Danfoss 077B6827

Danfoss 077B6827 Temperature Control User Manual

Model: 077B6827 (P/N: 46-1387)

1. INTRODUCTION

This manual provides essential instructions for the safe and efficient installation, operation, and maintenance of the Danfoss 077B6827 Temperature Control. This digital, wired temperature controller is designed for precise temperature regulation in various applications. Please read this manual thoroughly before installation and use, and retain it for future reference.

2. SAFETY INFORMATION

- **Electrical Hazard:** Installation and servicing must be performed by qualified personnel only. Disconnect all power to the unit before performing any work.
- **Proper Use:** Use this device only for its intended purpose as a temperature control. Any other use may result in damage or injury.
- **Environmental Conditions:** Ensure the operating environment is within the specified temperature and humidity ranges to prevent malfunction.
- **Component Integrity:** Do not operate the device if any components appear damaged.

3. PRODUCT OVERVIEW

The Danfoss 077B6827 is a robust temperature control unit featuring a rotary knob for manual adjustments and digital connectivity for advanced control. It includes a main control module and a capillary tube sensor for accurate temperature measurement.

Figure 1: Danfoss 077B6827 Temperature Control. This image displays the main control unit with its black rotary knob, featuring numerical settings from 0 to 8, and a coiled metallic capillary tube extending from the unit, which serves as the temperature sensor.

- **Control Unit:** The main body housing the electrical components and the rotary control knob.
- **Rotary Knob:** Used for setting the desired temperature or operational mode.
- **Capillary Tube Sensor:** A thin metallic tube containing a temperature-sensitive fluid, used to detect ambient or process temperature.
- **Wiring Terminals:** Located on the control unit for electrical connections.

4. SETUP AND INSTALLATION

Installation should be performed by a qualified technician.

1. **Power Disconnection:** Ensure the main power supply to the equipment where the control will be installed is completely disconnected.
2. **Mounting:** Mount the control unit in a suitable location, typically a wall mount, ensuring it is secure and accessible for adjustments. Refer to the included mounting hardware and instructions.
3. **Wiring:** Connect the control unit to the electrical system using the provided wiring harness. Follow the wiring diagram specific to your application. This is a wired connectivity device.
4. **Sensor Placement:** Position the capillary tube sensor in the area where temperature is to be measured. Ensure the sensor is not kinked or damaged and is free from external heat sources or drafts that could affect accuracy.
5. **Battery Installation:** As this unit is battery-powered, install the required batteries according to the polarity markings.
6. **Power Connection:** Once all connections are secure and verified, restore power to the system.

5. OPERATING INSTRUCTIONS

The Danfoss 077B6827 offers both manual and digital control options.

- **Manual Temperature Setting:** Use the rotary knob on the front of the unit to select the desired temperature or operational setting. The knob typically features numerical indicators (e.g., 0-8) corresponding to different temperature ranges or control levels.

- **Digital Display:** The unit features a digital display for clear indication of current settings or measured temperature.

- **App Control:** For advanced control and monitoring, the device supports app control. Refer to the specific Danfoss app documentation for pairing and usage instructions.

- **BACnet MS/TP Connectivity:** This controller can be integrated into Building Management Systems (BMS) via BACnet MS/TP protocol for centralized control and data exchange. Consult your BMS administrator for integration details.

6. Maintenance

- **Cleaning:** Periodically clean the exterior of the control unit with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure no moisture enters the unit.

- **Battery Replacement:** When the battery indicator signals low power, replace the batteries promptly to ensure continuous operation. Refer to the battery compartment for correct battery type and polarity.

- **Sensor Inspection:** Regularly inspect the capillary tube sensor for any signs of damage, kinks, or corrosion. Ensure it remains securely positioned.

- **Professional Check:** It is recommended to have the system professionally checked annually to ensure optimal performance and calibration.

7. Troubleshooting

If you encounter issues, perform the following basic checks before contacting support.

- **No Power/Unit Not Responding:**

  - Check if the main power supply to the system is active.
  - Verify that the batteries are correctly installed and not depleted. Replace if necessary.
  - Inspect all wiring connections for looseness or damage.

- **Incorrect Temperature Readings:**

  - Ensure the capillary tube sensor is correctly positioned and not obstructed.
  - Check for any physical damage to the sensor tube.
  - Verify that the sensor is not exposed to unintended heat sources or drafts.

- **Control Not Adjusting Temperature:**

  - Confirm the rotary knob is set to the desired position.
  - If using app control, ensure the app is connected and sending commands correctly.
  - Check for any error messages on the digital display or within the app.

If problems persist after performing these checks, contact Danfoss technical support.

8. Specifications

Feature	Detail
Brand	Danfoss
Model Number	077B6827 (Item model number: 46-1387)
Controller Type	Rotary Knob / Push Button

Feature	Detail
Color	Black
Specific Uses	Temperature Control
Temperature Control Type	Digital
Connectivity Technology	Wired
Included Components	1 x Thermostat, 1 x Wiring Harness
Power Source	Battery Powered
Item Weight	6.7 ounces
Display Type	Digital
Control Method	App, Rotary Knob
Connectivity Protocol	BACnet MS/TP
Mounting Type	Wall Mount
Backlight	No
UPC	254613875887

9. Warranty and Support

For information regarding product warranty, technical support, or service, please refer to the official Danfoss website or contact your local Danfoss distributor. You can also visit the Danfoss Store on Amazon for additional product information.