



Heatmiser Economy 2000

Version 1

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USER INSTRUCTIONS

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STANDARD TERMS

Self Learning Optimisation is a system whereby the Heatmiser Control will automatically calculate the start-up time to ensure the building is up to temperature for the programmed switching time. It does this by monitoring the internal temperature readings, so that for example, in milder weather conditions heat up times are reduced – thus saving energy.

Preheat is the number of hours the control can come on before the programmed switching time (when in optimising mode). This is set under the Engineers code and can be set to no more than 8 hours.

Rate of change is the time it takes to raise the building 1°C. The factory default for this setting is 20 minutes but the control will automatically adjust this according to the fabric of the building.

Override: Using the Override button on the Heatmiser Keypad allows the user to override the zone for a selected number of hours, to allow for unscheduled use of the system. A maximum can be set to stop users entering long override periods.

Switching period status:

- **Day** is when the control is being controlled to an actual switching time. (For example between 07.00 - 08.00 the control would be in a DAY condition. Outside of those hours the control would be in a NIGHT condition).
- **Night** is when no switching times have been programmed. At these times the control is set back to the night temperature.

Heater Lockout & Reset is standard on the Heatmiser 2000L and allows a signal to be fed into the Heatmiser from the heater when the heater goes to lockout (overheat etc.). Once the fault on the heater has been rectified a reset signal can be sent to the heater resetting lockout status.

Normal RUN mode is when the control is operating normally and is not being programmed (i.e. showing the Time/Day or the Info screen). It is important to remember that when any alterations have been made to the Heatmiser's program, the RUN button is pressed to return the control to the RUN mode.

Opening the Heatmiser

①



To open the Heatmiser, firstly release the clips from the four corners of the enclosure.

This will reveal four posi screws.

②



When you open the Heatmiser, remove the end panel first. You will notice a ribbon cable connecting the LCD board to the bottom circuit board.

Carefully, unplug the ribbon from the bottom board and put the LCD to one side.

Fitting the Heatmiser

①

The Heatmiser is fitted to the wall using the four mounting holes, one in each corner of the enclosure.

The mounting holes are 4mm diameter.



②

Relay outputs

Mains Input



③

The Heatmiser Economy 2000 has two relay outputs
Capable of carrying 10amps each.

Relay 1 is for the Summer FAN
Relay 2 is for the HEAT



Relay Outputs Mains Input Terminal

There is a three pole terminal for the mains input connection.

NORMAL MODE

There is one main Normal (RUN) mode screen, and one Info Screen on the Heatmiser Economy 2000/2000L. These are explained below:

The Normal (RUN) mode screen
*shows information such as Current Time,
Current temperature and the relay status.*

MON 13:06 20C
Status: HEAT OFF

The Information screen
*shows the target temperature
along with the switching period.*

TARGET TEMP: 21C
TIME CLOCK: DAY

! To toggle between the Normal (RUN) screen and the Info screen use the INFO button.

OVERRIDE

The Heatmiser Economy 2000/2000L can be overridden into a day or night condition to allow for any unscheduled operation of the system. The maximum time that the unit can be overridden will have been set by the installer.

To program an override period

- From the Normal RUN mode
Press the Override button and enter your security code if required.
- Then choose 1) to enter the override mode.
- Then select either 1 or 2 to override the zone ON(1) or OFF(2).
- You are now prompted to enter the length of the override period.
- Should the zone be above temperature, the control will show the following screen. Remember that the Override function only overrides time and not temperature. This error message will also appear if the override time programmed exceeds the maximum override setting
- The status screen then indicates the zone has been put into an override condition.

Mon 13:06 20C
Time Clock: DAY

1> **OVERRIDE MODE**
2> SUMMER MODE

OVERRIDE TO
1>ON or 2>OFF

OVERRIDE SETTING
MAXIMUM (04) : **03**

** WARNING **
INVALID DATA

Mon 13:06 20C
Status: OVERRIDE

! To cancel an override period repeat the steps above, choosing 2 for OFF and then reduce the length of the override period to 00.

SUMMER MODE

To enable the Summer mode facility press the Override/Summer button and select 2 for Summer.

1> **OVERRIDE MODE**
2> **SUMMER MODE**

The control is then put in to Summer mode, which means that the temperature is controlled to the Night Setback setting.

