RadMaster®

Installation Manual

Revision: 16.00.00
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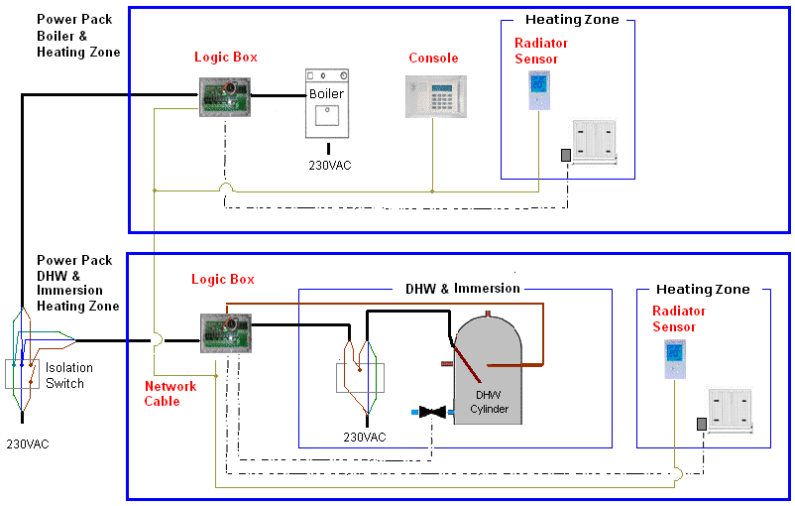

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Overview

The following diagram illustrates a *typical* system layout. The RadMaster is easily configured by means of jumpers on the Logic Box to suit different layouts.

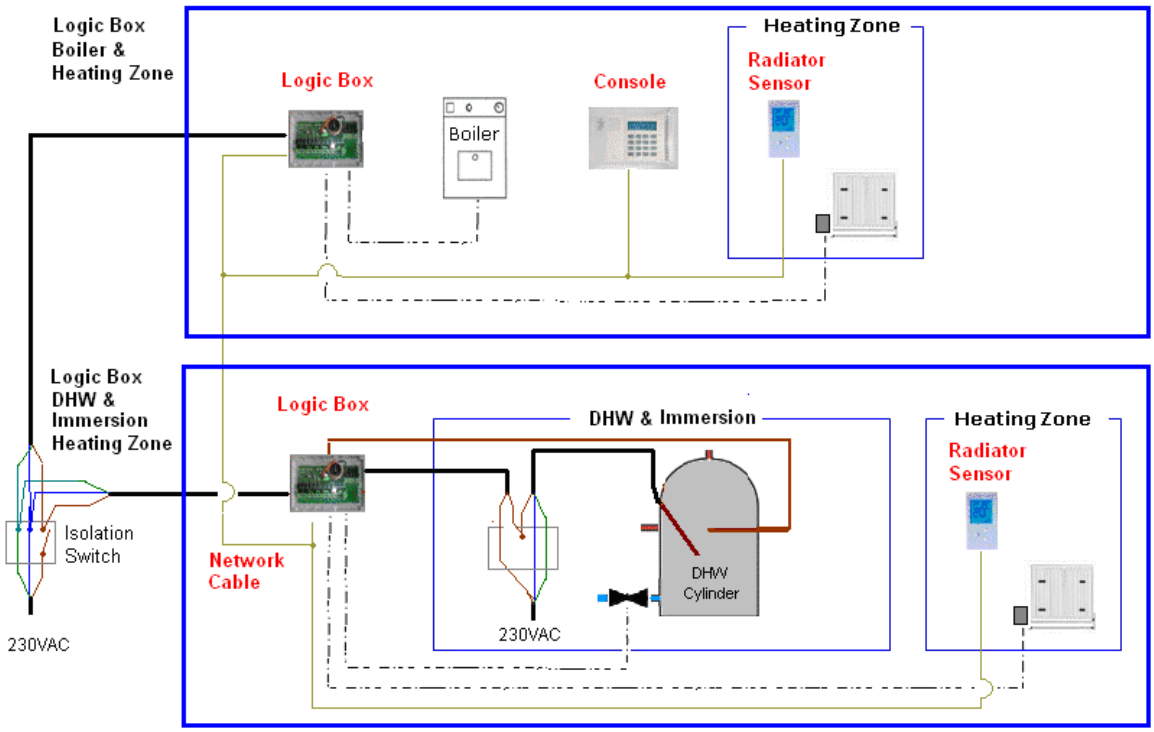


Figure 1 Typical RadMaster System

A typical system consists of ONE console, ONE or TWO Logic Boxes, and ONE or more Radiator Sensors. Logic Boxes may have Relay Modules to control zone actuators.

Each component (Console, Logic Box and Sensor) share a common network cable. This allows any component to be located anywhere within the dwelling.

