Trane B0BW541NLS

Trane Control Limit 220F User Manual

Model: B0BW541NLS

1. Product Overview

The Trane Control Limit 220F is a genuine OEM (Original Equipment Manufacturer) part designed for commercial HVAC units. This component functions as a temperature limit control, ensuring the safe operation of heating and cooling systems by preventing temperatures from exceeding a specified threshold of 220°F.
It is crucial to use genuine OEM parts for safety, reliability, and optimal performance of your Trane HVAC equipment.

1.1. What's in the Box

- Replacement Part (Trane Control Limit 220F)

1.2. Product Features

- **Genuine OEM Part:** Ensures compatibility and reliability with Trane HVAC systems.
- **Temperature Limit Control:** Designed to activate at 220°F to prevent overheating.
- **Durable Construction:** Built to withstand the demands of commercial HVAC environments.
- **Easy Integration:** Designed for straightforward replacement in compatible Trane units.

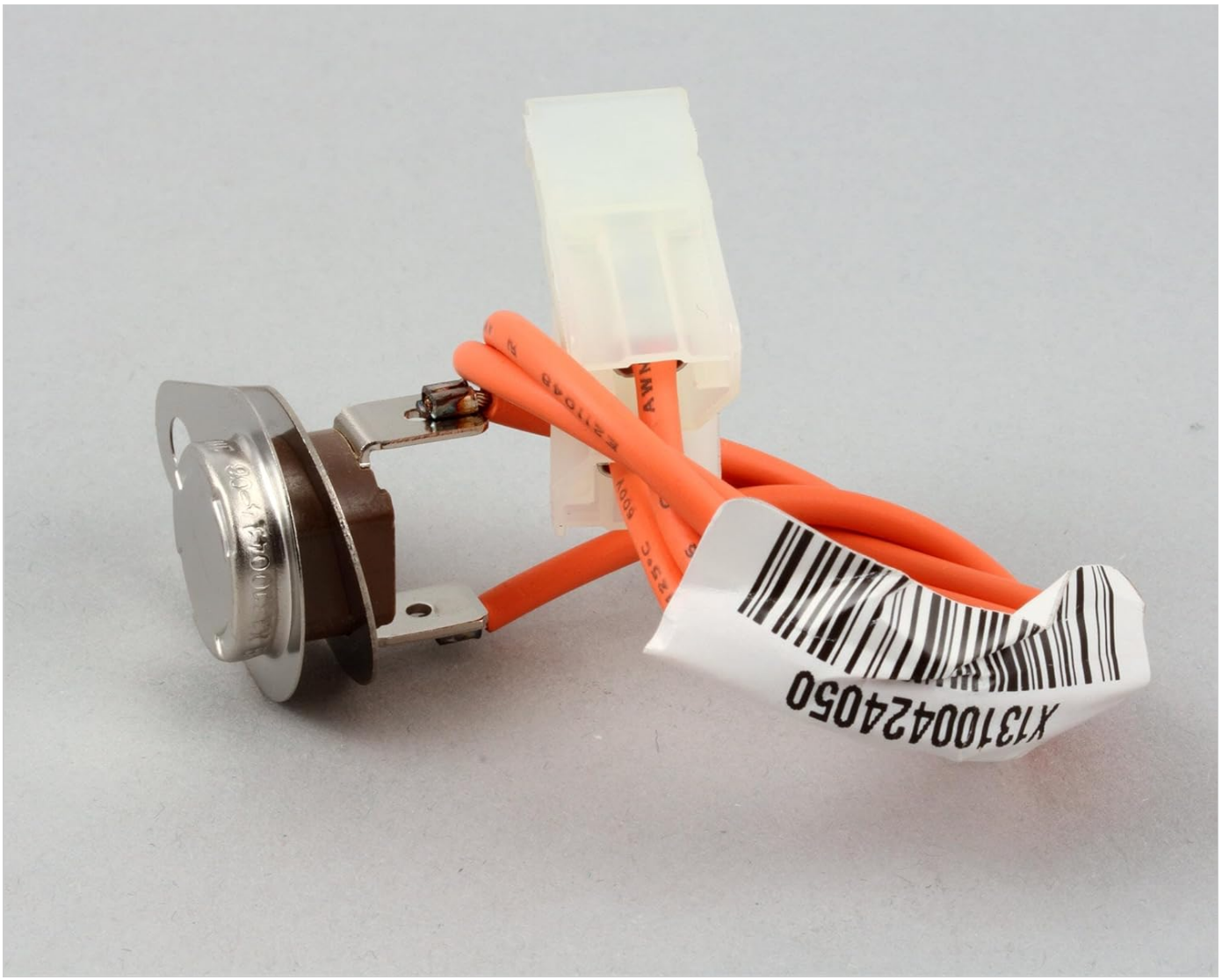


Figure 1.1: Front view of the Trane Control Limit 220F, showing the metallic disc, mounting bracket, orange wires, and white electrical connector.

