

# HRE, ECO RF & RAPID BOILERS

## Incorporating iC3 PCB

### Installer Menu

Press the and keys simultaneously until [0] is displayed on the service and main displays.

Use the keys until [15] is visible on the display, then press the key to scroll to the desired parameter.

Use the keys to adjust the parameter to the required value (visible) on the main display.

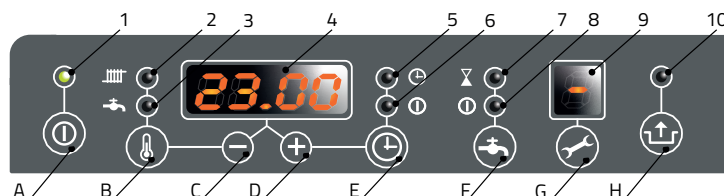
Once the required parameters have been adjusted, press the key to save the values [P] will be displayed to confirm.

NOTE Pressing the key exits the installer menu without storing the adjusted parameter.

MENU	PARAMETER MODE	RANGE	REC	DEFAULT	NOTES
1	Boiler type	0 to 3	0	0	0 = Combi boiler 1 = Heating only + external DHW cylinder 2 = DHW only (i.e. instantaneous hot water only no heating circuit) 3 = Heating only boiler
2	Central heating pump setting	0 to 3	0	0	0 = Pump overrun active 1 = Pump continuous (DHW function off) 2 = Pump continuously active with MIT switch 3 = Pump on external via external switch
3	Maximum output for central heating Maximum power to modulating pump	25 to 99 40 to 99	70 80	70 80	(As %) max setting 85 all models except 36/40 SB 40 = 70% maximum (As %) max setting 80 all models except 36/40 = 100% (C. min setting)
4	DHW maximum output	25 to 99	99	99	(As %) max setting 99 all models except 36/40 = 75%
5	Min CH flow temp setting for outside weather comp Max CH flow temperature setting for end user	10 to 90 10 to 90	25 75	25 80	Displayed as % Displayed as °C (Max 75 C for 40kW boilers)
6	Min external temp setting for outside weather comp	-30 to 10	-7	-7	Displayed as °C
7	Max external temp setting for outside weather comp	15 to 30	25	25	Displayed as °C
8	CH pump overrun time	0 to 15	1	1	Displayed in minutes (Set value to 3 for 40kW boilers)
9	CH pump purge time after DHW demand	0 to 15	1	1	N/A for combi boiler variants
A	X2 Pin 5 output configuration	0 to 8		0	Set to value 6 for X - Plan PDHW (6 = 230v during DHW demand)
B	-	0 to 1	0	0	N/A for UK boilers
C	CH pump modulation Minimum CH output Minimum power to modulating pump	0 to 1 20 to 50 0 to 80	1 30 40	1 30 40	0 = Modulation off / 1 = Modulation on Displayed as % (Set to 30 for 36/40 boiler) (RAPID 25 & 32 = 25) Displayed as % (See 3. for max setting) note 36/40 model set to 50%
D	Minimum DHW output	20 to 50	25	25	Displayed as % (40kW boilers set to 20%)
E	Minimum flow temp via OpenTherm control OpenTherm activation response	10 to 60 0 to 2	40 1	40 1	Displayed as °C 0 = Ignore OT demand providing the setpoint of the flow temp is below the value of parameter E 1 = Accept OT demand providing the setpoint of the flow temp is below the value of parameter E. (Setpoint for the flow as set in parameter E) 2 = Disable OT (heating flow will be as per customer display set point)
F	Fan speed during CH Ignition phase Fan speed during DHW Ignition phase	50 to 99 50 to 99	Variable Variable	Variable Variable	24/18=70% 28/24=60% 36/30=50% 36/40=40% RAPID 25=60 32=50 24/18=70% 28/24=60% 36/30=50% 36/40=40% RAPID 25=60 32=50
H	Maximum fan speed RPM (Factory set do not adjust)	40 to 50	Variable	Variable	24/18=48% 28/24=48% 36/30=50% 36/40=60% RAPID 25=50 32=50
L	Legionella prevention (applicable with external cylinder)	0 to 2	0	0	0 = Legionella prevention disabled 1 = Legionella prevention weekly 2 = Legionella prevention daily
N	Maximum flow set point (when used as a system boiler) Eco/Comfort setting range	60 to 90 40 to 65	85 0	85 0	Displayed as °C flow temp to heat a hot water cylinder Displayed as °C (Comfort temp is related to DHW set point)
O	Delay time after CH demand Delay time for CH after DHW demand Eco days	0 to 15 0 to 15 0 to 10	0 0 3	0 0* 3	Displayed in minutes Displayed in minutes (*36/40 set to 5 minutes) Displayed in days 0 = can be set via an OpenTherm controller
P	Anti-Cycle time after CH demand DHW output value	0 to 15 24 to 36	5 Variable	5 Variable	Displayed in minutes, delay activated when above CH setpoint temp 0 = Flow switch 24 = Combi compact HRE 24/18 30 = Combi compact HRE 28/24 RAPID 25=30 36 = Combi compact HRE 36/30 or 36/40 RAPID 32=36
Q	Summer / Winter mode	0 to 3	0	0	N/A for UK market
R	Heating curve coefficient	0 to 9	0	0	N/A for UK market

