

Energymizor Mk 3



Energy Saving Electronic Control Panel
From Reznor UK Ltd.

Energymizor Mk 3 Electronic Control Panel

The Energymizor Control Panel is a versatile unit designed to cater for the most stringent requirements and allow for future expansion plans.

The new Energymizor could save energy with features like the self-sensing optimum start, instant response low-density temperature sensors etc.

Telephone support is available for anything from wiring connections through to entering On/Off times. We provide a talk through the initial set up and then help with the more advanced functions. Most customers pick up the idea after a few steps have been demonstrated and they are pre-empting instructions, from this point forward they are normally into the program and tend to carry on at their own pace.

The controller is very simple to set up and operate once you become familiar with stepping through the windows (a basic set up only uses two to three windows).

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GENERAL DESCRIPTION – ENERGYMIZOR MK3

The Energymizor MK3 has been designed to consolidate the functions of all previous control panels into one unit. All relay outputs have volt free contacts and by installing various links within the control panel virtually all-present, past and future heating units can be controlled by the Energymizor MK3 control panel. When replacing older control panels with the Energymizor MK3 it will be necessary to advise the Reznor Technical Department of the wiring diagram number of the heater in order to develop an interconnecting diagram.

The Energymizor MK3 may be used as a stand-alone panel to control an individual heater or several panels may be connected together for multiple heater control using a two-wire communications link.

Each Energymizor panel contains a digital display for monitoring system operation and a means of setting the various system parameters by way of panel mounted push buttons. LED indicators are used to show Frost Protection and Burner Lockout.

The Energymizor MK3 can be used to control On/Off, Two Stage and with a GM44 interface board, Modulating burners can be controlled.

The Vent output of the unit can be used to control On/Off damper Motors or with positioners mounted on the damper motors any percentage of fresh air may be set.

Three levels of password protection are available on the panel for the security of settings.

Features of the Energymizor MK3 include:

- 32 Character Alphanumeric display system operation.
- Optional “Optimum Start Facility” with automatic preheat adjustment.
- LED’s indicate frost protection and burner failure for automatic ignition burner systems.
- Three level password protection against unauthorised changes.
- Stand-alone or multiple system operation is possible using one Energymizor per heater and a two wire communication link.
- In built lithium battery for memory retention if power failure occurs.
- Clock includes calendar with automatic leap year correction (Year 2000 compliant to BS DISC2000).
- Optional automatic 1 hour clock set forward/back on user specified dates in the year.
- Optional adjustable frost protection.
- Optional holiday off periods.
- Adjustable temperature differential between Heat and Vent.
- Adjustable High-Fire ignition time.
- 0-5VDC output for GM44 modulation valve interface board.
- Selectable languages.

REZNOR ENERGYZIMIZOR MK3



REZNOR ENERGYZIMIZOR MK 3 Screen Identification

1	(Black)	Button	Overrides an off or on period adjustable from 0 to 30 minutes.
2	(Key)	Button	Repeatedly scrolls through the various screens.
3 & 4	(Black)	Buttons	Moves across the current screen to select item for change.
5 & 6	(Black)	Buttons	Changes settings selected by button 3 & 4.
7		Button	Stores the settings and reverts to the Standard Display.
8	(Red)	Button	Resets burner lockout.
9	Lamp		Burner lockout lamp (Low intensity blink indicates that the unit is looking for a lockout condition. A high intensity blink indicates Burner Lockout).
10	Lamp		Frost protection indication (Green).
11	Screen		Shows status and displays for altering parameters.

GENERAL SETTING INSTRUCTIONS

The Energymizer MK3 control panel is pre-programmed with default settings as shown in the text. All default settings may be changed within the adjustment ranges of the windows.

The control panel is shipped with all password levels set to "0000" and all adjustments can be made. If three password levels have been set (see page 14 for set-up instructions), pressing the Key button will prompt the password request. Without entering a password you will be able to view the windows but no changes can be made.

Pressing the Key button moves the display through the various screens. Pressing the button will save the program. It is not necessary to press the button after each change is made, you may make all necessary changes in any or all windows and then press the tick button to save all changes. When the button is pressed the window will revert to the Standard display. If further changes are required it will be necessary to press the Key Button as many times as necessary to access any further windows that require changing.

The Right/Left Arrow Buttons are used to move through settings within a window and the Up/Down Arrow Buttons are used to select a value for that setting.

If at any time from pressing the Key Button that a period of 45 seconds elapses between any button presses, the unit will save all changes made up to the last screen and the panel will revert to it's standard display. It will then be necessary to press the Key Button to get to any other screens that required adjustments in their settings.

Clock on times should be set to the normal occupancy times regardless if preheat is set or not.

DISPLAY WINDOWS

These are twenty-six different windows available, system parameters may be set in twenty-four of them. The two that are fixed are the normal display and the software batch identification window.

The Different Windows Are:

1. Normal Display
2. Normal Display Adjust (NO DEFAULT)
3. Advance ON/OFF Adjust (NO DEFAULT)
4. Adjust Timers (NO DEFAULT)
5. Adjust Language (DEFAULT = English)
6. Adjust Year (DEFAULT = 1998)
7. Adjust Frost Temperature (DEFAULT = 4C)
8. Adjust Heat < > Vent Differential (DEFAULT = 6C)
9. Adjust GM44 Differential Temperature (DEFAULT = 2C)
10. Adjust Energymizer Type (DEFAULT = 00)
11. Adjust Reset Type (DEFAULT = 01)
12. Adjust V3 Vent (Manual or Auto)
13. Adjust High Fire Time (DEFAULT = 30)
14. Adjust Pre-Heat Mode (DEFAULT = 02)
15. Adjust Pre-Heat Time (DEFAULT = 1:00 hour)
16. Adjust Day Temperature Band (DEFAULT = 16C)
17. Adjust Night Temperature Band (DEFAULT = 3C)
18. Adjust Forward Clock 1 Hour At 01:00 On (NO DEFAULT)
19. Adjust Retard Clock 1 Hour At 01:00 On (NO DEFAULT)
20. Adjust Holiday 1 Period (NO DEFAULT) (Note:- Frost Protection Only)
21. Adjust Holiday 2 Period (NO DEFAULT)
22. Adjust Holiday 3 Period (NO DEFAULT)
23. Adjust Holiday 4 Period (NO DEFAULT)
24. Adjust 'Hand' (default 30 min. adjust up to 2 hours)
25. Software Type "A non-editable display of software issue number"
26. Adjust Key 3 Password Setting Level 3 (DEFAULT 0000)
27. Adjust Key 2 Password Setting Level 2 (DEFAULT 0000)
28. Adjust Key 1 Password Setting Level 1 (DEFAULT 0000)

