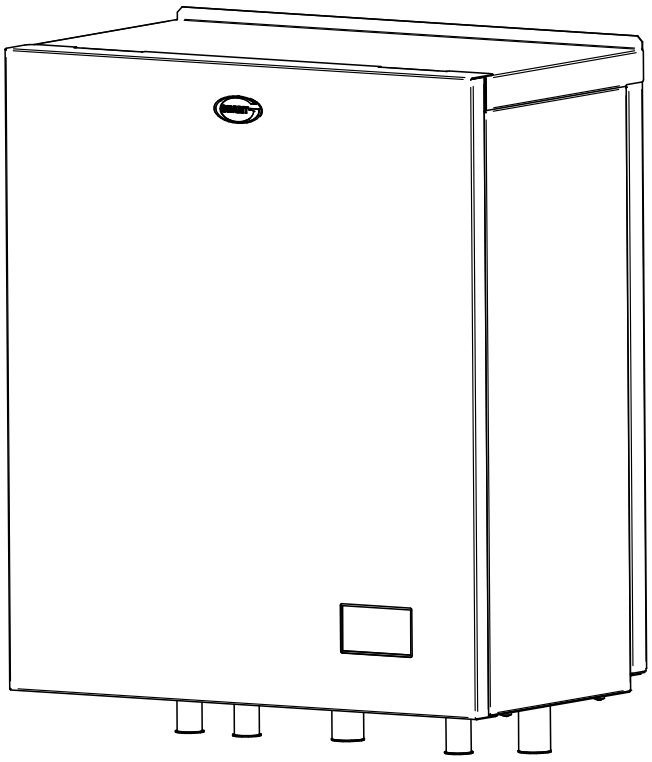
Grant EvoLink

Hybrid System Hub

Installation Instructions



THESE INSTRUCTIONS SHOULD BE READ IN CONJUNCTION WITH THE INSTALLATION AND SERVICING INSTRUCTIONS SUPPLIED WITH THE AERONA³ AND ANY OTHER HEATING APPLIANCES USED.

UK | DOC 0200 | Rev 1.2 | February 2024

IMPORTANT NOTE FOR INSTALLERS

These instructions are intended to guide installers on the installation and commissioning of the Grant EvoLink hybrid system hub, intended for use with a Grant Aerona³ air source heat pump and other heating appliance. After installing the unit, leave these instructions with the user.

SPECIAL TEXT FORMATS

The following special text formats are used in these instructions for the purposes listed below:

! WARNING !

Warning of possible human injury as a consequence of not following the instructions in the warning.

! CAUTION !

Caution concerning likely damage to equipment or tools as a consequence of not following the instructions in the caution.

! NOTE !

Used for emphasis or information not directly concerned with the surrounding text but of importance to the reader.

PRODUCT CODES AND SERIAL NUMBERS COVERED

The serial numbers used on Grant EvoLink consist of a fifteen digit numerical code with the final three digits being the product identifier.

For example:

100000200218**795**

This serial number can be found on a label attached to the underside of the bottom casing panel on the right hand side (immediately below the User interface screen).

These instructions cover the following product codes and serial numbers:

Product code	Serial number identifier
EVOLINK	795

! NOTE !

These Instructions are based on the following EvoLink software revisions:

Main PCB: D14

Interface PCB: D13

GRANT ENGINEERING (UK) LIMITED

Frankland Road, Blagrove Industrial Estate, Swindon, SN5 8YG

Tel: +44 (0)1380 736920 Fax: +44 (0)1380 736991

Email: info@grantuk.com www.grantuk.com

This manual is accurate at the date of printing but will be superseded and should be disregarded if specifications and/or appearances are changed in the interests of continued product improvement. However, no responsibility of any kind for any injury, death, loss, damage or delay however caused resulting from the use of this manual can be accepted by Grant Engineering (UK) Limited, the author or others involved in its publication.

All good sold are subject to our official Conditions of Sale, a copy of which may be obtained on application.

© Grant Engineering (UK) Limited. No part of this manual may be reproduced by any means without prior written consent.

Contents

1 INTRODUCTION 4
- 1.1 General 4
- 1.2 How it works 4
- 1.3 Touchscreen user interface 4
- 1.4 Product Contents 4

2 TECHNICAL DATA 5
- 2.1 EvoLink Technical Data 5
- 2.2 Dimensions 5

3 INSTALLATION 6
- 3.1 General 6
- 3.2 Regulations and Standards 6
- 3.3 Location 6
- 3.4 Clearances 6
- 3.5 Metering 6
- 3.6 System cleaning 6
- 3.7 Pipe connections 6
- 3.8 EvoLink installation 7
- 3.9 Installation procedure 7

4 ELECTRICAL 8
- 4.1 General 8
- 4.2 Electrical connections 8
- 4.3 Electrical supply 9
- 4.4 Boiler demand 9
- 4.5 7-Day immersion programmer (legionella) 9
- 4.6 Aerona³ air source heat pump 10
- 4.7 Electricity meter 10
- 4.8 Outdoor air temperature sensor 10
- 4.9 System return temperature sensor 11
- 4.10 Supplementary circulating pump 11
- 4.11 Heating system controls 11
- 4.12 System wiring diagrams - switch live demand - heating only boiler 12
- 4.13 System wiring diagrams - switch live demand - combi boiler 13
- 4.14 System wiring diagrams - volt free switching - heating only boiler 14

5 EVOLINK OPERATION 15
- 5.1 Introduction 15
- 5.2 Operation 16
- 5.3 Manual override operation 17
- 5.4 Diagnostic screen 17
- 5.5 EvoLink parameters 18

6 COMMISSIONING 19
- 6.1 General 19
- 6.2 Aerona³ air source heat pump 19
- 6.3 EvoLink user interface 19
- 6.4 Parameter settings 20
- 6.5 Override function 21
- 6.6 User interface display screen 22
- 6.7 Grant EvoLink settings 23
- 6.8 Weather compensation settings 24

7 DECLARATION OF CONFORMITY 25
- 7.1 EC Declaration of Conformity 25
- 7.2 UKCA Declaration of Conformity 26

8 HEALTH AND SAFETY INFORMATION 27
- 8.1 General 27
- 8.2 Insulation materials 27
- 8.3 Sealant and adhesive 27

9 GUARANTEE 28

NOTES 30

1 Introduction

1.1 GENERAL

The Grant EvoLink is a unique means of utilising a Grant Aerona³ air source heat pump with an existing wet domestic heating system, where a heat pump alone would be unable to meet the design heat demand of the property.

Used in conjunction with the existing gas, oil-fired, LPG, electric or biomass* boiler, the EvoLink allows the end user to benefit from the highly efficient, low carbon operation of an Aerona³ heat pump to provide space heating and hot water for a large part of the year, with the boiler used only as a supplementary heat input to assist the heat pump during colder periods.

In warmer times, the higher outdoor temperatures reduce the heat demand of the property allowing this to be met with lower water flow temperatures in the heating system that may be met by the heat pump alone or with a contribution from the boiler.

The Grant EvoLink control system both determines the required flow temperature, using weather compensation, and controls how it is achieved either with the heat pump alone or with some contribution from the boiler.

Using the boiler as a supplementary heater in this way, under the control of the Grant EvoLink, allows the existing heating system to be retained. However Grant advise that a range of measures should be considered to reduce dependency on the boiler and maximise the use of the heat pump. These can be implemented when the EvoLink is installed, or in stages following the installation to spread the cost involved.

These measures would include, where applicable, reducing the building heat loss by improving the building insulation, fitting or improving double glazing, etc. and improving the efficiency of the heating system by resizing radiators and pipework such that the heat demand can be met with a maximum flow temperature of 55°C.

The Grant EvoLink has a maximum output to the system of 32kW and is suitable for use with boilers of up to 36kW output or, in the case of Combi boilers, an output to space heating of 36kW. Where this output exceeds 26kW, the flow and return pipework between the boiler and the EvoLink should be in 28mm pipe for anything other than very shortest flow and return pipe lengths. This is to reduce pressure loss and avoid pipe noise due to an increased water velocity in the pipework.

The Grant EvoLink is enclosed in a wall mounted casing with a removable front panel and is designed to be installed internally.

1.2 HOW IT WORKS

The Grant EvoLink control system allows an Aerona³ air-to-water inverter driven air source heat pump to be used in conjunction with an existing gas or oil-fired domestic heating boiler on an existing domestic heating system. This includes standard, system and combi boilers.

Both the heat pump and boiler are controlled by the EvoLink in response to either a space heating or hot water demand from the heating system controls.

1.2.1 SPACE HEATING

The EvoLink operates to produce space heating and can be weather compensated with the compensation curve parameters set via the touchscreen user interface. Refer to Section 6 – Commissioning for details on the weather compensation settings.

The Grant EvoLink is supplied with an outdoor air temperature sensor. This must be connected to the EvoLink control PCB for the weather compensation function to operate, refer to Section 4 – Electrical for details on how this must be connected.

Whilst the ‘Heating Setpoint’ (i.e., the maximum water flow temperature required to meet the heat demand at design conditions) must be set on the touchscreen user interface, (with the weather compensation set and enabled), the EvoLink control will automatically determine the required water flow temperature to meet the heat demand of the property at the prevailing outdoor air temperature.

As the outdoor air temperature changes, so will the heat demand and thus the required flow water temperature, up to the maximum ‘Heating Setpoint’ value.

The EvoLink control system uses the heat pump and, when necessary, the boiler to achieve the weather compensated water flow temperature.

1.2.2 HOT WATER

In response to a hot water demand, the EvoLink control system will immediately switch to providing the water flow temperature at the ‘Hot Water Setpoint’ value, as set on the touchscreen user interface.

Section 6 - Commissioning for details of the heating and hot water setpoint settings.

Note that there is no weather compensation control for the water flow temperature when the EvoLink is operating in response to a hot water demand.

If the EvoLink is operating in response to a heating demand when a demand for hot water operation occurs, the control system will immediately stop the heating operation and switch to hot water operation, i.e., switch from a weather compensated flow temperature to the fixed setpoint set for hot water.

1.3 TOUCHSCREEN USER INTERFACE

The EvoLink touchscreen user interface is factory fitted inside the EvoLink enclosure, visible through an opening in the front casing panel where the user can easily access it to view the display and, when necessary, operate the manual override function.

The EvoLink touchscreen user interface is designed to be used to:

- Set the EvoLink operating mode, temperatures, and parameters.
- Display which demand is present (space heating or hot water)
- Display whether the heat pump or boiler (or both) are operating.
- Display the electricity consumed by the heat pump.
- Display the percentage time the heat pump and boiler have operated for.
- Access the diagnostic features of the EvoLink control system.
- Display real time data including flow, return and outside temperatures.

For further details on the use of the touch-screen user interface, refer to section 6 - Commissioning.

1.4 PRODUCT CONTENTS

The Grant EvoLink is supplied already fully assembled in a carton which is carefully packed with packing materials.

Table 1-1: Product contents

Quantity	Item
1	**EvoLink unit**
1	Wall mounting plate
1	Outdoor temperature sensor
1	System return temperature sensor/lead
1	Temperature sensor clip 28mm
1	Installation instructions

* Automatic modulating biomass boilers only.

