Ranco B07HM2BL71

RANCO Electronic Temperature Control (120-240VAC) User Manual

1. Introduction

This manual provides essential instructions for the safe and efficient installation, operation, and maintenance of your RANCO Electronic Temperature Control unit. This device is designed to provide precise temperature regulation for heating, cooling, and refrigeration applications, featuring a liquid crystal display (LCD) for constant temperature readout and diagnostic error codes.

2. Safety Information

WARNING: Risk of Electric Shock. Disconnect power before installation or servicing.

- Installation and servicing must be performed by qualified personnel only.
- Ensure all wiring complies with local and national electrical codes.
- Verify the power supply voltage matches the unit's specifications (120/208/240VAC).
- Do not operate the unit if it appears damaged.
- The enclosure type is NEMA 1, suitable for indoor use, providing protection against falling dirt.

3. Product Overview

The RANCO Electronic Temperature Control is a versatile line voltage thermostat equipped with an LCD for clear temperature display and operational feedback. It includes features such as keypad lockout, memory for settings, and a time delay on power-up to protect connected equipment.

Figure 1: RANCO Electronic Temperature Control unit. This image displays the gray rectangular control unit featuring an LCD screen and three control buttons (SET, Up, Down) on its front panel. A gray cable exits from the top, and another gray cable with a black cylindrical temperature sensor extends from the bottom. The unit's casing is secured by screws at its corners.

4. Setup and Installation

4.1 Mounting

Mount the control unit in a location that is easily accessible for viewing and operation, and where it is protected from moisture and excessive vibration. Ensure the NEMA 1 enclosure rating is appropriate for the environment.

4.2 Wiring

Connect the control unit to the appropriate power supply (120/208/240VAC) and to the controlled equipment (heating, cooling, or refrigeration system) according to the wiring diagram provided with the unit. The unit features one SPDT (Single Pole Double Throw) relay for output control. Ensure all connections are secure and insulated.

4.3 Sensor Placement

The thermistor sensor (1/4" diameter, 2" length) should be placed in the area where temperature is to be monitored. Ensure the sensor is not exposed to direct drafts or heat sources that could provide inaccurate readings. The sensor cable should be routed to avoid damage or interference.

5. Operating Instructions

5.1 Power Up

Upon initial power-up, the unit will undergo a time delay before operation begins. The LCD will display the sensed temperature.

5.2 Setting Temperature

1. Press the **SET** button to enter the setpoint adjustment mode.
2. Use the **Up** and **Down** arrow buttons to adjust the desired temperature setpoint.
3. Press **SET** again to confirm and save the new setpoint, or wait a few seconds for the unit to automatically save and exit.

5.3 Adjusting Differential

The differential (hysteresis) can be set between 1 and 30 degrees Fahrenheit. Refer to the full product manual for specific steps to access and adjust this parameter, as it typically involves a combination of button presses.

5.4 Keypad Lockout

The unit features a keypad lockout function to prevent unauthorized changes to settings. Consult the detailed product manual for instructions on how to activate and deactivate this feature.

5.5 Error Codes

The LCD display will show specific error codes if a problem is detected, particularly related to refrigeration. Refer to the comprehensive product manual for a list of error codes and their corresponding troubleshooting steps.

6. Maintenance

- Keep the unit clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Periodically inspect wiring connections for tightness and signs of wear.
- Ensure the temperature sensor is clean and properly positioned.
- No user-serviceable parts are inside the unit. Refer all repairs to qualified service personnel.

7. Troubleshooting

- **No Display:** Check power supply connections. Ensure the unit is receiving the correct voltage.
- **Incorrect Temperature Reading:** Verify sensor placement and ensure it is not damaged. Check for proper sensor connection.
- **Unit Not Controlling:** Check setpoint and differential settings. Verify wiring to the controlled equipment. Look for any error codes on the display.
- **Error Codes Displayed:** Consult the full product manual for specific error code definitions and recommended actions.

If problems persist after performing these checks, contact qualified service personnel.

8. Specifications

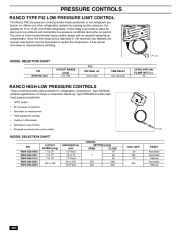
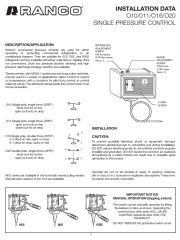
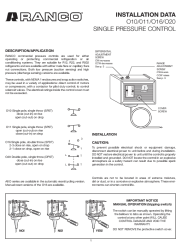
Feature	Specification
Item	Electronic Temperature Control
Switch Type	SPDT
Switch Action	Open/Close on Rise
Voltage Range	120/208/240VAC
Control Range	-30°F to 220°F
Differential	1°F to 30°F
Number of Relay Inputs	1
Number of Relay Outputs	1
Full Load Amps @ 120VAC	16A (NO), 5.8A (NC)
Full Load Amps @ 240VAC	8A (NO), 2.9A (NC)
Sensor Type	Thermistor
Sensing Bulb Diameter	1/4"
Sensing Bulb Length	2"
Enclosure Type	NEMA 1
Height	6-1/2"
Width	2-3/4"
Depth	2-1/2"
Color	Gray
Display Type	LCD
Certifications	UL Listed, CSA Certified

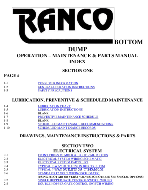
Feature	Specification
Applications	Heating, Cooling, Refrigeration

9. Warranty and Support

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

Related Documents - B07HM2BL71

	Ranco ETC Two Stage Electronic Temperature Control - NEMA Type 4X Installation Data Installation data, specifications, operation, and troubleshooting for the Ranco ETC Two Stage Electronic Temperature Control, NEMA Type 4X. This control is designed for commercial HVAC and refrigeration, offering dual-stage temperature control, LCD display, keypad programming, and a NEMA 4X watertight enclosure for outdoor use.
	Ranco ETC Single Stage Electronic Temperature Control Installation Instructions Comprehensive installation, operation, and troubleshooting guide for the Ranco ETC Single Stage Electronic Temperature Control. Covers product details, applications, features, specifications, ordering, programming, lockout switch, wiring diagrams, and sensor information for HVAC and refrigeration systems.
	Ranco, Johnson Controls, and Danfoss Refrigeration Controls Catalog Comprehensive catalog of Ranco, Johnson Controls, and Danfoss temperature and pressure controls, including low pressure limit controls, high-low pressure controls, electronic controls, defrost controls, and accessories for refrigeration systems.
	Ranco Single Pressure Control Installation Data Installation data for Ranco single pressure controls (010, 011, 016, 020). Covers description, application, installation, wiring, and control settings for various refrigerants and pressure ranges.
	Ranco O10/O11/O16/O20 Single Pressure Control Installation Data Comprehensive installation data, wiring, settings, and specifications for Ranco O10, O11, O16, and O20 single pressure controls used in commercial refrigeration and air conditioning systems. Includes mounting instructions, capillary care, control wiring, adjustment procedures, and detailed specifications.

 RANCO BOTTOM DUMP OPERATION - MAINTENANCE & PARTS MANUAL INDEX SECTION ONE	Ranco Bottom Dump Trailer Operation, Maintenance & Parts Manual Comprehensive guide for Ranco Bottom Dump Trailers covering operation, maintenance, parts, electrical, air brake, and suspension systems. Essential for proper use and upkeep.