Detailed Description of Windows

Note: it is far easier to understand these instructions whilst actually using the Energymizor Control Panel rather than attempt to read them in isolation.

NORMAL DISPLAY

The display panel of the Energymizor will be blank without power applied to it. However, the battery backup will maintain the program for a minimum of 5 years, although operation of the Energymizor control panel is not possible without power applied.

When power is first applied the display will read “ADJUST ENGLISH” with the word ENGLISH flashing. Pressing the Key button will advance the display to the Normal Display Window.

The top line starting on the left shows the temperature in Degrees Centigrade, that the remote sensor is detecting. In use the sensor temperature will alternate with one of the following:

1. Steady Reading – Sensor temperature is within the differential range and neither heat nor vent is being called for by the system.
2. Alternating between the sensor temperature and one upward arrow – temperature is below set point and first stage heating is on.
3. Alternating between sensor temperature and two upward pointing arrows, temperature is below set point and two stages of heating are on.
4. Alternating between sensor temperature and one downward pointing arrow, temperature is above set point and first stage vent is on.
5. Alternating between sensor temperature and two downward pointing arrows temperature is above set point and two stages of vent are on.

Pressing the “KEY” button will set the second entry, “Operation Mode” on the top row flashing. By using the UP/DOWN arrow buttons you may set the mode to Automatic, Heat, Vent, Off or Slave (if unit is set for Slave operation).

Pressing the “Right Arrow” button will advance to the third entry on the top line of the display and set it flashing. This is the Set Point Temperature for daytime (Clock On). The UP/DOWN arrow buttons will cycle through the band, (which will be set in another window), for selecting the temperature required.

Pressing the Right Arrow button will advance to the fifth entry on the top row. This is the Set Point Temperature for night time (Clock Off). The Up/Down arrow buttons will cycle through the band, (which will be set in another window), for selecting the desired temperature.

Pressing the Right Arrow button will advance the display to the bottom row where the Current Day, Date, Month and Time are shown. Use the Up/Down

Arrow Buttons to set these to the correct readings and the Right/Left Arrow Button to move between them.

Note that the Arrow in the display between the Day and Night temperature will point to the temperature setting on the left (Day) when the clock is on, and to the right (Night) when the clock is off, indicating which set point it is trying to achieve.

ADVANCE ON/OFF (3)

With the normal display shown, pressing the KEY button twice will take you to the clock override screen. The display will show, Advance "ON or OFF" Flashing. This is the current status of the clock. Use the Up/Down arrow buttons to change the status.

Note that care should be taken in using this function. If for instance, the clock shuts off at 1700 hours on Friday, and the function was used to force the clock on at that time. The Program will look for the next programmed Off and if it happens to be Monday then the heater will run all weekend.

Therefore in an instance like this, it will be necessary to include an additional Off time just after the Friday Off time.

ADJUST TIMERS (4)

Press the Key button until the display window shows adjust timers. With the Adjust Timer screen displayed use the Up/Down arrow keys to select the day or group of days that are to be set to the same time. Besides individual days, groups of Mon – Fri and Mon – Sun maybe set. The group settings are for convenience of setting only when identical times are required. After setting, all days will be individually displayed and then alterations to settings may be made.

Use the right arrow key to move to the On/Off position. This is indicated by an "I" for ON and an "O" for OFF followed by a switch number of 1 to 4. Use the Up/Down arrow keys to select the switch required. Use the right arrow button to move to the Hour position and the Up/Down arrow keys to set the hour. Use the right arrow button to move to the Minute position and the Up/Down arrow keys to select the desired minute (selectable in ten-minute increments from 00 to 50 minutes).

If further times are to be set for the day, use the left button to move back to the switch position and follow steps above. Up to four Ons and Offs may be set for each day.

If further days are to be set use the left arrow key to move back to the day position and then follow the steps above.

The above procedure may be used to alter any of the settings, using the right/left arrow buttons to select the position and the Up/Down arrow buttons to select the required setting.

To delete a setting follow the procedure above and set the values for hours and minutes to --:-- this then becomes a NULL setting and has no affect on control.

Note that the unit switches in chronological order and not in switch sequence order.

ADJUST LANGUAGE (5)

The adjust language display lets the user select between English, Deutsche, Francais, and Nederlands for display purposes. Use the Up/Down arrow buttons to select the correct language.

ADJUST YEAR (6)

Use the Up/Down arrow buttons to change the display to the current year. NOTE: The calendar year is compliant to year 2096 and has automatic leap year correction.

ADJUST FROST TEMPERATURE (7)

Use the Up/Down arrow buttons to set the desired temperature frost protection temperature.

ADJUST HEAT < > VENT DIFFERENTIAL (8)

Press the Up/Down arrow buttons to set the desired temperature differential (dead band) between heat and vent when in the AUTO mode.

ADJUST GM-44 DIFFERNETIAL (9)

Press the Up/Down arrow buttons to set the number of degrees that the 0-5 VDC proportional band is to vary over.