2 Technical Data

2.1 EVOLINK TECHNICAL DATA

Table 2-1: EvoLink technical data

Property	Value
Weight - empty	29kg
Weight - full	38kg
Water content	9 litres
Power supply	230V~ 1ph 50Hz
Connections - heating system	28mm copper
Connections - heat pump	28mm copper
Connections - boiler	22mm copper
Circulating pump	7m head

2.2 DIMENSIONS

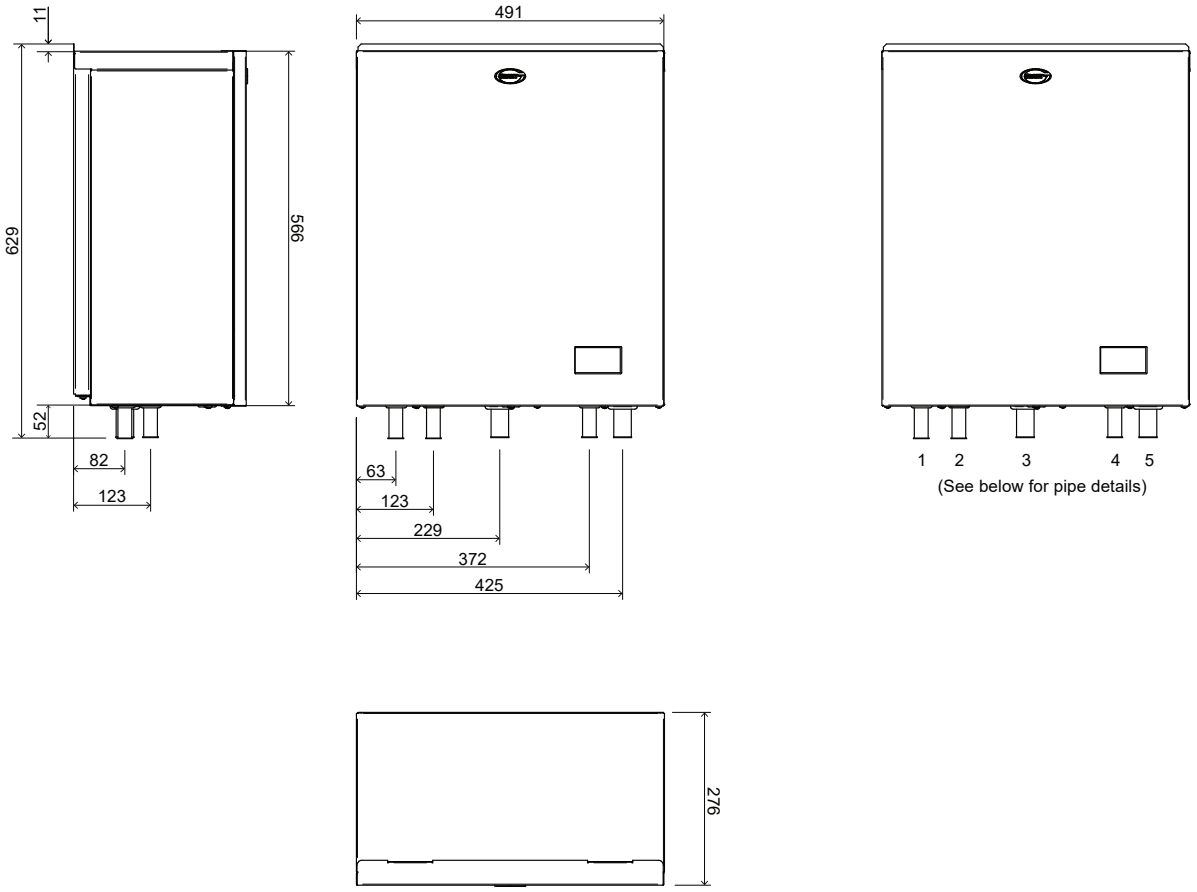


Figure 2-1: EvoLink Dimensions

Table 2-2: EvoLink connections

No.	Connection	Size
1	Boiler flow	22mm
2	Boiler return	22mm
3	Heat pump flow	28mm
4	System return	22mm
5	System flow	28mm

3 Installation

3.1 GENERAL

This section gives details of the installation process for the Grant EvoLink.

These installation instructions must be read in conjunction with:

- The Grant Aerona³ air source heat pump installation instructions (provided with the unit).
- The installation instructions for the boiler.

Before starting to install the Grant EvoLink, please read the Health and Safety information given in Section 8 of these installation instructions.

Similarly, before staring any installation work on the Grant Aerona³ air source heat pump, please read the Health and Safety information given in Section 14 of the Aerona³ installation instructions.

3.2 REGULATIONS AND STANDARDS

The installation of the Grant EvoLink, the Grant Aerona³ air source heat pump and the existing boiler must be in accordance with the following recommendations, as applicable:

- Building Regulations for England and Wales, and Building Standards for Scotland
- Local Bylaws (check with the Local Authority for the area)
- Water Supply (Water Fittings) Regulations 1999
- MCS Installer Standards (if applying for the Renewable Heat Incentive)

  MIS3005-D The heat pump Standard (Design)

  MIS3005-I The heat pump Standard (Installation)

  MCS020 MCS Planning Standard

The installation should also be in accordance with the latest edition of the following standards and Codes of Practice:

- BS7671 and amendments
- BS EN 12831

3.3 LOCATION

The Grant EvoLink is enclosed in a wall mounted casing designed to be installed internally.

The wall onto which the EvoLink is to be fixed must be flat, vertical and of a suitable construction firm enough to support the weight of the unit.

Do NOT install the EvoLink in any of the following locations:

- In damp conditions within the property, e.g. any locations subject to steam and condensation such as a bathroom.
- In a position subject to heat, e.g. above a boiler, cooker, or radiator or where it will be in direct sunlight.
- Where it can be reached and tampered with by children.

The EvoLink must be positioned such that there are sufficient clearances all round it for installation, maintenance and to allow the front cover to be removed. Refer to subsection 3.4 - Clearances.

3.4 CLEARANCES

The minimum clearances given below must be used to enable the EvoLink to be easily commissioned, serviced, and maintained.

Sides: 30mm

Above: 50mm

Below: 300mm

In front: 600mm

3.5 METERING

In order for the EvoLink touchscreen user interface to display the electrical consumption of the heat pump (in kWh), an electricity meter must be installed in the electrical supply to the heat pump.

Refer to Section 4.7 for details on the connection of an electricity meter.

3.6 SYSTEM CLEANING

! CAUTION !

Grant recommends that the existing system be thoroughly cleaned prior to commencing the installation of the Grant EvoLink.

For optimum performance, and to avoid the danger of dirt and foreign matter entering the EvoLink and Aerona³ air source heat pump, the complete heating system should be thoroughly flushed out before starting the EvoLink installation.

This should be carried out in accordance with the guidelines given in BS 7593 ‘Treatment of water in domestic hot water central heating systems’. This must involve the use of a proprietary cleaner, such as Sentinel X300 or X400 or Fernox Restorer.

Grant also strongly recommends that a Grant MagOne in-line magnetic filter (or equivalent*) is fitted in the heating system return pipework when the EvoLink is installed. This should be installed and regularly serviced in accordance with the filter manufacturer’s instructions.

**As measured by Gauss. The Grant MagOne magnetic filter has a Gauss measurement of 12000.*

3.7 PIPE CONNECTIONS

The Grant EvoLink is supplied with the following five pipe connections protruding vertically downwards through the casing base panel – refer to Section 2.2 – Dimensions.

These connections are as follows – from left to right (viewed from the front of the EvoLink):

- Boiler flow connection – 22mm copper
- Boiler return connection – 22mm copper
- heat pump flow connection – 28mm copper
- Heating system return connection – 22mm copper
- Heating system flow connection – 28mm copper

3.8 EVOLINK INSTALLATION

Remove the Grant EvoLink from its packaging and place it back panel downwards, on a clean flat level floor, and prepare it for installation as follows:

- Remove the front casing panel with it laying on its back. Unscrew and remove the three screws on the underside of the front casing panel and lift the bottom-edge of the front panel and slide towards the top of the unit and lift it off.
- Remove the wall fixing plate from the packaging.
- Position the wall fixing plate on the wall where the EvoLink is to be installed with the outward facing edge at the top.

  To ensure that the final position of the EvoLink is as required, position the wall fixing plate as follows (Refer to Figure 3-1):

  Top edge of wall fixing plate:

  2mm below the top surface of EvoLink casing (or 14mm from top edge of flange).

  End of wall fixing plate:

  61mm in from side surface of EvoLink casing.

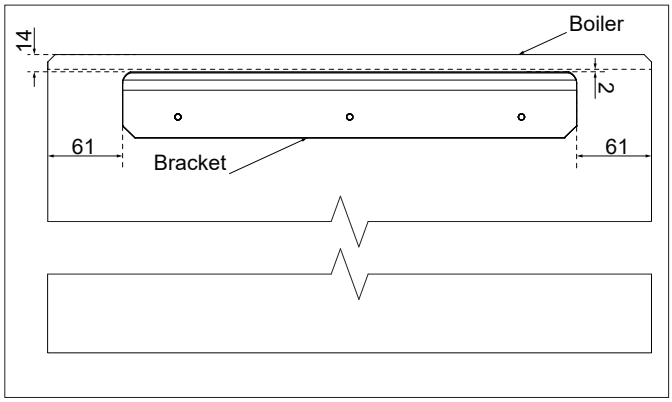


Figure 3-1: Upper and side dimensions between the EvoLink and the bracket

- Using a spirit level, check the wall mounting plate is level and use it as a template to mark the centres of the three fixing holes on the wall.
- Remove the mounting plate from the wall. Drill and fit suitable wall plugs for the type of wall construction concerned then securely fix the wall mounting plate to the wall using three suitable screws and check again it is level.
- Lift the EvoLink into place on the wall, ensuring that the top rear of the EvoLink back panel is correctly located into the wall mounting plate.

  It may be necessary to slide the EvoLink to one side or another on the wall mounting plate, to position it exactly as required on the wall. There is approx.73mm of lateral adjustment available.
- Connect the pipework to the five pipe connections projecting below the base panel. Refer to Section 3.7 for details.

3.9 INSTALLATION PROCEDURE

- Thoroughly flush the existing heating system and boiler.
- Switch off existing heating system and isolate electrical supply to the controls and boiler.
- Fully drain down the existing heating system.
- Disconnect the boiler from heating system controls.
- Disconnect the flow and return connections from the existing boiler.
- Install the Grant EvoLink unit on the wall in the chosen position, having carefully considered the location. Refer to Section 3.8 - EvoLink installation.
- Connect the flow and return from the existing boiler to the correct pipe connections on the EvoLink. Refer to Section 2.2 and Figure 5-1.
- Fit a Grant MagOne in-line magnetic filter (or equivalent) in the heating system return pipework.
- Connect the existing heating system flow and return to the correct pipe connections on the EvoLink. Refer to Section 2.2 and Figure 5-1.
- Install the Aerona³ air source heat pump in accordance with the installation instructions supplied with the unit.
- Connect the flow from the Aerona³ air source heat pump to the correct pipe connection on the EvoLink. Refer to Section 2.2 and Figure 5-1.
- Connect the return to the heat pump directly to the system return.
- Fit manual or automatic air vents at the highest point of both flow and return pipework.
- With the electrical supply still isolated, connect the electrical supply, heating system controls, and electrical controls connection to the Aerona³ air source heat pump. Refer to Section 4 of these instructions.
- Fill and vent the heating system and check for leaks. Refer to the Aerona³ air source heat pump installation instructions for details of the requirements for anti-freeze protection and prevention of biological growth.
- Commission the EvoLink installation as detailed in Section 6 of these instructions.

4 Electrical

! WARNING !

Electric shock may cause serious personal injury or death.

All electrical work must be undertaken by a competent person.

Failure to observe this legislation could result in an unsafe installation and will invalidate all guarantees.

All electrical connections made on-site are solely the responsibility of the installer.

4.1 GENERAL

The Grant EvoLink requires a 230V 50Hz single phase electrical supply fused at 5 amps.

All the controls and wiring, with the exception of the external temperature sensor and system return sensor, are contained within the EvoLink casing. The control PCB is located inside an electrical enclosure located on the base panel inside the EvoLink casing.

4.2 ELECTRICAL CONNECTIONS

Most of the electrical connections are made to one of the three terminal blocks located just below the EvoLink control PCB. The connections for the electricity meter and supplementary circulating pump (if fitted) are made to terminal blocks mounted directly on the EvoLink control PCB. Refer to Figure 4-1.

Starting with the 7-way Main voltage terminal block to the lower left of the PCB, and going anticlockwise around the PCB, the connections are as follows:

1. Mains voltage terminal block – electrical supply and CH, HW and supplementary demands to the EvoLink.
2. Supplementary heat demand volt-free terminal block.
3. Low voltage terminal block - volt-free connections to Aerona³ heat pump terminal PCB and temperature sensor connections
4. Touchscreen user interface connection block - pre-wired to user interface from factory.
5. Aerona³ heat pump connection block - pre-wired to terminal block 3 from factory.
6. Electricity meter connection block
7. Outdoor air temperature sensor connection block - pre-wired to Low voltage terminal block 3 from factory.
8. Boiler demand connection block - pre-wired to terminal block 2 from factory.
9. Supplementary circulating pump connection block.
10. Space heating/hot water/supplementary demand pre-wired to Mains voltage terminal block 1 from factory.

