

## Ranco J10-821

# Ranco J10-821 Humidistat Instruction Manual

Model: J10-821

## 1. PRODUCT OVERVIEW

The Ranco J10-821 Humidistat is designed to regulate the relative humidity within enclosed spaces. It achieves this by controlling humidifying or dehumidifying equipment. This device is suitable for integration into portable humidifiers and dehumidifiers, as well as for use as a wall-mounted humidity control in central systems. The J10-821 operates as a relative humidity control, featuring a humidity sensing element, an adjustable setpoint cam, and an electrical switch. The sensing element responds to changes in relative humidity by altering its length, which in turn activates the switch mechanisms at predetermined setpoints.

## 2. KEY FEATURES

- **Humidity Range:** 20% to 80% Relative Humidity (RH)
- **Differential:** 8% RH maximum
- **Mounting:** Wall mount design
- **Color:** White finish
- **Switch Type:** Single-Pole, Single-Throw (SPST)
- **Voltage:** 125/250 VAC
- **Full Load Amperage (FLA):** 7.5 Amps @ 125VAC, 3.3 Amps @ 250VAC
- **Cycle Ratings:** 50,000 automatic cycles @ 140°F (60°C), 6,000 manual cycles
- **Operating Temperature:** 32°F to 140°F (0°C to 60°C)
- **Shipping Temperature:** -22°F to 150°F (-30°C to 65.5°C)

## 3. INSTALLATION AND SETUP

The Ranco J10-821 Humidistat is designed for wall mounting. Proper installation is crucial for accurate operation and safety. It is strongly recommended that installation and electrical wiring be performed by a qualified electrician or HVAC technician in accordance with all local and national electrical codes.

### 3.1 Mounting Location

Select a location on an interior wall, away from direct sunlight, drafts, heat sources, or areas with poor air circulation. These factors can affect the accuracy of humidity readings.

### 3.2 Electrical Connections

**WARNING:** Disconnect power to the humidifying or dehumidifying equipment at the main service panel before performing any wiring. Failure to do so can result in electrical shock or equipment damage.

Connect the humidistat according to the wiring diagram provided with your specific humidifying or dehumidifying equipment. The J10-821 features an SPST switch. Ensure all connections are secure and properly insulated.

## 4. OPERATION

The Ranco J10-821 Humidistat features a simple rotary dial for setting the desired relative humidity level. The dial is marked with percentages from 20 to 80, and also includes "ON" and "OFF" positions.



**Figure 1:** Front view of the Ranco J10-821 Humidistat, showing the white casing and the central rotary dial. The dial is marked with relative humidity percentages from 20 to 80, along with 'ON' and 'OFF' indicators. The Ranco logo is visible in the lower-left corner.

### 4.1 Setting Desired Humidity

1. **Power On:** Ensure the humidistat has power.
2. **Adjust Dial:** Rotate the central dial to align the indicator with your desired relative humidity percentage (e.g., 40, 50, 60).
3. **Automatic Control:** Once set, the humidistat will automatically activate or deactivate the connected equipment to maintain the selected humidity level within its differential range.

### 4.2 ON/OFF Function

- **ON:** Turning the dial to the "ON" position will continuously activate the connected equipment, regardless of the current humidity level. This is typically used for continuous humidification or dehumidification.
- **OFF:** Turning the dial to the "OFF" position will deactivate the connected equipment, preventing it from operating.

## 5. SPECIFICATIONS

Parameter	Value
Model	J10-821
Humidistat RH Range	20% - 80% RH

Parameter	Value
Differential	8% RH Max
Mounting	Wall mount
Color	White
Switch Type	SPST (Single-Pole, Single-Throw)
Voltage	125/250 VAC
FLA @ 125VAC	7.5 Amps
FLA @ 250VAC	3.3 Amps
Automatic Cycle Rating	50,000 cycles @ 140°F (60°C)
Manual Cycle Rating	6,000 cycles
Operating Temperature	32°F to 140°F (0°C to 60°C)
Shipping Temperature	-22°F to 150°F (-30°C to 65.5°C)
Item Weight	9.12 ounces

## 6. MAINTENANCE

The Ranco J10-821 Humidistat requires minimal maintenance. To ensure optimal performance and longevity:

- **Cleaning:** Periodically wipe the exterior of the humidistat with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure no moisture enters the internal components.
- **Airflow:** Ensure that the area around the humidistat is free from obstructions to allow for proper air circulation and accurate humidity sensing.
- **Inspection:** Annually inspect the wiring connections for any signs of wear or damage. If any issues are found, consult a qualified technician.