ADJUST ENERGMIZOR TYPE (10)

Press the Up/Down arrow buttons to set the control panel to the type of unit required. If the control panel is to be used to control an individual heater then set the display to read, "Adjust Energymizor 00". If more than one control panel is to be used to control the heaters in a Master/Slave configuration then use the Up/Down arrow buttons to set the unit to be designated as the Master to read, "Adjust Master 00". If a unit is to be designated as a Slave panel then use the Up/Down arrow buttons to set each slave to read, "Adjust Slave XX". XX is to be interpreted to be any number from 01 to 31. No two-slave panels are allowed to have the same number assigned. Only one Master panel is allowed on any one system.

ADJUST RESET (11)

Use the Up/Down arrow button to set the Energymizor to the type of reset required. Type 01 is all relays off and is used for those heaters with automatic ignition where power to the burner must be interrupted to cause burner reset in case of burner lock out. Type 02 is for use where a live or neutral is required to be switched back to the heater unit to cause burner reset.

ADJUST V3 (12)

Use the 'Up' or 'Down' arrow key to change operation from Manual 'Vent' mode to V1 Auto temperature sensitive mode.

ADJUST HIGH FIRE TIME (13)

Use the Up/Down arrow buttons to set the time required for the burner to be on high fire during light up for proper ignition of the burner. The setting may be from 00 to 99 seconds.

ADJUST PRE HEAT MODE (14)

Press the Up/Down arrow buttons to select 01 if the pre heat is to remain fixed at the time set in the Adjust Pre Heat screen. Select 02 to allow the controller to hold off the pre heat to take into account the actual ambient temperature.

ADJUST PRE HEAT (15)

Use the Up/Down arrow buttons to set the required pre heat time from 0 hours to 4 hours in 30-minute steps. Ideally this should be set to the time it takes to raise the room temperature to 20C. Every on time will be advanced by this pre heat time.

ADJUST DAY TEMPERATURE BAND (16)

Use the Right/Left arrow buttons to select "FROM" reading. Use the Up/Down arrow buttons to set these to the lower end of the range over which the day temperature may be set in the Normal Display Adjust screen. Use the Right/Left arrow buttons to select "TO" reading. Use the Up/Down arrow buttons to set the upper end of the range over which the day temperature may be set in the Normal Display Adjust screen. The "FROM" is adjustable from 00C to 50C and the "TO" is adjustable from 00C to 50C. However the "TO" reading can never be set lower than the "FROM" reading.

NIGHT TEMPERATURE BAND (17)

Use the Right/Left arrow buttons to select "FROM" reading. Use the Up/Down arrow buttons to set these to set the lower end of the range over which the day temperature may be set in the Normal Display Adjust screen. Use the Right/Left arrow buttons to select "TO" reading. Use the Up/Down arrow buttons to set the upper end of the range over which the day temperature may be set in the Normal Display Adjust screen. The FROM is adjustable from 00C to 40C and the TO is adjustable from 00C to 50C. However the "TO" reading can never be set lower than the "FROM" reading.

FWD CLOCK 1 HOUR AT 0100 (18)

Use the Right/Left arrow buttons to move to the month position and the Up/Down arrow buttons to select the month. Use the Right/Left arrow buttons to select the date position and the Up/Down arrow buttons to set the correct date for automatic clock forward time.

RTD CLOCK 1 HOUR AT 0100 (19)

Use the Right/Left arrow buttons to move to the month position and the Up/Down arrow buttons to select the month. Use the Right/Left arrow buttons

to select the date position and the Up/Down arrow buttons to set the correct date for automatic clock retard time.

HOLIDAY 1 (covered only for frost protection, no night set back) (20)

Use the Right/Left arrow buttons to select the FROM date position for the holiday period to start and the Up/Down arrow buttons to set the date. Use the Right/Left arrow buttons to select the FROM month position and the Up/Down arrow buttons to set the month. Use the Right/Left arrow buttons to select the TO date position for the holiday period to end and the Up/Down arrow buttons to set the date. Use the

Right/Left arrow buttons to select the TO month position and the Up/Down arrow buttons to set the month.

If set, the system will turn off on the last OFF of the FROM date and will turn back on again on the first ON of the TO date.

HOLIDAY 2 (21)

If required set a second holiday period as in Holiday 1.

HOLIDAY 3 (22)

If required set a third holiday period as in Holiday 1.

HOLIDAY 4 (23)

If required set a fourth holiday period as in Holiday 1.

ADJUST 'HAND' (24)

Use the 'Up' or 'Down' arrow key to adjust from 30min. to 2 hours in 30min. steps.

SOFTWARE VO (25)

This is a non-editable display that shows the software issue number. The technical department may require this reading if a problem is encountered in the control panel operation and assistance is requested. Changes made under the different versions are as follows:

VERSION 6: MK3

Date introduced: 22/05/99

Serial: S/N 2301 and onwards

Changes (1) New case and button layout. (2) Additional modulating out-put for damper motors.

ADJUST PASSWORD LEVEL 3 (26)

ADJUST PASSWORD LEVEL 2 (27)

ADJUST PASSWORD LEVEL 1 (28)

Password Set-up

ADJUST KEY Numbers 3, 2 and 1

If the password setting is to be left at the default setting of "0000" where anyone can make adjustments then disregard all adjust key instructions. If passwords are to be set then all three levels must be set to ensure complete security.

Do not press the ✓ button between the adjust key window settings. Only press it when all desired levels are set.

Password setting level 3 is the highest password level allowing access to adjustments of all variables.

Password setting level 2 will allow operators to adjust any setting in both lines of the standard (first) display screen within the ranges set in the adjustment windows.

Password setting level 1 will allow operators to adjust any item on the top line of the standard (first) display screen within the ranges set in the adjustment windows.