To access the 3 terminal blocks and control PCB, to make the electrical connections, proceed as follows:

Remove the front casing panel. To do this, unscrew and remove the three screws on the underside of the front casing panel and lift the panel upwards.

The control PCB enclosure is located at the lower front of the EvoLink on the bottom casing panel.

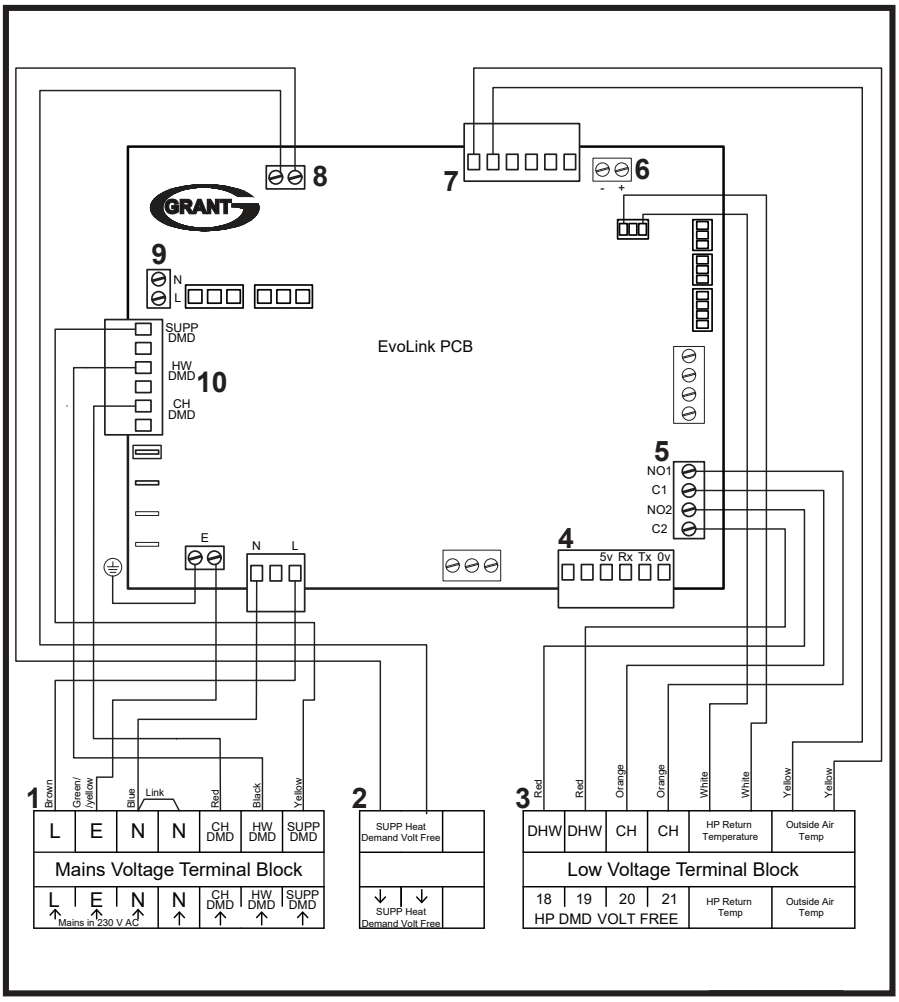


Figure 4-1: EvoLink Control PCB and terminal blocks

Unscrew and remove the two screws on the lower front of the PCB enclosure cover. Lift the cover up at least 15mm and remove it from the enclosure.

4.3 ELECTRICAL SUPPLY

The 230V 50Hz electrical power supply is connected to the 7-way Mains voltage terminal block, located to the lower left of the PCB. See Figure 4-1, Item 1.

Route the power supply cable through the left-hand grommet on the underside of the EvoLink casing and up through the left hand cable clamp into the control PCB enclosure.

Connect the power supply to the 7-way terminal block as follows:

- Live – Terminal L
- Earth – Terminal E
- Neutral – Terminal N

The terminal identification is shown on a label immediately below this terminal block.

4.4 BOILER DEMAND

The two terminals marked "Supp Heat Demand" on terminal block 2 (see Figure 4-1) are connected across the ‘volt free’ boiler control relay on the EvoLink control PCB. This relay can be used in either of two different ways, depending on how the existing boiler operates.

Switched live demand

For a boiler that requires a 230V ‘switched live’ demand – usually from a heating or hot water 2-port zone valve (i.e. the orange wire output from the zone valve motor), the relay can be used to provide a switched live output whenever the EvoLink requires the boiler to fire.

For this application a link MUST be fitted by the installer between terminal L (on Mains voltage terminal block 1) and LEFT HAND "Supp Heat Demand" terminal on terminal block 2.

The switched live connection on the boiler must be connected to the RIGHT HAND " Supp Heat Demand" terminal on terminal block 2. The terminals on terminal block 2 are factory wired to the 'volt free' boiler control relay on the EvoLink PCB so that when this relay closes there is a switched output to the boiler.

Route the cable from the boiler back to the EvoLink, through the left hand grommet and left hand cable clamp on the inside of the EvoLink control PCB enclosure.

Refer to Section 4.12 & 4.13 for switched live wiring diagrams.

Volt free demand

For a boiler that requires a ‘volt free’ contact to close, to create a demand for heating or hot water, the relay can be used to provide this ‘volt free’ switching.

Connect the 'volt free' connection from the boiler to the two terminals on the left hand side of terminal block 2. The terminals on terminal block 2 are factory wired to the 'volt free' boiler control relay on the EvoLink PCB so that when this closes, the volt free switching starts the boiler.

! NOTE !

If using the volt free demand option, do NOT fit a link between terminal L (on Mains voltage terminal block 1) and either of the "Supp Heat Demand" terminals on terminal block 2.

Route the cable from the boiler back to the EvoLink through the right hand grommet and right hand cable clamp on the inside of the EvoLink control PCB enclosure.

Refer to Section 4.14 for volt free switching wiring diagrams.

4.5 7-DAY IMMERSION PROGRAMMER (LEGIONELLA)

A timeswitch is available to purchase from Grant UK (Grant UK product code: HPIDT205) for the purpose of setting the ON/OFF times for the Legionella sterilisation Regime.

This system uses the existing cylinder immersion heater which is switched via the timeswitch (to be mounted next to the cylinder).

The immersion element can be programmed to operate for the required period on either a daily or weekly basis. Refer to Aerona³ installation instructions Section 5.3 for details on Legionella sanitisation regimes.

Once set, this system is fully automatic but can be overridden by the user if required. Also, the user can still switch the immersion element off via the double pole isolation switch incorporated into the design of the programmer, irrespective of the programmer or cylinder thermostat setting or whether the heat pump is operating.

4.5.1 INSTALLATION

The Greenbrook T205-C timer comes ready for installation. The connections to the Immersion heater power supply and Immersion heater must be made after it is installed on site.

When installed, this programmer interrupts the electrical supply between the existing immersion heater power supply and immersion heater. Refer to Aerona³ installation instructions Section 5.4 for electrical connection details.

This timer incorporates a boost function which can be used to rise the temperature of the DHW cylinder to the 'HOT WATER SETPOINT'

! NOTE !

The Greenbrook T205-C immersion heater timer incorporates a double pole isolation switch and a 13 Amp fuse into its design.

For more detailed information on the installation of the Greenbrook T205-C 7-day immersion programmer, please refer to the instructions supplied with the programmer.

! WARNING !

Where a 3-phase supply is present, ensure that BOTH the immersion heater power supply and heating system controls are taken from the same phase. If in doubt, contact a qualified electrician.

4.5.2 SETTING

For detailed information on setting the Greenbrook T205-C 7-day immersion programmer, please refer to the instructions supplied with the programmer.

4.6 AERONA³ AIR SOURCE HEAT PUMP

! CAUTION !

The Grant Aerona³ air source heat pump should be installed in accordance with the installation instructions supplied with the unit, including connection of the power supply.

However, please disregard Sections 6.8, 6.9 and 6.10 of the Aerona³ heat pump instructions and refer instead to the guidance given in this section for the connection of the heat pump and heating system controls.

The control connection between the EvoLink and the Aerona³ heat pump is low voltage so it does not require electrical qualifications to install, but ensure that technical standards for electrical equipment are followed.

! NOTE !

A Grant heat pump interface box (such as a Grant EP001 wiring centre or EP002 interface) is NOT required when connecting the Aerona³ heat pump to the EvoLink.

The Aerona³ heat pump remote controller (supplied with the Aerona³ heat pump) MUST still be connected. Refer to Section 6 of the Aerona³ heat pump installation instructions for further details.

The 3-wire control connection from the Aerona³ heat pump is connected to the terminals on the right hand terminal block – refer to Figure 4-1 located below the right corner of the EvoLink PCB.

To connect the Aerona³ heat pump to the EvoLink, proceed as follows:

1. Remove the wiring cover at the righthand end of the heat pump to access the Terminal PCB. Refer to Section 6.1 of the Aerona³ heat pump installation instructions for further details.
2. Connect the cable to the terminal block on the Terminal PCB, as follows:
    - Terminal 18 (Common) – Red wire
    - Terminal 19 (Hot water) – Yellow wire
    - Terminal 20 (Heating) – Blue wire
3. Route the cable from the Aerona³ heat pump back to the EvoLink, through the right hand grommet and cable clamp in the EvoLink control PCB enclosure.
4. Connect the cable to the terminal block on the EvoLink as follows:
    - Terminal 20 (Heating) – Blue wire
    - Terminal 18 (Common) – Red wire
    - Terminal 19 (Hot water) – Yellow wire
    - Terminal 21 (Common) – fit link to terminal 18

Refer to the wiring diagrams in Sections 4.12 - 4.14 of these installation instructions.

4.7 ELECTRICITY METER

In order for the EvoLink touchscreen user interface to display the electrical consumption of the heat pump (in kWh) an electricity meter must be installed in the electrical supply to the heat pump.

To be suitable for this application, the meter must have a pulsed output (1 pulse/Wh).

The connection between the EvoLink and the pulsed output connections on the meter is low voltage so it does not require electrical qualifications to install, but ensure that technical standards for electrical equipment are followed.

Use 1.0mm² CSA 2-core cable or similar.

This connection is made to the green 2-way terminal block – item 6 on Figure 4-1 (marked as CON18 on the PCB) located at the top right-hand corner of the PCB.

Connection

Connect the meter to the PCB terminal block as follows:

1. Remove the terminal cover from the electricity meter and locate the two ‘pulse output’ terminals. These terminals are marked + and - on the meter.
2. Connect one wire to the + terminal and the other to the - terminal. Note the colour of the wire to each connection.
3. Route the cable from the meter back to the EvoLink, through one of the cable clamps on the underside of the EvoLink casing and up through one of the grommets into the control PCB enclosure.
4. Connect one wire to the + terminal of the green 2-way terminal block on the PCB. Check it is the same colour wire connected to the + terminal at the meter.
5. Connect the other wire to the - terminal of the green 2-way terminal block on the PCB.

4.8 OUTDOOR AIR TEMPERATURE SENSOR

The outdoor air temperature sensor uses a 10kΩ thermistor to provide an accurate measurement of the outdoor air temperature.

It is supplied fitted inside a small weatherproof enclosure for wall mounting outside the property.

The outdoor air temperature sensor must be installed and connected to the control PCB in order for the EvoLink weather compensation function to operate.

Location

The outdoor air temperature sensor should be located in the close vicinity of the Aerona³ heat pump in order that the temperatures sensed by both this sensor and the heat pump air temperature sensor are the same, or very close in value.

The outdoor air temperature sensor can be mounted directly onto an external wall, but positioned so that it is not in direct sunlight at any time.