To cancel repeat the above operation.

HEATER LOCKOUT/RESET

(Available only on the Economy 2000L)

A mains live supply can be wired into the Heatmiser from the heater lockout connection allowing for remote indication of a fault. Once the fault has been rectified on the Heater, pressing RESET on the keypad sends a reset signal to the heater to clear the lockout status. This feature is highly beneficial on heaters installed out of reach.

Manual Summer Fan

Providing the installed heaters are equipped with a summer fan facility, the Heatmiser can enable the fan to give ventilation in summer months.

- Pressing the FAN key displays the following screen.
- At this point you must press ENTER or if you wish to abort this operation press the DELETE key.

FAN ON?
ENTER TO CONFIRM



To disable the fan, repeat the above operation.

PROGRAM MODE

From the Normal (RUN) mode screen, pressing the PROG button will display the following screen:

** WARNING **
ENTRY CODE: ????

Before you can access the Heatmiser you must enter the passcode. This passcode is set to 0000 as a factory default but may be changed at any time by the user to ensure security. This process is explained under section 4 (Code).

1) TEMP

This section is used to change the temperature settings.

This is the DATA menu

1>TEMP	2>DATA
3>TEMP	4>CODE

Pressing 1 for TEMP displays the following screen:

- You are now prompted to enter the required temperature for the DAY periods. (EG - 22). This must be entered as two digits.

SET DAY PERIOD TEMP: 22 C

- When complete, press Enter.
- You are now able to select whether you require Frost Protection. Selecting OFF returns you to the DATA menu.
- Selecting ON enables you to select a NIGHT setback temperature.

FROST PROTECTION 1>ON OR 2>OFF

- Press Enter when you have set the required night temperature, and then press RUN to return to the Normal RUN Mode.

SET NIGHT PERIOD TEMP: 05 C

2) DATA

The DATA section is where you are able to set the daily switching periods. There are 3 periods per day available.

- Press PROG and enter the security code.
- Now select 2 to enter the DATA menu.

1) TEMP	2) DATA
3) TIME	4) CODE

You can see on screen now that we are prompted to enter the switching period 1 for Monday. So, using 24 clock notation, enter the required Start Time. (EG 08:00).

MON PERIOD : 1 S:HH:MM E:HH:MM
--

Now Press Enter to accept the Start Time and to move the cursor to the End Time setting.

We are able to program the required End Time, for example 17:00. Don't forget to use 24 hour clock notation. When complete, press Enter to accept the programmed switching time and to move onto Period 2 Monday.

MON PERIOD : 1 S:HH:MM E:HH:MM
--

Programming further periods

You are now able to program Period 2 Monday in just the same way. Press Enter when complete.

MON PERIOD : 2
1) S:21:00 E:23:00

Should you not require all three switching periods – simply leave the times at HH:MM and this period will be ignored.

MON PERIOD : 3
1) S:HH:MM E:HH:MM

At this point Press the Enter key to move onto Tuesday's switching periods.

You are able to enter the switching periods for Tuesday in just the same way.

TUE PERIOD : 1
1) S:HH:MM E:HH:MM

Should the switching periods be the same on Tuesday, you can press the COPY button and this copies all of the switching times from the previous day. So, for example, if you were to press the COPY button on Tuesday period 1 all of the switching times from Monday would be copied, and then the Heatmiser would move onto Wednesday.

A screen is displayed similar to this . . . :

COPYING ALL DATA
MON TO TUE

! To correct any mistakes made, use the DEL key.
If Enter is pressed at any display then the current settings will be retained.

3) TIME

This is the section used to set the current Time & Day.

- Press PROG and enter security code.
- Then select option 3 for Time.
- The time currently set is displayed on screen along with a prompt asking for the new time. Simply enter the new time remembering to use 24 hour clock notation. (EG: 14.23)

TIME NOW: 13:23
NEW TIME: HH:MM

- As the Heatmiser Economy 2000 does not have a calendar, the current **day** must now be set. So for example, if today is Wednesday **press 3**.

- The control will then return to the DATA menu.

SET DAY OF THE WEEK
1 = MON = > **7 = SUN**

- Press RUN to return to the Normal RUN mode, you will now notice the correct time and day has been set.