#### READ OUT

- On/Off
- CH operation/ temp adjust
- DHW operation/ temp adjust
- Multi function display
- Clock "on" CH enabled
- Clock "off" CH disabled
- DHW comfort "on" eco
- DHW comfort "on" continuous
- Operational status code display
- Fault indication LED



#### OPERATIONS

- On/Off button
- CH/DHW selection for setting temp
- Minus adjust button
- Plus adjust button
- Clock function setting
- DHW comfort function off/on/eco
- Service button
- Reset button

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





## Incorporating iC3 PCB

### Fault Codes

CODES	POSSIBLE CAUSE & SOLUTION (REFER TO THE INSTALLATION MANUAL)	
0	Sensor fault after self check	<ul style="list-style-type: none"> <li>Replace sensor S1 &amp; S2</li> </ul>
0.0	Low system water pressure	<ul style="list-style-type: none"> <li>Re-pressurise the central heating circuit via the filling loop (1 to 1.5 bar when cold)</li> <li>Blocked low water pressure sensor / Replace or clean out inlet port</li> </ul>
1	Temperature too high	<ul style="list-style-type: none"> <li>Air within the heating circuit or poor circulation, Vent boiler and system</li> <li>Pump faulty, stuck or not operating, check wiring and or pump replace if required</li> <li>Insufficient flow through the heat exchanger, turn on radiators or isolation valves, check system by-pass</li> </ul>
2	Sensor S1 & S2 in the wrong location	<ul style="list-style-type: none"> <li>Swap positions of S1 with S2 sensor and connection cables then test</li> <li>Check wiring to each sensor, replace if necessary.</li> </ul>
4	No flame signal or insufficient ionisation current	<ul style="list-style-type: none"> <li>Check the gas isolation valve is turned on at the boiler and ECV at the gas meter</li> <li>Check the gas inlet working pressure is not below 17 mbar (20 mbar recommended) at P1 on gas valve</li> <li>Check ignition module, ignition lead or electrode including spark gap</li> <li>Check adjustment of gas valve (See the manual for CO2 values)</li> <li>Check the burner for debris or damage, replace if necessary</li> <li>Poor earth to ionisation probe or boiler</li> <li>Check or replace the gas valve</li> <li>Check the ionisation / Ignition probe is clean and correctly located, check the wiring</li> <li>Replace the PCB or check the wiring</li> </ul>
5	Poor flame signal	<ul style="list-style-type: none"> <li>Condensate pipework blocked or frozen</li> <li>Check CO2 adjustment via gas valve</li> <li>Poor earth to ionisation probe or boiler</li> <li>Excessive back draft into the flue terminal. Check location or fit a plume management kit.</li> </ul>
6	(False) flame detection fault	<ul style="list-style-type: none"> <li>Check ignition module, ignition lead or electrode including spark gap</li> <li>Replace the PCB or check the wiring</li> </ul>
8	Incorrect fan speed (Fan too slow)	<ul style="list-style-type: none"> <li>Debris in fan or fan not balanced correctly</li> <li>Check wiring loom to fan &amp; replace if damaged</li> <li>Replace the fan assembly (ensure the nor return valve is fitted) check the CO2 after replacing the fan</li> </ul>
10	S1 Open circuit	<ul style="list-style-type: none"> <li>Boiler needs venting (Vent from manual air vent top left of boiler)</li> </ul>
