

# + UNIVERSAL SEQUENCER KIT

EVOMAX

EVOMAX LPG

CXA

CXA/H

CXS

CXS/H

CXSi

CXSi/H

IMAX XTRA

When replacing any part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by Ideal.

**For the very latest copy of literature for specification and maintenance practices visit our website [www.idealcommercialboilers.com](http://www.idealcommercialboilers.com) where you can download the relevant information in PDF format.**

## GENERAL

This kit is suitable only for the following boilers:

- |                    |                |                  |
|--------------------|----------------|------------------|
| - Evomax 30-150    | - CXA 40-120   | - CXS/H 40-120   |
| - Evomax LPG 30-80 | - CXA/H 40-120 | - CXSi 110-180   |
| - imax xtra 80-560 | - CXS 40-120   | - CXSi/H 110-180 |

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# GENERAL

## 1 INTRODUCTION & USER INTERFACE

The Universal Sequencer is designed to control Evomax, CXA, CXS, CXSi and Imax Xtra boilers, operating in cascade.

The most common operating configurations are shown as follows:-

1 Zone without Weather Compensation: Frames 6-11.

1 Zone with Weather Compensation: Frames 12-17.

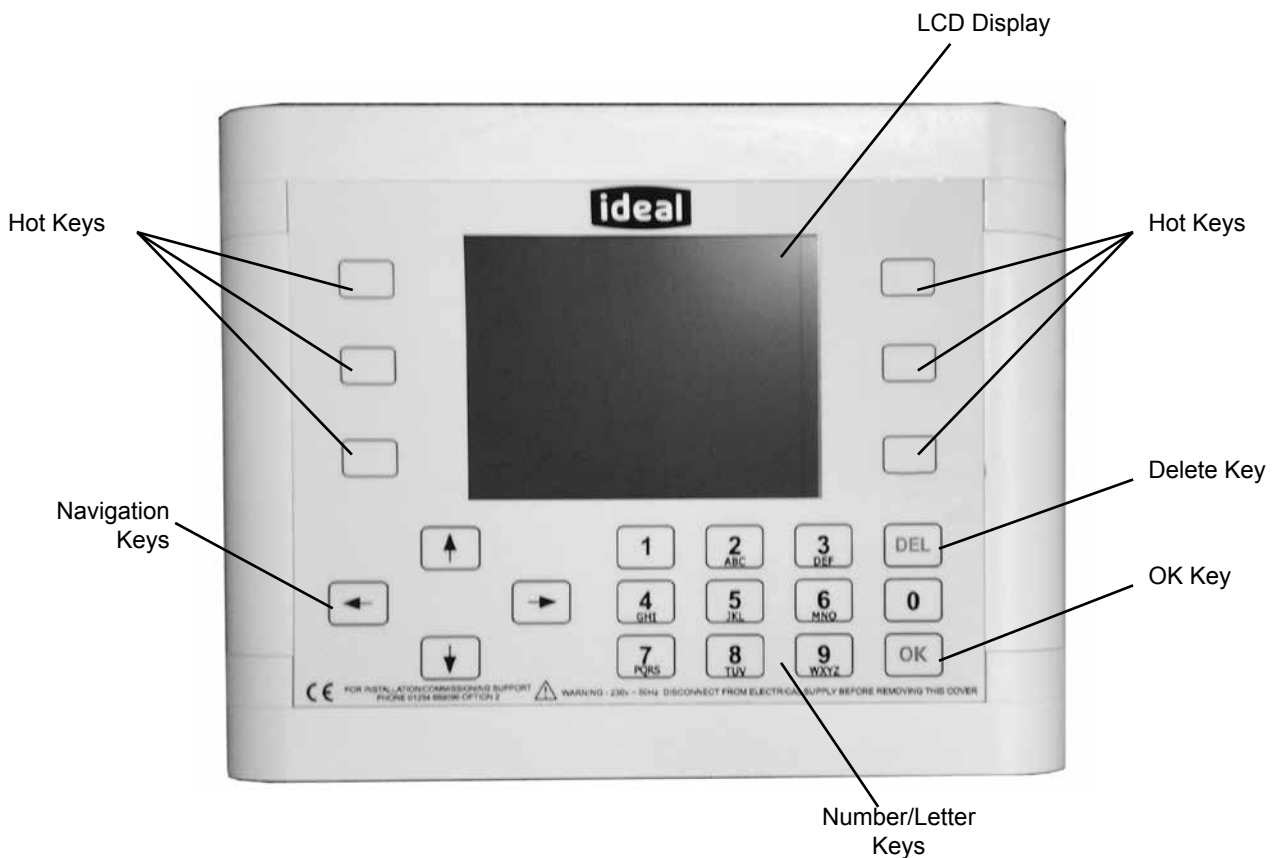
Connection diagrams and configuration instructions for more complicated configurations are available on request from Ideal Technical Support: 01482 498376.

For installation and commissioning support phone 01254 669090 - option 2.

The Sequencer is capable of being used in conjunction with:-

Room Sensor Kit UIN 252415

Flow Sensor/DHW Sensor Kit UIN 252417



The user interface comprises:-

- LCD Display
- 6 Hot Keys whose functions are indicated on the screen, varying with the operating state of the unit.
- 4 Navigation keys for moving the cursor around the display
- 10 Number/letter keys
- Delete Key
- OK Key

# GENERAL

## 2 SAFETY INSTRUCTIONS

The installation must be carried out in accordance with the current I.E.E. wiring regulations (BS 7671) and any local regulations which apply. For IE reference should be made to the current ETCI rules for electrical installations.

Detailed recommendations are contained in The Electricity at Work Regulations 1989.

A mains supply of 230Vac, 50Hz is required.

The earth connection must always be connected.

Connecting the supply voltage and/or earth through to a pump, for example, is not permitted.

At relay outputs which switch an un-fused voltage the connection wires must have an insulation sleeve.

All cable connections must be fitted with a strain relief.

## 3 POSITIONING INSTRUCTIONS

Mount the Sequencer at an easily accessible location. Install the Sequencer at eye level so that the display is easy to read. Ensure the maximum ambient temperature is 35°C.

Take account of the requirements of the Sequencer relative to ambient temperature, refer to Frame 37. Take steps to prevent the Sequencer from coming into contact with water splashes or spray.

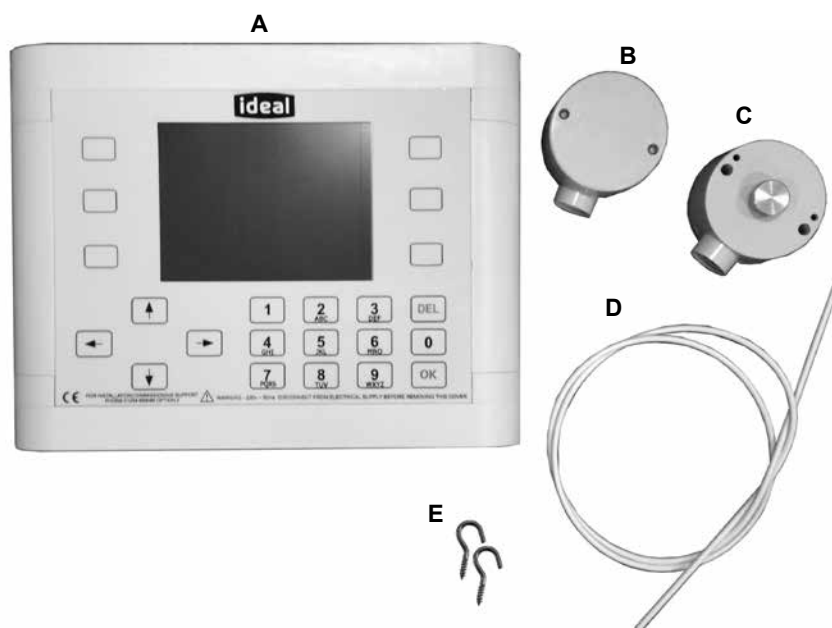
Connect the Sequencer to the 230Vac mains.

Limit the number of cables. Mount the Sequencer as close as possible to the installation components to be controlled.

