

Danfoss 193B2148

Danfoss 193B2148 Electrothermal Head ABN-FBH 24 NC User Manual

Model: 193B2148

1. PRODUCT OVERVIEW

The Danfoss 193B2148 Electrothermal Head ABN-FBH 24 NC is designed for demand-based temperature control systems, particularly those requiring a high IP class. This electrothermal head is compatible with most manifolds available on the market, facilitated by its adaptable design. It features a quick snap-on installation mechanism and a clear, highly visible position indicator for operational status.

Key Features:

- Designed for demand-based starting temperature systems requiring high IP class.
- Broad compatibility with various manifolds through multiple adapters.
- Facilitates very quick snap-on installation.
- Equipped with a highly visible position indicator.
- Operates at 24 V.
- Requires the 193B2005 adapter for RA connection.



Figure 1: The Danfoss 193B2148 Electrothermal Head. This image shows the compact, white unit with the Danfoss logo visible on its side, indicating its brand and design.

2. SAFETY INFORMATION

Please read these safety instructions carefully before installation and operation. Failure to follow these instructions may result in product damage, property damage, or personal injury.

- Installation must be performed by a qualified professional in accordance with local electrical and plumbing codes.
- Ensure the power supply is disconnected before any installation, maintenance, or repair work.
- The device operates at 24 V. Verify compatibility with your system's voltage.
- Do not expose the electrothermal head to extreme temperatures or direct moisture beyond its specified IP class.
- Do not attempt to disassemble or modify the unit. There are no user-serviceable parts inside.

3. PACKAGE CONTENTS

Verify that all components are present and undamaged upon unpacking.

- 1 x Danfoss 193B2148 Electrothermal Head ABN-FBH 24 NC
- Instruction Manual (this document)

Note: The 193B2005 adapter for RA connection is sold separately and is required for specific installations.

4. SPECIFICATIONS

Specification	Value
Manufacturer	Danfoss
Part Number	193B2148
Item Model Number	193B2148
Voltage	24 V
Color	White
Item Weight	3.52 ounces (100 grams)
Product Dimensions	3.54 x 2.95 x 2.09 inches (9 x 7.5 x 5.3 cm)
Measurement System	Metric
Included Components	1 Motor (Electrothermal Head)
Batteries Required	No

5. SETUP AND INSTALLATION

The Danfoss 193B2148 Electrothermal Head is designed for straightforward installation. Ensure all safety precautions are followed before proceeding.

1. **Prepare the Manifold:** Ensure the manifold connection point is clean and free from debris. If an RA connection is used, ensure the 193B2005 adapter is correctly installed on the manifold valve.
2. **Position the Head:** Align the electrothermal head with the manifold valve or the RA adapter. The design allows for a quick snap-on attachment.

- 3. **Snap-on Installation:** Gently push the electrothermal head onto the valve/adaptor until it clicks securely into place. Verify that it is firmly attached and does not wobble.
- 4. **Electrical Connection:** Connect the 24 V power supply wires to the electrothermal head terminals as per the wiring diagram provided with your heating system or manifold. Ensure correct polarity if specified.
- 5. **System Check:** Once installed, restore power to the system and observe the position indicator.

For detailed wiring instructions, refer to your heating system's main control unit manual.

6. OPERATING INSTRUCTIONS

The electrothermal head operates automatically in conjunction with your heating control system (e.g., thermostat or zone controller) to regulate the flow of heating medium based on demand.

- **Demand-Based Operation:** When the control system signals a need for heat in a specific zone, the electrothermal head will open the valve, allowing hot water to circulate. When the demand is met, the head will close the valve.
- **Position Indicator:** The unit features a highly visible position indicator.
 - **Indicator Extended:** The valve is closed (no heat flow).
 - **Indicator Retracted:** The valve is open (heat flow).
- **Initial Startup:** Upon initial power-up, the head may take a few minutes to fully open or close as it responds to the control signal. This is normal operation.

