SAVASTAT$_{HW}$

Reactive programmable control specifically designed for direct fired, storage hot water systems

Unique modular concept allows control of up to 4 boilers from 1 CPU

Most Direct Fired Water heaters are not connected to the mains power supply via time clocks. This is usually due to the belief that they provide a well insulated source of hot water which, is under regular demand. The truth is, they are regularly firing to maintain their set point temperature and little or no demand is made for the majority of their 'duty' time.

The Savastat HW provides a time clock facility with a reactive module which, will bring the system back into service should the integrated sensor detect a drop in stored temperature or immediate need.

The service parameters are user-configurable but the unit is supplied with factory default settings which will suit most

Features

- Single CPU with 4 control channels
- Additional modules can control up to 4 boilers
- Optional boiler sequence control
- Eliminates excessively long heating periods
- Reacts to unscheduled demands
- Maintenance free

Benefits

- Rapid return on investment
- Saves 20%+ fuel
- Reduces CO_2 emissions
- Extends life of appliance
- Ensures hot water on demand
- Keeps heating control within management
- No maintenance costs

CPU

Control Module (up to 4 boilers per CPU)

Cold feed

Hot water to fixtures

Sensor

Direct Fired Hot Water Storage Heater/ Boiler

SAVASTAT HW

DATA Comms

Mains in

SAVASTAT MODULE

Power to stat & gas valve

Gas timer

The Savastat modular programmable controller is an electronic water heater control designed to optimise the fuel efficient operation of gas and electric water heaters

The unit is set up with four time periods mirroring the expected main water demand. During the timed periods the water heater operates in normal mode.
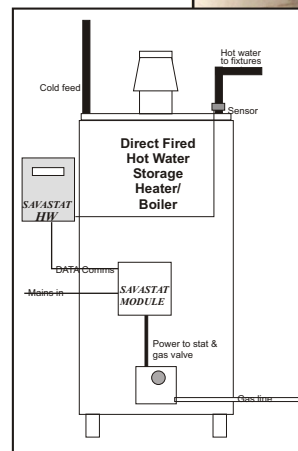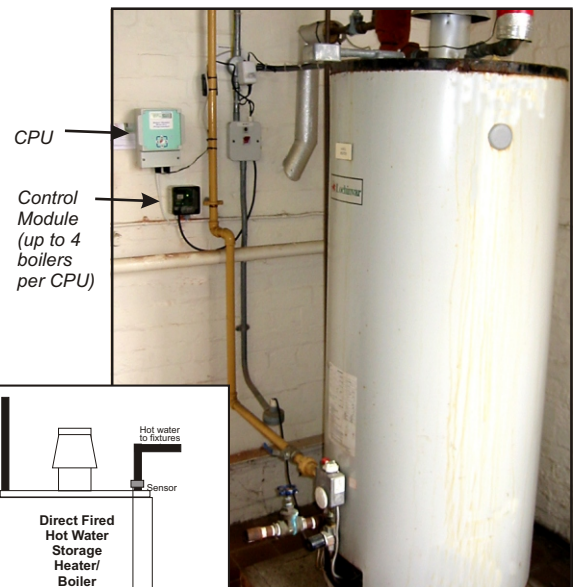
Outside the pre-set time periods the unit is switched off and in 'reactive' mode constantly monitoring the hot water temperature.

When the stored water temperature decays or is lowered by an unexpected load, to the pre-set 'reactive temperature' the unit will re-activate the heater, for a pre-set 'reactive time'. During this time period the thermostat on the appliance will take over as normal.

Boiler sequencing option - user selectable.

All operational parameters are controlled and changed via the soft touch buttons. The LCD readout confirms all modes and settings and displays the units status.

Data input is password protected.

10:02   16°C
HEAT ON <REACT>

Water Heater Reactive Programmer

C   P

SAVASTAT HW

ECMI

5594 N. Hollywood Blvd. Whitefish Bay, WI 53217
Tel: (414) 964-0072   Fax: (886) 884-4374 e: info@ecmi.us Web: www.ecmi.us

SAVASTAT_HW_

MAIN DISPLAY

The flashing asterisk on the main display indicates that the unit is in operation.

1. When the unit is within one of the pre-set time periods the display will show:

```
21:32        61°C    *
HEAT ON
```

2. When the unit is out of the pre-set time periods but above the reactive temperature the display will show:

```
21:32        61°C    *
HEAT OFF
```

3. When the unit is out of the pre-set time period and in reactive heat mode the display will show:

```
21:32        54°C    *
HEAT ON (REACT)
```

PASS CODE   The pass code is: UP, RIGHT, P, C.

DISPLAYING THE SETTINGS

The right arrow key will allow the menu/settings to be viewed in order viz:

Factory defaults in italics

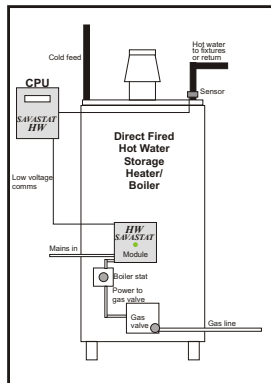|	
Programme time 1	*06.00 to 09.00*
Programme time 2	*12.00 to 15.00*
Programme time 3	*18.00 to 22.00*
Programme time 4	*00 - 00*
Reactive time	*30 minutes*
Reactive temperature	*46°C in 2° increments*
Time of day	*00.00*
Boiler sequencing	On / *OFF*
Restore defaults	
Temperature	*°C or °F*

The left arrow can be used to scroll back.