It should be positioned at a height that prevents accidental damage or tampering.

In order to prevent heat transmitted through the wall affecting the sensor reading, it may be necessary to fit an insulating barrier between the sensor enclosure and the wall, or plug any cable conduit passing through the wall with insulation.

Installation

To mount the outdoor air temperature sensor on the wall, proceed as follows:

1. Unscrew and remove the four screws and remove the front cover from the sensor enclosure.
2. Position the enclosure against the wall in the required position (with the cable gland pointing in the required direction) and mark the position of the two fixing holes on the wall.
3. Remove the enclosure from the wall, drill and fix the enclosure to the wall using suitable fixings.
4. Ensure that the cable gland is pointing in the required direction.

Connection

The connection between the EvoLink and the outdoor air temperature sensor is low voltage so it does not require electrical qualifications to install, but ensure that technical standards for electrical equipment are followed.

A two-core cable is required to connect the sensor to the EvoLink terminal block. Two cores of a multi core alarm cable can be used but it must have a minimum external diameter between 3 and 6.5 mm to ensure a watertight seal at the cable gland.

To connect the outdoor air temperature sensor to the EvoLink proceed as follows:

1. Pass the cable through the gland in the sensor enclosure.
2. Connect to the two wires to the two terminals of the sensor terminal block. There is no polarity so the wires can be connected to either terminal.
3. Re-fit the cover using the four screws ensuring a weathertight seal between the cover and enclosure.
4. Route the cable from the outdoor air temperature sensor back to the EvoLink, through the right hand grommet and cable clamp on the inside of the EvoLink control PCB enclosure.

The cable is connected to the two Outside Air Temp Sensor terminals on the Low voltage terminal block 3 located at the lower right of the EvoLink control PCB – refer to Figure 4-1.

There is no polarity, so the wires can be connected to either terminal on both the sensor and terminal block.

4.9 SYSTEM RETURN TEMPERATURE SENSOR

Location

The system return temperature sensor, supplied with the EvoLink, should be located on the return pipe from the system BEFORE the point where it branches off to the return connection to the EvoLink. Refer to Figure 5-1.

The sensor should be secured to the return pipe using the 28mm spring clip provided with the EvoLink.

The temperature sensor must be in contact with the surface of the pipe. Pipe insulation should be placed over the sensor to reduce the effects of air currents on the sensor measurement.

Connection

The connection between the EvoLink and the system return sensor is low voltage, so it does not require electrical qualifications to install, but ensure that technical standards for electrical equipment are followed.

To connect the system return temperature sensor to the EvoLink proceed as follows:

1. Route the sensor lead back to the EvoLink, through the right hand grommet and cable clamp on the inside of the EvoLink PCB enclosure.
2. Connect the two wires to the two HP Return Sensor terminals on the Low voltage terminal block 3 located at the lower right of the EvoLink control PCB - refer to Figure 4-1.

There is no polarity so the wires can be connected to either terminal on the sensor and terminal block.

The sensor lead provided is 2.5m long. This can be extended if necessary using a suitable cable, e.g. alarm cable.

4.10 SUPPLEMENTARY CIRCULATING PUMP

Required when the boiler does not have an integral pump, e.g. a standard 'heating only' boiler (not a system boiler or Combi boiler), where the circulating pump is located somewhere else on the system pipework.

A 230V 50Hz output is available to operate the pump whenever there is a demand from the 'Supplementary Boiler Demand' terminals (on terminal block 2) for the boiler to operate.

The supplementary circulating pump is connected to the 2-way green terminal block – item 9 on Figure 4-1 (marked as CON8 on the PCB) located at the top left of the EvoLink control PCB.

Connection

Route the cable from the supplementary circulating pump back to the EvoLink, through the left hand grommet and cable clamp on the inside of the EvoLink control PCB enclosure.

Connect the power supply as follows:

- Live – Terminal L (the lower of the two terminals on terminal block – CON8)
- Neutral – Terminal N (the upper of the two terminals on terminal block – CON8)
- Earth – Terminal Earth (on left-hand terminal on terminal block – CON20)

The terminal identification is printed on the PCB next to the terminal blocks.

4.11 HEATING SYSTEM CONTROLS

The heating system controls are connected to the 'CH DMD' and 'HW DMD' terminals on the Mains voltage terminal block 1, located to the lower left of the PCB - Refer to Figure 4-1.

Connect the control system outputs as follows:

Space heating demand - to terminal marked CH DMD on the terminal block. Domestic hot water demand - to terminal marked HW DMD on the terminal block.

If required, any supplementary demand is made to the 'SUPP DMD' terminal on the Mains voltage terminal block 1.

Route the cable from the system controls wiring centre, back to the EvoLink, through the left hand grommet and cable clamp on the inside of the EvoLink control PCB enclosure.

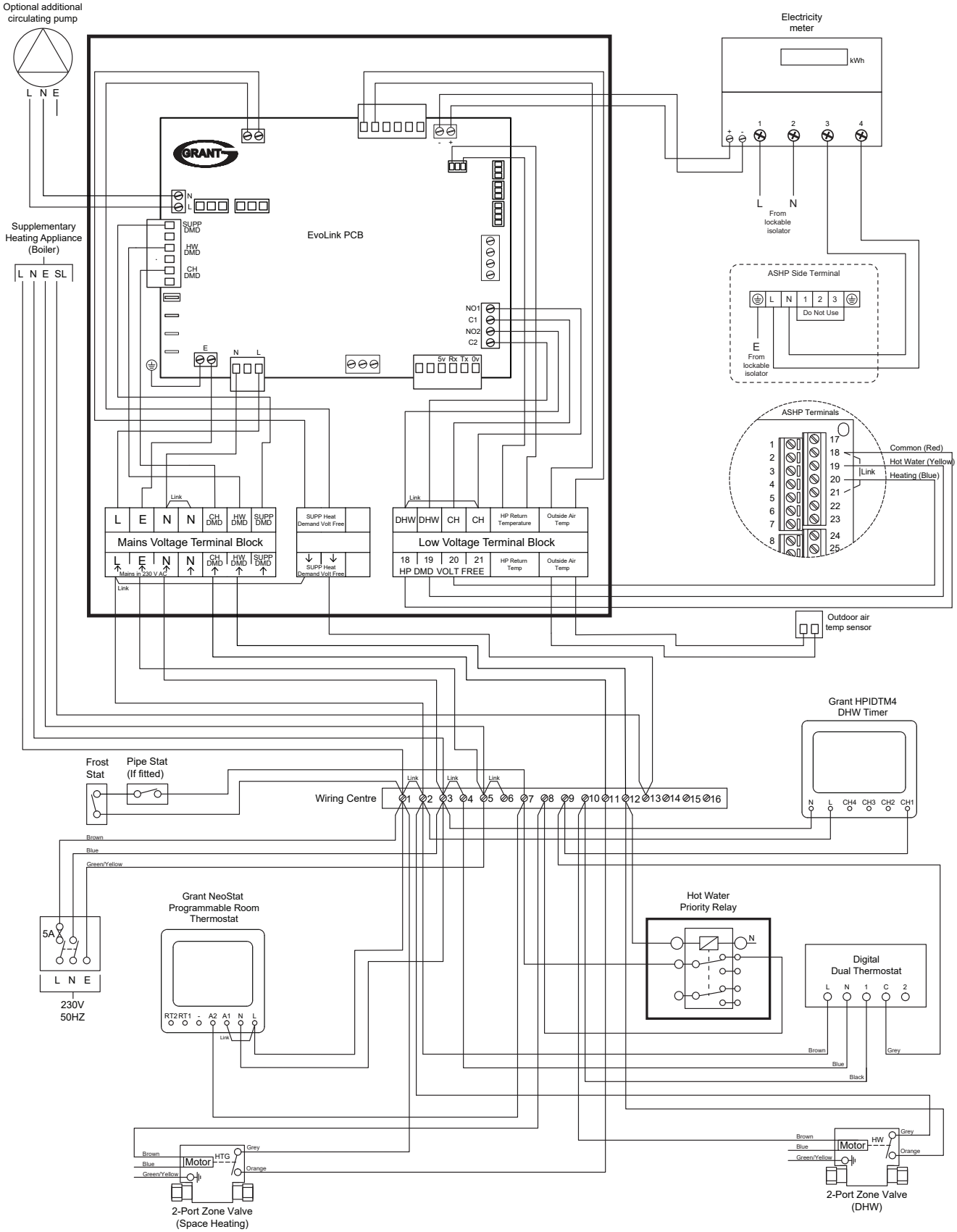


Figure 4-2: EvoLink System Wiring Diagram - S-Plan type system - switched live demand - heating only boiler

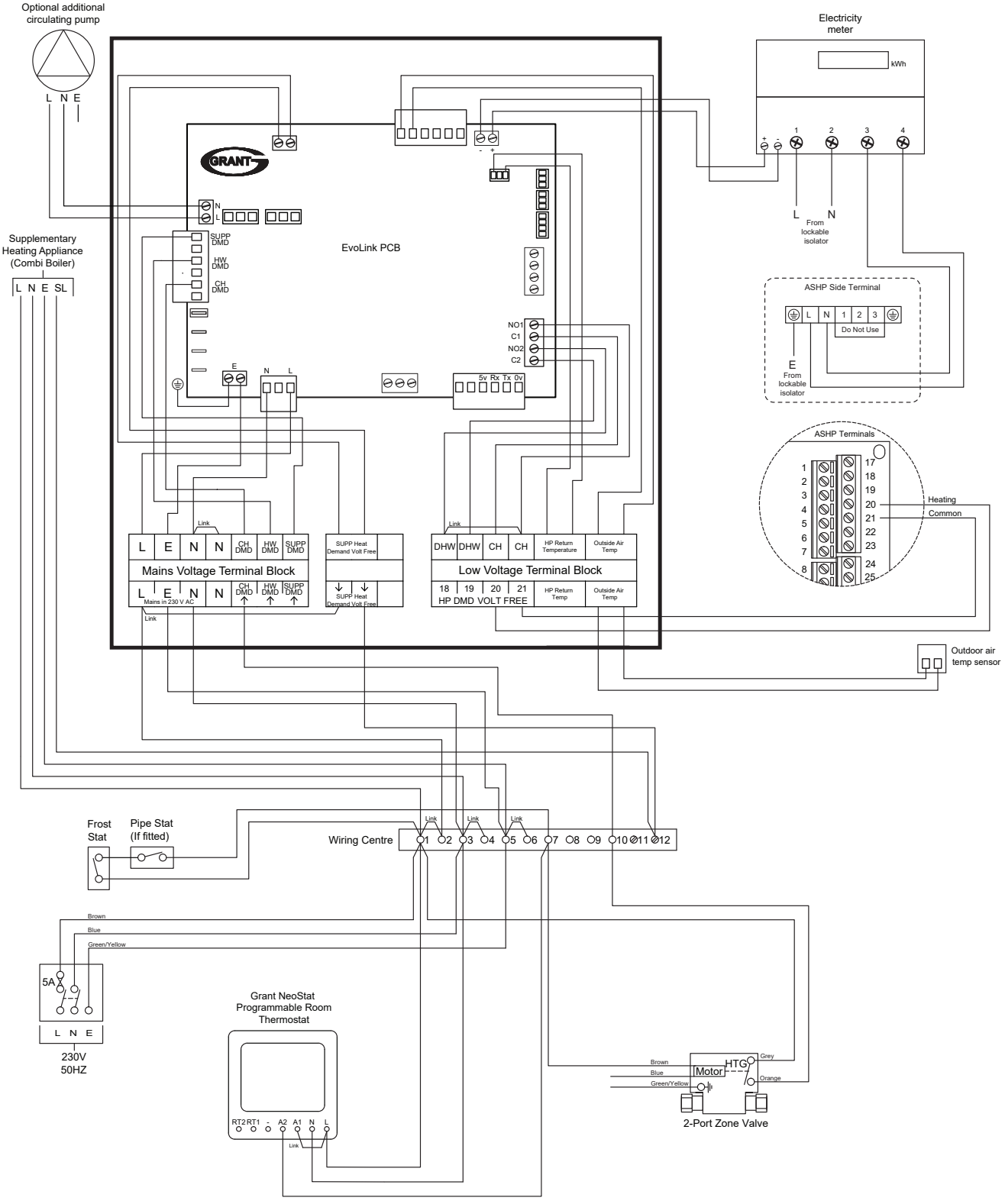


Figure 4-3: EvoLink System Wiring Diagram - S-Plan type system - switched live demand - combi boiler

