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IBO S-150

IBO S-150 Central Heating Pump Controller User Manual

1. Product Overview

The IBO S-150 is an electronic control unit designed for managing the circulation pump in a central heating system. Its primary function is to activate the pump when the water temperature exceeds a preset value and deactivate it when the temperature falls below that value. This intelligent control helps to optimize energy consumption and extend the operational lifespan of the pump.

Key Features:

- **Integrated Thermostat Function:** Allows setting specific temperature thresholds for pump activation and deactivation.
- **Anti-freeze Function:** Automatically activates the pump if the ambient temperature drops below 5 °C (41 °F) to prevent freezing within the system.
- **Energy Saving:** Prevents unnecessary pump operation, leading to reduced energy consumption.
- **Extended Pump Lifespan:** Reduces wear and tear on the pump by operating it only when required.
- **LED Indicators:** Two LED displays show current temperature and set stop temperature.
- **User-Friendly Interface:** Simple button controls for setting parameters.

2. Safety Information

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Electrical Safety:** Installation and maintenance should only be performed by qualified personnel in accordance with local electrical codes and regulations.
- **Power Disconnection:** Always disconnect the power supply to the central heating system and the controller before performing any installation, wiring, or maintenance.
- **Water and Moisture:** Do not expose the controller to water, excessive moisture, or extreme temperatures. Ensure the installation location is dry and protected.
- **Proper Grounding:** Ensure the device is properly grounded to prevent electrical hazards.

- **Cable Integrity:** Regularly inspect all cables for damage. Do not use the device if any cables are frayed or damaged.
- **Intended Use:** Use the controller only for its intended purpose as a central heating pump controller.

3. Technical Specifications

Parameter	Value
Temperature Setting Range (Set Temperature)	0 °C to 99 °C (32 °F to 210 °F)
Temperature Setting Range (Stop Temperature)	0 °C to 99 °C (32 °F to 210 °F)
Ambient Temperature	-10 °C to 40 °C (14 °F to 104 °F)
Temperature Sensor Type	Ohmic
Power Supply Voltage	230 V, 50 Hz, ±10%
Power Consumption (Controller Only)	<5 W
Sensor Cable Length	Approximately 1 m (3.3 ft)
Power Cable Length	Approximately 1 m (3.3 ft)
Pump Power Cable Length	Approximately 1 m (3.3 ft)
Output	230 V / 50 Hz
Maximum Load (Pump)	6 A (Resistive Load)
Measurement Precision	~0.1 °C
Product Dimensions (L x W x H)	14 x 14 x 5 cm (5.5 x 5.5 x 2 inches)
Weight	370 grams (0.82 lbs)

4. Installation and Setup

Before proceeding with installation, ensure the main power supply to your central heating system is turned off at the circuit breaker.

4.1. Mounting the Controller

Select a suitable, dry location for mounting the controller, away from direct heat sources or excessive moisture. The controller can be mounted on a wall using appropriate fasteners (not included). Ensure sufficient space for cable connections.

4.2. Connecting the Cables

The IBO S-150 controller comes with three main connections:

1. **Power Cable:** This cable supplies power to the controller. Plug it into a standard 230V, 50Hz electrical

outlet.

2. **Pump Power Cable:** This cable connects the controller to your central heating circulation pump. Ensure the pump is compatible with the controller's specifications (Max load: 6A).
3. **Temperature Sensor Cable:** The ohmic temperature sensor should be placed in a location where it can accurately measure the water temperature of the central heating system. Typically, this is on the return pipe or a designated sensor pocket. Ensure good thermal contact for accurate readings.

Figure 1: Overview of the IBO S-150 controller with its connected power, pump, and sensor cables.

Figure 2: Bottom view of the controller, illustrating the connection points for the power and pump cables.

After all connections are securely made, restore power to the central heating system.

5. Operation

The IBO S-150 controller features a simple interface with two LED displays and three control buttons.

Figure 3: Front panel of the IBO S-150 controller, showing the LED displays and control buttons.

5.1. Initial Power-On

Upon initial power-on, the upper LED display will show the current temperature measured by the sensor. The lower LED display will show the currently set 'stop temperature'.

5.2. Control Buttons

- **MENU Button:** Used to cycle through and select different settings (stop temperature, start temperature, anti-freeze function). Pressing this button allows you to enter the setting mode for each parameter.
- **UP Arrow Button (▲):** Used to increase the value of a selected parameter.
- **DOWN Arrow Button (▼):** Used to decrease the value of a selected parameter.

5.3. Setting Temperature Parameters

1. Press the **MENU** button to enter the setting mode. The lower display will start flashing, indicating you can adjust the 'stop temperature'.
2. Use the **UP (▲)** and **DOWN (▼)** arrow buttons to set the desired temperature at which the pump should stop.
3. Press the **MENU** button again to confirm the 'stop temperature' and move to the 'start temperature' setting. The lower display will flash again.
4. Use the **UP (▲)** and **DOWN (▼)** arrow buttons to set the desired temperature at which the pump should start. This is typically a few degrees higher than the stop temperature to prevent rapid cycling.
5. Press the **MENU** button a third time to confirm the 'start temperature' and exit the setting mode. The controller will return to displaying the current and stop temperatures.

5.4. Anti-freeze Function

The anti-freeze function is automatically engaged. If the temperature measured by the sensor drops below 5

°C (41 °F), the pump will activate regardless of other settings to circulate water and prevent freezing. This function cannot be manually disabled.

6. Maintenance

The IBO S-150 controller requires minimal maintenance to ensure optimal performance and longevity.

- **Cleaning:** Periodically wipe the exterior of the controller with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure no liquids enter the device.
- **Cable Inspection:** Regularly check all connected cables (power, pump, sensor) for any signs of wear, damage, or loose connections. Replace damaged cables immediately.
- **Sensor Placement:** Ensure the temperature sensor remains securely in its intended position and maintains good thermal contact with the heating system pipe.
- **Environmental Conditions:** Verify that the controller's operating environment remains within the specified ambient temperature and humidity ranges.

7. Troubleshooting

If you encounter issues with your IBO S-150 controller, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
Controller does not power on.	No power supply; loose power cable; faulty outlet.	Check power outlet; ensure power cable is securely plugged in; check circuit breaker.
Pump does not turn on when temperature is high.	Incorrect 'start temperature' setting; faulty pump connection; pump malfunction.	Verify 'start temperature' setting; check pump power cable connection; test pump independently if possible.
Pump does not turn off when temperature is low.	Incorrect 'stop temperature' setting; sensor malfunction.	Verify 'stop temperature' setting; check sensor connection and placement.
Temperature reading is inaccurate.	Sensor improperly placed; faulty sensor.	Ensure sensor has good thermal contact and is correctly positioned; replace sensor if necessary.
Anti-freeze function activates unexpectedly.	Ambient temperature near or below 5 °C; sensor reading error.	This is normal operation if ambient temperature is low. Check sensor reading for accuracy.

If the problem persists after attempting these solutions, please contact a qualified technician or the product support.

8. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact your retailer. Keep your proof of purchase for any warranty claims.

Manufacturer: IBO

Model Number: S-150