## 4 CONTENTS

Check the contents of the box. This contains the following:

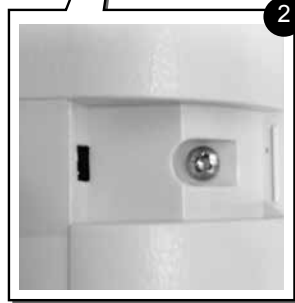
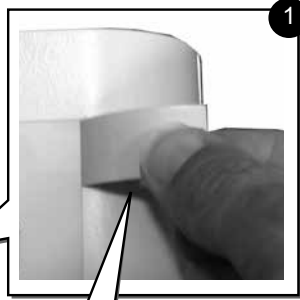
- A. Sequencer
- B. Outside Sensor
- C. Flow Sensor
- D. Fixing Strap
- E. Fixing Hooks
- F. Instructions (not shown)



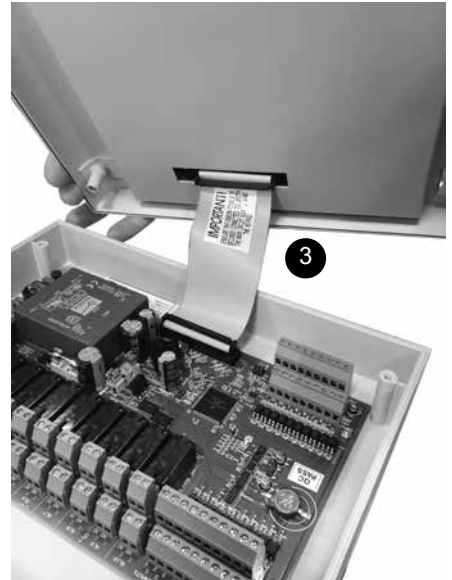
# INSTALLATION

## 5 FASTENING THE CONTROLLER

1. Remove the four plastic masking covers on each corner of the sequencer
2. Remove the four retaining screws.



3. Lift off the cover and carefully disconnect the ribbon cable that runs from the back box to the front box.

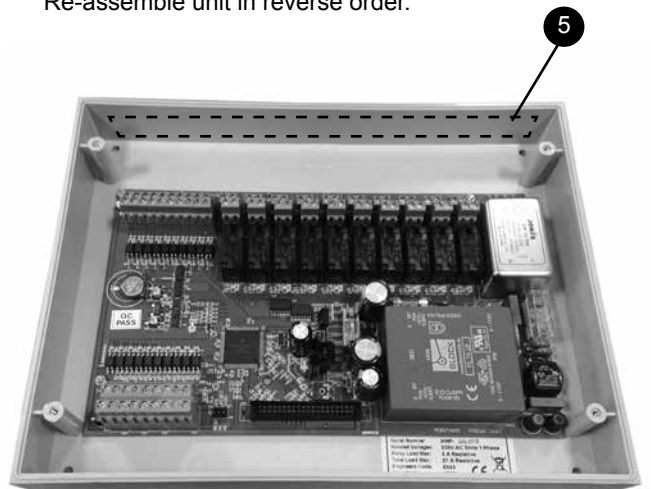


4. Use the pre-drilled mounting holes to fix the sequencer to the wall using screws and wall plugs (not provided).



5. Carefully drill cable holes to allow the appropriate number of cables to enter the box, using cable clamping (not provided) to retain the cables. Connect cabling as per Frames 6-8 or 12-14.

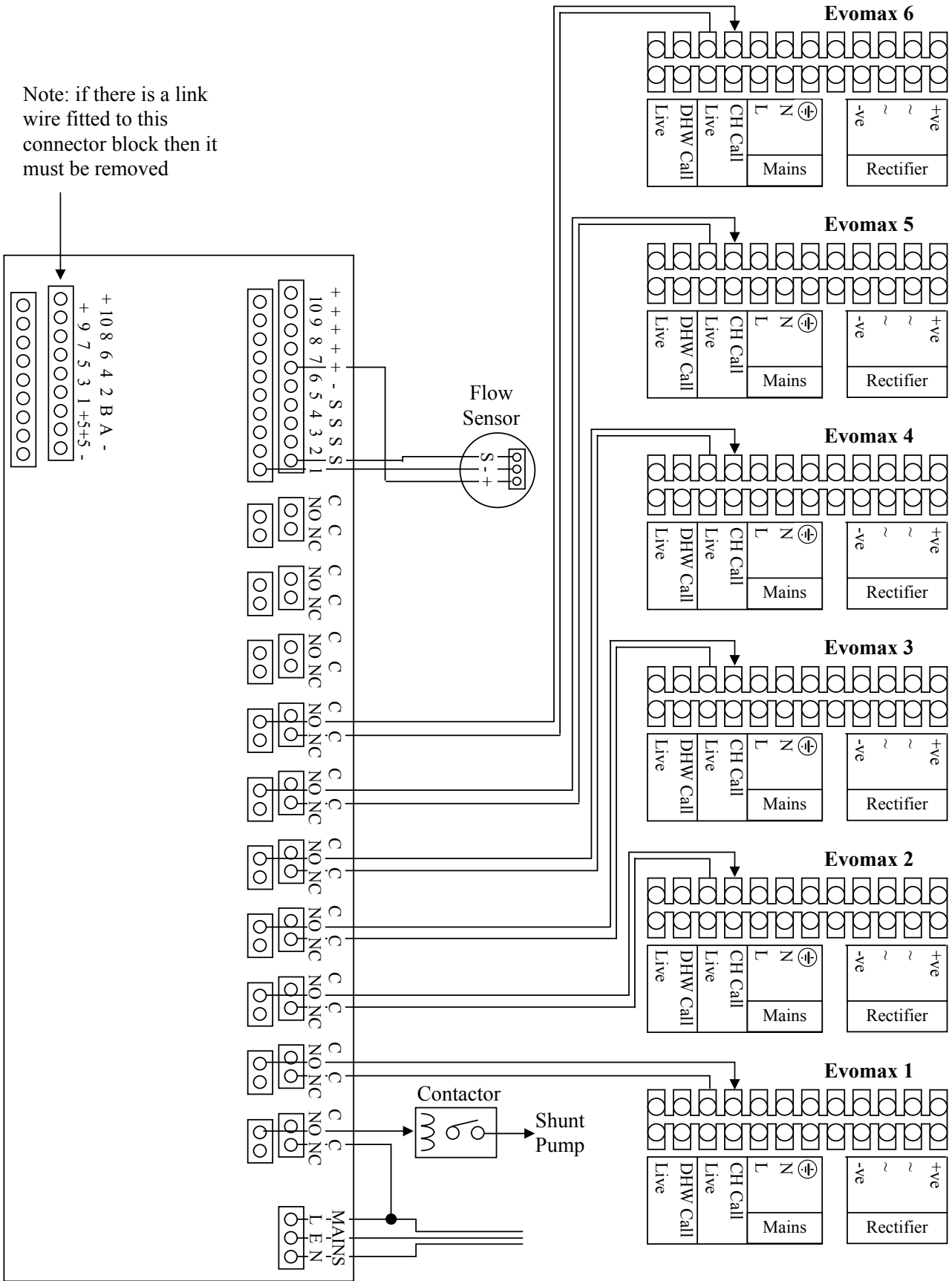
Re-assemble unit in reverse order.