4) CODE

- Press Prog and enter security code.
- Pressing 4 for Code prompts you to select the code you wish to alter.

1> Manager Code - This code gives access to all data settings.

2> Override Code - This code gives access to the Override and Summer functions.

1> MANAGER CODE
2> OPERATORS CODE

- To change the code, simply enter the new code when prompted.
- Press Run to return to the Normal RUN mode.

CODE NOW: 0000
NEW CODE ????

 Setting the Manager and Operations code to the same disables the Operators code. (i.e. No code is required to access the operators section)

TECHNICAL INFORMATION – ENGINEERS SET UP

To enter the engineers section, press the program button and enter the Engineers Code. (This will be found on a label stuck to the fascia or on the reverse side of the keypad. This label should be removed after the control has been commissioned.

A display like the one shown will now be displayed.

1> OVERRUN	2> OPT 1
3> CODE	4> SETUP

1) OVER

This section allows us to enter a limit for the override.

OVERRIDE SETTING MAXIMUM TIME: 08

Enter two digits (eg 08, for 8 hours) and then press enter to accept the setting.

2) OPTI

With the Heatmiser Economy 2000/2000L you are able to set whether optimisation is required. (Refer to **Terms** for further information).

Should you require optimisation select 1 for ON and then continue to set the following parameters.

OPTIMISATION? 1> ON or 2> OFF

Selecting OFF returns you to the Setup Menu and turns off optimisation. This means that the control will switch the heating ON at the programmed switching time and will not allow for any warm up period.

This is the amount of time the heating system takes to raise the building temperature by 1°C.

An average starting point would be 20 minutes but because the unit is self learning, it will alter itself by 1 minute per day to adjust itself to the correct setting.

RATE OF CHANGE MINUTES /C :20

This is the maximum number of hours before the entered switching time that the unit could come on to get the building up to the temperature.

The maximum setting is 8 hours but an average setting is 3 hours.

SET PRE HEAT MAXIMUM TIME :03

3) CODE

The code section will work as normal and is used to set the User's code.

4) SET UP

This section allows us to calibrate the sensor and also Reset the control to the factory default settings

1> CALIBRATION
2> RESET DATA

CALIBRATION

Selecting 1 for calibration enables the engineer to calibrate the sensor if required.

- To calibrate the sensor, simply enter the actual temperature you have recorded in the zone. Be sure to take the temperature from next to the Heatmiser control.
- Press RUN to return to the Normal Run Mode
- The temperature will then be displayed on the screen.

CURRENT: 22
ACTUAL: XX

RESET

This function resets the Heatmiser Economy's settings back to the factory defaults.

To put the control through through a reset:

- Press 4 for Setup
- Press 2 for Reset
- Pressing ENTER at this point will erase all data. To abort press the DELETE key.

1> CALIBRATION
2> RESET DATA

RESET ALL DATA
ENTER TO CONFIRM

SPECIFICATION

Zones:	1 Control Zone
Time-bases:	1 Time-base can be programmed with a maximum of 3 switching periods per day, 7 days a week.
Outputs:	2000 = 2 Single pole normally open contact (10 amp 230v AC Resistive) 2000L = 3 Single pole normally open contact (10 amp 230v AC Resistive)
Sensor Type:	Built in sensor only
Battery Backup:	3 Years

Supply:	230v \pm 10% 50Hz
Relay Output:	Normally open contacts maximum rating 230v AC 10 Amp Resistive
Diemsnions:	158mm x 62mm x 199mm
Weight:	0.85kg
Enclosure:	ABS Designed to comply with IEE regulations