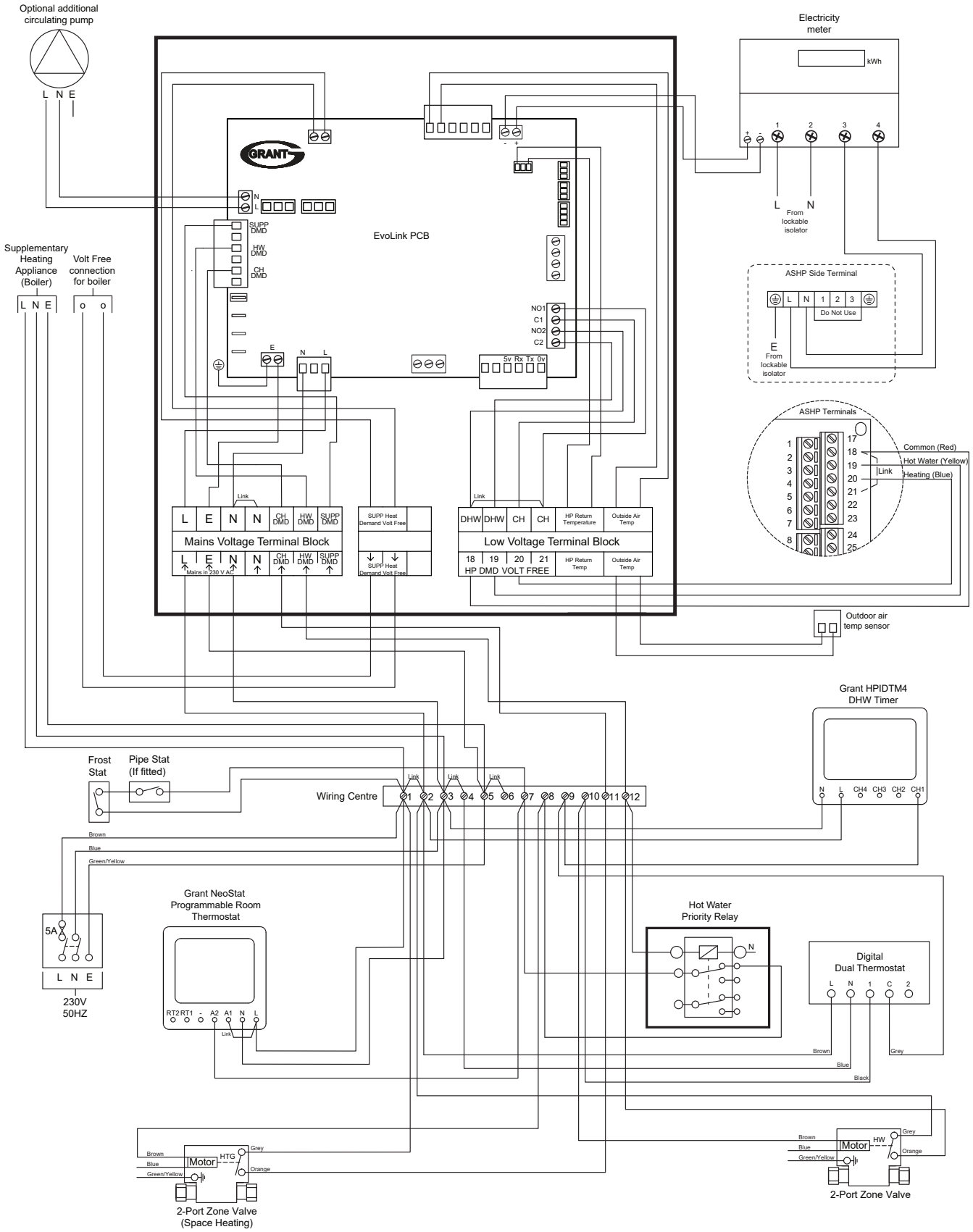


Figure 4-4: EvoLink System Wiring Diagram - S-Plan type system - volt free switching - heating only boiler

5 EvoLink Operation

5.1 INTRODUCTION

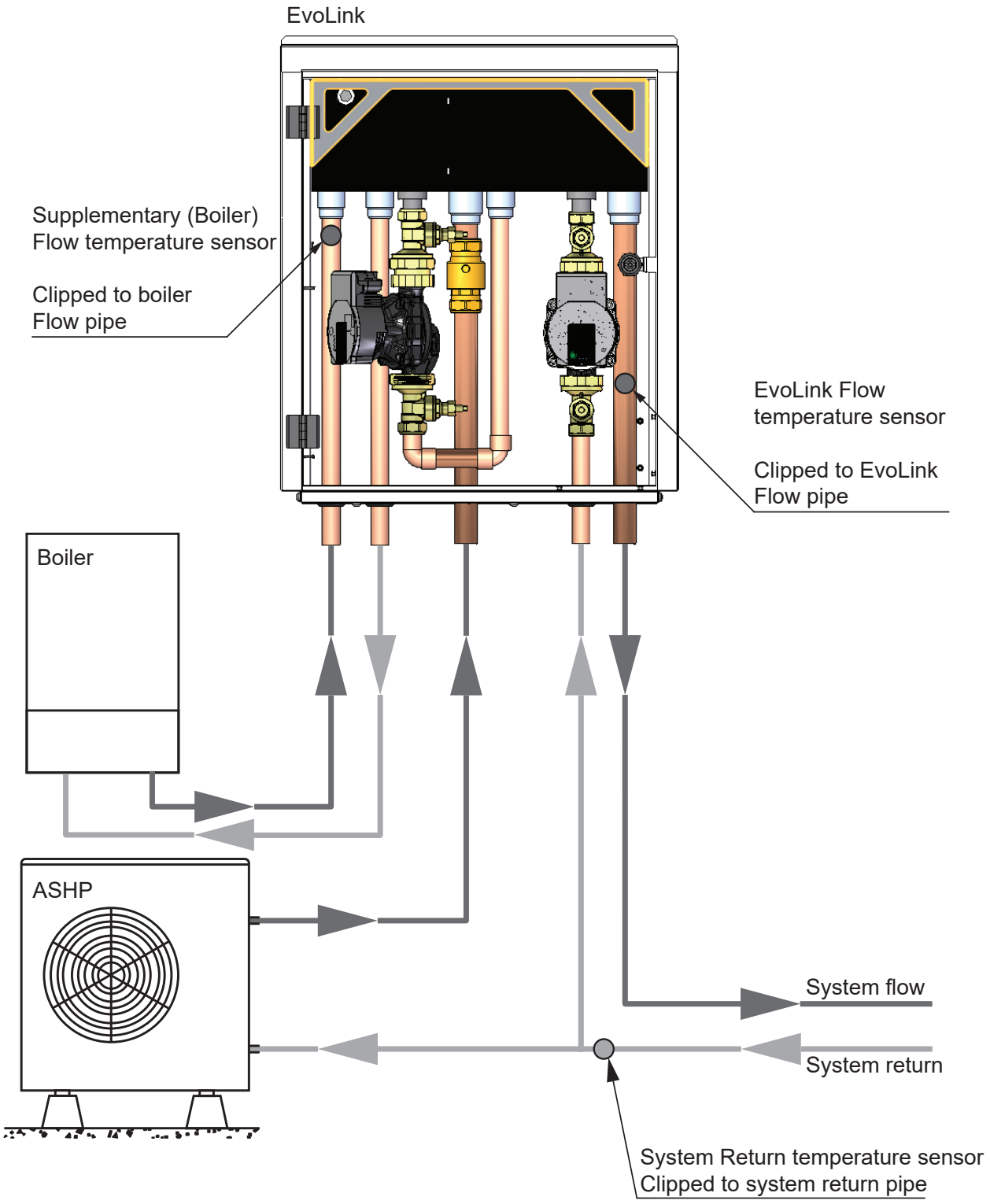


Figure 5-1: EvoLink Hydraulic Schematic Diagram

5.2 OPERATION

The EvoLink controls the operation of both the heat pump and the supplementary heat source (boiler).

Additionally, the EvoLink can be set to operate in either 'Green' or 'Comfort' mode when meeting either a heating or domestic hot water demand.

- **Comfort Mode**

  In this mode the priority is to ensure that the required comfort level is maintained.

  If the heat pump is not capable of satisfying the heating load the boiler will be called in and the EvoLink will mix the boiler flow with the heat pump flow to maintain the required flow temperature.

- **Green Mode**

  In this mode the priority is to ensure that the heat pump supplies as much of the heat energy as possible.

  If the heat pump is not capable of satisfying the heating load the boiler will be called in and the EvoLink will mix the boiler flow with the heat pump flow to maintain the required flow temperature. However, if the return temperature starts to rise to a point where the heat pump will switch off, the mixing is reduced to ensure that the heat pump can remain operating for as long as possible.

5.2.1 SPACE HEATING

- If there is a space heating demand to the EvoLink from the heating system controls, i.e., the programmer heating channel and room thermostats(s) are 'calling', the EvoLink will operate to provide space heating.
- The heat pump operates to achieve the weather compensated *HEATING SETPOINT* flow temperature (as set on the EvoLink user interface).
- If the heat pump is unable to achieve a flow temperature within the *TEMP BELOW SP AUTO CH* band after the *TIME BELOW SP AUTO CH* time period has elapsed (both values as set on the EvoLink user interface) the EvoLink will automatically start the boiler to raise the flow temperature to the required weather compensated value.
- When the boiler flow temperature on the boiler flow pipe (left hand pipe, refer to Figures 2-1 and 5-1) is 3°C above the flow temperature on the EvoLink system flow pipe the PWM mixing pump will start – feeding the boiler flow into the mixing tank to achieve the required weather compensated flow temperature.
- As the ambient outside temperature falls, and the heat demand on the system increases, the required higher weather compensated flow temperature in the mixing tank is achieved by using a greater amount of the boiler flow until the weather compensated flow temperature is achieved.
- This may be at the maximum flow temperature from the boiler.
- Once started, even when the required weather compensated flow temperature has been achieved, the boiler will remain in operation until either,
  a) the end of that heating demand, i.e., until the room thermostat or programmer switches off.

     or

  b) when the heating load diminishes and %PWM falls to below the *END SUPP CH PWM* setting for longer than the END SUPP CH TIME setting, when it will be automatically switched off.
- When there is a heating demand and the outside air temperature is below or falls to below the *OUTSIDE TEMP BOILER ONLY* setting, the boiler will be automatically started, along with the EvoLink circulating pump, and become the 'lead' heat source. The heat pump will not operate as it will be inefficient for it to do so at this low outside air temperature.
- If the outside temperature rises to above the *OUTSIDE TEMP BOILER ONLY* setting, the boiler, and the EvoLink circulating pump, will be automatically switched off and the heat pump will start up as lead heat source.

5.2.2 HOT WATER

- If there is a hot water demand to the EvoLink, i.e., if both the hot water channel of the programmer and the cylinder thermostat are 'calling', the EvoLink will operate to provide hot water.
- Note that if the EvoLink is operating to provide space heating when the hot water demand occurs, the EvoLink will immediately ignore the space heating demand and switch over to meet the hot water demand.
- The heat pump operates to achieve the *HOT WATER SETPOINT* flow temperature (as set on the EvoLink user interface). Note that this is not weather compensated.
- If the heat pump is unable to achieve a flow temperature within the *TEMP BELOW SP AUTO DHW* band after the TIME BELOW SP AUTO DHW time period has elapsed (both values as set on the EvoLink user interface), the EvoLink will automatically start the boiler to raise the flow temperature to the required HOT WATER SETPOINT level.
- When the boiler flow temperature on the boiler flow pipe (left hand pipe, refer to Figures 2-1 and 5-1) is 3°C above the flow temperature on the EvoLink system flow pipe, the PWM mixing pump will start – feeding the boiler flow into the mixing tank to achieve the required flow temperature.
- Once started, even when the required Hot Water Setpoint flow temperature has been achieved, the boiler will remain in operation until the end of that hot water demand, i.e., until the cylinder thermostat or programmer switches off.
- When there is a hot water demand and the outside air temperature is below, or falls to below, the *OUTSIDE TEMP BOILER ONLY* setting, the boiler will be automatically started along with the EvoLink circulating pump, and become the 'lead' heat source. The heat pump will not operate as it will be inefficient for it to do so at this low outside air temperature.
- If the outside temperature rises to above the *OUTSIDE TEMP BOILER ONLY* setting, the boiler, and the EvoLink circulating pump, will be automatically switched off and the heat pump will start up as lead heat source.

