

## Supco SL5709

# Supco SL5709 Refrigerator Defrost Thermostat Instruction Manual

Model: SL5709

## 1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the Supco SL5709 Refrigerator Defrost Thermostat. The SL5709 is a universal defrost thermostat designed for commercial refrigeration systems, replacing various 4751C models from brands such as Chandler, Larkin, Bohn, and Climate Control. It features an open temperature of 55°F and a close temperature of 35°F, ensuring efficient defrost cycles.

For optimal performance and safety, please read these instructions thoroughly before proceeding with installation or service.

## 2. SAFETY INFORMATION

**WARNING: Risk of electric shock. Disconnect power before servicing.**

- Always disconnect power to the refrigeration unit before attempting any installation, maintenance, or repair.
- Installation should only be performed by a qualified technician.
- Wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves.
- Ensure all wiring connections are secure and comply with local electrical codes.
- Do not operate the thermostat if it appears damaged.

## 3. PRODUCT OVERVIEW

The Supco SL5709 is a bi-metal defrost thermostat engineered for durability and reliable performance in commercial refrigeration environments. Its sealed construction provides resistance to moisture, and high-speed contact separation ensures a long operational life.



**Figure 1:** Supco SL5709 Defrost Thermostat. This image shows the thermostat with its attached wires, ready for installation.

#### Key Features:

- **Universal Compatibility:** Designed to replace various 4751C thermostats.
- **Moisture Resistance:** Features sealed construction for enhanced durability.
- **Long Contact Life:** Achieved through high-speed contact separation.
- **Certifications:** UL listed and CSA approved, ensuring quality and safety standards.

## 4. INSTALLATION INSTRUCTIONS

This section outlines the general steps for installing the Supco SL5709 defrost thermostat. Specific wiring and mounting procedures may vary depending on the refrigeration unit model. Always refer to the original equipment manufacturer's service manual for detailed instructions.

1. **Disconnect Power:** Locate the main power supply to the refrigeration unit and turn it off. Verify power is disconnected using a multimeter.
2. **Access Thermostat:** Carefully locate and access the existing defrost thermostat within the refrigeration unit. This often involves removing panels or covers.
3. **Document Wiring:** Before disconnecting, take clear photos or draw a diagram of the existing wiring connections to ensure correct re-installation. Note the color and position of each wire.
4. **Remove Old Thermostat:** Disconnect the wires from the old thermostat and unmount it from its position.
5. **Install New Thermostat:** Mount the Supco SL5709 in the same location and orientation as the old thermostat. Ensure it is securely fastened.
6. **Connect Wiring:** Connect the wires to the new SL5709 thermostat according to your documented diagram. Ensure all connections are tight and secure.
7. **Secure Components:** Replace any removed panels or covers, ensuring all components are properly secured.
8. **Restore Power:** Reconnect the main power supply to the refrigeration unit.
9. **Test Operation:** Monitor the refrigeration unit to ensure the defrost cycle initiates and terminates correctly.



**Figure 2:** Supco SL5709 Defrost Thermostat. This image provides another view of the thermostat and its wiring, highlighting its compact design.

## 5. OPERATING PRINCIPLES

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The Supco SL5709 is a bi-metal defrost thermostat designed to control the defrost cycle in commercial refrigeration units. It operates based on temperature thresholds:

- **Open Temperature:** 55°F (12.8°C) - When the evaporator coil reaches this temperature during the defrost cycle, the thermostat opens, terminating the defrost heater operation.
- **Close Temperature:** 35°F (1.7°C) - When the evaporator coil temperature drops to this point, the thermostat closes, allowing the defrost heater to activate if the defrost timer calls for it.

This precise temperature control prevents excessive heating of the evaporator coil, which could lead to unnecessary energy consumption or damage to refrigerated contents, while ensuring effective frost removal.

## 6. MAINTENANCE

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The Supco SL5709 defrost thermostat is designed for long-term reliability and typically requires minimal

maintenance. However, periodic checks of the refrigeration system are recommended:

- **Visual Inspection:** Periodically inspect the thermostat and its wiring for any signs of damage, corrosion, or loose connections.
- **Defrost Cycle Monitoring:** Ensure the refrigeration unit's defrost cycle is functioning correctly. Observe if frost buildup is effectively removed and if the unit returns to cooling mode promptly after defrost.
- **Cleanliness:** Keep the area around the evaporator coil and thermostat free from debris or excessive ice buildup, which could impede proper temperature sensing.

If any issues are observed, refer to the troubleshooting section or consult a qualified technician.

## 7. TROUBLESHOOTING

This section provides guidance for common issues related to defrost thermostat operation. For complex problems, contact a qualified refrigeration technician.

Problem	Possible Cause	Solution
Excessive frost buildup on evaporator coil.	Defrost thermostat not closing (stuck open) or faulty defrost heater.	Test thermostat continuity at low temperatures. If open, replace. Check defrost heater for continuity.
Refrigeration unit runs too warm after defrost.	Defrost thermostat not opening (stuck closed), causing prolonged defrost cycle.	Test thermostat continuity at higher temperatures. If closed, replace.
Thermostat appears physically damaged.	Physical impact or improper handling.	Replace the thermostat.
Intermittent defrost issues.	Loose wiring connections or intermittent thermostat failure.	Check all wiring connections for tightness. Test thermostat operation thoroughly.

## 8. SPECIFICATIONS

- **Brand:** Supco
- **Model/Part Number:** SL5709
- **Type:** Commercial Refrigeration Bi-Metal Defrost Thermostat
- **Open Temperature:** 55°F (12.8°C)
- **Close Temperature:** 35°F (1.7°C)
- **Compatibility:** Replaces 4751C models (e.g., Chandler, Larkin, Bohn, Climate Control)
- **Construction:** Sealed, moisture-resistant
- **Certifications:** UL Listed, CSA Approved
- **Item Weight:** Approximately 0.16 ounces
- **Product Dimensions:** Approximately 6 x 5.5 x 2 inches (packaging dimensions)

## 9. WARRANTY AND SUPPORT

For specific warranty information regarding your Supco SL5709 Defrost Thermostat, please refer to the

documentation included with your purchase or visit the official Supco website. Keep your proof of purchase for warranty claims.

For technical support or assistance with installation and troubleshooting, please contact Supco customer service or a certified refrigeration technician.