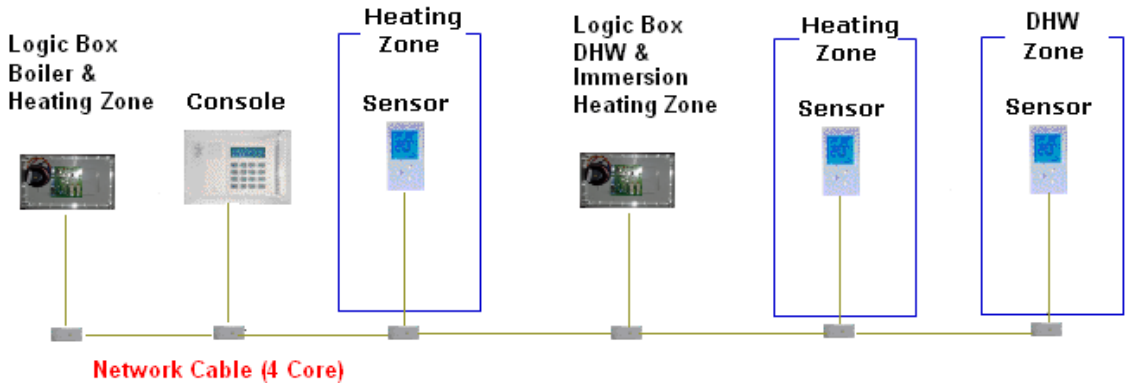
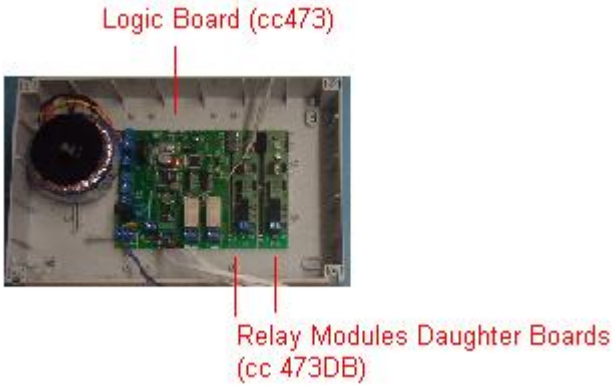
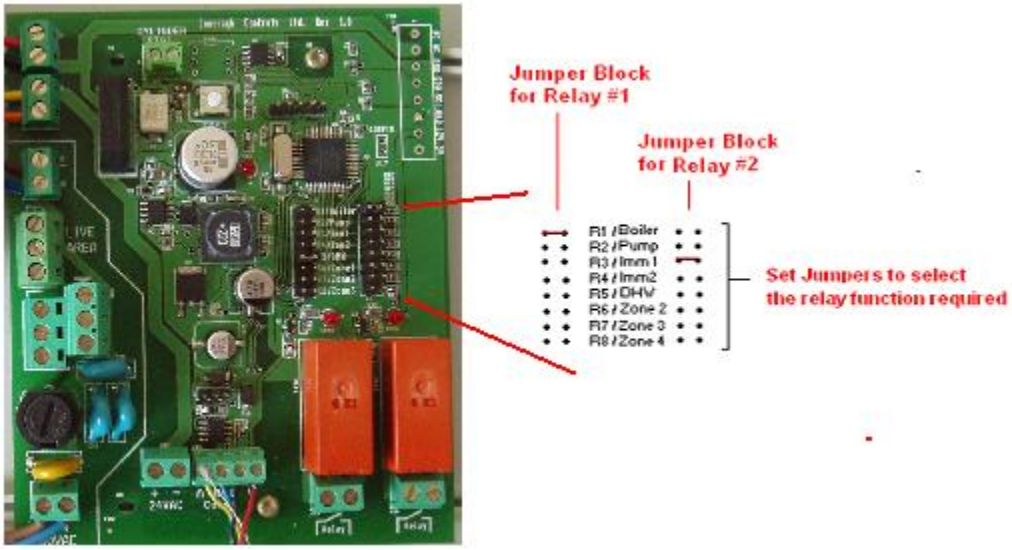


Figure 2 System Network

Installation Procedure

Step	
	Description
1	**Determine the number of Heating Zones required and the location of each Zone Sensor.** **Note:** 1. Each heating zone will require a zone sensor. Zones may be heated by Radiators or UFH.  Radiator Sensor (cc463)  UFH Sensor (cc462) 2. Sensors should be placed away from Radiators and out of direct sunlight.
2	**Determine the number of Logic Boxes (1 or 2) required and the location of each.**  **Note** 1. A Logic Box has two relays. 2. Each Relay may be configured to run a Boiler, a Boiler pump, an Immersion, or a zone. 3. An application may only require a single Logic Box but two logic boxes may present a simpler and more cost effective solution.
3	**Determine the location of the Console.**  **Note:** The console should be placed in a central location for ease of access.

