



# KKM2 Commissioning Guide.

## Settings for Volt Free Enabling Boilers.

(Or in combination with MicroMat EC units)

### Pre-Commissioning Checks.

The KKM controller must be installed with a System Flow sensor and a Boiler Return sensor.

The flow sensor must be attached to the flow pipe on the system side of the low loss header.  
The return sensor must be attached to the return pipe on the boiler side of the low loss header.

The following are options:

An Outside Temperature Sensor.

A HWS Sensor or Thermostat.

A RE2132 room unit, or On-Off volt free switch.

The KKM can be commissioned to accept or ignore signals from the above.

### Accessing the Data Menu

The KKM controller can display the temperatures of the attached sensors, the total and individual kW outputs supplied to the connected boilers.

This information is held in the Data Menu. To access the Data Menu press the Enter button twice. The first press will bring the words Data Menu into the lower part of the screen.

The second press will move it to the top.

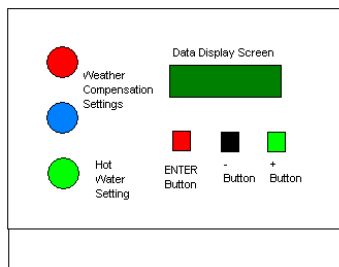
Once in the Data Menu the + & - buttons can be used to scroll through the available options.

### General Information.

The top line of the display shows the menu you are in and the bottom line shows the various options available. The options can be scrolled by using the + & - buttons.

Once the desired option is shown in the lower section of the screen, the “Enter” button must be pressed, to either access a further sub menu or store the data in the temporary memory.

Once you have passed through the 5 commissioning menus, the Save/Store option on the lower section of the screen must be Entered to allow the controller to operate with the new data.



If required the KKM2 Cascade Controller can control a combination of MicroMat EC boilers and Volt Free Enable boilers. Where this is required it is advisable to connect/set the MicroMat EC boilers as boilers 1 and or 2 and the Volt Free enable boiler as 2 and or 3.

## **MicroMat EC Boiler Connections & Dip-Switch Settings.**

The KKM (X4 Terminal Rail) must be connected to Plug 4 of each boiler. (Refer to wiring diagram at the end of this document.)

The boiler/s will show a “Room Unit Fault” if the connections are reversed.

Dip Switches 2, 3, 4 & 5. must be set as follows:

2. Off. 3. On. 4. On. 5. On.

## **Boilers Requiring Volt Free Enabling.**

The KKM (X5 Terminal Rail) must be connected to the respective enabling terminals of the boiler to be controlled. The X5 terminal rail is capable of switching voltages up to and including 230V. (Refer to wiring diagram at the end of this document.)

***Please Note that the KKM will be damaged if voltage is applied to the X4 Terminal rail.***

## **Commissioning Input Options.**

The following terms may vary depending upon the type of program installed in the KKM. The general theory applies.

The Sub Menus may contain more options than shown below. We have only included the options which are applicable to the ancillary equipment encountered to date.

To enter the “Parameter Menu” press the + & - buttons together for at least 5 seconds. The bottom line will show the words “Parameter Menu” Press the “Enter” button to select this option.

There are 5 main menus within the “Parameter Menu” each have a Sub Menu. Use the + & - buttons to scroll through the options.

To access the Sub Menus for any of the options press the “ Enter” button. whilst the chosen text is displayed on the bottom line.

To leave the Sub Menu press the “Enter” button when Back or Return is shown on the bottom line.

Once you have passed through the 5 commissioning menus, the Save/Store option on the lower section of the screen must be Entered to allow the controller to operate with the new data.

## Parameter Menu.

### 1. "Boiler Menu." (Boiler type to Optimum output must be set for each boiler connected to the KKM numbered 1....5)

- |                     |  |
|---------------------|--|
| a. Boiler Number    | Enter. Boiler 1, Boiler 2.....Boiler 5   |
| b. Boiler type.     | Enter. Modulating (for Micromat EC Boilers) On/Off (for Volt free enabling boilers)                |
| c. Boiler sequence. | Enter. Time Dependent.   |
| d. Maximum output.  | Enter. 0, 38, 44, 60 or 74.(for Micromat EC Boilers) Badge Output (for Volt free enabling boilers) |
| e. Minimum Output.  | Enter. 0, 8, 10, 12 or 16. (for Micromat EC Boilers) 0 (for Volt free enabling boilers)            |
| f. Optimum Output.  | Enter. 0.  |
| g. Times            | Enter. Minimum run/off time. Default 2 Min.  |
| h. Change           | Enter. Hours required for firing order change. Default 72. Hr                                      |