2. Safety Information

WARNING: Always disconnect power to the HVAC unit before attempting any installation, maintenance, or repair. Failure to do so can result in serious injury or death from electrical shock.

- Installation should only be performed by qualified HVAC technicians or licensed electricians.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure all wiring connections are secure and comply with local electrical codes.
- Do not bypass or modify the limit control. It is a critical safety device.
- Refer to the specific HVAC unit's service manual for detailed wiring diagrams and safety procedures.

3. Setup & Installation

This section provides general guidelines for installing the Trane Control Limit 220F. Always refer to the specific service manual for your Trane HVAC unit for precise installation instructions and wiring diagrams.

3.1. Tools Required

- Screwdriver set (Phillips and flathead)
- Wire strippers/cutters (if new wiring is needed)

- Multimeter (for testing continuity and voltage)
- Personal Protective Equipment (PPE)

3.2. Installation Steps

1. **Disconnect Power:** Locate the main power switch for the HVAC unit and turn it OFF. Verify power is off using a multimeter.
2. **Access Component:** Open the access panel of the HVAC unit to locate the existing limit control.
3. **Document Wiring:** Before disconnecting, take a photograph or make a diagram of the existing wiring connections to the limit control. This will aid in correct re-installation.
4. **Remove Old Component:** Carefully disconnect the wires from the old limit control and unmount it from its position.
5. **Install New Component:** Mount the new Trane Control Limit 220F in the same location as the old one. Ensure it is securely fastened.
6. **Connect Wiring:** Connect the wires to the new limit control according to your documented diagram. Ensure all connections are tight and secure. The white connector should snap firmly into place.
7. **Secure Access Panel:** Close and secure the HVAC unit's access panel.
8. **Restore Power & Test:** Restore power to the HVAC unit. Perform system checks to ensure the unit operates correctly and the limit control functions as expected.

Figure 3.1: Top view of the Trane Control Limit 220F, showing the compact arrangement of the orange wires and the white connector, ready for installation.

Figure 3.2: Side view of the Trane Control Limit 220F, highlighting the metallic disc and the points where the orange wires connect to the control unit.

4. Operation

The Trane Control Limit 220F is a safety device designed to monitor the temperature within the HVAC system. Its primary function is to open an electrical circuit if the temperature exceeds 220°F, thereby shutting down the heating element or other components to prevent damage or hazardous conditions.

- Under normal operating conditions, the limit control allows electrical current to pass through, enabling the HVAC unit to function.
- If the internal temperature of the monitored area reaches or exceeds 220°F, the bimetallic disc within the control will deform, opening the electrical contacts.
- Once the contacts open, power to the heating component (or other controlled device) is interrupted, causing the unit to shut down.
- The control typically resets automatically once the temperature drops below the limit, allowing the system to restart if the underlying issue is resolved.

Note: Frequent activation of the limit control indicates an underlying issue with the HVAC system that requires investigation by a qualified technician.

5. Maintenance

The Trane Control Limit 220F is a robust component designed for long-term reliability. Regular maintenance of the overall HVAC system is recommended to ensure its proper function and longevity.

- **Annual Inspection:** During routine HVAC system maintenance, have a qualified technician inspect the limit control for any signs of physical damage, corrosion, or loose connections.
- **Cleanliness:** Ensure the area around the limit control is free from dust, debris, or obstructions that could affect its temperature sensing capabilities.
- **Wiring Integrity:** Check that all wiring connected to the limit control is intact, not frayed, and securely fastened.
- **Functionality Check:** While not a user-serviceable item for testing, a technician can verify its operation during system diagnostics.

Do not attempt to clean the internal components of the limit control or apply any lubricants. This can impair its function.

6. Troubleshooting

If your HVAC unit is experiencing issues related to temperature control or unexpected shutdowns, the limit control may be involved. This section provides general troubleshooting steps. For complex issues, always consult a qualified HVAC technician.