Sequencing - *during reactive mode*
If selected, No.1 boiler will fire initially, subsequent boilers will ignite if the selected operating temperature has not been achieved within 5 minutes.
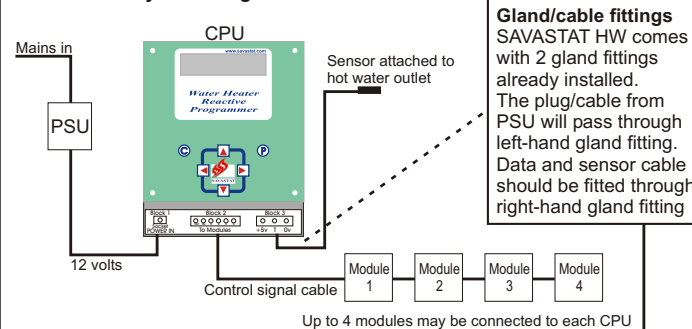

Electrical connections

Module lid ONLY to be removed by qualified personnel

Schematic of system integration

Gland/cable fittings
SAVASTAT HW comes with 2 gland fittings already installed. The plug/cable from PSU will pass through left-hand gland fitting. Data and sensor cable should be fitted through right-hand gland fitting

Up to 4 modules may be connected to each CPU

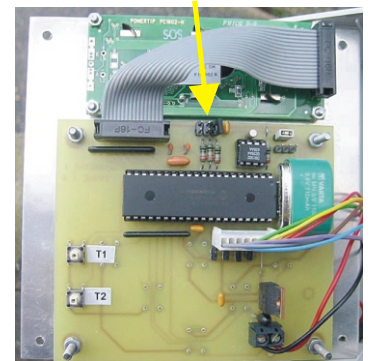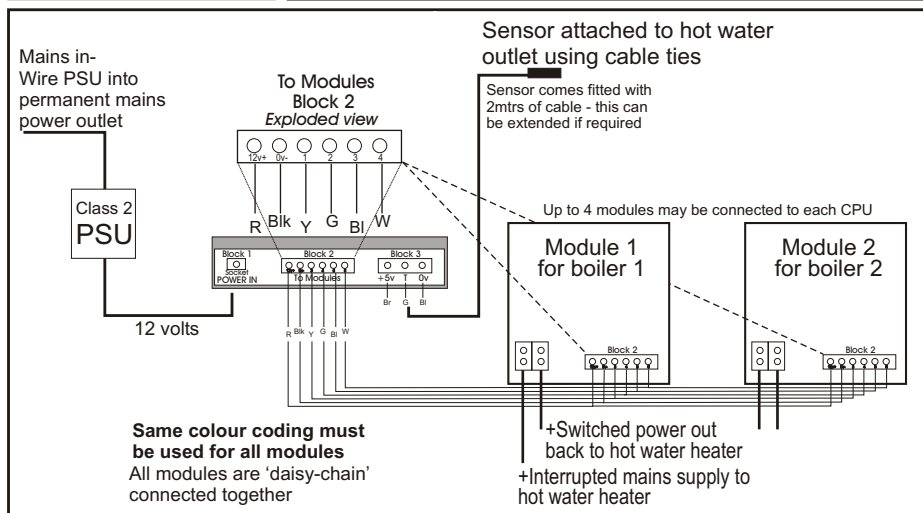***IMPORTANT* Jumper settings**
Each CPU has to be configured for number of boilers/modules. Place jumper as follows - Jumper not installed (factory default) 1 module. Position 1 (far left) 2 modules. Position 2 (middle) 3 modules. Position 3 (far right) 4 modules.
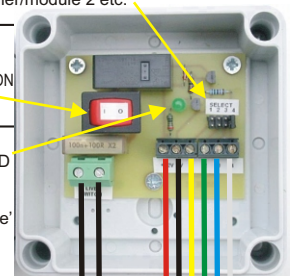

Each module has to be configured for it's position in order. Place jumper to suit each module i.e. Position 1 for module1 (default setting) Position 2 for boiler/module 2 etc.

Sensor attached to hot water outlet using cable ties
Sensor comes fitted with 2mtrs of cable - this can be extended if required

Mains in- Wire PSU into permanent mains power outlet

To Modules Block 2 *Exploded view*

Class 2 PSU

12 volts

Up to 4 modules may be connected to each CPU

Module 1 for boiler 1

Module 2 for boiler 2

Same colour coding must be used for all modules
All modules are 'daisy-chain' connected together

+Switched power out back to hot water heater
+Interrupted mains supply to hot water heater

Module bypass switch
1 - Normal Programme ON
0 - Programme OFF
 - Heater Perm. ON

Module 'active' LED Illuminated during programmed 'ON' times and 'Reactive' periods.

Switched mains power in/out

Low voltage comms cable from CPU

Remote module relay/switch box interrupts mains power to the water heater to bring on/off as programmed times