



## Operating Warnings

Follow these instructions carefully. Failure to follow these instructions may result in damage to your controller or hot water system.

For absolute safety always wire through the pump pressure switch. (The pressure switch can be bypassed if absolutely necessary - the unit will protect itself under normal conditions.)

This is a WATER PUMP controller: it will not work with air in the system. Always prime your system before starting work. If air in the system causes false dead-end detection, increase Cal value (less sensitive).

If your system was configured by an expert installer such as Pure Freedom always consult your installer before making changes to tP1 or tP2 temperature settings or turning "FSt" on/off or turning "FAn" on or off.

### Specification

### Value

Supply Voltage	11 - 15 VDC
Maximum Current	10A
Typical Drive Current	2-3A
Voltmeter Accuracy*	NA
Enclosure Material	ABS
Water Resistance	IP65
Dimensions	115 x 65 x 40(mm)
Working Temperature	0 to 40 C

\* Accuracy of voltmeter depends on length of cable from battery and drive current. A high drive current and long length of cable will decrease the accuracy.

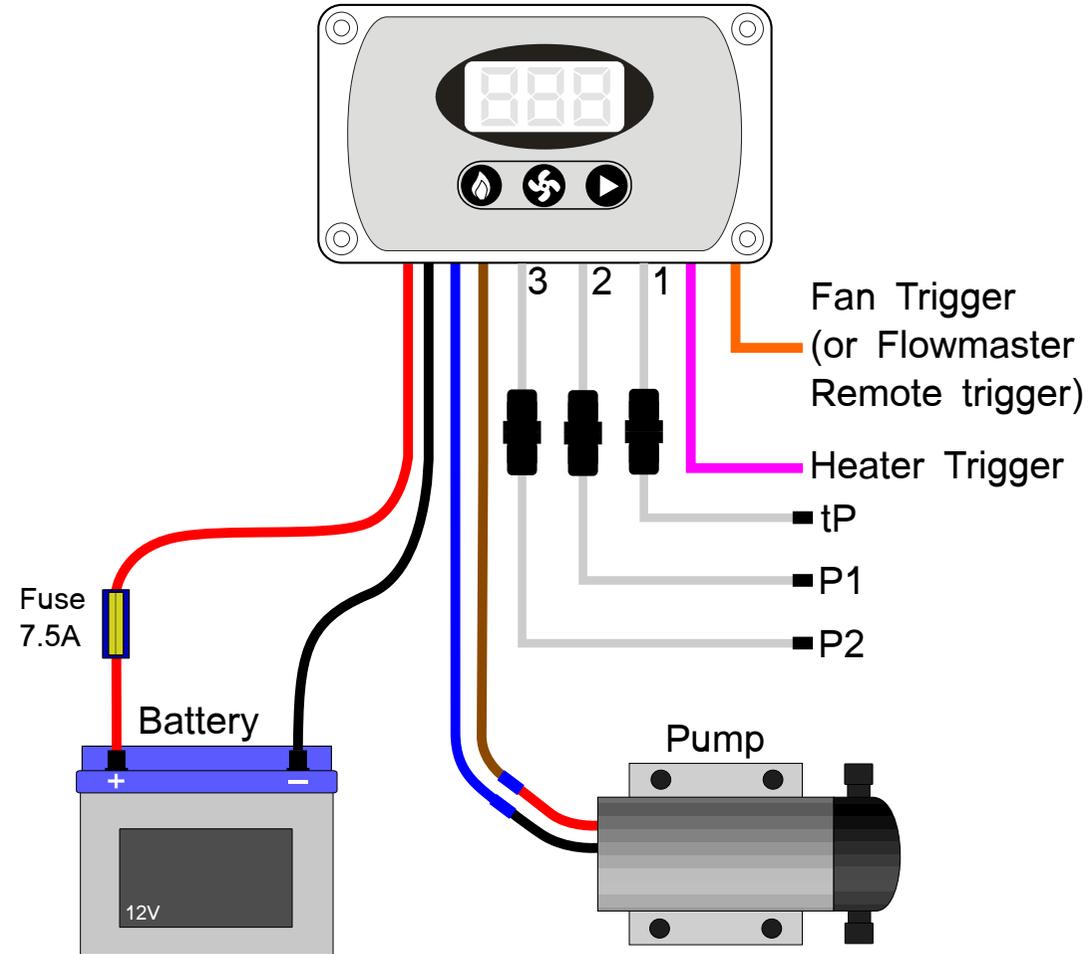
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## Heat Master - Quick Start



### Step 1. Wiring

Connect the Heat Master following this diagram.  
NOTE only fit the fuse once all connections are made.



Make sure correct fuse is fitted inline. Failure to do so will result in damage to the unit.

Observe correct battery polarity. Failure to do so will result in damage to the unit.

## Step 2. Operation

A dot in the bottom right of the LED display will flash when the unit is correctly powered. To turn the unit on press either the heater or the blower buttons.



888

To turn the hot water on or off, press the heater button (the flame icon). The messages will indicate which state you have switched it to.



800



000

To turn the blower on or off, press the blower button (the fan icon). The messages will indicate which state you have switched it to.



800



000

Press the arrow button to cycle through the temperature readings.



888, 882, 888

"P 1" shows the temperature of probe 1, "P 2" shows the temperature of probe 2 and "tP" shows the ambient temperature.

The unit also includes a battery monitor, if the battery drops to 11.5V a "BAT" message is flashed on the display, if the battery drops to 11V the unit will shutdown (including frost defence) to prevent damage to the battery.

## Step 3. Frost Defence

Press and hold the heater and arrow button to enter the frost defence setup menu.



888

"tP1" sets the temperature that the frost defence turns on at. Use the heater button to increase and the blower button to decrease the temperature. Press the arrow button when correct.