Entry without passwords will still allow viewing of all settings.

Entering Passwords

Adjust Key No.3 screen

"XXXX" will be shown in the window to hide the password from view.

Use the Right/Left arrow buttons to select the first "X". Use the Up/Down arrow buttons to set the first number of the password.

Use the Right/Left arrow buttons to move to the second "X". The first password number will become an "X".

Use the Up/Down arrow buttons to set the second password number, following the above instructions. Do the same for the third and fourth password numbers. Press the Key button and the display will move on:-

Adjust Key No.2 screen

Set as described for Adjust Key 3 screen, using the password selected for level 2. Press the Key button and the display will move to:-

Adjust Key No.1 screen

Set as described for Adjust Key 3, using the password selected for level 1.

If only one Password is set then '*unauthorised*' users will have access for Level-2 operation.

If only two Passwords are set then '*unauthorised*' users will have access for Level-1 operation.

If three Passwords are set then '*unauthorised*' users will only be able to view setting and no changes can be made.

Master Slave Operation

The system sends 12V signals back and forwards between one unit designated as a MASTER Controller and the others, which must be set as slaves. The unit is supplied set to "ENERGYMIZOR 00", this is a safe configuration which disables the communication line signals.

Having wired the system, set the one unit that is to be the MASTER panel; to "MASTER 00". All other units must be set as slaves with numbers "01" upwards. NO TWO SLAVES SHOULD HAVE THE SAME NUMBER AND ONLY ONE PANEL MAY BE IDENTIFIED AS A MASTER.

The slave number is also used to generate a start delay. Slave 01 will have one-second delay on receiving a switch on command from the master. Slave 02 will have a two-second-delay etc. This reduces the gas surge and electrical surge by preventing all the slaves from coming on together.

The Master sends the time and date to the slaves to lock their clocks to the same time. The time is updated at one-minute intervals. Any change of time and date at the master will be sent to the slaves. The master checks each slave on the system for a burner failure. Should a failure occur this would appear not only on the slave controller but also on the master. The slave number that failed will be indicated in the digital display. The failed slave can be reset from either the master panel or the slave concerned. The reset signal from the master is only sent to the failed unit.

The slaves will follow operating instructions from the master, or can be set to run from their own internal settings. Each individual slave has its own temperature sensor for sensing temperature in its area. Therefore the set point temperatures are set at each individual slave panel.

RELAY SWITCHING

TIMER OFF

Heat = Night mode
Vent = Frost mode
Auto = Night mode
Off = Frost mode (including holiday shutdown)

TIMER ON

Heat = Heat mode
Vent = Vent mode
Auto = Auto mode
Off = Frost mode

FROST MODE

CRF = On if H1 is on
H2 = On if room temperature < than frost temperature setting +2C
H1 = On if room temperature < than frost temperature setting
V1 = Off
V2 = Off
V3 = Off
0 – 5VDC output = On if H1 is on

NIGHT MODE

CRF = On if H1 is on
H2 = On if room temperature < night set back temperature –2C
H1 = On if room temperature < night set back temperature
V1 = Off
V2 = Off
V3 = Off
0 – 5 VDC output = On if H1 is on

HEAT MODE

CRF = On
H2 = On if room temperature is < daytime temperature setting –2C
H1 = On if room temperature is < daytime temperature setting
V1 = Off
V2 = Off
V3 = Off
0 – 5VDC output = On if H1 is on

VENT MODE

CRF = On

H2 = Off

H1 = Off

V1 = On if room temperature > than day setting temperature + dead band setting

V2 = On if room temperature > than day setting temperature + dead band + 2C

V3 = On

0 – 5 VDC output = Off

AUTO MODE

CRF = On

H2 = Off if room temperature > day temperature setting –2C

H1 = Off if room temperature > day temperature setting

V1 = On if room temperature > day temperature setting + dead band

V2 = On if room temperature > day temperature setting + dead band +2C

V3 = On/Off as programmed

0 – 5VDC output = On

H2 NOTE – H2 on for time set in parameters when H1 is triggered.

FLAME RESET

01 = All relays off

02 = CRF + H1 + H2 + reset on

GAS MODULATION OUTPUT

Calculated from Set/Temperature – Actual Temperature

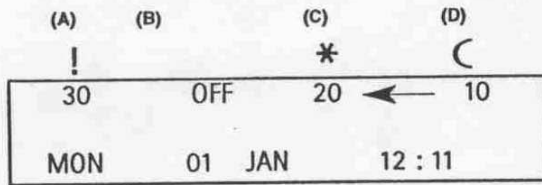
0 to 5V output has a constant 1 Volt supply when there is no call for heat therefore the GM44 (or other Interface type) should be set up to drop out at a voltage slightly above this level.

ENERGYMIZOR

Quick Reference Guide

INTRODUCTION

The Operation Display



- (A) Current temperature display (°C)
 (B) Current mode of panel (OFF-AUTO-HEAT-VENT)
 (C) Day set temperature
 (D) Night set temperature
 (E)-(H) Today's date and time (e.g THU 02 MAR 11:07)

These locations will be referred to in the instructions only as a visual guide to assist in panel set-up procedures.

CONTROLS

The basic functions are controlled by the following buttons labelled as:

- : Activates menus and scrolls through feature menus.
- : to scroll across the features. to change selection.
- : Confirms adjusted settings.

Please note in set-up, if no buttons are pressed for 45 seconds the display saves the current setting and returns to initial display mode.

SETTING THE PANEL

1. ADJUST THE CLOCK TO CURRENT DATE/TIME

- Press scroll to MON (E) select day by using . Then press to 01 (F). Select date by . Press to JAN (G) Adjust month. Press to 12:00 (H) and set time in hours and minutes in the same way.
- To confirm new date/time setting press .