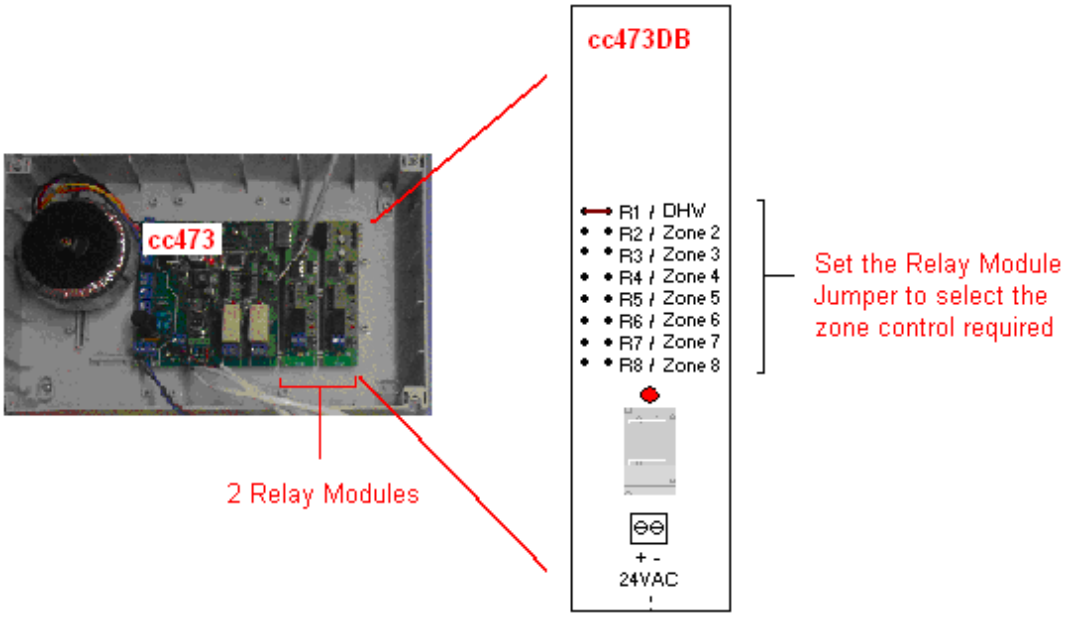
4	**Use Jumpers to set the Relay Function on the Logic Box/s.**



Note

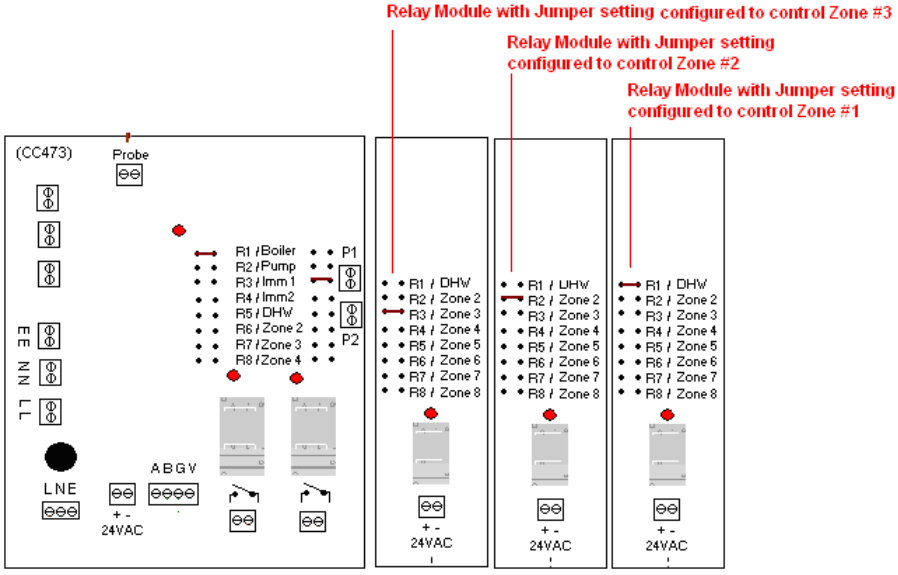
1. Placing a jumper selects the function for either Relay #1 or Relay #2.
2. The Boiler and Pump have a 3 minute Time-On delay.
3. DHW is always zone 1
4. "Imm1" is Immersion 1 and corresponds to the "i" selection in the DHW scheduler. Likewise "Imm2" is Immersion 2 and corresponds to the "I" selection in the DHW scheduler (see step 9 below)