# INSTALLATION

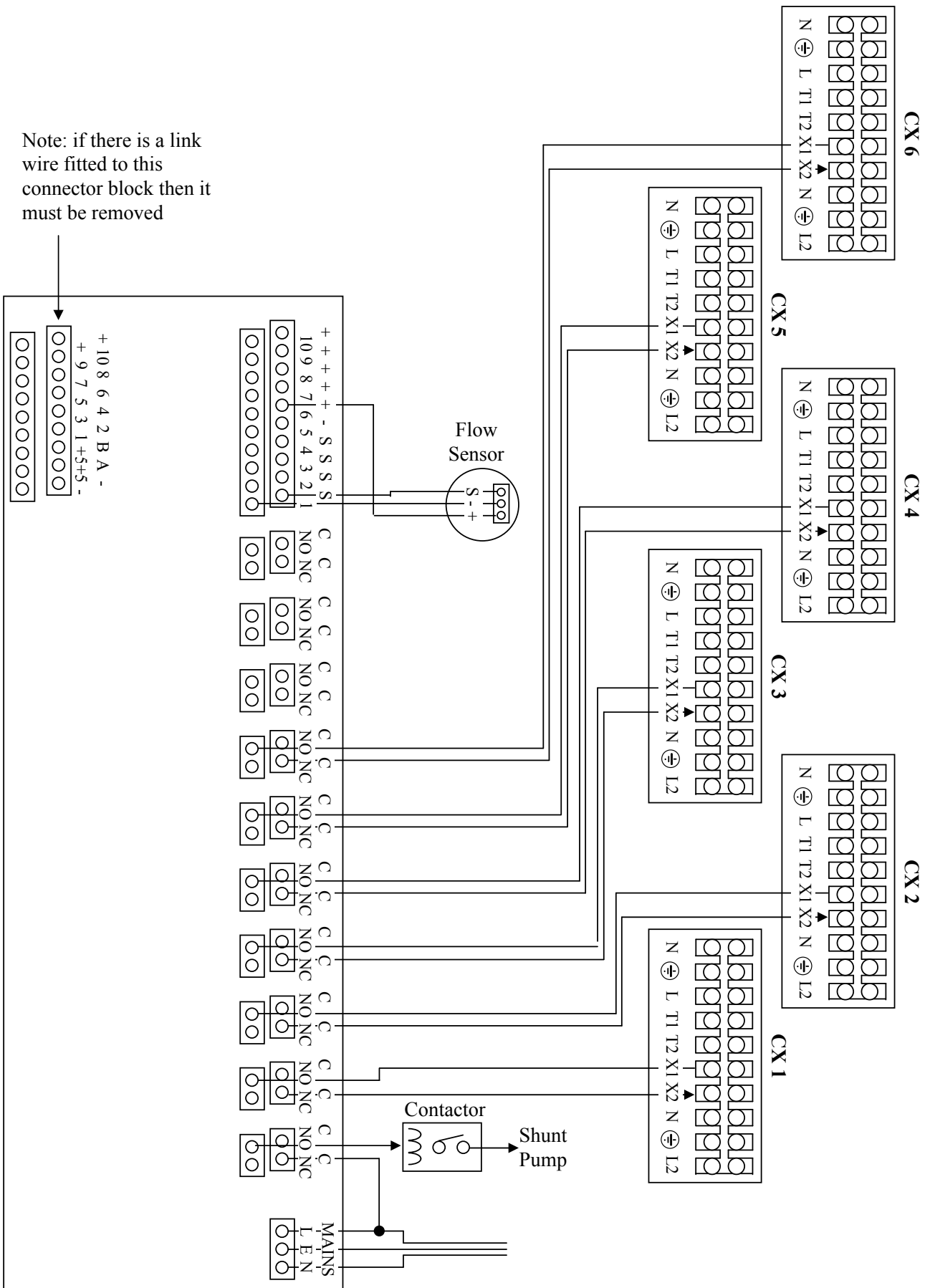
## 6 CONNECTION DIAGRAM, 1 ZONE WITHOUT WEATHER COMPENSATION, EVOMAX

Note: if there is a link wire fitted to this connector block then it must be removed



# INSTALLATION

## 7 CONNECTION DIAGRAM, 1 ZONE WITHOUT WEATHER COMPENSATION, CX



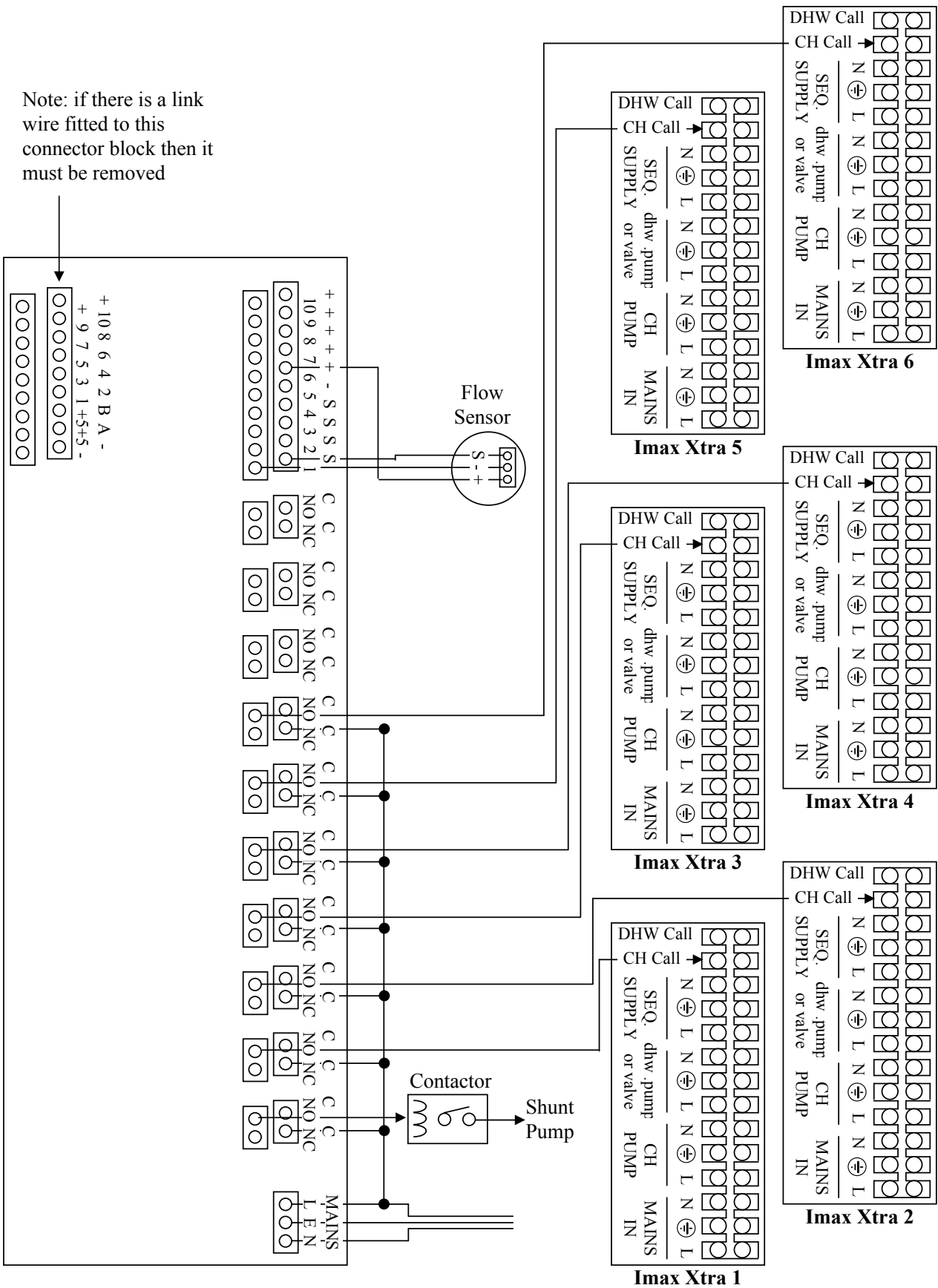
Note: if there is a link wire fitted to this connector block then it must be removed



# INSTALLATION

## 8 CONNECTION DIAGRAM, 1 ZONE WITHOUT WEATHER COMPENSATION, IMAX XTRA

Note: if there is a link wire fitted to this connector block then it must be removed



# INSTALLATION

## 9 CONFIGURATION OF 1 ZONE WITHOUT WEATHER COMPENSATION

1. Switch mains power onto the Sequencer and after a few moments a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PROGRAM	NEW SYSTEM PLEASE RUN SETUP PROCEDURE		

2. Press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	PLEASE ENTER YOUR PASSCODE		BACK

3. Enter the Engineers Code of "6343", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
INITIAL SETUP			CODE
ZONE SETUP			SYSTEM RESET
COMMS SETUP			BACK

4. Press INITIAL SETUP and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
YES	ARE YOU SURE YOU WANT TO PROCEED		NO

5. Press YES and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
YES	CONTINUING WILL DELETE ALL DATA CONTINUE?		NO

6. Press YES and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
NO	ARE YOU ENABLING THE BOILERS ON ANOTHER SEQUENCER?		EXIT
			YES

# INSTALLATION

## 10 CONFIGURATION OF 1 ZONE WITHOUT WEATHER COMPENSATION

7. Press NO and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
YES	WILL YOU BE CONNECTING A BOILER FLOW SENSOR TO THE SEQUENCER?		NO

8. Press YES and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
ENTER NUMBER OF BOILERS 01			EXIT

9. Press the required number and then OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
FIXED	IS THE BOILER FLOW TEMPERATURE FIXED OR VARIABLE?		EXIT  VARIABLE  BACK

10. Press FIXED and the following screen will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	KEY: 0=NO 1=YES		EXIT
	1. PUMP OVERRUN            20M 2. FIXED FLOW             80°C 3. FLOW FROST             08°C 4. AUTO LEAD/LAG         N 5. BOILER ON DELAY       04M 6. BOILER OFF DELAY     02M		

11. Parameters can be modified using the number keys. Movement between parameters is achieved using the arrow keys.

PUMP OVERRUN is the period the pump will continue to run for at the end of a heat demand to dissipate the heat from the system (max 99).

FIXED FLOW is the flow temperature that will be maintained during a heat demand (max 80)

FLOW FROST is the temperature at which the boilers will be switched on, even if there is no heat demand (max 20).

If Yes (press 1) is selected for AUTO LEAD/LAG then the sequence boilers fire in will be automatically changed at midnight every Sunday to make sure that all boilers are equally used. If No (press 0) is selected then the first boiler to fire will always be number one, which will have the highest usage.