5.2.3 LEGIONELLA DEMAND COUNT

- This function requires the EvoLink Legionella Interface to be fitted. Refer to Section 4.5.
- It is designed to automatically operate an electric immersion heater to provide anti-legionella protection after a pre-set number of hot water demands (up to a maximum of 20) have occurred.
- However Grant UK recommend the use of a 7-day Immersion programmer to provide anti-legionella protection. This will control the timed operation of the cylinder immersion heater for the required period on either a daily or weekly basis. Refer to the Aerona³ installation instructions Section 5.3 for details on Legionella sanitation regimes and Section 4.5 of these instructions for details of the 7-day immersion programmer.

5.2.4 SUPPLEMENTARY DHW TYPE

Although the EvoLink shows this function accessible tapping the hot water icon, this function remains inoperative. The element is not operable but the boiler is if required.

5.2.5 BOOST MODE

Although this function can be accessed by tapping the Hot Water icon on the touchscreen user interface, it is currently inoperable and not available for use.

5.3 MANUAL OVERRIDE OPERATION

- The Grant EvoLink control system includes a manual override function, operated via the touch screen user interface.
- By using this function the EvoLink control can be manually overridden to force the boiler to operate.
- Operation of the override function to manually start the boiler, automatically interrupts the demand to the heat pump, causing it to stop.
- The circulating pump in the EvoLink will automatically start with the boiler as replacement for the circulating pump in the heat pump that has stopped.
- The PWM pump will also start to transfer the heated water within the buffer/mixing tank from the boiler to the EvoLink flow pipe.
- Setting the manual override function to OFF will stop the boiler operation and re-instate the heat demand to the heat pump allowing it to re-start.
- The circulating pump in the EvoLink will automatically stop with the boiler.
- The PWM pump may continue to operate if the boiler is required to assist the heat pump to meet the required EvoLink flow temperature.
- Refer to Section 6.5 for details of how to use the touch screen user interface to operate the manual override function.

5.4 DIAGNOSTIC SCREEN

To access the 'DIAGNOSTIC SCREEN', follow the instructions given in Section 6.3.

This provides TWO useful functions for the installer or service engineer:

- A display of live data to indicate the current operating status of the EvoLink.
- The capability to manually operate various functions of the EvoLink, e.g. the pumps.

The following items on the 'DIAGNOSTIC SCREEN' indicate the current operating status of the EvoLink system:

FLOW TEMP °C
The flow temperature from the EvoLink to the heating system.

SUPP TEMP °C
The flow temperature from the supplementary heating (e.g. boiler), as measured by the buffer temperature sensor T2.

RTRN TEMP °C
The return temperature to the EvoLink from the heating system.

OS TEMP °C
Outside ambient air temperature as measured by the outside air temperature sensor.

WATT MTR Wh
The electrical consumption of the heat pump as measured by the electricity meter connected to the EvoLink.

CH DEMAND
That there is a CH demand from the space heating controls connected to the EvoLink. O=Off and I=On.

DHW DEMAND
That there is a DHW demand from the hot water controls connected to the EvoLink. O=Off and I=On.

SUPP DEMAND
That there is a demand for the supplementary heater (e.g. boiler) from the heat pump. O=Off and I=On.

The following items on the 'DIAGNOSTIC SCREEN' allow the installer or service engineer to manually override the EvoLink controls:

IMPORTANT. To use the following the EvoLink MUST be first be set to standby.

MIX PUMP
Tap the square icon once to operate the PWM mixing pump to check pump operation. I=On.
Tap the icon a second time to switch the PWM mixing pump off. O=Off

CIR PUMP
Tap the square icon once to operate the Circulating pump to check pump operation. I=On.
Tap the icon a second time to switch the Circulating pump off. O=Off.

SUPP PUMP
Tap the square icon once to operate the Supplementary pump (if fitted) to check pump operation. I=On
Tap the icon a second time to switch the Supplementary pump off. O=Off.

HEAT PMP CH
Tap the square icon once to operate the heat pump in the CH mode. I=On.
Tap the icon a second time to switch the heat pump off. O=Off.

HEAT PMP HW
Tap the square icon once to operate the heat pump in the DHW mode. I=On.
Tap the icon a second time to switch the heat pump off. O=Off.

LEGION OUT
Tap the square icon once to operate the Legionella interface (if fitted). I=On.
Tap the icon a second time to switch the Legionella interface off. O=Off.

BOILER VFC
Tap the square icon once to operate the boiler 'volt free' contact to start the boiler. I=On.
Tap the icon a second time to switch the boiler off. O=Off.

PWM SETTING
With the MIX PUMP set to on (I=On), tap the + or – icons to adjust the PWM setting for the PWM mixing pump. This can be adjusted in increments of 10%.

PWM VALUE %
The %PWM value set as above is displayed.

! NOTE !

Any of the above manual settings of the pumps, heat pump, boiler, etc. will be automatically cancelled when the EvoLink is switched back to on.

5.5 EVOLINK PARAMETERS

Table 5-1: EvoLink parameters

Ref.	Parameter name	Range	Description	Default
1	HP MAX TEMP CH	30 to 70°C	The maximum heat pump flow temperature in the heating mode as set on the Aerona³ heat pump (parameter 21 02).	55°C
2	HP MAX TEMP DHW	30 to 70°C	The maximum heat pump flow temperature in the hot water (DHW) mode as set on the Aerona³ heat pump (parameter 31 11).	55°C
3	TEMP BELOW SP AUTO CH	1 to 100°C	The temperature below the current setpoint in a CH demand where the EvoLink will be timing whether to call in supplementary heat.	3°C
4	TIME BELOW SP AUTO CH	1 to 200 mins	The time which the temperature must be below the setpoint in a CH demand minus 'TEMP BELOW SP AUTO CH' to call in supplementary heat. It is a pseudo integral timer.	45 mins
5	END SUPP CH PWM	1 to 50% PWM	When supplementary heat is active during a CH demand, this is the PWM pump percentage which will cause the EvoLink to time when to drop out of supplementary heat.	20%
6	END SUPP CH TIME	1 to 60 mins	The time which the PWM must be below 'END SUPP CH PWM' to end the call for supplementary heat. It is a pseudo integral timer.	10 mins
7	RET TEMP DELTA END HP	0 to 10°C	If the return temperature reaches 'HP MAX TEMP CH' minus this parameter in 'COMFORT' mode, the heat pump demand will end and will be satisfied using the supplementary heat until the next demand	2°C
8	RET TEMP DELTA PWM	0 to 10°C	If the return temperature reaches 'HP MAX TEMP CH' minus this parameter in 'GREEN' mode, the PWM will be set to zero so that the heat pump will provide the energy to the load ensuring that the heat pump will stay on.	4°C
9	TEMP BELOW SP AUTO DHW	1 to 100°C	The temperature below the current setpoint in a DHW demand where the EvoLink will be timing whether to call in supplementary heat.	3°C
10	TIME BELOW SP AUTO DHW	1 to 60 mins	The time which the temperature must be below the setpoint in a DHW demand minus 'TEMP BELOW SP AUTO CH' to call in supplementary heat. It is a pseudo integral timer.	10 mins
11	OVERRIDE MODE	OFF	This allows manual selection of the supplementary heat source. The EvoLink will use the heat pump as its primary heat source.	Off
		ON	The EvoLink will use the supplementary heat source as its primary heat source.	
12	LEGIONELLA DEMAND COUNT	0 to 20	The number of DHW demands before the EvoLink will call in the immersion heater to bring the hot water cylinder up to the setpoint on the immersion thermostat. 0 = disabled	0
13	OUTSIDE TEMP BOILER ONLY	-30 to 10°C	The outside temperature below which the EvoLink will use the supplementary as the primary heat source.	-5°C
14	GREEN/COMFORT MODE	Green	The heat pump is run as much as possible by zeroing the PWM when the return temperature reaches the 'HP MAX TEMP CH' minus 'RET TEMP DELTA PWM'	Comfort
		Comfort	The heat pump will be stopped if the return temperature reaches 'HP MAX TEMP CH' minus 'RET TEMP DELTA END HP' - leaving supplementary heat (boiler) only until next heating demand. This will ensure that the heat pump does not continue to run its circulating pump without producing heat.	
15	W/C TEMP OUTSIDE LOW	-10 to 12°C	The flow temperature which relates to 'OUTSIDE TEMPERATURE LOW'	-3°C
16	W/C TEMP OUTSIDE HIGH	15 to 25°C	The flow temperature which relates to 'OUTSIDE TEMPERATURE HIGH'	18°C
17	W/C TEMP FLOW LOW	10 to 30°C	The outside air temperature which relates to 'FLOW TEMPERATURE LOW'	30°C
18	W/C TEMP FLOW HIGH	30 to 80°C	The outside air temperature which relates to 'FLOW TEMPERATURE HIGH'	70°C
19	ON/OFF box	OFF (shown)	The weather compensation curve is not active, the heating setpoint is fixed.	Off
		ON (shown)	The weather compensation curve is active, the heating setpoint will follow the curve.	
20	HEATING SETPOINT	30 to 80°C	The fixed heating setpoint when the weather compensation is not active.	45°C
21	HOT WATER SETPOINT	40 to 65°C	The setpoint when there is a DHW demand.	50°C
22	BOOST MODE	0-90 (in 30 minutes steps)	Inoperative	0
23/24	SUPPLEMENT DHW TYPE	Boiler	Inoperative	Boiler
		Element		

6 Commissioning

6.1 GENERAL

Before starting to commission the Grant EvoLink, the installation, including the Aerona³ air source heat pump, must be completed as detailed in Section 3.9 of these instructions.

! NOTE !

In order to commission the EvoLink installation, the following information must be used in conjunction with the Aerona³ installation instructions supplied with the heat pump.

6.2 AERONA³ AIR SOURCE HEAT PUMP

Switch on the power to the heat pump via the external isolator.

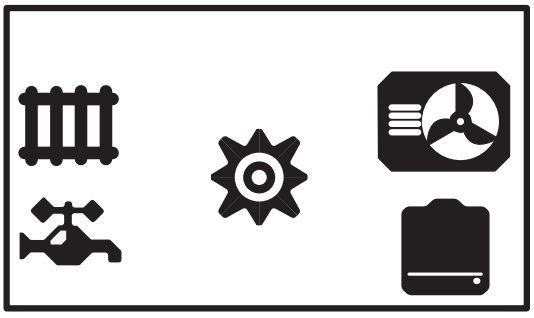
Press and hold the ON/OFF icon on the heat pump remote controller for three seconds to turn the heat pump on – refer to Aerona³ installation instructions Section 9.1.

Set the day and time on the heat pump remote controller – refer to Aerona³ installation instructions Section 9.2.

Access the heat pump parameter settings menu via the heat pump remote controller – refer to Aerona³ installation instructions Section 9.3.

Check Aerona³ heat pump settings for weather compensation are as given in Table 6-2 of these instructions.

