.
3. Press the **SET** button again to confirm and save the new setpoint.

6.3 Parameter Configuration

Advanced parameters such as PID settings, alarm limits, and sensor type can be configured through the parameter menu.

1. Press and hold the **SET** button for 3-5 seconds to enter the parameter menu.
2. Use the **UP** and **DOWN** buttons to navigate through the parameters.
3. Press **SET** to select a parameter and view its current value.
4. Use **UP** and **DOWN** to change the value.
5. Press **SET** to confirm the new value.
6. To exit the parameter menu, press and hold the **SET** button again, or wait for a timeout.

Consult the detailed parameter list in the technical appendix for a full description of each parameter and its function.

7. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your temperature controller.

- **Cleaning:** Periodically clean the front panel with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Inspection:** Regularly inspect wiring connections for looseness or signs of damage.
- **Environment:** Ensure the operating environment remains within specified temperature and humidity ranges.
- **Sensor Check:** Verify the temperature sensor is clean and properly seated. Replace damaged sensors promptly.

WARNING: Disconnect power before any cleaning or inspection that involves opening the unit or touching internal components.

8. TROUBLESHOOTING

This section addresses common issues you might encounter. For problems not listed here, contact technical support.

Problem	Possible Cause	Solution
Controller does not power on.	No power supply; incorrect wiring; blown fuse.	Check power connections; verify wiring; replace fuse if necessary.
Temperature reading is inaccurate or "OPEN" error.	Sensor disconnected or faulty; incorrect sensor type selected.	Check sensor wiring and connection; replace sensor; verify sensor type in parameters.
Output not activating (heating/cooling).	Setpoint not reached; output wiring issue; faulty output relay/SSR.	Verify setpoint and current temperature; check output wiring; test output component.
Temperature oscillates widely.	PID parameters not tuned correctly.	Perform auto-tuning or manually adjust PID parameters.

9. SPECIFICATIONS

Parameter	Value
Model	CB-2000A, CB-2001
Brand	Aoleaby
Input Type	K-type Thermocouple (common, verify specific model)
Control Method	PID Control / ON-OFF Control
Power Supply	220V AC (specific to K400 220V variant)
Output	Relay / SSR (specific to model variant)
Temperature Range	Varies by sensor type and model (e.g., 0-400°C for K-type)
Dimensions	Standard panel mount (refer to technical drawing for exact size)
Item Weight	600 Grams
ASIN	B0DJ8PM1B1

10. WARRANTY AND SUPPORT

Aoleaby products are manufactured to high-quality standards. For warranty information, please refer to the warranty card included with your product or contact your local distributor. Technical support is available for assistance with installation, operation, and troubleshooting.

For technical assistance, please contact your supplier or visit the official Aoleaby website for support resources.

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