BOILER ON DELAY is the minimum delay between boilers firing (max 00).

BOILER OFF DELAY is the minimum delay between boilers being switched off (max 99).

TUESDAY	09.24.51	04-06-13	EXT: 25°C
NEXT ZONE	BOILER ZONE		FINISH
	RELAY 1    PUMP RELAY 2    BOILER RELAY 3    BOILER 2 RELAY 4    BOILER 3 RELAY 5    BOILER 4 RELAY 6    BOILER 5 RELAY 7    BOILER 6		
	SENSOR 1 MAIN FLOW		BACK

Check that the Relay and Sensor connections shown match the wiring you have made to the sequencer.

# INSTALLATION

## 11 CONFIGURATION OF 1 ZONE WITHOUT WEATHER COMPENSATION

12. Press NEXT ZONE and the following screen will be displayed.

TUESDAY			09.24.51	04-06-13	EXT: 25°C
OPT	PLEASE SELECT ZONE 1 TYPE			TIMER	
COMP				VENT	
				BACK	

13. Press TIMER and a screen similar to the following will be displayed.

TUESDAY			09.24.51	04-06-13	EXT: 25°C										
KEY: 0=NO 1=YES					EXIT										
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">1. ENABLE THE BOILER</td> <td style="width: 20%; text-align: right;">N</td> </tr> <tr> <td>2. APPLY SUMMER</td> <td style="text-align: right;">N</td> </tr> <tr> <td>3. OVERRIDE LIMIT</td> <td style="text-align: right;">08H</td> </tr> <tr> <td>4. OVERRIDE INPUT</td> <td style="text-align: right;">N</td> </tr> <tr> <td>5. EXTERNAL OFF</td> <td style="text-align: right;">00°C</td> </tr> </table>						1. ENABLE THE BOILER	N	2. APPLY SUMMER	N	3. OVERRIDE LIMIT	08H	4. OVERRIDE INPUT	N	5. EXTERNAL OFF	00°C
1. ENABLE THE BOILER	N														
2. APPLY SUMMER	N														
3. OVERRIDE LIMIT	08H														
4. OVERRIDE INPUT	N														
5. EXTERNAL OFF	00°C														

Press 1 (for Y) to enable the boiler.

If APPLY SUMMER is enabled, this zone will switch into summer mode when the summer input is close (see Frame 36).

OVERRIDE LIMIT is the maximum number of hours that the override can operate for (max 99).

To enable an OVERRIDE INPUT for this zone select Y (using the 1 key). For alarm indication select N.

For EXTERNAL OFF, if the external temperature rises above this setting then the zone will switch off (max 99).

14. When all the parameters are set correctly, press OK and a screen similar to the following will be displayed.

TUESDAY			09.24.51	04-06-13	EXT: 25°C
NEXT ZONE	TIMER ZONE RELAY 04 TIMER			FINISH	
					BACK

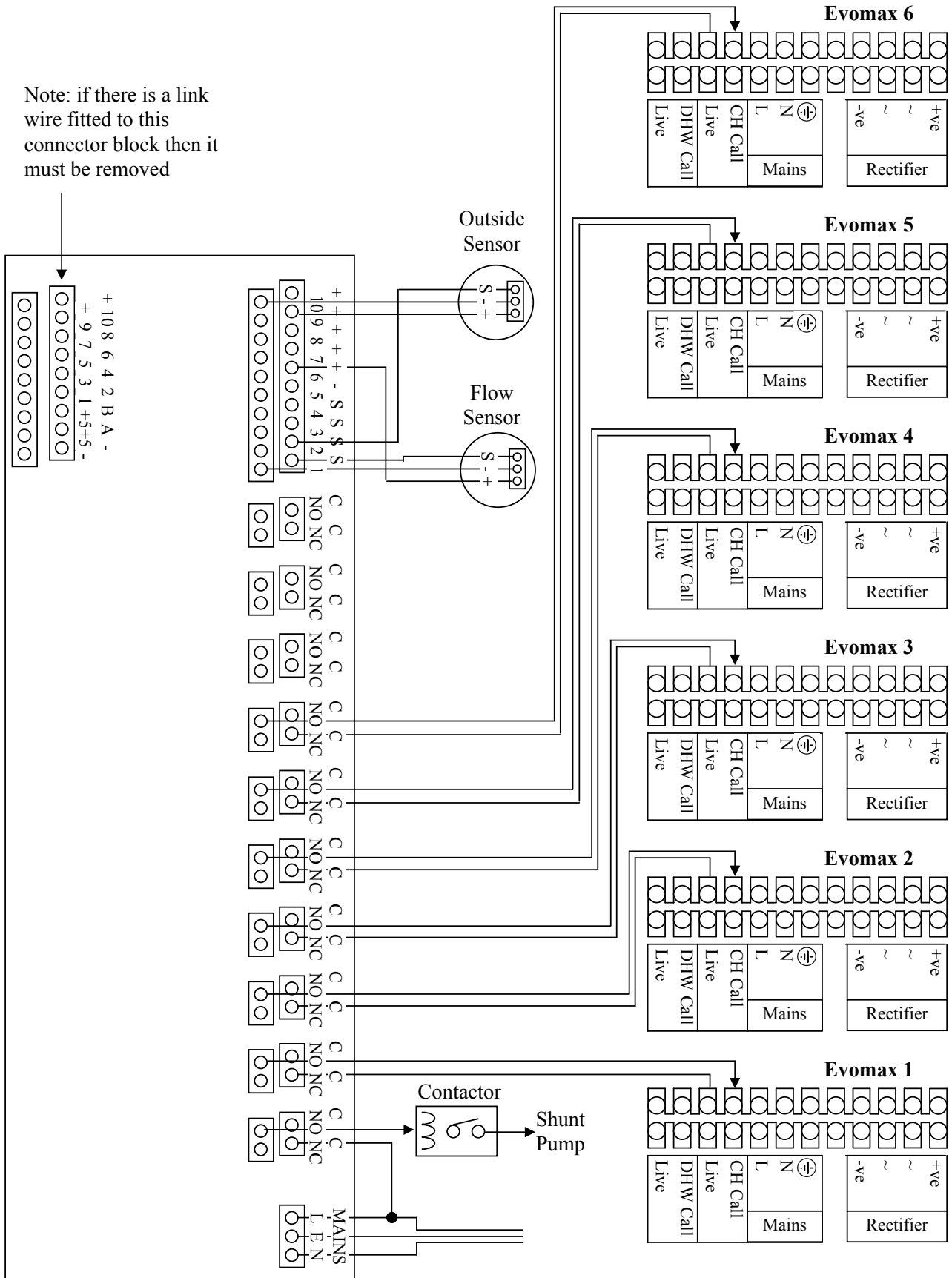
15. This relay output will not be used. Press FINISH to complete configuration and a screen similar to the following will be displayed.