2. SETTING THE REQUIRED DAY & NIGHT SET TEMPERATURES (°C)

- Press . Press once to DAY set temperature (C). Adjust to required using . Press once to move to NIGHT set temperature. Adjust to required using .

Note:

The control panel defaults a temperature range of 16-22°C for DAY and 0-10°C for NIGHT to alter these refer to section 10.

- Temperature settings can be confirmed at this stage by pressing .

3. SETTING OPERATION MODE

- Press . The 'OFF' in position (B) will flash. Adjust to desired mode of operation by pressing each time to scroll through the choice of HEAT-VENT-AUTO or OFF.
- For initial set up is recommended to set to AUTO (press 3 times).
- Press to confirm mode of operation.

4. SETTING HEATER OPERATION TIMES

Note:

The panel has 4 On and 4 OFF periods for heater operation. These can be set for individual day periods or in day 'blocks' of MON-SUN and MON-FRI.

To set heater operation times do the following:

- From the standard display. Press twice, the screen defaults to

ADVANCE OFF

 Press to set to ON.
- Press again to first select day/dayblock (E) by using . When selected press to I1 (G)

Note:

I1 is the first on time.

If you wish to enter the first ON period to (H) and enter times accordingly using . Once set, scroll back to I1 (G) and to select 01 (i.e first OFF time). Scroll to set time in the same way.

Note:

There are 4 ON times and 4 OFF times. Simply repeat the process scrolling through I1,01....I4, 04.

- Once all ON/OFF times have been set Press .


5. OPTIMUM START

- It is recommended that Optimum Start is selected as the control panel will optimise the most productive start-up time against the ambient conditions in the building, and so reduce unnecessary heater operation - reducing costs.





TO SET OPTIMUM START

- Press  13 times to display:


ADJUST PREHEAT MODE 02 Use  to select either 01 or 02.

- 01 Manually overrides Optimum to start to a set time period of PREHEAT (see section 6).
- 02 (Recommended). Allows Optimum Start to take into account ambient conditions within the building.
- Press  to confirm.



6. SETTING MANUAL PREHEAT TIMES

- Following section 5 after selecting 01 press  once more to allow manual pre-heat time to be set. Scroll  to (H) time display enter hours/mins using  to scroll and  to adjust.


Note:
30 Minute increments - max 4 hours.


- Press  to confirm.


7. VENTILATION MODE

- If operation mode is set to VENT (see section 3). The heater will operate in ventilation mode only. Press  11 times to display **ADJUST V3 = VENT** Use  to ensure VENT is selected.
- If operation mode is set to AUTO (see section 3). The heater can automatical switch from heat to ventilation mode based on a temperature controlled basis, using the heating/ventilation differential setting (see section 8).


8. SETTING DESIRED TEMPERATURE DIFFERENTIAL (dead band)

- Press  7 times to display:

ADJUST HEAT <6> VENT The default temperature differential is set to 6°. Between 2 - 9°C can be selected using .

- Press  to confirm.

- Now press  11 times to display:


ADJUST V3 = V1 Use  to ensure V1 is selected.


Note:
This feature only operates when the operation is set to AUTO or VENT mode. In HEAT mode it will not operate.

9. FROST PROTECTION


To set the desired temperature for frost protection


- Press  6 times to display:


ADJUST FROST TEMP 04 Use  to adjust temperature (°C).


- Press  to confirm.

10. ADJUSTING DAY TEMPERATURE BAND (see section 2. Setting DAY/NIGHT set temperature)

- Press  15 times to display:

ADJUST DAY C FROM 16 TO 22 Use  to adjust to required band.

- Press  to confirm.

Note:
Adjusting night temperature band is adjusted in the same way by pressing  again once step 10 is complete.

Appendix

FOR DETAILS ON

- PASSWORD SET UP
- MASTER/SLAVE CONFIGURATION
- GM44 INTERFACE
- ADJUSTING HIGH FIRE TIME
- CLOCK 1 HOUR ADJUSTMENTS
- HOLIDAY PROGRAMMABLE FEATURES
- YEAR AND LANGUAGE SETTINGS.

Please refer to full operation and instruction manual.

Reznor® THE NAME FOR WARM AIR

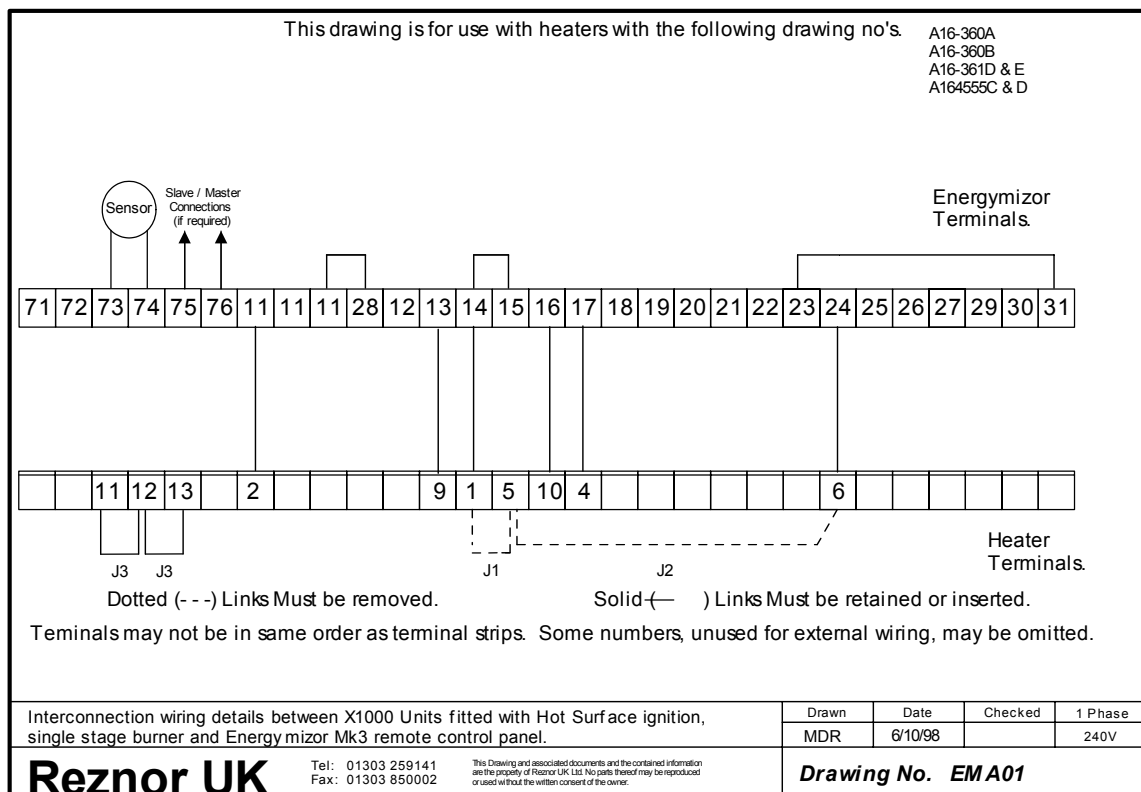
Reznor UK Limited.
Park Farm Road, Folkestone,
Kent. CT19 5DR
Tel: 01303 259141 Fax: 01303 850002