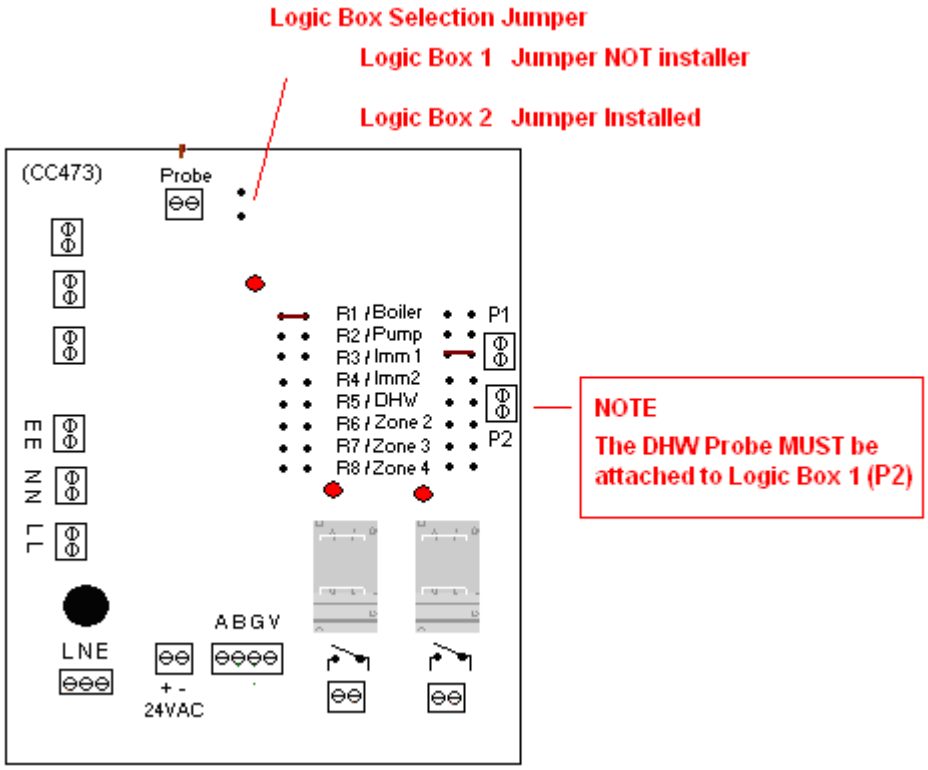
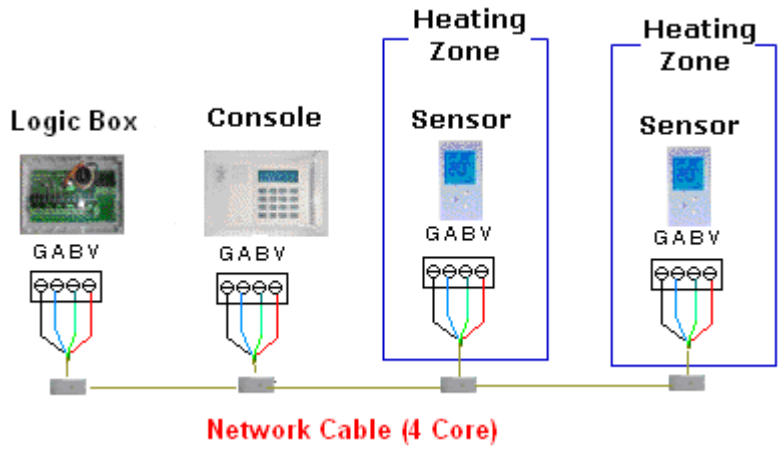
5	**Add Relay Modules to Logic Box/s as required and set the desired Relay Function.**



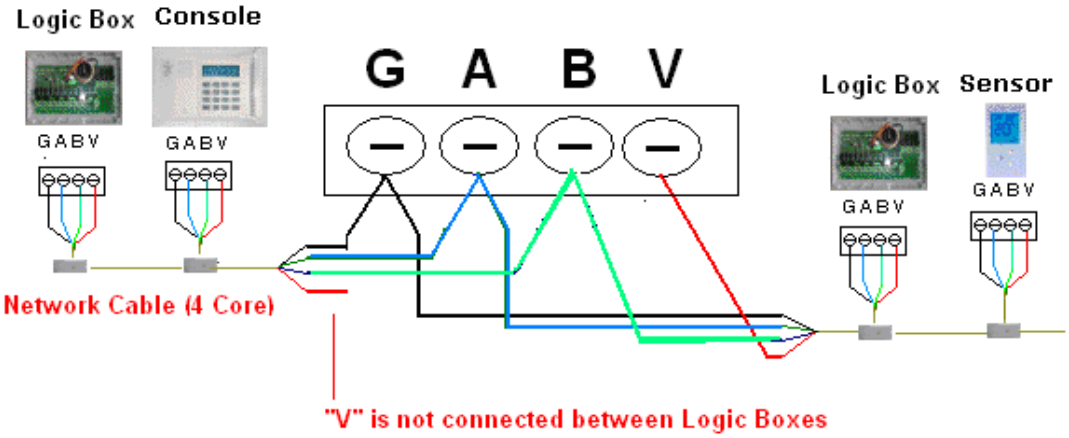
Note:

1. A Logic Box (cc473) can support up to 8 relay module daughter boards (cc473DB)
2. Each Module has a jumper block with 8 jumper locations. A jumper corresponds to a zone (DHW is zone 1).
3. Relay modules may be set with the same zone module but a module cannot have more than zone selected.
4. Relay Modules are 24VAC powered outputs.