TUESDAY			09.24.51	04-06-13	EXT: 25°C
PROGRAM	ZONE 1 TIMER STATUS HEAT ON ALARM CLEAR			OVERRIDE  VIEW  HOLIDAY	

# INSTALLATION

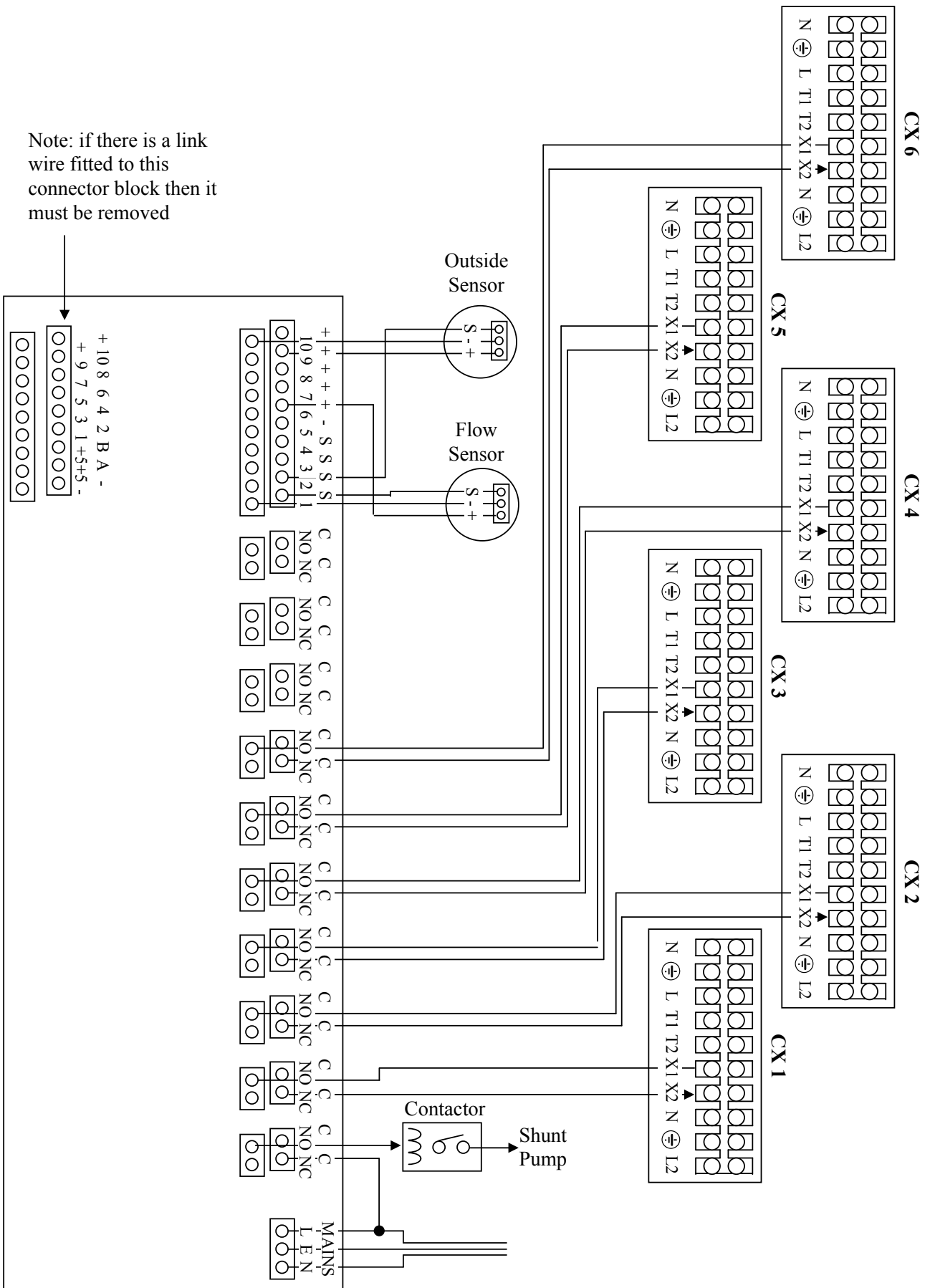
## 12 CONNECTION DIAGRAM, 1 ZONE WITH WEATHER COMPENSATION, EVOMAX

Note: if there is a link wire fitted to this connector block then it must be removed



# INSTALLATION

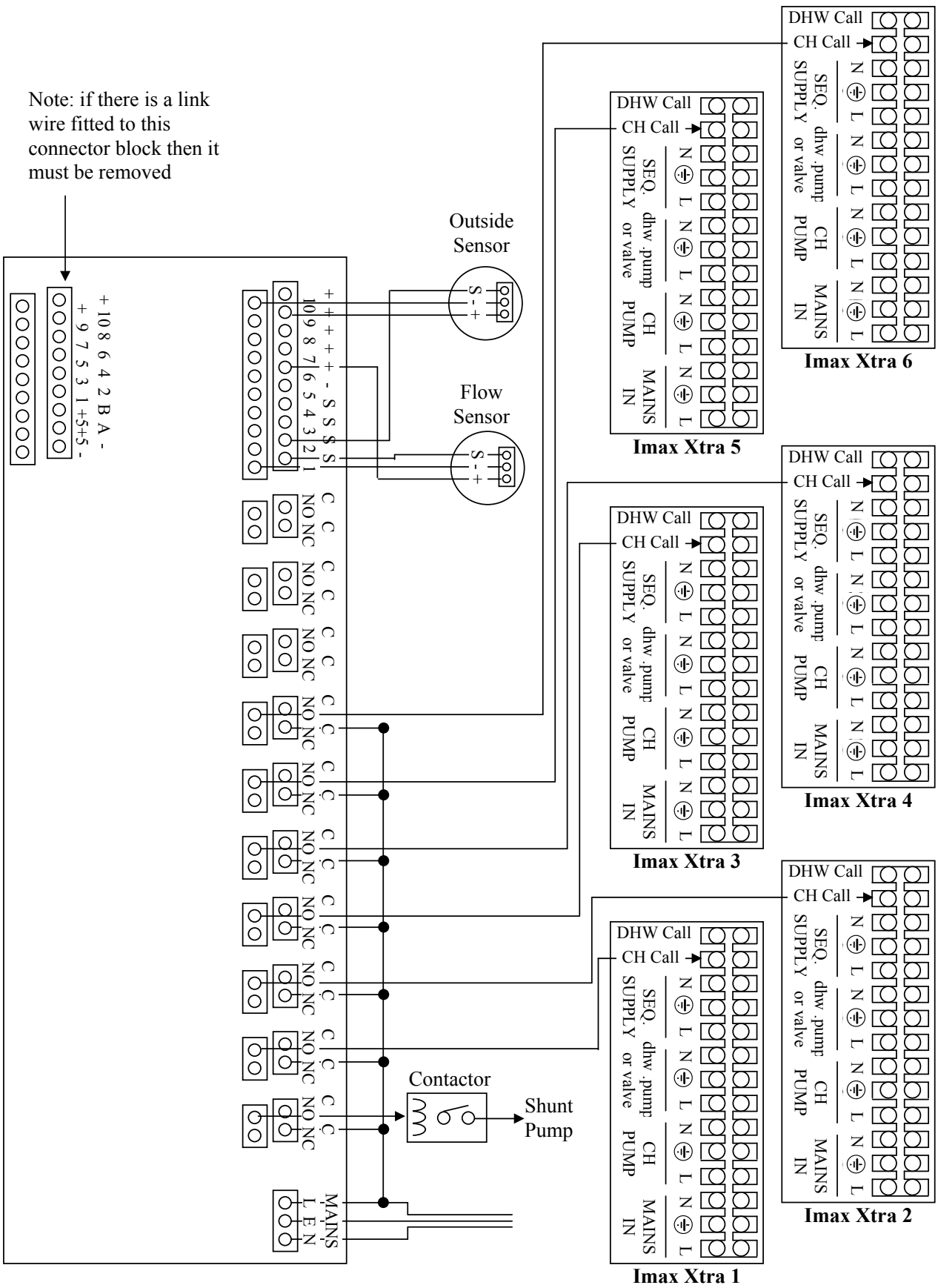
## 13 CONNECTION DIAGRAM, 1 ZONE WITH WEATHER COMPENSATION, CX



Note: if there is a link wire fitted to this connector block then it must be removed

# INSTALLATION

## 14 CONNECTION DIAGRAM, 1 ZONE WITH WEATHER COMPENSATION, IMAX XTRA



# INSTALLATION

## 15 CONFIGURATION OF 1 ZONE WITH WEATHER COMPENSATION

1. Switch mains power onto the Sequencer and after a few moments a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PROGRAM	NEW SYSTEM PLEASE RUN SETUP PROCEDURE		

4. Press INITIAL SETUP and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
YES	ARE YOU SURE YOU WANT TO PROCEED		NO

2. Press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	PLEASE ENTER YOUR PASSCODE		BACK

5. Press YES and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
YES	CONTINUING WILL DELETE ALL DATA CONTINUE?		NO

3. Enter the Engineers Code of "6343", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
INITIAL SETUP			CODE
ZONE SETUP			SYSTEM RESET
COMMS SETUP			BACK

6. Press YES and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
NO	ARE YOU ENABLING THE BOILERS ON ANOTHER SEQUENCER?		EXIT
			YES



# INSTALLATION

## 16 CONFIGURATION OF 1 ZONE WITH WEATHER COMPENSATION

7. Press NO and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
YES	WILL YOU BE CONNECTING A BOILER FLOW SENSOR TO THE SEQUENCER?		NO

8. Press YES and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
ENTER NUMBER OF BOILERS 01			EXIT

9. Press the required number and then OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
FIXED	IS THE BOILER FLOW TEMPERATURE FIXED OR VARIABLE?		EXIT  VARIABLE  BACK

10. Press VARIABLE and the following screen will be displayed.

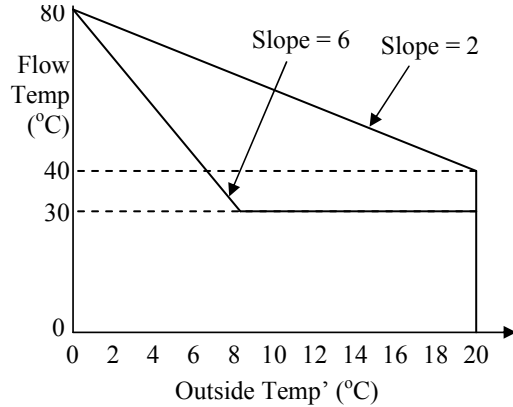
TUESDAY	09.24.51	04-06-13	EXT: 25°C
KEY: 0=NO 1=YES			EXIT
1. PUMP OVERRUN                      20M 2. FLOW FROST                        08°C 3. COMP SLOPE                         03 4. MINIMUM FLOW                       00°C 5. MAXIMUM FLOW                       80°C 6. AUTO LEAD/LAG                     N 7. HYSTERESIS                         02°C 8. BOILER ON DELAY                   04M 9. BOILER OFF DELAY                  02M			

Modify parameters using the number keys. Move between parameters using the arrow keys.