No direct user interaction is typically required with the electrothermal head itself once installed and configured with the heating system.

7. MAINTENANCE

The Danfoss 193B2148 Electrothermal Head is designed for maintenance-free operation. However, periodic checks can help ensure optimal performance.

- **Visual Inspection:** Periodically check the unit for any signs of physical damage or leaks around the valve connection.
- **Cleanliness:** Keep the exterior of the head clean and free from dust or debris. Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- **Functionality Check:** Observe the position indicator during system operation to confirm it is moving correctly in response to heating demands.

No internal lubrication or servicing is required.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Head does not open/close	No power supply; Faulty wiring; Control system issue; Head malfunction.	<ul style="list-style-type: none"> ◦ Check 24 V power supply to the head. ◦ Verify wiring connections are secure and correct. ◦ Check the thermostat or zone controller for proper operation. ◦ If power and control signals are present, the head may be faulty and require replacement.
Position indicator not moving	No control signal; Head stuck; Mechanical obstruction.	<ul style="list-style-type: none"> ◦ Ensure the heating system is calling for heat in that zone. ◦ Temporarily remove the head and check if the valve pin moves freely. ◦ Re-install the head, ensuring it snaps on correctly.
Leaking at connection point	Improper installation; Damaged valve or adapter.	<ul style="list-style-type: none"> ◦ Ensure the head is securely attached to the valve/adapter. ◦ Inspect the valve and adapter for damage. Replace if necessary. ◦ Consult a qualified plumber.

If troubleshooting steps do not resolve the issue, contact Danfoss customer support or a qualified service technician.

9. WARRANTY AND SUPPORT

Danfoss products are manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the official Danfoss website or the warranty documentation included with your purchase. For technical support, spare parts, or further assistance, please visit the official Danfoss website or contact their customer service department. When contacting support, please have your product model number (193B2148) and purchase information readily available.

Danfoss Official Website: www.danfoss.com

	<p>Danfoss Thermostatic Radiator Valve and Intelligent Heating Product Warranty</p> <p>Detailed manufacturer's warranty information for Danfoss Thermostatic Radiator Valves (TRVs) and intelligent heating products, covering warranty period, claims, and exclusions.</p>
	<p>Danfoss Link CC Central Controller Installation Guide for Smart Home Heating Systems</p> <p>Comprehensive installation guide for the Danfoss Link CC Central Controller, a programmable wireless heating control system for homes up to 300 m². Learn how to install, configure, and manage your smart home heating solution, including device pairing, Wi-Fi setup, and software updates.</p>
	<p>Danfoss Eco™ Electronic Thermostatic Radiator Head - Installation and User Manual</p> <p>This guide provides comprehensive instructions for installing, setting up, and operating the Danfoss Eco™ Electronic Thermostatic Radiator Head, including technical specifications, app integration, and safety information.</p>
	<p>Danfoss Icon2™ mit Fernzugriff via Ally App: Verdrahtet und Drahtlos</p> <p>Erfahren Sie mehr über das Danfoss Icon2™ Heizungssystem, das drahtlose und verdrahtete Thermostate mit der Fernzugriffsfunktion der Danfoss Ally App kombiniert. Enthält Details zu Komponenten wie Raumsensoren, Displays, Stellantrieben und dem Ally LAN Gateway.</p>
	<p>Danfoss Icon2™ 24V RT Room Thermostat Installation Guide</p> <p>Comprehensive installation guide for the Danfoss Icon2™ 24V RT Room Thermostat, covering setup, installer menu options, and product specifications. Includes multilingual support information.</p>
	<p>Danfoss Link™ & Connect Thermostats Application Guide for Heating Control</p> <p>This application guide from Danfoss provides comprehensive information on the Danfoss Link™ and Connect Thermostats heating control systems. It covers system components, general guidelines for heat supply and room management, and details applications for boilers, central boilers, district heating, and heat pumps, optimizing energy efficiency and comfort in residential settings.</p>