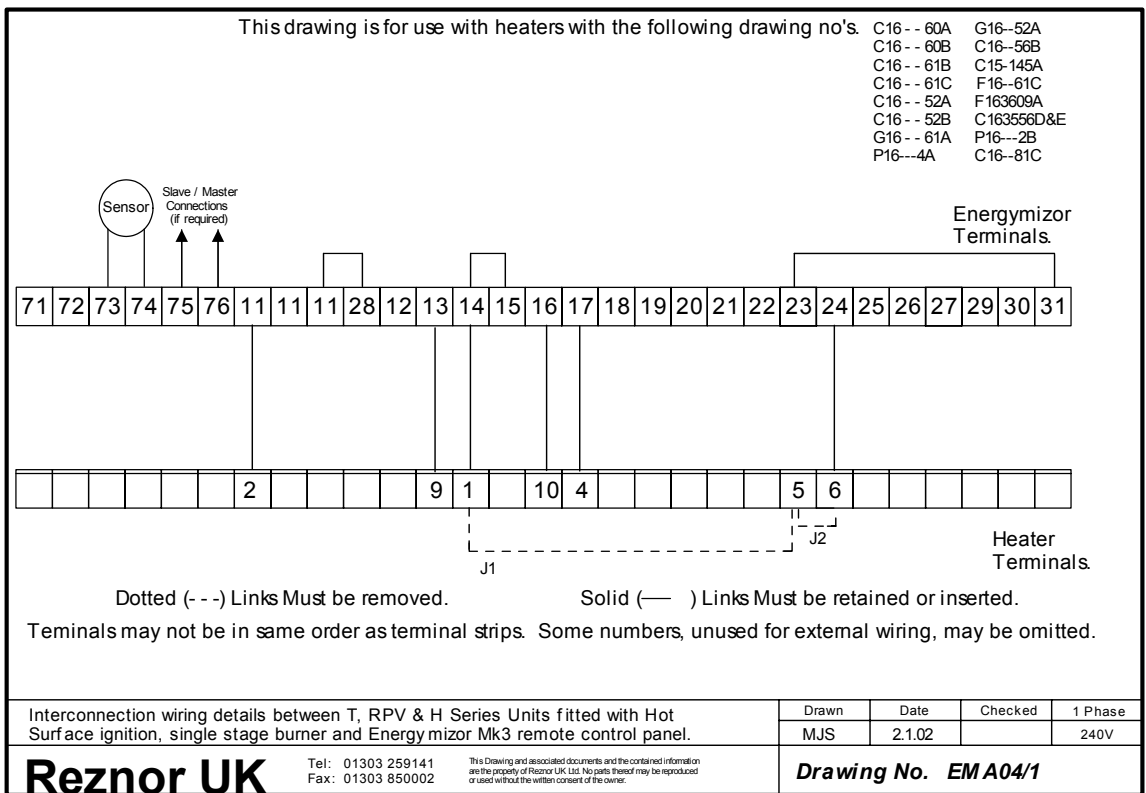
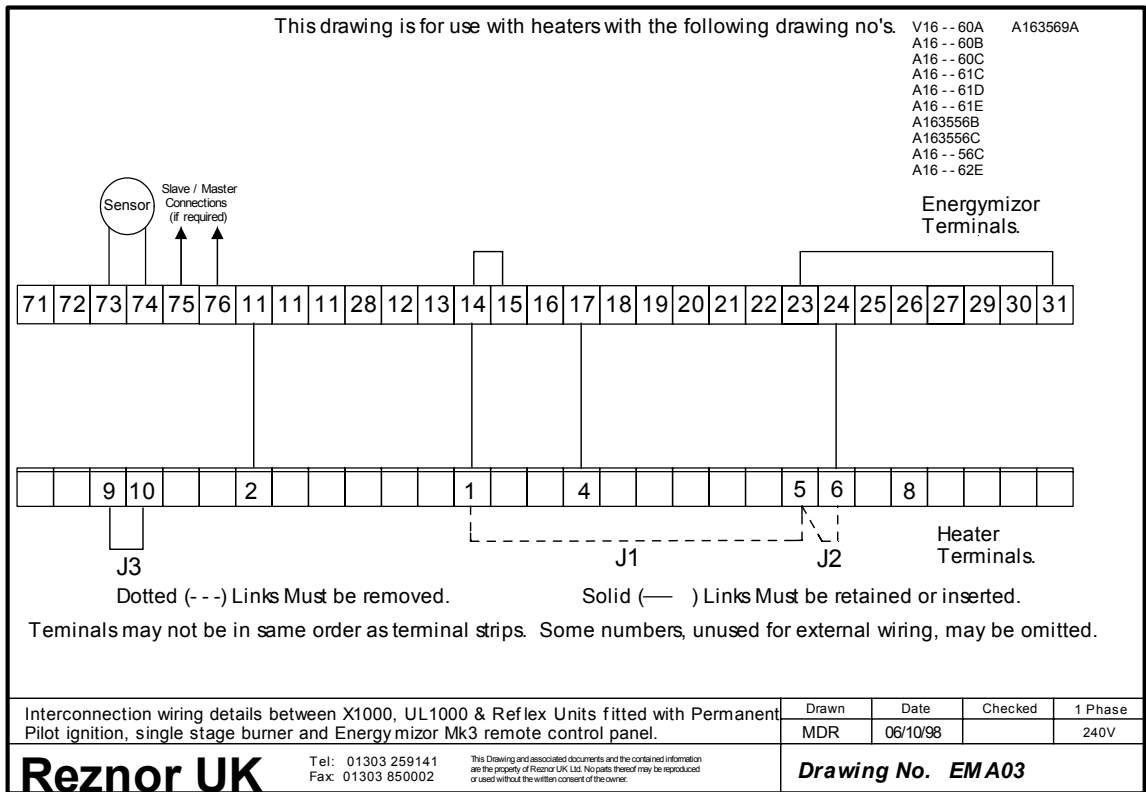
WIRING DIAGRAMS