PUMP OVERRUN is the time that the pump will continue to run after the boilers are switched off to dissipate heat from the system (max 99).

FLOW FROST is the temperature at which the boilers will be switched on, even if there is no heat demand, to prevent freezing (max 20).

COMP SLOPE should be set between 2 & 6 (see graph)



MINIMUM FLOW is the minimum flow temperature that will be set (max 79).

MAXIMUM FLOW is the maximum flow temperature that will be set (max 80)

AUTO LEAD/LAG: If yes (press 1) is selected the order of the boiler firing will change at midnight every Sunday to ensure that all boilers are equally used. No (press 0) will leave boiler 1 as the permanent lead boiler.

HYSTERESIS is the number of degrees above the flow temperature set point at which the boilers will be switched off.

BOILER ON DELAY is the minimum delay between boilers firing (max 99).

BOILER OFF DELAY is the minimum delay between boilers being switched off (max 99).

# INSTALLATION

## 17 CONFIGURATION OF 1 ZONE WITH WEATHER COMPENSATION

11. When all parameters are set correctly Press OK and a screen similar to the following will be displayed.

TUESDAY			09.24.51	04-06-13	EXT: 25°C
NEXT ZONE	BOILER ZONE			FINISH	
	RELAY 1	PUMP			
	RELAY 2	BOILER 1			
	RELAY 3	BOILER 2			
	RELAY 4	BOILER 3			
	RELAY 5	BOILER 4			
	RELAY 6	BOILER 5			
	RELAY 7	BOILER 6			
	SENSOR 1 MAIN FLOW		BACK		

Check that the Relay and Sensor connections shown match the wiring you have made to the sequencer.

12. Press NEXT ZONE and the following screen will be displayed.

TUESDAY			09.24.51	04-06-13	EXT: 25°C
OPT				TIMER	
COMP	PLEASE SELECT ZONE 1 TYPE			VENT	
				BACK	

13. Press TIMER and a screen similar to the following will be displayed.

TUESDAY			09.24.51	04-06-13	EXT: 25°C
	KEY: 0=NO 1=YES			EXIT	
	1. ENABLE THE BOILER	N			
	2. APPLY SUMMER	N			
	3. OVERRIDE LIMIT	08H			
	4. OVERRIDE INPUT	N			
	5. EXTERNAL OFF	00°C			

Press 1 (for Y) to enable the boiler.

Parameters are modified using the number keys, movement between parameters is by using the arrow keys.

If APPLY SUMMER is enabled, this zone will switch into summer mode when the summer input is closed (see Frame 36).

OVERRIDE LIMIT is the maximum number of hours that the override can operate for (max 99).

To enable an OVERRIDE INPUT for this zone select Y (using the 1 key). For alarm indication select N.

For EXTERNAL OFF, if the external temperature rises above this setting then the zone will switch off (max 99).

14. When all the parameters are set correctly press OK and a screen similar to the following will be displayed.

TUESDAY			09.24.51	04-06-13	EXT: 25°C
NEXT ZONE	TIMER ZONE			FINISH	
	RELAY 04 TIMER			BACK	

15. This relay output will not be used. Press FINISH to complete configuration and a screen similar to the following will be displayed.

TUESDAY			09.24.51	04-06-13	EXT: 25°C
PROGRAM	ZONE 1			OVERRIDE	
	TIMER			VIEW	
	STATUS			HOLIDAY	
	HEAT	ON			
	ALARM CLEAR				

# INSTALLATION

## 18 SETTING PROGRAM TIMES

1. Starting from the Normal Operating screen, press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE ENTER YOUR PASSCODE			
			BACK

2. Enter the End User Code 0000, press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
SYSTEM			SYSTEM FROST
COMFORT LEVELS			HOL/OVER PROTECT
HOLS			BACK

3. Press COMFORT LEVELS and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE SELECT A ZONE			
1 ZONE 1			
			BACK

4. Press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
COPY	MONDAY 06 : 00	PERIOD 1 07 : 00	FINISH
PREV LEVEL			NEXT PERIOD
ENABLE DISABLE			BACK

5. Use the number keys to change the times and temperatures and the arrow keys to move between them.

Use NEXT PERIOD to move to the next time/temperature setting (up to 4 periods).

If COPY is pressed a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
COPY FROM DAY	ARE YOU SURE YOU WANT TO COPY ALL TIMES FROM  MONDAY>WEEKDAYS		COPY TO DAY
NO			YES

6. Press COPY FROM DAY to change the day that is being copied from, press COPY TO DAY to change the day that is being copied to and press YES when the correct days are shown. Options are: Individual Days, Weekdays, All. Press FINISH when complete.

Note that timings may not work if periods overlap. Ensure that periods do not overrun into the next day.  
e.g. 08:00 - 07:00 (which would start at 8am on the first day and finish at 7am on the following day)

# INSTALLATION

## 19 NORMAL OPERATING SCREENS

### 1. Operation without Timer, Optimisation or Weather Compensation

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PROGRAM	BOILER REMOTE ENABLED FLOW TEMPERATURE  ACTUAL    SET 22°C     40°C  PUMP STATUS ON  BOILER STATUS 1 2 3 4 5 6	OVERVERRIDE	HOLIDAY

If a boiler number is shown underneath "BOILER STATUS" this indicates that the Sequencer has switched this boiler on.

### 2. Optimisation Operation

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PROGRAM	ZONE 1  TEMPERATURE ACTUAL    SET 22°C     40°C  STATUS  HEAT            ON  ALARM: CLEAR	OVERVERRIDE	HOLIDAY

HEAT ON indicates that the Sequencer is either operating in a Timed On period or has switched on in advance of a Timed On period to achieve the required Flow Temperature for the beginning of the Timed On period.

### 3. Operation With Timer

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PROGRAM	ZONE 1  TIMER  STATUS  HEAT            ON  ALARM: CLEAR	OVERVERRIDE	HOLIDAY

HEAT ON indicates that the Sequencer is operating in a Timed On period.

### 4. Compensation Operation with Internal Sensor

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PROGRAM	ZONE 1 FLOW TEMPERATURE ACTUAL    SET 22°C     40°C ROOM TEMPERATURE ACTUAL    SET 22°C     20°C  PUMP    OFF VALVE    CLOSING HEAT    ON  ALARM: CLEAR	OVERVERRIDE	HOLIDAY

HEAT ON indicates that the Outside Temperature and Room Temperature are indicating that the system requires heat so the Sequencer has switched the boilers on.

### 5. Compensation Operation without Internal Sensor

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PROGRAM	ZONE 1  FLOW TEMPERATURE ACTUAL    SET 22°C     40°C  PUMP    OFF VALVE    WAITING  HEAT    OFF NOT IN TIMED PERIOD  ALARM: CLEAR	OVERVERRIDE	HOLIDAY

NOT IN TIMED ON PERIOD indicates that there is no current heat demand so the boilers are switched off.

# INSTALLATION

## 20 SENSOR CALIBRATION

Each sensor connected to the Sequencer should be calibrated to ensure the reading is accurate. Calibration should take place from 1 hour after installation is complete.

Take an accurate temperature measurement using a digital thermometer for each zone prior to calibration.

Note that the Outside Sensor is calibrated on the Boiler Zone with the Flow Sensor.

1. To calibrate press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE ENTER YOUR PASSCODE			
			BACK

2. Enter "6343" and then press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
INITIAL SETUP			CODE
ZONE SETUP			SYSTEM RESET
COMMS SETUP			BACK

3. Press "ZONE SETUP" and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE SELECT A ZONE			
1 BOILER ZONE 2        ZONE 1			
			CLEAR LOG
			BACK

4. Select each zone in turn using OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
VIEW CONFIG			RE- CONFIG
SENSOR CAL			BACK

5. Press SENSOR CAL and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
BOILER FLOW SENSOR SENSOR NOW READING 22°C NEW SENSOR READING 22°C EXTERNAL SENSOR SENSOR NOW READING 22°C NEW SENSOR READING 22°C			
			CANCEL
			BACK

6. Enter the measured readings into the NOW READING lines, press OK and then press BACK until normal operation is resumed.