FUSE RATING

F1 = 800ma AS

F2 = 315ma QB

HEATMISER ECONOMY 2000/L

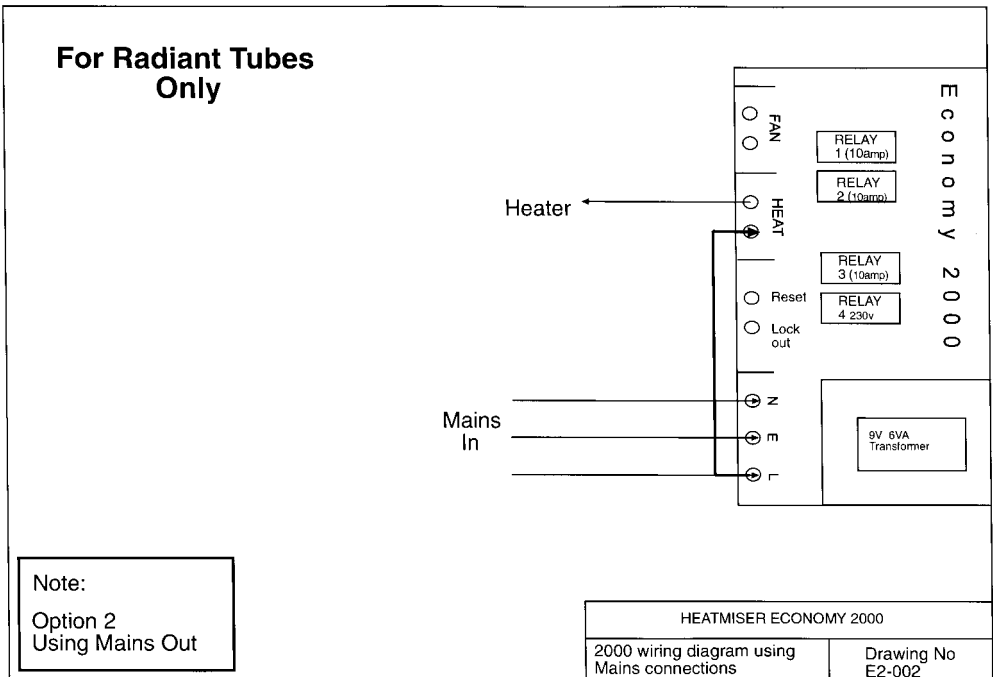
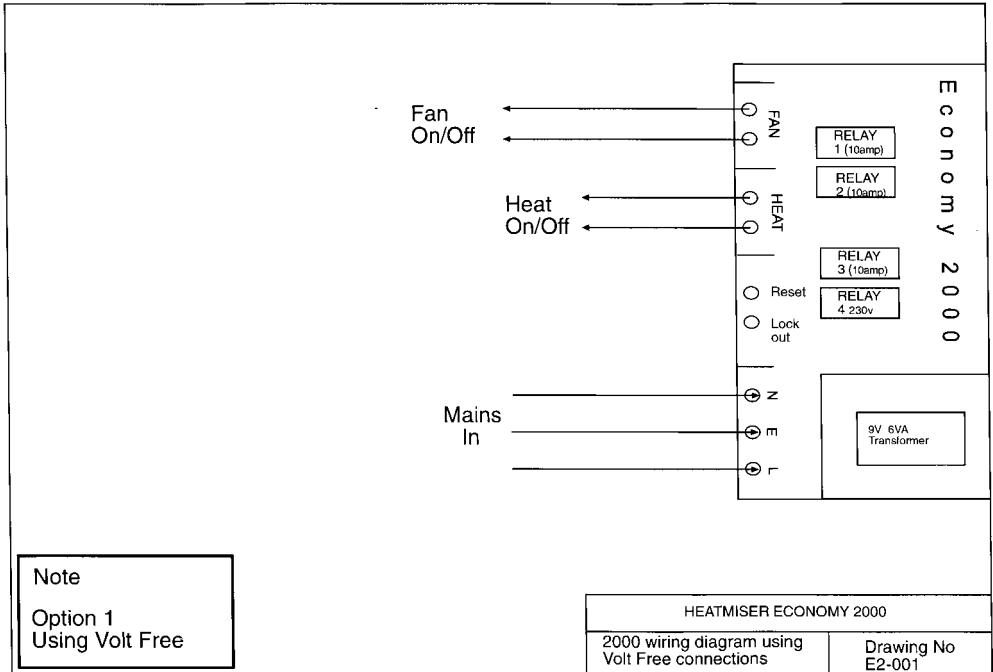
CONTROL SETTINGS