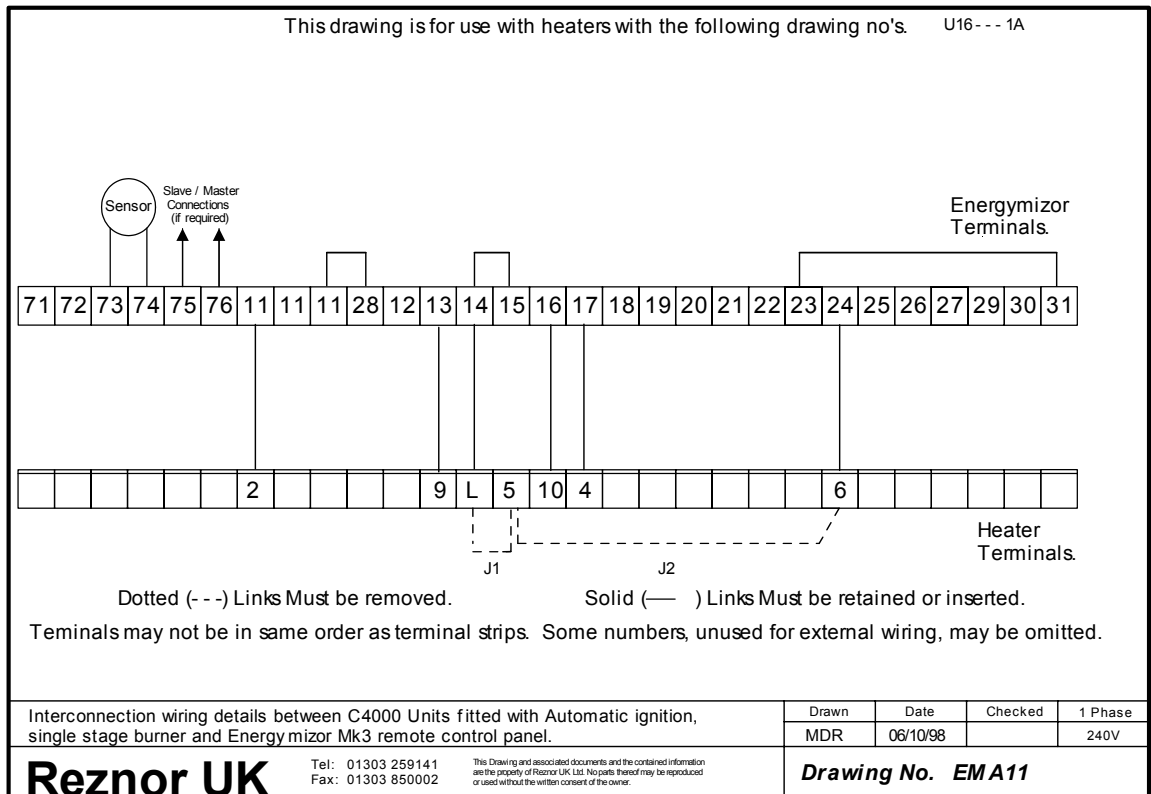
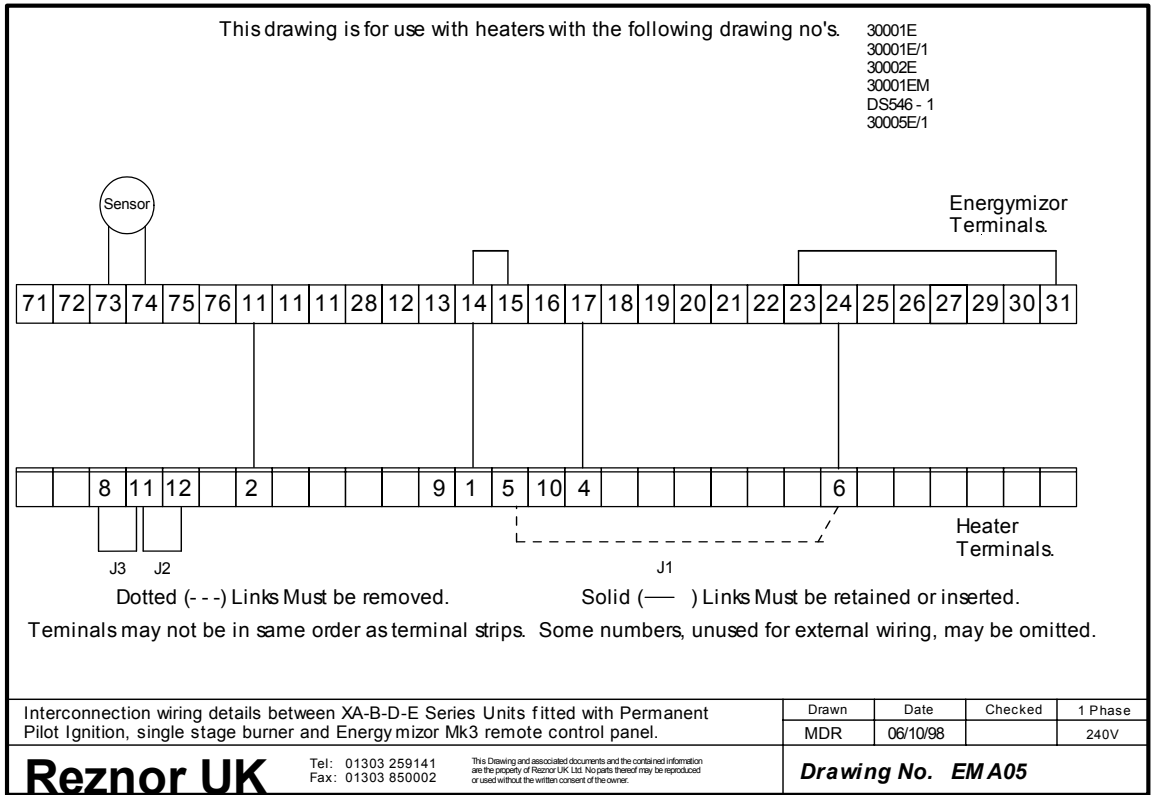
The following drawings are examples of interconnection wiring between the heater and the control panel.