882

"tP2" sets the temperature that the frost defence turns off at.

If the ambient temperature goes below tp1 the heater will be switched on and after a short delay power is put out to the blower if fitted; if the option of direct connection to an output pump has been chosen power to drive the pump at a limited speed will be applied. This action happens whether the unit is on or off until the ambient temperature reaches tp2. You cannot manually override this, i.e. pressing the heater button while in frost protection will not switch off the heater. While in frost protection mode the message fst will flash on the display.

Go to Step 4. for additional settings for frost defence and fan configuration.

## Step 4. Additional Frost Defence Settings



FSt

"FSt" turns the frost defence on or off. Use the heater button or the blower button to toggle the frost defence "on" or "off".

**WARNING:** If you set "FSt" to "off" your frost defence is turned OFF and will not protect your system in the event of a frost or freeze. Onlt turn off during the summer months.



FAn

"FAn" disables the middle fan button. Use the heater button or the blower button to toggle the fan control between enabled (on) and disabled (off).

**WARNING:** DO NOT set "FAn" to "off" if you have fans fitted in your system. Setting "FAn" to "off" will stop the fans from working.

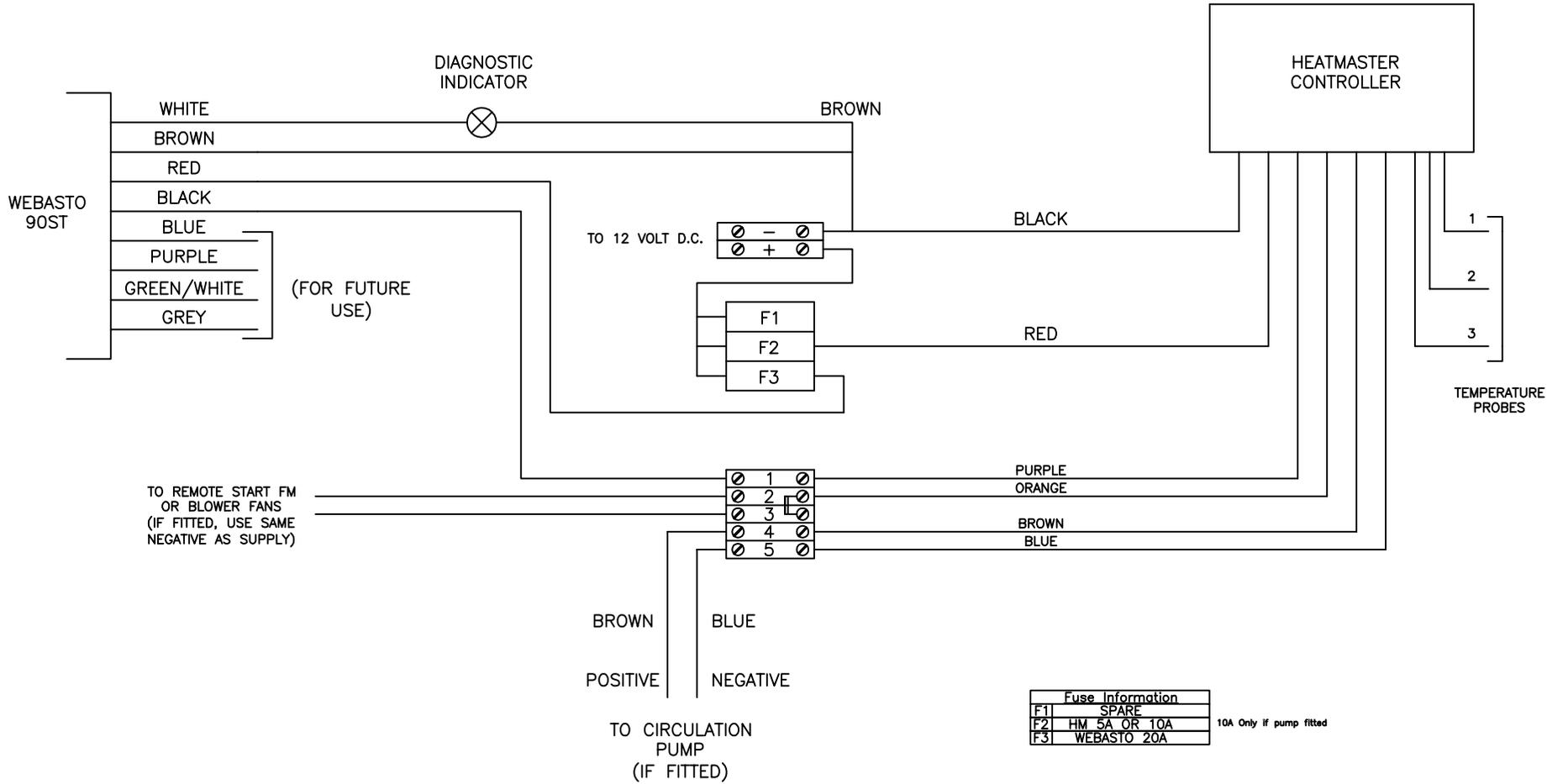


SEt

At the end of the menu press the enter (arrow) button to set (and save) your changes.

Message	Description
888	No Pump - Pressure switch activated or motor disconnected, when frost defence active.
800	Over Current -This means the pump is drawing too much current, check that the hose is not blocked as can flow freely into the tank.
88E	This message will start to flash when the battery is low. If this message is flashing to blank then the pump is turned off to protect the battery.
99E	This message indicates that there is a problem with the probe or it has become disconnected on this channel, either tP, P1 or P2.

# Heat Master - Quick Start



Fuse Information	
F1	SPARE
F2	HM 5A OR 10A
F3	WEBASTO 20A

10A Only if pump fitted

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