Fill in this sheet for future reference

DAY	PERIOD 1	PERIOD 2	PERIOD 3
Monday	Start:	Start:	Start:
	End:	End:	End:
Tuesday	Start:	Start:	Start:
	End:	End:	End:
Wednesday	Start:	Start:	Start:
	End:	End:	End:
Thursday	Start:	Start:	Start:
	End:	End:	End:
Friday	Start:	Start:	Start:
	End:	End:	End:
Saturday	Start:	Start:	Start:
	End:	End:	End:
Sunday	Start:	Start:	Start:
	End:	End:	End:

Optimisation	(Tick if enabled)	
Max Pre-heat	(Enter value)	
Rate of change	(Enter value)	
Max Override	(Enter value)	

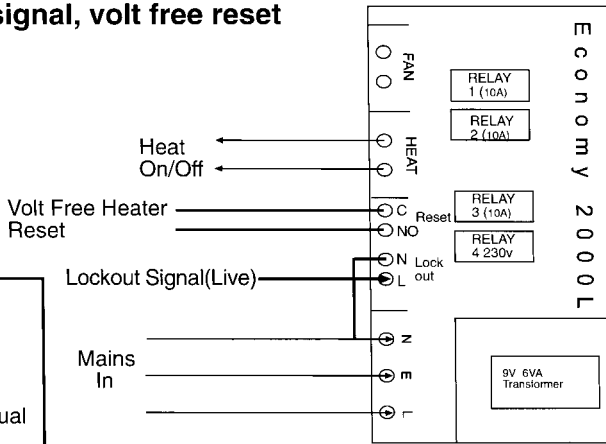
ECONOMY 2000 WIRING DIAGRAMS



ECONOMY 2000L WIRING DIAGRAMS

Economy 2000L

Option 1. Live lockout signal, volt free reset



Options Available

1. Live Lockout signal giving a volt-free reset.
2. Live Lockout signal giving a live reset.
3. Live Lockout signal giving a neutral reset.
4. Neutral Lockout signal giving a volt-free reset.
5. Neutral Lockout signal giving a live reset.
6. Neutral Lockout signal giving a neutral reset.

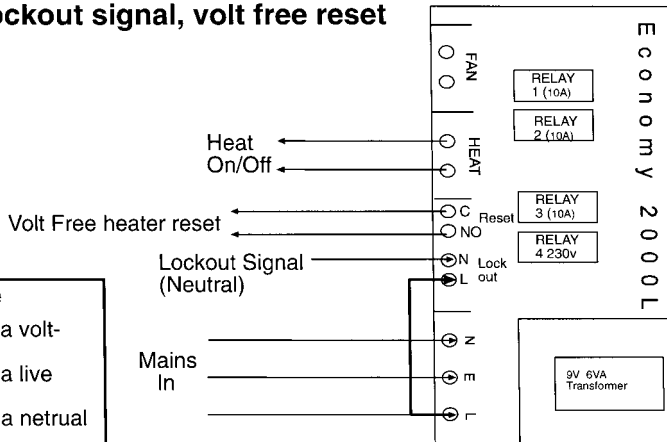
G&M KAY CONTROLS - HEATMISER ECONOMY 2000L

2000L- VF wiring diagram

Drawing No
E2L-003

Economy 2000L

Option 4. Neutral lockout signal, volt free reset



Options Available

1. Live Lockout signal giving a volt-free reset.
2. Live Lockout signal giving a live reset.
3. Live Lockout signal giving a neutral reset.
4. Neutral Lockout signal giving a volt-free reset.
5. Neutral Lockout signal giving a live reset.
6. Neutral Lockout signal giving a neutral reset.

G&M KAY CONTROLS - HEATMISER ECONOMY 2000L

2000L- VF wiring diagram

Drawing No
E2L-003

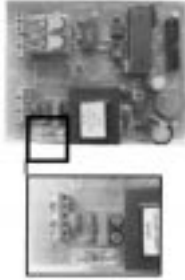
①

The fuse highlighted in this picture fuse the Mains ingoing supply to the board.

This fuse is rated at 800ma Anti Surge.

A fuse cover should be placed on this holder.

Replacement part:
RS Part: 265-1082



②

The fuse highlighted in this picture protects the circuit board and is fused at 315ma quick blow.

There is no fuse cover on this holder.

It is rated at 315ma Anti Surge.

Replacement part: RS Part: 265-0938

