



MD 120. RVA 47. Mk1 Controller Commissioning Data.

DIP Switch Setting.

The DIP switches are located on the printed circuit boards situated at the top of the boiler.

Each burner module connected to the RVA 47 controller requires a different PPS address, so that the controller can communicate via the PPS Bus System.

The first four DIP switches control the PPS # allocated to the burner module.

The remaining DIP switches should be switched OFF.

Please refer to the Installation Manual for guidance on the use of DIP switches 6 & 8.

If the RVA 47 fails to operate correctly each module can be instructed to ignore the output of the RVA47 and operate on its integral thermostat. Set to 85⁰C. The override is carried out by switching DIP switch 6 to the on position.

To enable the RVA 47 to control modules 3 & 4 the PPS connection between Boilers 1 & 2 must be installed with the correct polarity.

We suggest that the boiler modules are numbered as follows.

Boiler 1 With Control Fitted.	Left Circuit Board,	Lower Module # 1.
	Right Circuit Board,	Upper Module # 2.
Boiler 2 Without Control Module.	Left Circuit Board,	Lower Module # 3.
	Right Circuit Board	Upper Module # 4.

DIP Switches 1-4.

Module # 1.	ON.	OFF.	ON.	ON.	Known as PPS # 4.
Module # 2.	ON.	OFF.	ON.	OFF.	Known as PPS # 5.
Module # 3.	ON.	OFF.	OFF.	ON.	Known as PPS # 6.
Module # 4.	ON.	OFF.	OFF.	OFF.	Known as PPS # 7.

The RVA 47 controller requires the installation of the following sensors or simulated sensors to enable the unit to operate without error signals being displayed on the fascia panel.

A Flow Sensor attached to either the system flow or the Low Lose Header.
An Outside Air Sensor attached to a north-facing wall. Or a fixed 620Ω resistor, to simulate -1⁰C outside air temperature.

Fault Indication

If the sensors or burner modules connected to the RVA47 controller fail or are removed from circuit, an error message will be displayed on the left of the LCD screen.

Error Message Notation Er.

Once an error message is present the cause of the error can be traced by accessing function [50].

To access function [50], Open the flap of the controller and press the down Prog button twice. [50] Should appear in the left-hand side of the LCD display.

The figure shown in the center of the screen is the fault identification number. The display can hold a number of faults but will only display 2 at any one time. The second error can be accessed by pressing the + or – buttons. Once a fault has been rectified the error number will disappear or be replaced with another fault number if further attention is required.

The fault identification numbers are detailed below.

Blank	No Fault.
10	Outside Air Temperature Sensor.
26	System Flow Temperature Sensor.
46	Boiler Circuit Return Temperature Sensor.
50	HWS Temperature Sensor.
58	HWS Control Thermostat.
61	Fault Room unit.
81	Short Circuit on LPB connection.
82	Address conflict on LPB Circuit.
86	Short Circuit on PPS Connection.
100	Two Clock Masters Present.
145	Wrong Device Connected to PPS.
146	Unrecognizable Plant Configuration.
147	No Burner Module Connected.
150	General Burner Module Fault.

End User Parameter Setting.

To enter the End User Parameter Program, the door must be opened and one of the UP or DOWN Prog buttons must be depressed.

A # between 1 & 50. Will appear in a bracket on the left of the display window. These can be paged through by using the UP or DOWN buttons.

To alter or input the required data in the selected program line # use the + or - buttons.

To leave the End User Parameter Setting Menu press the AUTO button.

<u>[Prog #]</u>	<u>Description of Prog #</u>	<u>Range</u>	<u>Inputs</u>	<u>Preset</u>
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Time of Day.

1	Time of day	0-23:59	Hr/Min	00:00
2	Weekday	1...7	Day	1

Time Switch Program Heating

5	Every day the same. Every day different.	1-7 1...7	Day Day	- -
6	1 st ON time.	- 24:00	Hr/Min	06:00
7	1 st Off time.	- 24:00	Hr/Min	22:00
8	2 nd On time	- 24:00	Hr/Min	-
9	2 nd Off time	- 24:00	Hr/Min	-
10	3 rd On time	- 24:00	Hr/Min	-
11	3 rd Off time	- 24:00	Hr/Min	-

Hot Water Service

13	Required HWS temperature	40-60	°C	55
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Heating Circuit

14	Night set back temperature	10-30	°C	16
15	Frost Protection temp	4-15	°C	10
16	Summer/Winter switching	8-30	°C	17
17	Slope of heating curve	-/2.5.40	-	32

Actual Values

18	Actual Room temperature	0-50	°C	-
19	Actual outside temperature (Pressing the +&- buttons simultaneously until the display stops flashing will reset the averaged value.)	-50. +50	°C	-