**Where a channel is not being used to control a boiler the input should be changed to '0' or 'Off' which ever is applicable**

Enter Return Or Back to Exit Boiler Menu

### 2. "Input Menu."

- |                    |  |
|--------------------|--|
| a. Outside Sensor. | Enter. Yes or No. Yes will activate weather compensation<br>Default Yes.   |
| b. External Input. | Enter. On/Off contact (Volt Free Switch), PWM room stat<br>(RE2132), PWM Cascade (KKM2), Analogue (0-3V)<br>No Control (24 hours). |

Enter Return Or Back to Exit Input Menu

### 3. "Temperature Menu."

- |                |   |
|----------------|---|
| a. Max CH.     | Enter. The required flow temperature of the boiler controlled via the KKM when the outside temp is -1 <sup>0</sup> C. When the Red Dial is vertical.<br>The lower the better but usually 80 <sup>0</sup> C. |
| b. Fix CH.     | Enter. The required flow temperature when the Outside temperature is 20 <sup>0</sup> C. When the Blue Dial is vertical.<br>The lower the better but usually 20 <sup>0</sup> C.                              |
| c. Max HWS.    | Enter. The required temperature of the HWS if a sensor is installed.<br>Usually 60 <sup>0</sup> C.  |
| d. Flow HWS.   | Enter . The required flow temperature of the boilers whilst generating HWS, Usually 80 <sup>0</sup> C.  |
| e. Diff -T     | Enter. This setting has no effect on the controller.  |
| f. Min Return. | Enter. This setting has no effect on the controller.  |

Enter Return Or Back to Exit Temperature Menu

### 4. "Pump Menu."

- |                     |   |
|---------------------|---|
| a. Pump Con 1.      | Enter. Heating.   |
| b. Pump Con 2.      | Enter. Pump or Valve. Depending upon type of HWS circuit. |
| c. Pump 1 post run. | Enter. Post running time for the pump 1. Usually 3 Min.   |
| d. Pump 2 post run. | Enter. Post running time for the pump 2. Usually 2 Min.   |

Enter Return Or Back to Exit Pump Menu

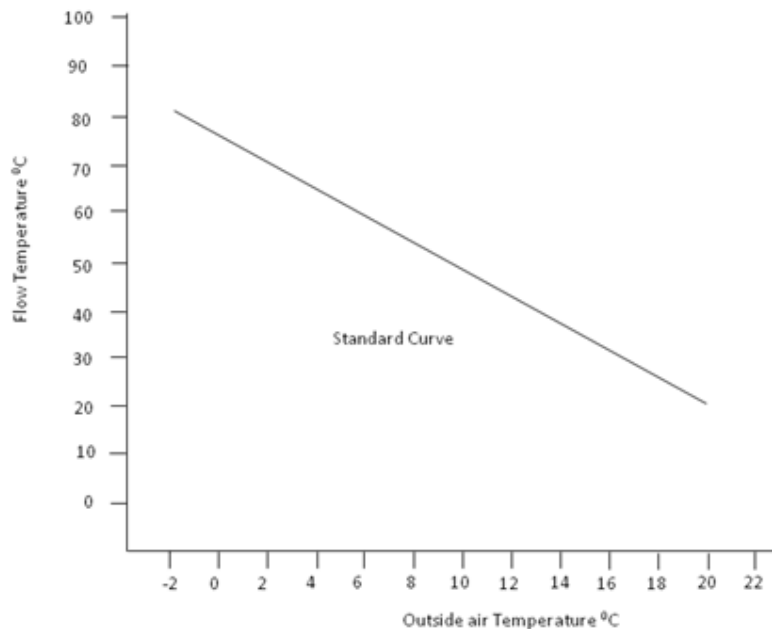
5. "Modulation Menu." Do not alter the contents of this Sub Menu.

Enter Return Or Back to Exit Modulation Menu

**To enable the KKM controller to operate with the parameters entered to this point, the Enter button must be pressed when the word Save/Store is shown on the bottom line of text.**

**If the power is interrupted before this can be done all the inputs are lost and the controller will revert to its defaults.**

### **Weather Compensation Slope.**



### **Weather Compensation Curve**

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If operational difficulties are encountered when Volt Free enabling is activated and boiler wiring is connected to the X5 terminal rail, a check should be made of the security of the X5 terminal rail PCB/Ribbon Cable to the main PCB. This is achieved by removing the display panel.

## KKM2 SEQUENCE CONTROLLER WIRING DETAILS

