

[Manuals.plus](#) /

› [Copeland](#) /

› Copeland Dixell XR75CX-5N7C3 Refrigeration Thermostat User Manual

Copeland XR75CX-5N7C3

Copeland Dixell XR75CX-5N7C3 Refrigeration Thermostat User Manual

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Copeland Dixell XR75CX-5N7C3 digital programmable refrigeration thermostat. This device is designed for precise temperature control in various HVAC and refrigeration applications. Please read this manual thoroughly before installation and operation to ensure proper functionality and safety.

Note on Branding: During a transition period, products may be delivered with either Dixell or Copeland branding. Both trademarks represent the same high-quality product.



Image 1.1: Front view of the Copeland Dixell XR75CX-5N7C3 thermostat, showing the digital display and control buttons.

2. SAFETY INFORMATION

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

- Disconnect power before performing any installation or maintenance procedures.
- Installation and wiring must be performed by qualified personnel in accordance with local electrical codes.
- Ensure the power supply voltage matches the specifications of the thermostat.
- Do not expose the device to water or excessive humidity.
- Do not open the device housing unless specifically instructed by the manufacturer.

3. PRODUCT OVERVIEW AND FEATURES

The XR75CX-5N7C3 is a versatile digital controller designed for refrigeration applications, featuring:

- **Display:** 3-digit, red LED display for clear temperature readings.
- **Inputs:** Supports up to 4 NTC or PT1000 temperature probes and free voltage digital inputs.
- **Outputs:** Four relay outputs for compressor, defrost, fan, and auxiliary functions.
- **Communication:** Equipped with an RS-485 communication interface for integration into control systems.
- **Data Storage:** Non-volatile memory (EEPROM) for parameter retention during power outages.
- **Internal Clock:** 24-hour back-up for real-time clock functions.
- **Housing:** Self-extinguishing ABS material with IP65 frontal protection.

4. SETUP AND INSTALLATION

4.1 Panel Mounting

The thermostat is designed for panel mounting. Create a panel cut-out with dimensions of 71x29mm. Insert the thermostat into the opening and secure it using the provided mounting clips.

4.2 Electrical Connections

All electrical connections should be made to the screw terminal block located at the rear of the unit. Ensure wiring is 2.5 mm² (AWG 14) or appropriate for the load. Refer to the wiring diagram below for correct connections.



Image 4.1: Rear view of the XR75CX-5N7C3 thermostat, illustrating the screw terminal block and integrated wiring diagram for power, probes, and relay outputs.

Power Supply: Connect the appropriate power supply (24Vac, 110Vac, or 230Vac, $\pm 10\%$, 50/60Hz) to the designated terminals. Verify the voltage rating of your specific model.

Probe Connections: Connect NTC or PT1000 temperature probes to the specified input terminals (e.g., Pb1, Pb2, Pb3, Pb4). Ensure correct polarity if applicable.

Relay Outputs: Connect the compressor, defrost, fan, and auxiliary loads to their respective relay output terminals. Observe the maximum current ratings for each relay.

RS-485 Communication: Connect the RS-485 communication lines to terminals 16 and 17 for ModBUS-RTU connectivity.

5. OPERATING INSTRUCTIONS

5.1 Front Panel Controls

- **SET Button:** Used to display and modify setpoint values and access programming parameters.
- **UP Arrow Button:** Increases values or scrolls through parameters.
- **DOWN Arrow Button:** Decreases values or scrolls through parameters.

- **Light/Defrost Button:** Activates manual defrost or controls the light output.
- **Power Button:** Turns the unit ON/OFF or enters/exits programming mode (long press).

5.2 Setting the Setpoint Temperature

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

5.3 Accessing Programming Parameters

For advanced settings and configuration, refer to the detailed programming manual (typically provided separately or available from the manufacturer). Generally, a long press on the **SET** or **Power** button may grant access to the parameter menu.

6. MAINTENANCE

6.1 Cleaning

Clean the front panel of the thermostat with a soft, damp cloth. Do not use abrasive cleaners, solvents, or harsh chemicals, as these can damage the display or housing. Ensure no liquid enters the device.

6.2 Environmental Conditions

To ensure optimal performance and longevity, operate the thermostat within the specified environmental conditions:

- **Operating Temperature:** 0 to 55°C (32 to 131°F)
- **Storage Temperature:** -30 to 85°C (-22 to 185°F)
- **Relative Humidity:** 20 to 85% (non-condensing)

7. TROUBLESHOOTING

If you encounter issues with your XR75CX-5N7C3 thermostat, consider the following common problems and solutions:

- **No Display/No Power:**
 - Check the power supply connections and ensure the correct voltage is applied.
 - Verify that the circuit breaker or fuse is not tripped.
- **Incorrect Temperature Reading:**
 - Check probe connections for proper seating and continuity.
 - Ensure the correct probe type (NTC/PT1000) is selected in the thermostat's parameters.
 - Inspect the probe for physical damage.
- **Relay Not Activating:**
 - Verify the setpoint and differential settings are correct.
 - Check the wiring to the load (compressor, fan, etc.).
 - Ensure the relay output is enabled in the thermostat's parameters.

For persistent issues or complex problems, contact qualified technical support.

8. SPECIFICATIONS

Feature	Specification
Model	XR75CX-5N7C3
Housing	Self-extinguishing ABS
Case Dimensions	Frontal 32x74 mm; Depth 60mm
Mounting	Panel mounting in a 71x29mm cut-out
Protection	IP20; Frontal protection: IP65
Connections	Screw terminal block for 2.5 mm ² wiring
Power Supply	24Vac, 110Vac, or 230Vac $\pm 10\%$, 50/60Hz (model dependent)
Power Absorption	3VA max
Display	3 digits, red LED, 14.2 mm high
Inputs	Up to 4 NTC or PT1000 probes; Digital inputs (free voltage contact)
Relay Outputs	Compressor: SPST 8(3)A or 16A 250Vac Defrost: SPDT 8(3)A 250Vac Fan: SPST 5A 250Vac Aux: SPDT 8(3)A or SPST 16(6)A 250Vac
Data Storing	Non-volatile memory (EEPROM)
Internal Clock Back-up	24 hours
Operating Temperature	0 to 55°C (32 to 131°F)
Storage Temperature	-30 to 85°C (-22 to 185°F)
Relative Humidity	20 to 85% (non-condensing)
Measuring Range (NTC)	-40 to 110°C (-40 to 230°F)
Measuring Range (PT1000)	-100 to 150°C (-148 to 302°F)
Resolution	0.1°C or 1°C or 1°F (selectable)
Accuracy (at 25°C)	$\pm 0.7^{\circ}\text{C} \pm 1$ digit
Connectivity Technology	RS-485 (ModBUS-RTU)

9. WARRANTY AND SUPPORT

For warranty information, please refer to the terms and conditions provided by your point of purchase or contact the manufacturer directly. Technical support and further assistance can be obtained through your distributor or the official Copeland/Dixell support channels.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question