Symptom	Possible Cause	Recommended Action
HVAC unit frequently shuts down unexpectedly.	Overheating due to restricted airflow, dirty filters, faulty blower, or other system issues causing high temperatures.	Check air filters and replace if dirty. Ensure vents are open. Inspect blower motor for proper operation. If issues persist, contact a technician to diagnose the root cause of overheating.
HVAC unit does not turn on (no heat/cooling).	Limit control is open (tripped) and not resetting, or it has failed.	Ensure power is off. Visually inspect the limit control for damage. A technician can test the continuity of the limit control. If it's open at normal temperatures, it may need replacement.
Unit runs continuously without reaching desired temperature.	Unlikely to be the limit control itself, but rather a heating element issue, thermostat problem, or other system component.	Consult the HVAC unit's service manual or a qualified technician for diagnosis.

Important: *Do not attempt to bypass the limit control for troubleshooting. This is a critical safety device.*

7. Specifications

Attribute	Value
Product Name	Trane Control Limit 220F
Part Type	Limit Switch / Temperature Control
Activation Temperature	220°F (Fixed)
Manufacturer	Trane
ASIN	B0BW541NLS

Attribute	Value
Product Dimensions	11 x 9 x 2 inches (approximate package dimensions)
Item Weight	8 ounces (approximate package weight)
First Available Date	February 18, 2023

Figure 7.1: Angled view of the Trane Control Limit 220F, illustrating its compact design and robust construction.

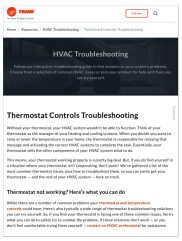
8. Warranty & Support

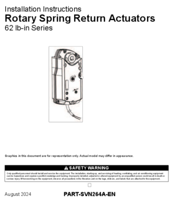
As a genuine OEM part, the Trane Control Limit 220F is covered by Trane's standard warranty for replacement parts. Specific warranty terms and conditions may vary. Please retain your proof of purchase.
For technical support, warranty claims, or to locate an authorized Trane service provider, please contact Trane customer service or visit the official Trane website:

- **Trane Official Website:** www.trane.com
- **Customer Service:** Refer to the Trane website for regional contact information.

When contacting support, please have your product model (B0BW541NLS) and purchase date available.

Related Documents - B0BW541NLS

	Trane Comprehensive Chilled-Water System Design Catalog Trane's comprehensive catalog for designing advanced chilled-water systems. This guide details system components, state-of-the-art design principles, configurations, and selection criteria for chillers, cooling towers, pumps, and control valves. It focuses on achieving efficiency, reliability, and cost-effectiveness in commercial and industrial HVAC applications, including insights on Tracer Chiller Plant Control and Trane Design Assist.
	Trane Thermostat Troubleshooting Guide: Fix Common HVAC Issues Learn how to troubleshoot common Trane thermostat problems and HVAC system issues. This guide provides step-by-step solutions for thermostat failures, HVAC malfunctions, and temperature setting discrepancies.
	Trane Precedent™ High Efficiency Packaged Rooftop Heat Pumps: Product Catalog Discover the Trane Precedent™ series of high-efficiency packaged rooftop heat pumps, designed for exceptional reliability and advanced comfort control. This catalog details features, specifications, and applications for units ranging from 12.5 to 25 tons, highlighting Trane's commitment to quality and performance in commercial HVAC solutions.
	Trane 2025 Product Handbook: Residential & Light Commercial HVAC Systems Discover the Trane 2025 Product Handbook, a comprehensive guide to residential and light commercial HVAC systems. Features include air conditioners, furnaces, heat pumps, air handlers, coils, thermostats, and IAQ products, with specifications for R-410A and low GWP refrigerants.
	Trane BAYSENSC360 Supply Duct Air Temperature Sensor Installer's Guide Installation guide for the Trane BAYSENSC360 Supply Duct Air Temperature Sensor, detailing safety, inspection, general information, kit contents, installation procedures for furnace/coil and air handler applications, and a resistance/voltage table.

 Installation Instructions **Rotary Spring Return Actuators** 62 lb-in Series SAFETY WARNING August 2024 **PART-SVN264A-EN**	Trane Rotary Spring Return Actuators 62 lb-in Series Installation Instructions Comprehensive installation instructions for Trane Rotary Spring Return Actuators, 62 lb-in Series. Covers safety warnings, parts list, required tools, mounting positions, installation steps, manual override procedures, wiring diagrams, and dimensional specifications.