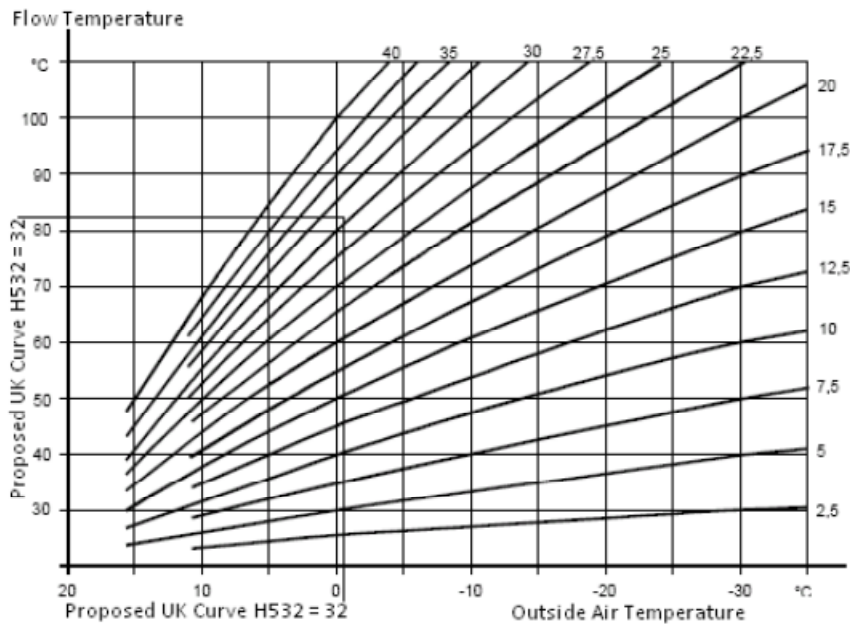
Maintenance

23	Restore factory presets Press +&- together for 3 seconds	0/1	-	0
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Time Switch Program HWS

29	Every day the same. Every day different.	1-7 1...7	Day Day	-
30	1 st ON time.	- 24:00	Hr/Min	06:00
31	1 st Off time.	- 24:00	Hr/Min	22:00
32	2 nd On time	- 24:00	Hr/Min	-
33	2 nd Off time	- 24:00	Hr/Min	-
34	3 rd On time	- 24:00	Hr/Min	-
35	3 rd Off time	- 24:00	Hr/Min	-
50	Indication of faults	0...255	-	-

Weather compensation Slope



Heating Engineer Parameter Setting.

To enter the Heating Engineer Parameter Program, the door must be opened and the UP & DOWN Prog buttons must be depressed for at least 3 seconds until # 51 appears in the window.

A # between 51 & 99. will appear in a bracket on the left of the display window. These can be paged through by using the UP or DOWN buttons.

To alter or input the required data in the selected program line # use the + or - buttons.

To leave the Heating Engineer Parameter Setting Menu press the AUTO button.

[Prog #]	Description of Prog #	Range	Preferred Setting
51	Output Test		
	0 Automatic control	0...3	0
	1 All outputs off		
	2 Circulating pump on		
	3 HWS pump/valve on		
52	Input Test		
	0 Return temperature value	0.5	0
	1 HWS temperature value		
	2 Flow temperature value		
	3 Outside temperature value		
	4 Room temperature value		
	5 0-10 Volt equiv. temperature		
53	Plant Type # refer to drawings at rear of manual	27...36	--
54	Display of nominal room temperature setpoint	0...35	--
56	Actual value of HWS temperature	0...140	--
57	Actual value of module temperature	0...140	--
58	Actual value of system flow temperature	0...140	--
59	Actual value of system return temperature	0...140	--
60	Not used in this configuration	-----	
61	PPS communication inf. addresses etc.	0...15 0...255	
62	Memory saved parallel displacement of heating curve	-4.5...+4.5	--
63	Room temperature influence	0/1	1
	0 Inactive		

	1	Active		
64		Pump switching differential, referenced against room unit. Higher = Less stable temperature Lower = More stable temperature ----- Inactive.	---/0.5..4	0.0
65		Minimum system flow temperature possible when operating.	8-85	8
66		Maximum system flow temperature possible when operating.	8-85	80
67		Type of build construction	0/1	1
	0	Heavy		
	1	Light		
68		Adaptation of heating curve.	0/1	1
	0	Inactive		
	1	Active		
69		Boiler sequence control	0..4	0
	0	Automatic		
	1	1-2-3-4		
	2	2-3-4-1		
	3	3-4-1-2		
	4	4-1-2-3		
70		# of operating hours between change	10..990	500
71		# of hours before change	10..990	--
72		Maximum output of module #1	0-255	55
73		Maximum output of module #1	0-255	55
74		Maximum output of module #1	0-255	55
75		Maximum output of module #1	0-255	55
80		Start up delay between module when increasing output	2..120min	2
81		Delay between a module turning off and turning on again	0..1800sec	180
82		Minimum difference between flow and return temperature before the return temperature acquires control of the burner output	0..20	11