# INSTALLATION

## 21 TITLE SET-UP

1. To change the names of Zones, Relays and Alarms press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE ENTER YOUR PASSCODE			BACK

2. Enter "6343", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
INITIAL SETUP			CODE
ZONE SETUP			SYSTEM RESET
COMMS SETUP			BACK

3. Press ZONE SETUP and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE SELECT A ZONE			CLEAR LOG
1 BOILER ZONE			
2        ZONE 1			
			BACK

4. Use the arrow keys to place the cursor under the zone where titles are to be modified and press OK.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
VIEW CONFIG			RE- COINFIG
TITLES			BACK

5. Press TITLES and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
ZONE TITLE			
RELAY TITLE			
ALARM TITLE			BACK

6. To change a Zone name press ZONE TITLE and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
ENTER TITLE HERE ZONE 1			CANCEL
			BACK

Enter the desired name using the letter keys and press OK.

## 22 TITLE SET-UP

7. To change a Relay title, press RELAY TITLE and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	ENTER TITLE HERE PUMP  ENTER TITLE HERE VALVE		CANCEL    BACK

Enter the desired name using the letter keys and press OK.

8. To change an Alarm title, press ALARM TITLE and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	ENTER TITLE HERE ALARM  ENTER TITLE HERE VALVE		CANCEL    BACK

Enter desired name using letter keys, use right arrow to move between titles then press OK.

# INSTALLATION

## 23 VIEWING ZONE SET-UP

1. To view zone setup press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE ENTER YOUR PASSCODE			
		BACK	

2. Enter "6343", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
INITIAL SETUP			CODE
ZONE SETUP			SYSTEM RESET
COMMS SETUP			BACK

3. Press ZONE SETUP and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE SELECT A ZONE			
1 BOILER ZONE 2        ZONE 1			
		CLEAR LOG	
		BACK	

4. Use the up and down arrows to position the cursor under the name of the zone you would like to view and then press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
VIEW CONFIG			RE- COINFIG
SENSOR CAL			BACK

5. Press VIEW CONFIG and the parameters of the zone will be displayed. See Frames 10, 11, 16, & 17 for an explanation of the parameters.



# INSTALLATION

## 24 ALTERING A ZONE SET-UP

1. To alter the zone setup press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	PLEASE ENTER YOUR PASSCODE		BACK

2. Enter "6343", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
INITIAL SETUP		CODE	
ZONE SETUP		SYSTEM RESET	
COMMS SETUP		BACK	

3. Press ZONE SETUP and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	PLEASE SELECT A ZONE		CLEAR LOG
	1 BOILER ZONE		
	2 ZONE 1		
			BACK

4. Use the up and down arrows to position the cursor under the name of the zone you would like to view and then press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
VIEW CONFIG		RE- COINFIG	
SENSOR CAL		BACK	

5. Press RE-CONFIG and the parameters of the zone will be displayed. Move between the parameters using the arrow keys and modify them using the number keys before pressing OK to save.

## 25 USER CODE RESET

1. If the User Code has been changed and forgotten then it can be reset as follows. Press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	PLEASE ENTER YOUR PASSCODE		BACK

2. Enter "6343", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
INITIAL SETUP			CODE
ZONE SETUP			SYSTEM RESET
COMMS SETUP			BACK

3. Press CODE and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	FIND OUT USER CODE		CONFIRM
	USER CODE: 0000 NEW CODE: _		
			BACK

4. Enter a new code using the number keys and then press CONFIRM to store.

# INSTALLATION

## 26 RESET TO FACTORY SETTINGS

1. To reset the Sequencer to factory settings press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	PLEASE ENTER YOUR PASSCODE		BACK

2. Enter "6343", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
INITIAL SETUP		CODE	
ZONE SETUP		SYSTEM RESET	
COMMS SETUP		BACK	

3. Press SYSTEM RESET and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	ARE YOU SURE YOU WANT TO RESET ALL DATA?		
YES		NO	

4. To reset all data press YES and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
YES	CONTINUING WILL DELETE ALL DATA CONTINUE?		NO

5. Press YES and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	ALL DATA HAS BEEN RESET!		BACK

6. Press BACK twice to return to normal operation.

## 27 OVERRIDE

From Normal Operating screens press **VERRIDE** and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	PLEASE SELECT A ZONE		CLEAR LOG
	1 BOILER ZONE		
	2 ZONE 1		
			BACK

Use the arrow keys to move the cursor under the zone you would like to override and then press **OK** and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	OVERRIDE		CODE
	TEMP: 20°C		DELETE
	HOUR: 01		
			BACK

Use the up and down arrow keys to move between temperature and time (if both displayed) and the number keys to set the override period and then press **CONFIRM**.

Note that deleting an override period will only become effective 3 minutes after being deleted.

Note that entering an override of 00 will still cause override activation for 3 minutes.

## 28 VIEW DAILY LOG

From Normal Operating Screens, to view the daily log press VIEW and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
	TEMPERATURE MAX	--°C	
	TEMPERATURE MIN	--°C	
	OCCUPANCY ON TIME	--.--	
	REACHED SET POINT	--.--	
	MAXIMUM FREEHEAT	00	
	RATE OF CHANGE	00	
	HOURS RUN	00.23	
			BACK

TEMPERATURE MAX is the highest air temperature in this zone today.

TEMPERATURE MIN is the lowest air temperature in this zone today.

OCCUPANCY ON TIME is the time the heating first switched on today in this zone (remember that the optimisation function could bring heating on ahead of the first on time).

REACHED SET POINT is the time the heating in this zone reached the programmed set temperature.

MAXIMUM PREHEAT is the maximum number of hours the heating can come on before the programmed on time.

RATE OF CHANGE is the number of minutes it takes to raise the building by 1°C.

HOURS RUN is the total number of hours that the heating has been on today.

Press BACK to return to normal operation.

# INSTALLATION

## 29 SETTING THE CLOCK

1. Press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE ENTER YOUR PASSCODE			
			BACK

2. Enter "0000", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
SYSTEM			SYSTEM FROST
COMFORT LEVELS			HOL/OVER PROTECT
HOLS			BACK

3. Press SYSTEM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
CLOCK			USER CODE
LOG			BACK

4. Press CLOCK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
FORMAT			SETTING
			BACK

5. Press SETTING and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
BST/GMT	TIME (24HRS):      13.10 DATE (D:M:Y): 12-06-13 BST/GMT ENABLED		CONFIRM
			BACK

6. Press BST/GMT to change between automatic summer/winter time and manual. Use the up and down arrows to move between time and date, use the number keys to change the settings and then press CONFIRM.

# INSTALLATION

## 30 CHANGING THE CLOCK FORMAT

1. Press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE ENTER YOUR PASSCODE			
			BACK

2. Enter "0000", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
SYSTEM			SYSTEM FROST
COMFORT LEVELS			HOL/OVER PROTECT
HOLS			BACK

3. Press SYSTEM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
CLOCK			USER CODE
LOG			BACK

4. Press CLOCK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
FORMAT			SETTING
			BACK

5. Press FORMAT and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
DD:MM:YY <input checked="" type="radio"/> YY:MM:DD <input type="radio"/> MM:DD:YY <input type="radio"/>  HH:MM(24HRS) <input checked="" type="radio"/> HH:MM(AM/PM) <input type="radio"/>			CONFIRM
			BACK

6. Use the up and down arrow keys to change from one line to another and the OK key to change the selection, press CONFIRM to accept the changes.