6	**Set the Logic Box Selector if more than one Logic Box is required.** 
7	**Wire Network Communication Cable between each Component (console, Sensor, Logic Box).**  **Note:** 1. "A" must be connected to "A", "B" must be connected to "B", "V" must be connected to "V", and "G" must be connected to "G." 2. **Failure to wire the network cable correctly may DESTROY devices.**

3. Do not connect “V” between Logic Boxes.

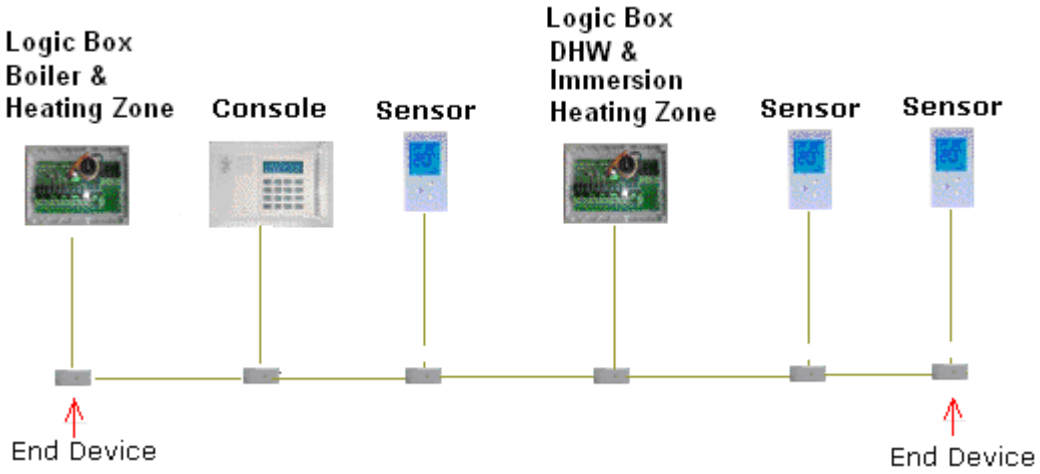


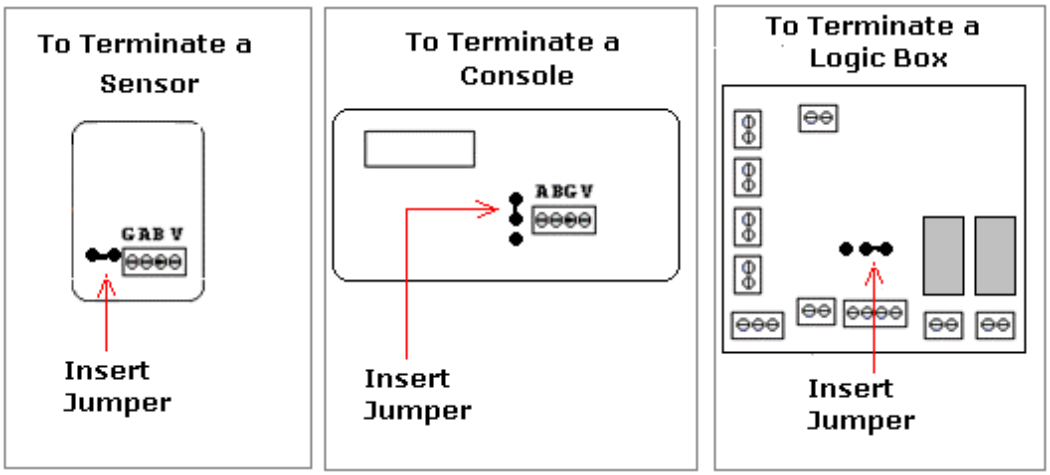
4. “V” Is Connected to the console and all Sensors.
5. Cable Specification

0-250 meter installations (Domestic Applications)

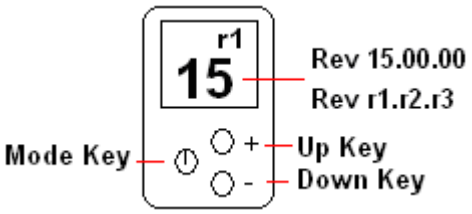
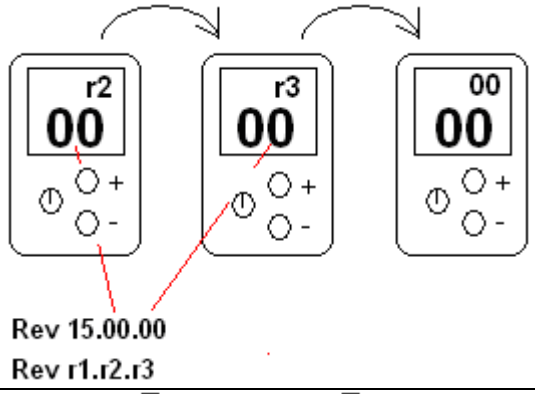
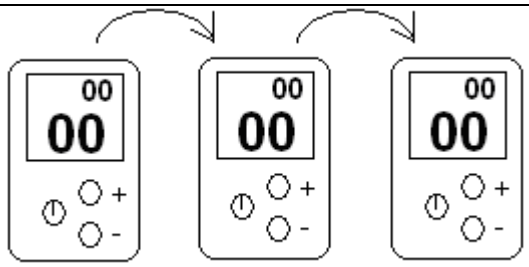
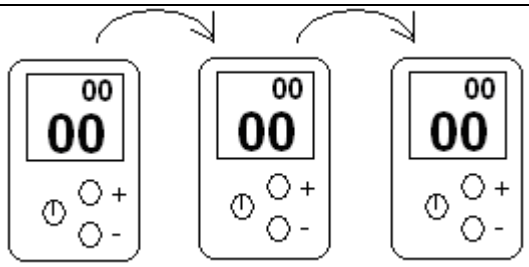
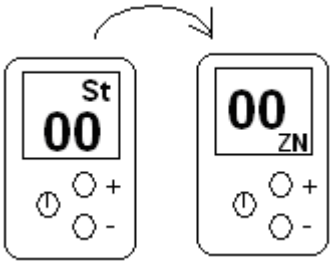
Cable Type	General Data Cable
Number Of Cores	4
Core Strands	7 / 0.2
Cable O-D	3.4mm
Conductor Material	Tinned Copper

