

HEATER CONTROLLER



SETTINGS

Temperature Control Range Setting (TS1, DS1)

When the controller is working normally, the **PV** window displays current measured temperature, while the **SV** window displays set temperature.

When **PV** (measured temperature) \leq **TS1** (set temperature) - **DS1** (temperature differential value), system will enter heating status, the **Heater Indicator Lamp** will turn on, and heating relay will start working; when **PV** \geq **TS1**, the **Heater Indicator Lamp** will turn off, and heating relay will stop working.

For example, if **TS1** = 78.5°F, **DS1** = 0.5°F, when measured temperature is lower than or equal to 78.0°F (**TS1-DS1**), heater turns on; when the temperature reaches 78.5°F, heater turns off.

Temperature Calibration (CA)

When there is deviation between measured temperature and actual temperature, use temperature calibration function to align the measured temperature and actual temperature. The corrected temperature is equal to temperature before calibration plus corrected value (corrected value could be positive value, zero, or negative value).

Display in Fahrenheit or Celsius unit (CF)

Temperature can be set to display in Fahrenheit or Celsius according to preference. Default setting is to display in Celsius. To display in Fahrenheit, set **CF** value to F.

Attention: when **CF** value is changed, all other settings will be reset to factory settings.

MENU KEY

When TR=0 (default)

Code	Function	Setting	Default
TS1	Temperature Set Value	-50° to 37.7°C / -58° to 99.9°F	25°C / 77°F
DS1	Heating Differential Value	0.3° to 15°C / 0.3° to 15°F	2°C / 2°F
CA	Temperature Calibration	-15° to 15°C / -15° to 15°F	0°C / 0°F
CF	Display in °F or °C	°C / °F	°C

ERROR DESCRIPTION

Sensor fault alarm

If the controller detects a fault in the temperature sensor, either due to a short circuit or open loop, the controller will initiate sensor fault mode, and cancel all the actions. An alarm will sound, and LED will display "ER". Buzzer alarm can be dismissed by pressing any key. After fault is solved, the system will return to normal operation.

Over-temperature alarm

If the measured temperature exceeds the set point (TS) by more than 3°F, the controller will initiate over-temperature alarm mode, and cancel all actions. An alarm will sound and LED will display "HL". Buzzer alarm can be dismissed by pressing any key. When the measured temperature returns to within 3°F of the set point, the system will resume normal operation.



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Questions?

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OVERVIEW

The Bulk Reef Supply Heater controller is a pre-wired heating output temperature controller for use with a separate heating element. This heater controller offers some key advantages that ensure long-term accuracy and reliability.

MAIN FEATURES

- Dual display window; displays measured temperature (PV) and set temperature (SV) at the same time
- Fast and easy programming
- Temperature calibration
- Adjustable control precision; down to 0.3°F heating differential value
- Replaceable probe
- Large power output (Max load: 1,200W (110v))
- Sensor fault alarm
- Supports readings in Fahrenheit or Celsius
- Over-temperature alarm

SPECIFICATIONS

Control Range	-50° to 37.7°C / -58° to 99.9°F
Control Precision	0.3° to 15°C / 0.3° to 15°F
Display Resolution	0.1°C / 0.1°F
Accuracy	±1°C / ±1°F
Control Mode	On/Off Control, Heating
Input Power	100 to 265VAC, 50Hz/60Hz
Output	Max. 10A, 100V to 265VAC
Sensor Type	NTC sensor
Sensor Length	6.5'
Relay Contact Capacity	Heating (10A, 100 to 240VAC)
Cable Length	Input: 5' / Output:1'
Body Dimension	5.5x2.7x1.3"
Socket Dimension	3.3x1.7x1"
Ambient Temperature	-30° to 75°C / -22° to 167°F
Storage	-20° to 60°C / -4° to 140°F Humidity 20 to 85% (No Condensate)
Warranty	1 Year

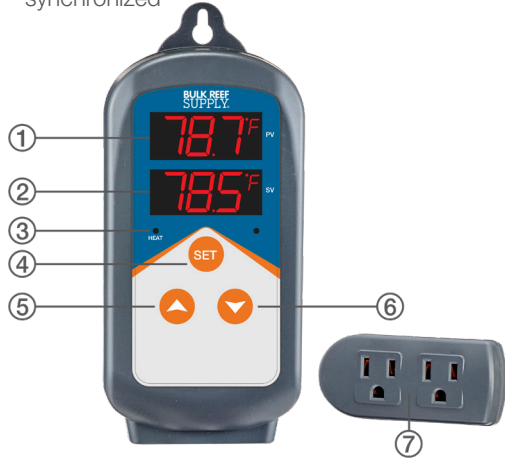
OPERATING KEYS

- PV: Process Value**
Displays current temperature
In setting mode: displays menu code
- SV: Setting Value**
Displays set temperature
In setting mode: displays setting value
- Heater Indicator Lamp**
When lit, indicates outlets are on
- SET**
Press **SET** for 3 seconds to enter menu for parameter setting. When done, press **SET** for 3 seconds to quit and save setting changes
- Increase**
In setting mode: press ▲ to increase or change setting value
- Decrease**
In setting mode: press ▼ to decrease or change setting value
- Socket**
Both sockets are for heating output and are synchronized

PROGRAMMING

When the controller is working normally, press **SET** for 3 seconds to enter parameter setting mode. **PV** window displays the temperature setting code **TS1**, while **SV** window displays according setting value. Press **SET** to go to the next menu; press ▲ or ▼ key to set desired parameter value.

When finished, press **SET** for 3 seconds to save the settings and return to normal temperature display mode. While in setting mode, if there is no operation for 10 seconds, the system will automatically quit setting mode and return to normal temperature display mode without saving changes.



HOLD SET FOR 3 SECONDS FOR SET-UP MODE

- TS1** 25°C / 77°F Temperature Set Value 1
- SET**
- DS1** .5°C / .5°F Heating Differential
- SET**
- CA** 0°C / 0°F Temperature Calibration
- SET**
- CF** F Temperature Unit
- SET**