# INSTALLATION

## 31 VIEW HOURS RUN AND TEMPERATURE/RELAY LOGS

1. Press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE ENTER YOUR PASSCODE			
			BACK

2. Enter "0000", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
SYSTEM			SYSTEM FROST
COMFORT LEVELS			HOL/OVER PROTECT
HOLS			BACK

3. Press SYSTEM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
CLOCK			USER CODE
LOG			BACK

4. Press LOG and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE SELECT A ZONE			
1 BOILER ZONE 2 ZONE 1			
			CLEAR LOG
BACK			

5. Use the arrow keys to move the cursor under the zone you would like to view, press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
HOURS RUN			LOG
BACK			

6. To see Hours Run for the last 3 weeks press HOURS RUN, to see Temperature and Relay Status Logs press LOG with the following screens shown respectively.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
CURRENT WEEK: 000H 00M -1 WEEK: 000H 00M -2 WEEK: 000H 00M			
BACK			

TUESDAY	09.24.51	04-06-13	EXT: 25°C
BACK	TIME: 00:15 RELAY 1: ON RELAY 2: ON RELAY 3: ON RELAY 4: ON RELAY 5: ON RELAY 6: ON RELAY 7: ON		NEXT
TEMP: 21°C			
BACK			

7. Press BACK to exit.



# INSTALLATION

## 32 CHANGING THE USER ACCESS CODE

1. Press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE ENTER YOUR PASSCODE			BACK

2. Enter "0000", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
SYSTEM  COMFORT LEVELS  HOLS			SYSTEM FROST  HOL/OVER PROTECT  BACK

3. Press SYSTEM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
CLOCK    LOG			USER CODE   BACK

4. Press USER CODE and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
CODE SETTING  OLD CODE: _ NEW CODE			CONFIRM   BACK

5. Enter the existing User Code and new code using the number keys, then press CONFIRM.

# INSTALLATION

## 33 HOLIDAY

1. Press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE ENTER YOUR PASSCODE			
			BACK

2. Enter "0000", press OK and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
SYSTEM			SYSTEM FROST
COMFORT LEVELS			HOL/OVER PROTECT
HOLS			BACK

3. Press HOLS and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PERIOD 1			PERIOD 4
PERIOD 2			PERIOD 5
PERIOD 3			BACK

4. Select the desired period using the appropriate key (PERIOD 1 for a single holiday period) and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
FORMAT	DD-MM-YY START DATE: 00-00-00 LENGTH: 00 DAYS		CONFIRM
			BACK

5. Enter the start date and duration using the number keys then press CONFIRM.
6. The holiday period can be disabled from normal operating screens by pressing HOLIDAY and then DISABLE (see Frame 19).

## 34 SYSTEM FROST PROTECTION

1. To enter a System Frost Protection temperature press PROGRAM and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
PLEASE ENTER YOUR PASSCODE			BACK

2. Enter "0000" and then press "OK" and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
SYSTEM			SYSTEM FROST
COMFORT LEVELS			HOL/OVER PROTECT
HOLS			BACK

3. Press SYSTEM FROST and a screen similar to the following will be displayed.

TUESDAY	09.24.51	04-06-13	EXT: 25°C
SYSTEM FROST 04°C			CONFIRM
			BACK

4. Use the number keys to enter the desired system frost protection temperature and then press CONFIRM.

If the Outside Sensor shows a temperature of less than 0°C then the system pump will be switched on.

If the flow sensor shows less than 8°C then the first boiler will fire.

## FAULT FINDING

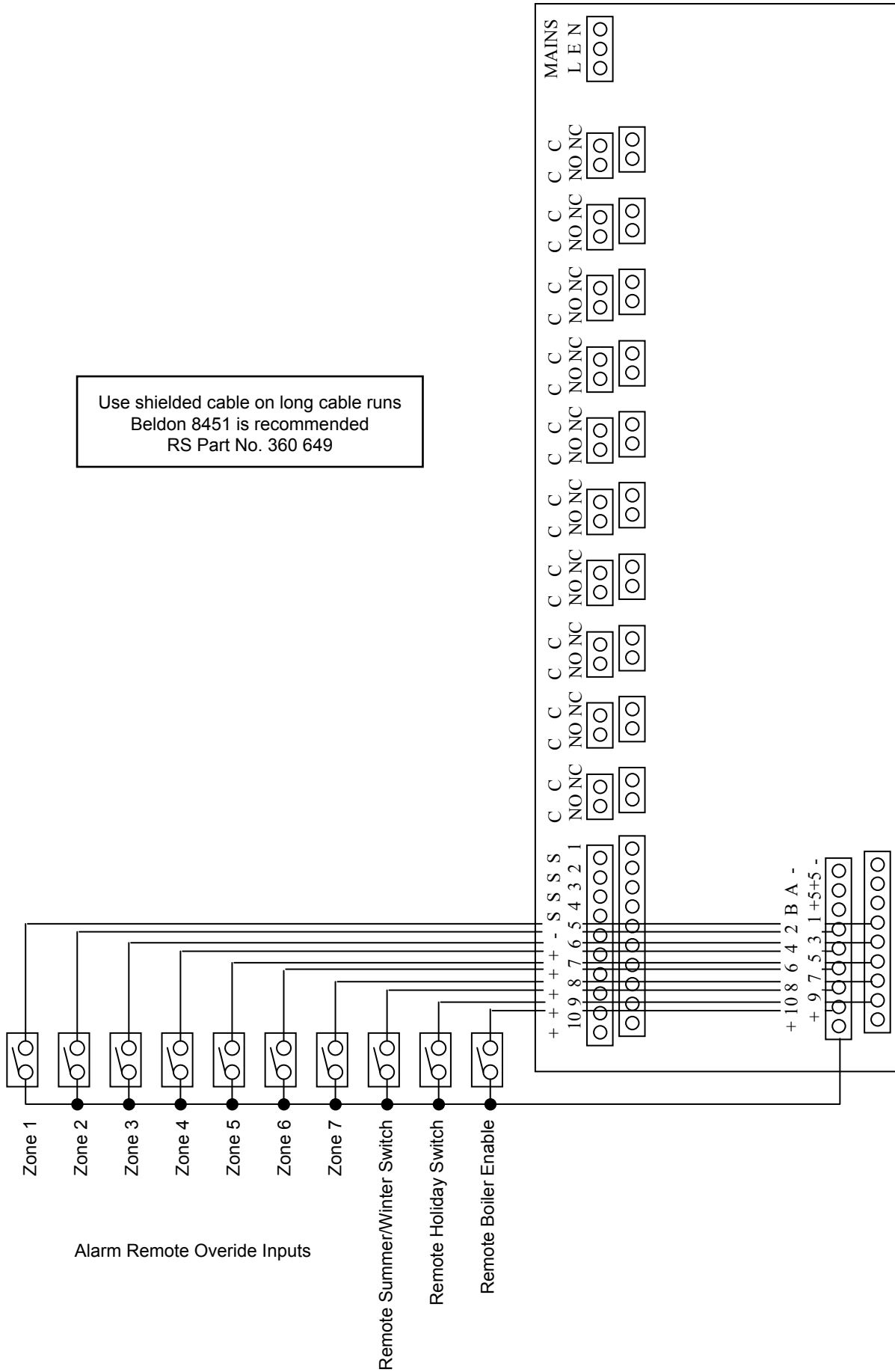
### 35 FAULT FINDING

Blank Screen:	Check that Mains Live, Neutral and Earth connections are securely made
	Check for shorts on sensor connections between +V and -V
	Check for power to the Sequencer
	Check internal fuses are OK
Intermittent Operation:	Check that the Mains Earth connection is securely made
	Check that the Sensor screen connections are securely made
	Check that an appropriate screened cable has been used for the sensors
Permanent Pump Operation:	Check that pump connections are made to correct connections
Boiler Overheat:	Check that pump connections are made to correct connections
	Check that boiler connections are made to correct connections
No Boiler Operation:	Check that boiler connections are made to correct connections
	Check that configuration is correct
	Check that sensors are connected to correct connections
	Check that the link wire between connection 10 and + is in place

# FAULT FINDING

## 36 ALARM AND REMOTE OVERRIDE CONNECTION DIAGRAM

Use shielded cable on long cable runs  
Beldon 8451 is recommended  
RS Part No. 360 649



## GENERAL

### 37 TECHNICAL SPECIFICATION

Dimensions:	290mm x 220mm x 70mm
Weight :	2.4Kg
Rated Supply Voltage :	230Vac, + 10% / -15%, 50/60Hz
Power Consumption:	0.1A
Internal Fuses:	1 x T800mAL, 230Vac
	2 x 500mAL, 230Vac
	Dimensions 5 x 20mm, following IEC 127
Approvals:	EN55014-1:2000+A1:2001+A2:2002
	EN55014-2:1997+A1:2001
Max ambient temperature (storage):	70°C
Max ambient temperature (operation):	35°C
Relay Outputs:	10 Volt Free Relays, 230Vac, 3A
Analogue Inputs:	10

### 38 SPARES

Comprehensive spare part information and details of approved Ideal Parts Distribution are available on [www.idealparts.com](http://www.idealparts.com).

Our parts team are also available to help you with your Ideal Spare Parts enquiries on 01482 498665.

When calling, and to ensure we can provide you with the most accurate parts information, please ensure you have the serial number of the part to hand.

## NOTES

## Technical Training

The Ideal Boilers Technical Training Centre offers a series of first class training courses for domestic, commercial and industrial heating installers, engineers and system specifiers. For details of courses please ring: ..... 01482 498 432

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Registered Office

**Ideal Boilers Limited** National Avenue, Hull, HU5 4JB.

Telephone: 01482 492 251 Fax: 01482 448 858



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