6.3 EVOLINK USER INTERFACE



Heating demand

Hot water demand

Heat pump operation

Boiler operation

Settings

Figure 6-1: User interface home screen

The user interface provides the following features for the User and Installer:

a) Home screen with animated icons indicating:
   - Heating demand
   - Hot water demand
   - Heat pump operation
   - Boiler operation

b) Access to check, adjust and set the operating parameters for the EvoLink system. Refer to section 5.5, 6.4 and Figures 6-1 & 6-2.

c) Option to manually override the EvoLink control and force the supplementary heat source (e.g. boiler) to operate. Refer to Section 6.5.

d) Operating data giving:
   - The electricity consumed by the heat pump kWh (Note. This requires an electricity meter to be connected to the EvoLink – refer to Section 4 for the electrical connection details).
   - Percentage of time the heat pump has been operating for (% hours).
   - Percentage of time the supplementary heat source (e.g. boiler) has operated for (% hours).

e) Diagnostics screen – refer to Section 6.6 for further details:
   - Flow temperature °C
   - Supp temperature °C (e.g. boiler flow temperature)
   - Return temperature °C
   - Outside temperature °C
   - WATT MTR
   - CH demand
   - DHW demand
   - Supp demand
   - Mix pump operation
   - Circulation pump operation
   - Supp pump operation
   - Heat pump CH operation
   - Legionella output
   - Boiler VFC
   - PWM Setting
   - Pump PWM value %

! NOTE !

For the user interface touch screen to be visible, the power supply to the EvoLink must be switched on.

To access the 'Operating Data' screen

Tap the gear wheel (Settings) icon on the home screen. Refer to Figure 6-1.

The 'SETTINGS' screen will appear.

Tap the 'OPERATING DATA' option.

The operating data screen will appear.

Tap the 'Return' icon to return to the settings screen.

To access the 'Diagnostic' screen

Tap the gear wheel (Settings) icon on the home screen. Refer to Figure 6-1.

The 'SETTINGS' screen will appear.

Tap the 'PASSWORD' option.

The password screen will appear.

Enter the password (9876) and tap the tick icon.

The 'SETTINGS' screen will appear with the live data options.

Use either the ▲ or ▼ icons to scroll through and tap the 'DIAGNOSTIC SCREEN' option.

Use either the ▲ or ▼ icons to scroll through and view the diagnostic screen options.

Refer to Section 5.4 - Diagnostic Screen for details of the diagnostic functions available.

Tap the 'Return' icon to return to the home screen.

6.4 PARAMETER SETTINGS

The EvoLink operating parameters are accessed and set using the touch screen user interface. Refer to Figure 6-1.

6.4.1 TO SET THE HEATING AND HOT WATER SETPOINTS

For heating:

Tap the radiator (heating) icon on the home screen.

The 'HEATING SETPOINT' screen will appear.

Tap the + or – icons to adjust the setpoint as required.

Tap the tick icon to confirm the setting and tap return icon to return to the home screen.

For hot water:

Tap the tap icon (hot water) on the home screen.

The 'HOT WATER SETPOINT' screen will appear.

Tap the + or – icons to adjust the setpoint as required.

Tap the tick icon to confirm the setting and tap return icon to return to the home screen.

6.4.2 TO SET THE WEATHER COMPENSATION PARAMETERS

Tap the gear wheel (Settings) icon on the home screen.

The 'SETTINGS' screen will appear.

Tap the 'PASSWORD' option.

The password screen will appear.

Enter the password (9876).

To confirm the password tap the tick icon.

The 'SETTINGS' screen will appear.

Tap the 'WEATHER COMP' option.

The weather compensation screen will appear (graph).

Set the weather compensation parameters as follows:

Temperature Flow High

Tap the Temperature Flow High setting on the weather compensation screen (upper left value on the graph).

The W/C TEMP FLOW HIGH screen will appear.

Tap the + or – icons to adjust the setpoint as required.

Tap the tick icon to confirm the setting.

The display will return to the weather compensation screen.

Temperature Flow Low

Tap the Temperature Flow Low setting on the weather compensation screen (lower left-hand value on the graph).

The W/C TEMP FLOW LOW screen will appear.

Tap the + or – icons to adjust the setpoint as required.

Tap the tick icon to confirm the setting.

The display will return to the weather compensation screen.

Temperature Outside Low

Tap the Temperature Outside Low setting on the weather compensation screen (bottom left value on the graph).

The W/C TEMP OUTSIDE LOW screen will appear.

Tap the + or – icons to adjust the setpoint as required.

Tap the tick icon to confirm the setting.

The display will return to the weather compensation screen.

Temperature Outside High

Tap the Temperature Outside High setting on the weather compensation screen (bottom right value).

The W/C TEMP OUTSIDE HIGH screen will appear.

Tap the + or – icons to adjust the setpoint as required.

Tap the tick icon to confirm the setting.

The display will return to the weather compensation screen.

When all four weather compensation parameters are correct:

Tap the ON/OFF icon so 'ON' is displayed.

! NOTE !

The EvoLink is supplied with the weather compensation defaulted to OFF, i.e. OFF shown on the display. In this setting the weather compensation is NOT operational.

Tap the 'Return' icon to return to the 'SETTINGS' screen.

6.4.3 PARAMETERS

Tap 'PARAMETERS' and the HP MAX TEMP CH screen will be displayed.

Set the HP MAX TEMP CH

This should be set to the same value as the heat pump heating flow temperature setting.

Tap the + or – icons to adjust the HP MAX TEMP CH value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the HP MAX TEMP DHW screen.

Set the HP MAX TEMP DHW

This should be set to the same value as the heat pump hot water flow temperature setting.

Tap the + or – icons to adjust the HP MAX TEMP DHW value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the TEMP BELOW SP AUTO screen.

Set the TEMP BELOW SP AUTO CH

Tap the + or – icons to adjust the TEMP BELOW SP AUTO CH value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the TIME BELOW SP AUTO CH screen

Set the TIME BELOW SP AUTO CH

Tap the + or – icons to adjust the TIME BELOW SP AUTO value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the END SUPP CH PWM screen.

Set the END SUPP CH PWM

Tap the + or – icons to adjust the END SUPP CH PWM value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the END SUPP CH TIME screen.

Set the END SUPP CH TIME

Tap the + or – icons to adjust the END SUPP CH TIME value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the RET TEMP DELTA END HP screen.

Set the RET TEMP DELTA END HP

Tap the + or – icons to adjust the RET TEMP DELTA END HP value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the RET TEMP DELTA PWM screen.

Set the RET TEMP DELTA PWM

Tap the + or – icons to adjust the RET TEMP DELTA PWM value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the TIME BELOW AUTO DHW SP screen.

Set the TEMP BELOW SP AUTO DHW

Tap the + or – icons to adjust the TEMP BELOW SP AUTO DHW value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the TIME BELOW SP AUTO DHW screen.

Set the TIME BELOW SP AUTO DHW

Tap the ► icon to go to the OVERRIDE MODE screen.

Unless override operation is required, use the + or - icons to set Override Mode to OFF.

Tap the ► icon to go to the OVERRIDE MODE screen.

Set the OVERRIDE MODE

See section 6.5 for Override Mode operation.

Tap the + or – icons to adjust the OVERRIDE MODE value as required - ON/OFF.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the LEGIONELLA DEMAND COUNT screen.

Set the LEGIONELLA DEMAND COUNT

Tap the + or – icons to adjust the LEGIONELLA DEMAND COUNT value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the OUTSIDE TEMP BOILER ONLY screen.

Set the OUTSIDE TEMP BOILER ONLY

Tap the + or – icons to adjust the OUTSIDE TEMP BOILER ONLY value as required.

Tap the tick icon to confirm the setting.

Tap the ► icon to go to the GREEN/COMFORT MODE screen.

Set the GREEN/COMFORT MODE

Factory default for this mode is 'COMFORT'

Tap the + or – icons to adjust the GREEN/COMFORT MODE to Green or Comfort as required.

Tap the tick icon to confirm the setting.

Tap the ‘Return’ icon to return to the settings screen.

Tap the ‘Return’ icon again to return to the home screen.

6.5 OVERRIDE FUNCTION

This function manually switches the boiler ON and automatically interrupts the demand to the heat pump, switching it off.

6.5.1 TO OPERATE THE ‘OVERRIDE’ FUNCTION

Tap the gear wheel (Settings) icon on the home screen. Refer to Figure 6-1.

The ‘SETTINGS’ screen will appear.

Tap the ‘PASSWORD’ option.

The password screen will appear.

Enter the password (9876).

Tap the tick icon to confirm the setting.

The ‘SETTINGS’ screen will appear with the live data options.

Tap the ▼ icon to scroll down until the ‘PARAMETERS’ option is visible on the display.

Tap the ‘PARAMETERS’ option.

Continue to tap the ► icon until the OVERRIDE MODE screen appears.

Tap the + icon to set the override to ‘ON’.

Tap the tick icon to confirm the setting.

Tap the ‘Return’ icon to return to the ‘SETTINGS’ screen.

Tap the ‘Return’ icon again to return to the ‘Home’ screen.

6.5.2 TO STOP THE ‘OVERRIDE’ FUNCTION

Tap the gear wheel (Settings) icon on the home screen. Refer to Figure 6-1.

The ‘SETTINGS’ screen will appear.

Tap the ‘PASSWORD’ option.

The password screen will appear.

Enter the password (9876).

Tap the tick icon to confirm the password.

The ‘SETTINGS’ screen will appear with the live data options.

Tap the ▼ icon to scroll down until the ‘PARAMETERS’ option is visible on the display.

Tap the ‘PARAMETERS’ option.

Continue to tap the ► icon until the OVERRIDE MODE screen appears.

Tap the – icon to set the override to ‘OFF’.

Tap the tick icon to confirm the setting.

Tap the ‘Return’ icon to return to the ‘SETTINGS’ screen.

Tap the ‘Return’ icon again to return to the ‘Home’ screen.

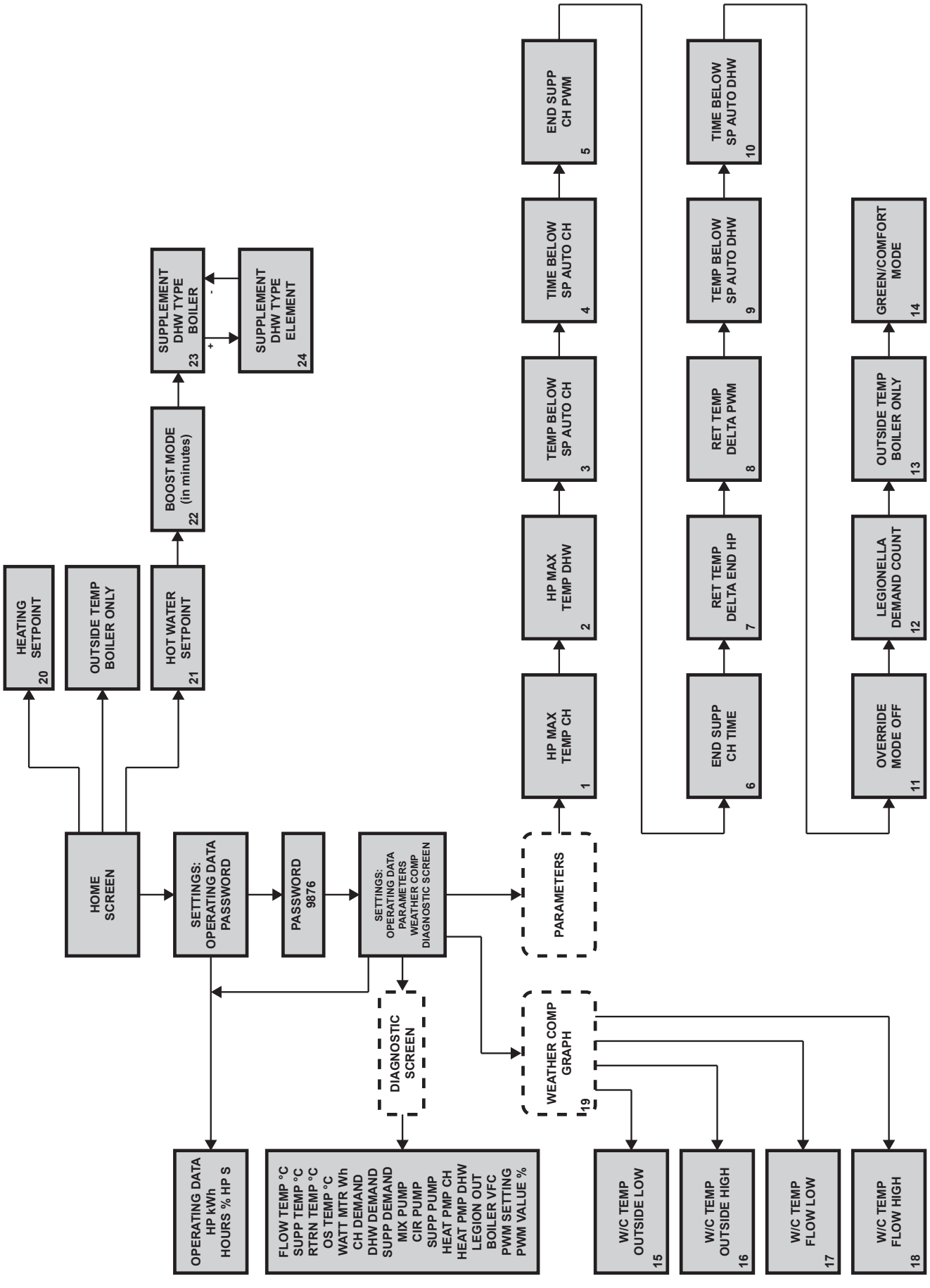


Figure 6-2: User Interface display screens

6.7 GRANT EVOLINK SETTINGS

Use the table below to record all EvoLink parameters settings during commissioning.