Please ensure that the heater you are wiring to, is fitted with the appropriate wiring diagram number listed in the top right hand corner in each drawing.

If the wiring diagram number you need is not listed, please consult the Technical Department.

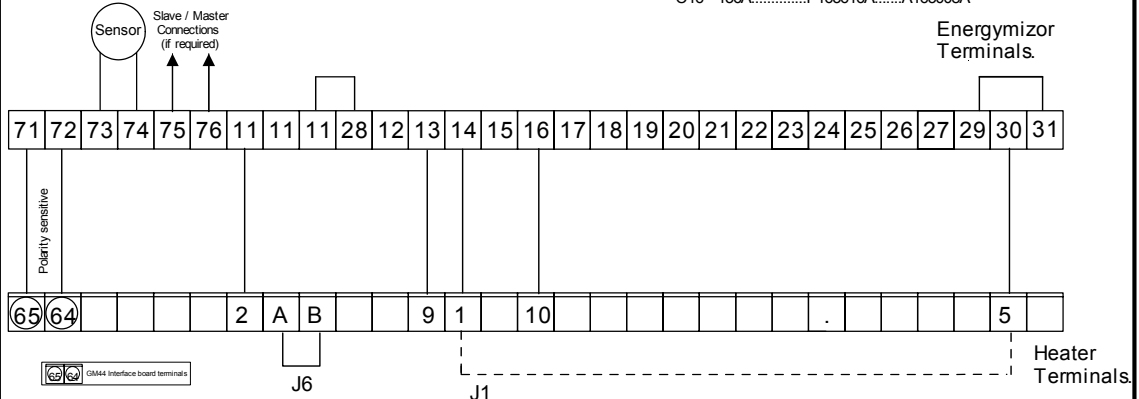






This drawing is for use with heaters with the following drawing no's.

C163602A.....	C16- 133B.....	F16--67A.....	F163588B
C16- 113B.....	D163609A.....	F163617A.....	A16-394B
F163573B.....	F16--66A.....	F163620A.....	A164579C
C163587B.....	A16-413A.....	U16--7A&C..	C16-154A
F163589A.....	C16-127A.....	C16-140A.....	F163628A
C163619A.....	C16-147A.....	A16-413B.....	C16-156A
F16 - - 73A.....	G163563A.....	F163594A	
D163629A.....	A16-396A.....	C16-148A	
C16- 136A.....	F163616A.....	A165008A	



Dotted (---) Links Must be removed. Solid (—) Links Must be retained or inserted.
 Terminals may not be in same order as terminal strips. Some numbers, unused for external wiring, may be omitted.

Interconnect wiring details between X, T, RPV & H Series heaters fitted with FRI, Modulating valve, GM44, CRFR and Energymizor / Energymanager remote control panel.				Drawn	Date	Checked	1 Phase
				MDR	06/10/98		240V

Reznor UK

Tel: 01303 259141
 Fax: 01303 850002

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Drawing No. EM A24

Reznor UK

Tel: 01303 259141



Fax: 01303 850002

e-mail: sales@reznor.co.uk

Date: 4.9.03

Heater Wiring For: UDSA Series (V3) On/Off Burner Control

Legend:

-  Heater terminals
-  Controls terminals

Notes:

1. Remove link wires shown dotted.
2. Retain/insert link wires shown solid.
3. Terminals shown may not be in numerical order. Unused terminals may not be shown at all.
4. 1 Phase supply cable 2.5mm minimum.
5. Controls cables 0.75mm for up to 200 metre run.
6. Energymizor Sensor cable 0.25mm (screened)
7. Master/slave cable 0.1mm, bell wire type (no screen necessary)
8. Fuse rating must be sufficiently sized to handle heater & motor loadings.
9. If in doubt contact the Technical Department on T: 01303 259141

Drawing No:
Z16V300B-UK