6. End devices should be terminated in application of more the 20 zones (See Communications Wiring detailed description below).




To Terminate a Sensor
G R B V
Insert Jumper
To Terminate a Console
R B G V
Insert Jumper
To Terminate a Logic Box
Insert Jumper

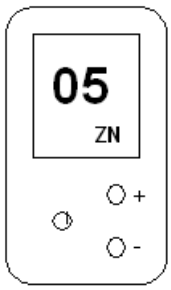
8	**Set the Sensor Zone numbers**	

Step		
	Description	
1	Enter the Setup Mode Press and hold the Mode key until “r1” appears in the to right hand corner.	
2	Press the Mode key 3 times	
3	Press the UP key 3 times	
4	Press the DOWN key 3 times	
5	Press the MODE key	
6	Press the UP &	

	DOWN keys to change to the desired zone number	
7	Allow the Sensor to timeout to return to the normal node of operation.	

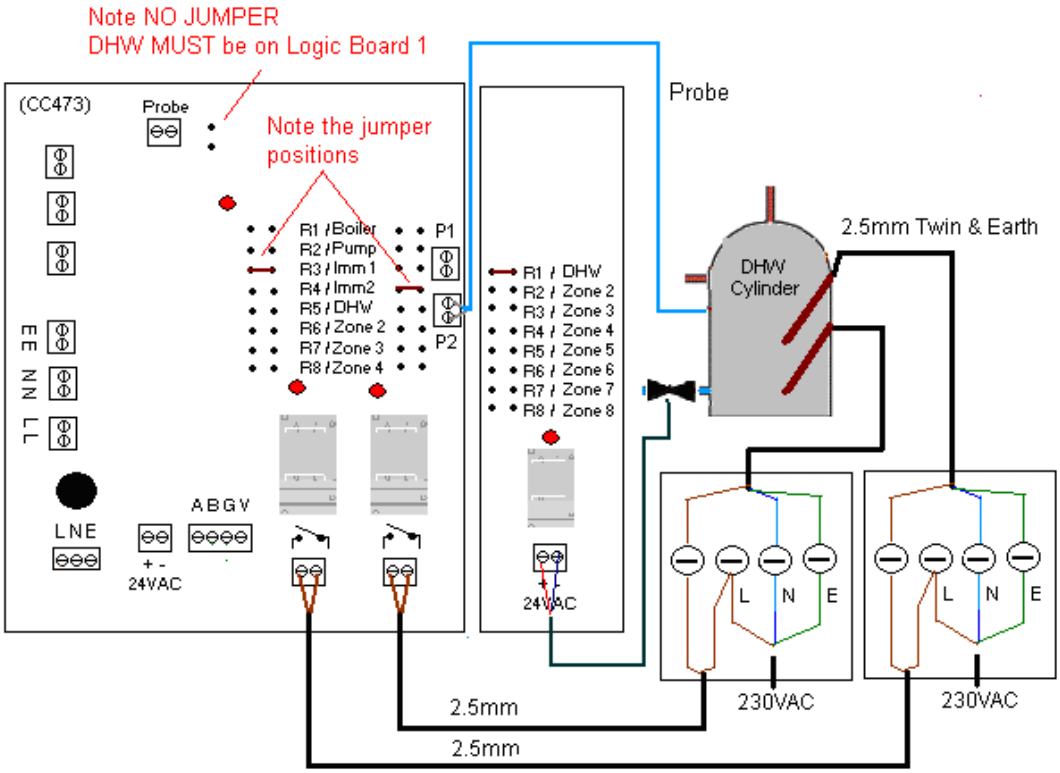
Note

1. **Each Sensor MUST be assigned a unique zone number. Sensors with the same zone number will cause communication errors.**
2. The temperature at the sensor may be displayed at the console by entering the zone number at the console keypad. This confirms communication between the console and the sensor.
3. A zone number may be displayed at the sensor by pressing UP key followed by the MODE key.