## 7. TROUBLESHOOTING

If you experience issues with your Ranco J10-821 Humidistat, consider the following common troubleshooting steps:

- **Equipment Not Responding:**
  - Check if the humidistat dial is set to "OFF".
  - Verify that the humidistat is receiving power.
  - Ensure the wiring connections are secure and correct.
  - Confirm that the connected humidifying/dehumidifying equipment is operational.
- **Inaccurate Humidity Readings:**
  - Ensure the humidistat is not exposed to direct sunlight, drafts, or heat sources.
  - Check for obstructions around the unit that might impede airflow.
  - Allow sufficient time for the humidistat to stabilize after installation or significant environmental changes.
- **Constant Operation/No Operation:**

- Verify the setpoint on the dial is appropriate for the current environmental conditions.
- Consider the 8% RH differential; the equipment will not cycle immediately upon reaching the setpoint.
- If issues persist, professional inspection may be required.

For complex issues or if troubleshooting steps do not resolve the problem, contact a qualified technician or Ranco customer support.

## 8. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the Ranco J10-821 Humidistat.

- **Electrical Hazard:** Always disconnect power at the main service panel before installing, servicing, or cleaning the humidistat.
- **Professional Installation:** Electrical wiring should be performed by a qualified professional in compliance with all applicable codes.
- **Intended Use:** Use this device only for its intended purpose of controlling relative humidity.
- **Environmental Conditions:** Do not expose the humidistat to extreme temperatures, high humidity (beyond specified operating range), or corrosive environments.
- **Children and Pets:** Keep the device out of reach of children and pets to prevent tampering or accidental damage.

## 9. APPROVALS AND CERTIFICATIONS

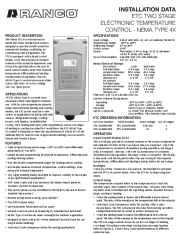
The Ranco J10-821 Humidistat complies with the following standards:


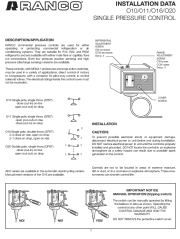
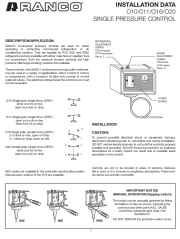
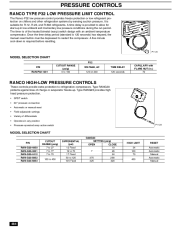

- IEC 60730-1 & 2-13
- UL 873
- CSA C22.2 No. 24

## 10. SUPPORT AND WARRANTY

For technical assistance, warranty information, or to purchase replacement parts, please contact Ranco customer support. Refer to the official Ranco website or product packaging for the most current contact details.

### Related Documents - J10-821

 <p>The image shows the front page of the installation data sheet for the Ranco J10-821 Humidistat. It includes the Ranco logo, a photograph of the device, and sections for 'INSTALLATION DATA', 'ELECTRIC TEMPERATURE CONTROL - NEMA TYPE 4X', and 'WARRANTY INFORMATION'.</p>	<p><a href="#">Ranco ETC Two Stage Electronic Temperature Control - NEMA Type 4X Installation Data</a></p> <p>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.</p>
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	<p><a href="#">Ranco ETC Single Stage Electronic Temperature Control Installation Instructions</a></p> <p>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.</p>
	<p><a href="#">Ranco Single Pressure Control Installation Data</a></p> <p>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.</p>
	<p><a href="#">Ranco O10/O11/O16/O20 Single Pressure Control Installation Data</a></p> <p>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.</p>
	<p><a href="#">Ranco, Johnson Controls, and Danfoss Refrigeration Controls Catalog</a></p> <p>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.</p>
	<p><a href="#">Ranco Bottom Dump Trailer Operation, Maintenance &amp; Parts Manual</a></p> <p>Comprehensive guide for Ranco Bottom Dump Trailers covering operation, maintenance, parts, electrical, air brake, and suspension systems. Essential for proper use and upkeep.</p>