Hot Water Service

83		Reduced HWS temperature	8...70	40
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84	HWS program		
	0	24hr / Day	
	1	Local heating Prog. +1 Hr	0-2
	2	Independent Prog.	2
85	HWS positioning		0...2
	0	Local	
	1	Segment	
	2	System	0
86	Possible charging times per day		0/1
	0	Once a day	
	1	More than once per day	1
87	Temperature control device for HWS		
	0	Sensor	0/1
	1	Thermostat	0

Controller Communication Parameters

88	Controller address for LPB communication between controllers (i.e. House #.)		0/1	1
	0	Stand alone		
	1	Control #s		
89	Control segment address for LPB communication between controllers (i.e. Street #.)		0...14	0
	0	Control segment Master		
	1-14	Subsequent controllers		
90	Clock operation between units.		0...3	2
	0	Every control can have differing T O D		
	1	Cannot set unit		
	2	Each unit can adjust which alters all		
	3	Master unit can only adjust		
91	Summer/Winter changeover Via LPB			
	0	Changes only same segment #s	0/1	0
	1	Changes all controllers.		
92	Standby communication via LPB		0/1	0
	0	Only switches off same segment		
	1	Entire system is switched off and is protected frost program		
93	H1 communication program		0...3	0
	0	Open = Auto, Closed = Off		
	1	Closed = Minimum flow temperature (94)		
	2	Modules Blocked other than Frost.		

3 Flow temperature variable dependent upon input voltage 0-10

The 0-10 volt input provides the unit with a minimum temperature requirement. If any other input (i.e. HWS, Compensation Curve. Etc.) requires a higher flow temperature the unit will respond accordingly, ignoring the 0-10V signal.

94	Minimum flow temperature Ref. (93)8.... 85 Overridden if a connected RVA46 requires a higher flow temperature	70
95	Power supply for LPB communication 0 Off 0/1 1 On .	1
96	Display of power supply for LPB On/Off	-
97	Display of LPB communication On/Off	-
98	Source of outside temperature 0..1/0..14 Segment/Address	
99	Function of heating and HWS1..3 outputs. 1 Heating pump only 2 Heating pump turns off when HWS is on 3 Heating and HWS on together.	2

OEM Parameter Setting.

To enter the OEM Parameter Program, the door must be opened and the UP & DOWN Prog buttons must be depressed for at least 10 seconds until 00000 appears in the window.

The 00000 display must be changed to 11111 by inputting a password.
The password for the RVA 47 is DOWN, DOWN, PLUS, MINUS, UP.

A # between 2 & 91. will appear in a bracket on the left of the display window.
These can be paged through by using the UP or DOWN buttons.

To alter or input the required data in the selected program line # use the + or - buttons.

To leave the OEM Parameter Setting Menu press the AUTO button.

[Prog #]	Description of Prog #	Range	Preferred Setting
2	Module Max Flow Temperature	8...90	80°C
5	Interval between module in heat up	0.500	200
8	Heating Pump post run time	0..20	2 min
9	Module cascade parameter	1...6	2
	1 Automatic		
	2 Automatic		
	3 Automatic		
	4 Fixed		
	5 Fixed		
	6 Fixed		
10	% reached prior to turning off Whilst reducing output	0..100	40%
11	Output reached during heat up prior to next module intro.	0..100	80%
12	Calibration for fan speed to output for module # 1 (10 & 11)	-100..100	13
13	Calibration for fan speed to output for module # 2 (10 & 11)	-100..100	13
14	Calibration for fan speed to output for module # 3 (10 & 11)	-100..100	13
15	Calibration for fan speed to output for module # 4 (10 & 11)	-100..100	13
22	Influence of room unit on controller Do not change	0..20	4
23	Speed of change of temperature to the required night set back temperature. Do not change	0..20	2
24	Calculated over heating of flow temperature with regard to the outside temperature and room temperature below the required point	0..20	5
25	Frost protection program	0/1	1
	0 Off		
	1 On		
	Related to outside air. 1.5°C Pump Off -4°C/1.5°C Pump On every 6 hours for 10 minutes >-4°C Pump constantly On		

31	Maximum HWS temperature	8...80	60°C
32	Switching differential of HWS sensor	0..20	5°C
33	Minimum difference between flow and required HWS stored temperature	0...30	20°C
35	HWS priority		
	0 Absolute	0-2	1
	1 Yes but time related to heat decay of heating parallel operation		
	2		
36	Legionella Program	0/1	1
	0 Off		
	1 On		
	Raises temperature of stored water to (37) every Monday morning 1 st heat up		
37	Legionella Temperature required	8...95	70°C
41	Preferred display window default	0/1	0
	0 Time		
	1 System Flow temperature		
42	Alteration to room unit reference (i.e. Heat gains !)	-2..4	0
43	Sensitivity of heating curve between +4°C & +12°C Outside air temperature	1...15	15
44	Sensitivity of heating curve below +4°C Outside air temperature	1...15	15
91	Software Version	00.0-99.9	-