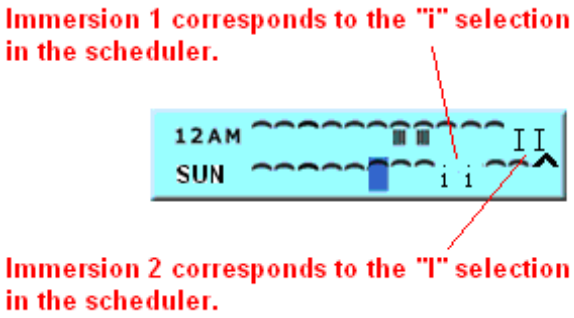
9

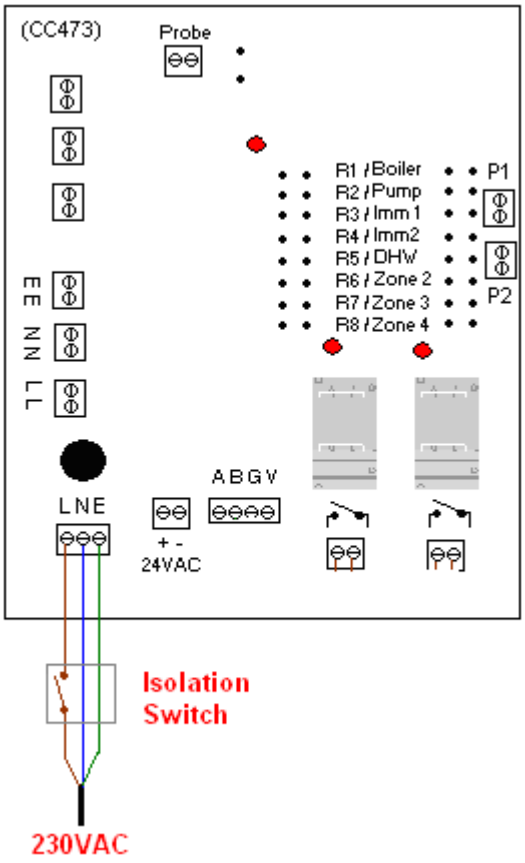
Wire DHW with Two Immersions



Note:

1. The diagram represents a Two Immersion DHW system.
2. **DHW MUST be on Logic Board 1.**
3. Use Immersion 1 (“i”) in the DHW scheduler for single Immersion systems.
4. **Live MUST NOT be taken from the board to drive the Immersion.**
5. **Immersion spurs should be fused.**
6. “Imm1” is Immersion 1 and corresponds to the “i” selection in the DHW scheduler. Likewise “Imm2” is Immersion 2 and corresponds to the “I” selection in the DHW scheduler.
7. The HW key on the console brings on the DHW (zone 1) and Immersion 1 for 2 hours.



10	**Wire the Power through an Isolation switch to Each Logic Box** 
11	**Strain Gauge all wires** 