11	S1 Short circuit	<ul style="list-style-type: none"> <li>DHW flowswitch (stuck closed) or flow sensor fault, check DHW flow rate possible lime scale build-up</li> </ul>
12	S1 Temperature change -10°C within 1 second	<ul style="list-style-type: none"> <li>Check wiring connections, or trapped / broken wires</li> </ul>
13	S1 Temperature change +10°C within 1 second	<ul style="list-style-type: none"> <li>Replace sensor S1</li> </ul>
14	S1 no Temperature change with 2 mins operating	<ul style="list-style-type: none"> <li>Output reduces to minimum, after a further 2 mins, boiler will lock-out if no further change</li> </ul>
20	S2 Open circuit	<ul style="list-style-type: none"> <li>Resistance is out of range (to high) or infinity</li> </ul>
21	S2 Short circuit	<ul style="list-style-type: none"> <li>Resistance measured is too low or zero</li> </ul>
22	S2 Temperature change -10°C within 1 second	<ul style="list-style-type: none"> <li>Check wiring connections, or trapped / broken wires</li> </ul>
23	S2 Temperature change +10°C within 1 second	<ul style="list-style-type: none"> <li>Replace sensor S2</li> </ul>
24	S2 no Temperature change with 2 mins operating	<ul style="list-style-type: none"> <li>S2 temp has not changed in 24hrs (providing there was a demand within this period) boiler lock-out</li> </ul>
25	Flue sensor closed >2mins	<ul style="list-style-type: none"> <li>N/A for UK boilers</li> </ul>
26	Flue sensor not closed >24 hrs	<ul style="list-style-type: none"> <li>N/A for UK boilers</li> </ul>
27	Outside sensor fault (short circuit)	<ul style="list-style-type: none"> <li>Value &lt; 1 KΩ is measured check wiring to sensor, check sensor, replace either if required</li> </ul>
29	Gas valve relay fault	<ul style="list-style-type: none"> <li>Replace ignition module</li> </ul>
30	Gas valve relay fault	<ul style="list-style-type: none"> <li>Replace the PCB or check the wiring to the gas valve</li> </ul>
50	Low voltage between Live and Earth (X2 pin 2 to earth)	<ul style="list-style-type: none"> <li>Check power supply to the appliance</li> </ul>



### Test Programs

The boiler controller has a facility for placing the appliance in test mode. Activation of a test program will result in the appliance starting operation at a fixed fan speed, without the control functions being actuated. The safety functions do remain active. The test program is cancelled by pressing the simultaneously or will end automatically after 10 minutes.

PROGRAM DESCRIPTION	BUTTON COMBINATIONS	DISPLAY READING
Burner operating at minimum power	 and 	
Burner operating at maximum CH power setting (See parameter 3)	 and  (1x)	
Burner operating at maximum DHW power setting (See parameter 4)	 and  (2x)	
Switch off / cancel test program	 and 	Boiler status

#### ADDITIONAL READINGS

During test mode the following information can be viewed:

- Press & hold the  button = CH pressure displayed
- Press & hold the  button = ionisation current displayed

#### CO<sub>2</sub> SETTINGS: NG (G20)

Min adjust 8.4 > 9.1%  
Max read only 8.6 > 9.6%




#### CO<sub>2</sub> SETTINGS: LPG (G31)

Min adjust 9.3 > 10.2%  
Max read only 9.8 > 10.8%

#### OPERATIONAL CODES

- 3 = Fan operating
- 4 = Ignition generated
- 5 = Central heating demand
- 6 = Domestic hot water demand
- 7 = Pre-Heat operating

#### PRE-HEAT OPTIONS

-  = Eco (Self learning)
-  = On (24/7 temp controlled)
-  = Off (No LED illumination)