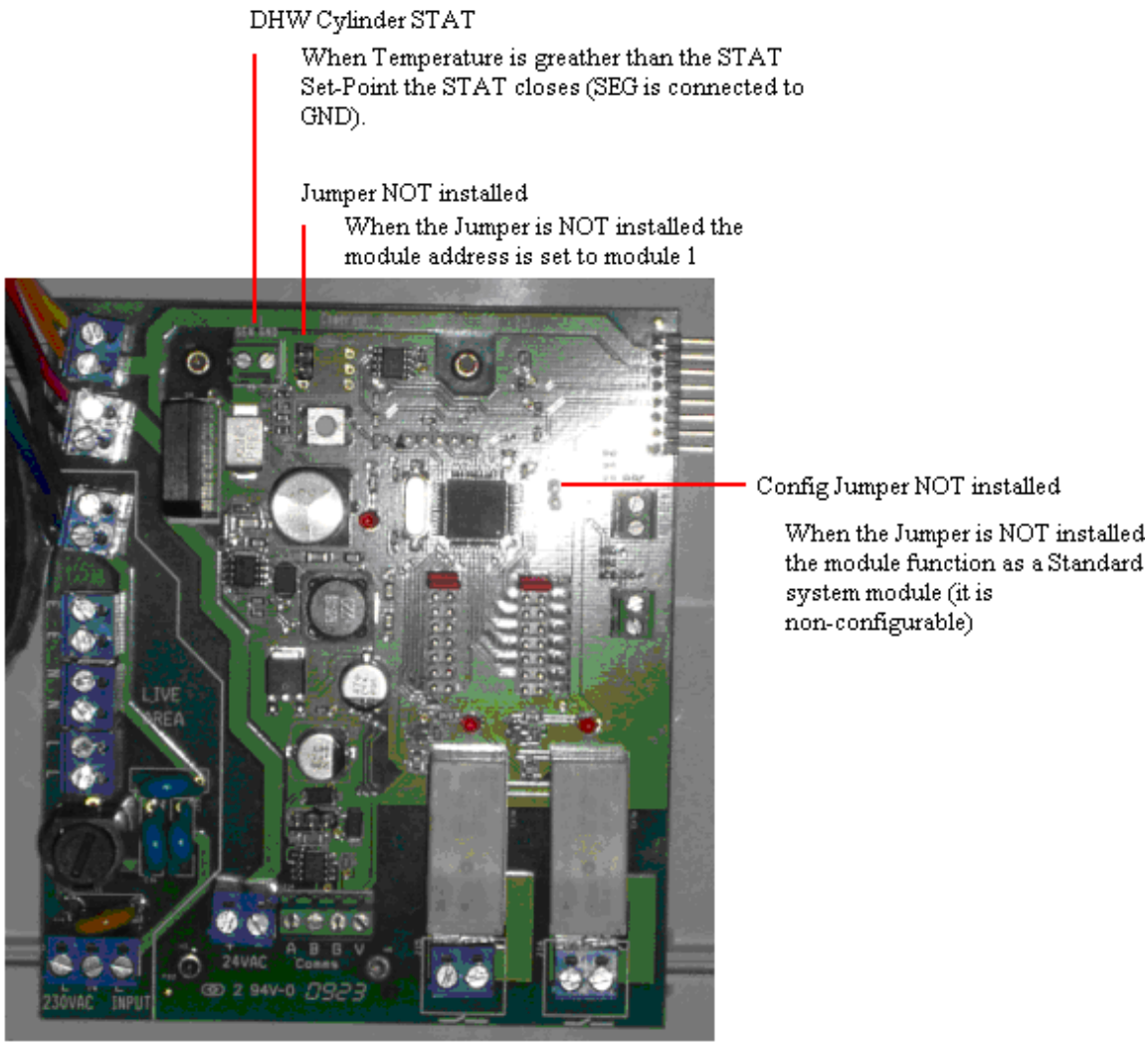
DHW Override

DHW Override turns off the DHW zone, the Boiler (when only DHW is calling) and immersions.

DHW override is enabled when the input on the module 1 is closed and when the cc473 is in NOT in the “config” mode (the “config” jumper is NOT inserted).

Override may be used to control the DHW when a probe cannot be fitted to the DHW tank the. However, the DHW override has limitations. The boost feature cannot be used as the temperature in the tank cannot be read.

This function only applies to the cc473 I/O module.



Heat Dump

WARNING DANGER

Heat Dump used with a BACK Boiler

Valves used with the Comeragh Controls system are "Normally Closed." If the power fails in the building the controls system will cease to control heating and all valves will CLOSE. In this instance, excess heat from a back boiler cannot be dissipated through the radiator heating system. The Back Boiler may EXPLODE if the system is not designed or modified to ensure the HEAT SOURCE HAS RELEASE MECHANISM TO VENT HEATED WATER SAFELY. It is ESSENTIAL that the plumbing layout includes a pressure release valve to safely vent back boiler over pressure.

The Heat Dump feature is NOT A SAFETY FEATURE as it WILL FAIL in the event of a power LOSS.

It is the sole responsibility of the installer to ensure the system is installed with a pressure release valve for safety. Comeragh Controls take no responsibility for plumbing layout.

Heat Dump will override zone control and activate all zone outputs (open all actuators), turn off the boiler and immersions.

Heat Dump override is enabled when the input on the module 2 is closed and when the cc473 is in NOT in the “config” mode (the “config” jumper is NOT inserted).

Heat Dump override is also enabled when the probe temperature reading is greater than 80°C.

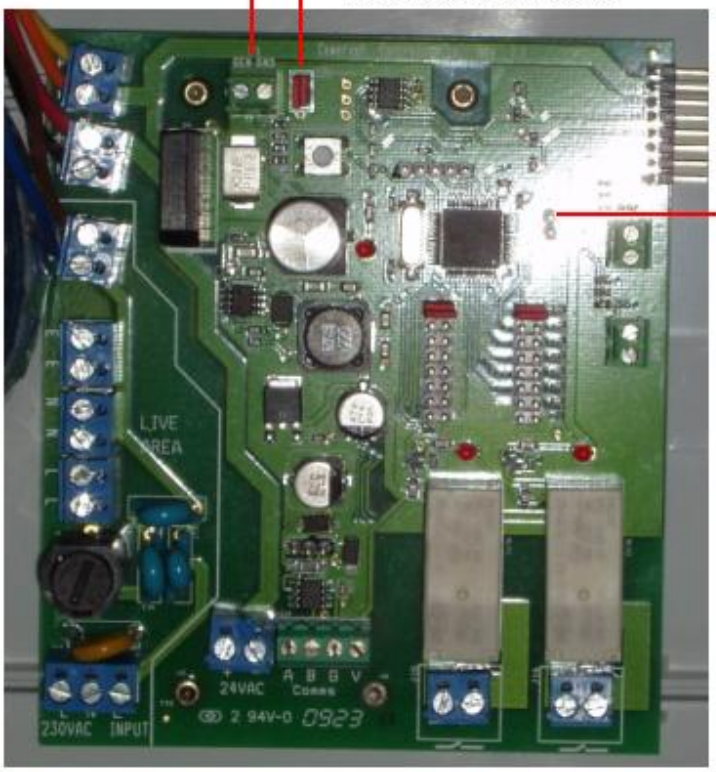
This function only applies to the cc473 I/O module.

Heat Dump

When Temperature is greather than the STAT Set-Point the STAT closes (SEG is connected to GND).

Jumper is installed

When the Jumper is installed the module address is set to module 2



Config Jumper NOT installed

When the Jumper is NOT installed the module function as a Standard system module (it is non-configurable)