Table 6-1: EvoLink settings*

Ref.	Parameter / Function	Range	Default	Setting
Heat pump parameters				
1	HP MAX TEMP CH	30 to 70°C	55°C	
2	HP MAX TEMP DHW	30 to 70°C	55°C	
CH Auto mode parameters				
3	TEMP BELOW SP AUTO CH	1 to 100°C	3°C	
4	TIME BELOW SP AUTO CH	1 to 200 mins	45 mins	
5	END SUPP CH PWM	1 to 50% PWM	20%	
6	END SUPP CH TIME	1 to 60 mins	10 mins	
7	RET TEMP DELTA HP	0 to 10°C	2°C	
8	RET TEMP DELTA PWM	0 to 10°C	4°C	
DHW Auto mode parameters				
9	TEMP BELOW SP AUTO DHW	1 to 100°C	3°C	
10	TIME BELOW SP AUTO DHW	1 to 60 mins	10 mins	
11	OVERRIDE MODE	ON/OFF	Off	
12	LEGIONELLA DEMAND COUNT	0 to 20	0	
13	OUTSIDE TEMP BOILER ONLY	-30 to 10°C	-5°C	
14	GREEN/COMFORT MODE	Green/Comfort	Comfort	
Weather compensation				
15	W/C TEMP OUTSIDE LOW	-10 to 12°C	-3°C	
16	W/C TEMP OUTSIDE HIGH	15 to 25°C	18°C	
17	W/C TEMP FLOW LOW	10 to 30°C	30°C	
18	W/C TEMP FLOW HIGH	30 to 80°C	70°C	
19	ON/OFF icon	ON/OFF	Off	
EvoLink Setpoints				
20	HEATING SETPOINT	30 to 80°C	45°C	
21	HOT WATER SETPOINT	40 to 65°C	50°C	
22	BOOST MODE	0 - 90 (minutes). (in 30 minutes fractions/ steps).	Inoperative	
23/24	SUPPLEMENT DHW TYPE	Boiler / Element	Inoperative	

Record all EvoLink parameter/function settings that have been changed during commissioning in the 'Setting' column in the above table.
*Refer to Table 5-1 for more detailed information about these parameters.

6.8 WEATHER COMPENSATION SETTINGS

The four values for weather compensation set on the EvoLink (parameters 15, 16, 17 and 18 in Table 6-1) must be the same as the corresponding weather compensation values set on the Aerona³ air source heat pump. Refer to Table 8-3 and the installation instructions supplied with the Aerona³ heat pump.

Table 6-2: Corresponding EvoLink and Aerona³ heat pump weather compensation parameters

EvoLink Parameter		**Aerona³ heat pump parameter**	
Parameter	**Parameter Name**	**Parameter**	**Function**
15	Outside temperature low	21 04	Minimum outdoor air temperature (Te1)
16	Outside temperature high	21 05	Maximum outdoor air temperature (Te2)
17	Flow temperature low	21 03	Minimum outgoing water temperature (Tm2)
18	Flow temperature high	21 02	Maximum outgoing water temperature (Tm1)
Record all heat pump parameter settings that have been changed in the Aerona³ installation instructions - Appendix F - Parameters Record			

! NOTE !

Refer to the Aerona³ Installation Instructions supplied with the heat pump for further details on how to access and adjust the above heat pump Parameters.

7 Declaration of conformity

7.1 EC DECLARATION OF CONFORMITY

GRANT ENGINEERING IRELAND ULC

CRINKLE, BIRR, R42 D788, CO. Offaly, IRELAND
Telephone: (057) 9120089 Fax: (057) 9121060
Email: info@grantengineering.ie
Website: www.grantengineering.ie

EC Declaration of Conformity

In accordance with BS EN ISO/IEC 17050-1:2004

We: GRANT ENGINEERING (IRL) ULC.
Of: Crinkle
Birr
Co. Offaly
Ireland
Telephone: 057 9120089
Fax: 057 9121060
Email: info@grantengineering.ie.
Website: www.grantengineering.ie

Declare that:

Equipment:	Evolink Hybrid Control.
Model name/number:	Evolink (UK)
	Evolink (IRL)

In accordance with the following Directives:

2014/35/EC	Conform with the safety objectives of the Low Voltage Directive. (EN60730-1:2011 Automatic electrical controls for household and similar use)
2014/30/EC	Conform with the essential protection requirements of the Electromagnetic Compatibility Directive and its amending directives.

I hereby declare that the equipment named above has been tested and found to comply with the relevant sections of the above referenced specifications. The unit complies with all essential requirements of the Directives.

Responsible Person: Mr. Adrian Rice

Position: Controls Manager

Signature:

Date: 13th July 2023

7.2 UKCA DECLARATION OF CONFORMITY

This declaration is made under the sole responsibility of the following Manufacturer. The Manufacturer declares that the following product conforms to the requirements of the UK Legislation and Regulations as detailed below.

We:	Grant Engineering (UK) Limited
Of:	Unit A/B, Europark Frankland Road Blagrove Industrial Estate Swindon SN5 8YG
Telephone:	+44 (0)1380 736920
Fax:	+44 (0)1380 736991
Email:	info@grantuk.com
Website:	www.grantuk.com

Declare that:

Product:	EvoLink Hybrid Control
Model Name/Number:	EvoLink

In accordance with the following directive(s) or Regulation(s), provided that the products are installed and used in accordance with our instructions

S.I. 2016/1101: Electrical Equipment (safety) Regulations 2016

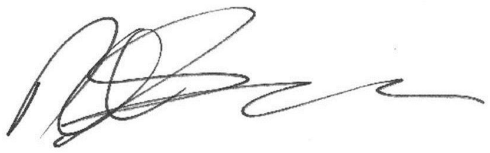
S.I. 2016/1091: Electromagnetic Compatibility Regulations 2016

following the provisions of:

BS EN 60730-1:2011

I hereby declare that the equipment named above has been tested and found to comply with the relevant sections of the above referenced specifications. The unit complies with all essential requirements of the Directives.

Place of issue:	United Kingdom
Date of issue:	15th August 2023
Responsible Person:	Neil Sawers
Position:	Commercial Technical Manager
Signature:	



8 Health and Safety Information

8.1 GENERAL

The Health and Safety information given in this section relates to the EvoLink only.

For details of the Health and Safety Information for the heat pump, refer to Section 14 of the Aerona³ installation and servicing instructions supplied.

For details of the Health and Safety Information for any other heating appliances being used, refer to the instructions supplied with the appliance.

Under the Consumer Protection Act 1987 and Section 6 of the Health & Safety at Work Act 1974, we are required to provide information on substances hazardous to health (COSHH Regulations 1988).

Adhesives, sealants and paints used in the manufacture of the product are cured and present no known hazards when used in the manner for which they are intended.

See section 8.2 for other materials present in the product.

8.2 INSULATION MATERIALS

Material Types:

Mineral wool.

Description:

Foil faced insulation.

Known Hazards:

May cause temporary irritation or rash to skin. High dust levels may irritate eyes and upper respiratory system.

Precautions:

Avoid inhalation and contact with skin and eyes.

After handling always follow normal good hygiene practices.

Protection:

Use disposable gloves, face mask and eye protection.

First Aid:

Eyes

If irritation occurs, wash eyes with copious amounts of water.

If symptoms persist, seek immediate medical advice.

Skin

If irritation occurs, wash under running water before washing with soap and water.

Inhalation

Remove to fresh air, drink water to clear throat and blow nose to remove dust/fibres.

Ingestion

Drink plenty of water.

8.3 SEALANT AND ADHESIVE

Material Types:

Paste - a mixture of saponified mineral and vegetable oils and inert mineral powders.

Description:

Thread sealant.

Known Hazards:

Under normal conditions of use this product does not present a health hazard.

Precautions:

Avoid contact with eyes and prolonged or repeated contact with skin.

Store away from sources of ignition. Keep containers closed.

After handling, always follow normal good hygiene practices.

Protection:

Use eye protection. Rubber or plastic gloves should be worn.

Avoid inhalation in case of fumes.

First Aid:

Eyes

Flush eyes with water for a few minutes. If pain or redness persists seek immediate medical attention.

Skin

Rinse and wash with soap and water.

Inhalation

At high temperatures product may produce hazardous vapours.

Remove immediately to fresh air.

Ingestion

If ingested do not drink fluids, do not induce vomiting, go immediately to hospital.

9 Guarantee

You are now the proud owner of a Grant EvoLink hybrid system hub from Grant Engineering (UK) Limited which has been designed to give years of reliable, trouble free operation.

Grant Engineering (UK) Limited guarantees the manufacture of the EvoLink hybrid system hub including all electrical and mechanical components for a period of **twelve months from the date of installation[4]**, provided that the EvoLink hybrid system hub has been installed in full accordance with the installation instructions issued.

This will be extended to a total period of **two years** if the EvoLink hybrid system hub is registered with Grant Engineering (UK) Limited within **thirty days of installation** and it is inspected when the heat source/heating system is serviced at twelve month intervals[3]. See main Terms and Conditions below.

Registering the product with Grant Engineering (UK) Limited

Please register your Grant EvoLink hybrid system hub with Grant Engineering UK Limited **within thirty days of installation**. To do so visit:

www.grantuk.com/support/product-registration

You can register your EvoLink hybrid system hub for a further **twelve months** guarantee (giving **two years** from the date of installation[4]). This does not affect your statutory rights[1].

If a fault or defect occurs within the manufacturer's guarantee period

If your EvoLink hybrid system hub should fail within the guarantee period, you must contact Grant Engineering (UK) Limited who will arrange for the repair under the terms of the guarantee, providing that the EvoLink hybrid system hub has been correctly installed, commissioned and inspected when the heat source/heating system is serviced (if the product has been installed for more than twelve months) by a competent person and the fault is not due to tampering, debris, system water contamination, misuse, trapped air or the failure of any external components not supplied by Grant Engineering (UK) Limited, e.g. circulating pump, motorised valve, etc.

This two year guarantee only applies if the EvoLink hybrid system hub is registered with Grant Engineering (UK) Limited within thirty days of installation[4] and is inspected after twelve months[3], when the heat source and/or heating system is serviced.

In the first instance

Contact your installer or commissioning engineer to ensure that the fault does not lie with the system components or any incorrect setting of the system controls that falls outside of the manufacturer's guarantee, otherwise a service charge could result. Grant Engineering (UK) Limited will not be liable for any charges arising from this process.

If a fault covered by the manufacturer's guarantee is found

Ask your installer to contact Grant Engineering (UK) Limited Service Department on +44 (0)1380 736920 who will arrange for a competent service engineer to rectify the fault.

Remember - before you contact Grant Engineering (UK) Limited

- Ensure the EvoLink hybrid system hub has been installed, commissioned and inspected by a competent person in accordance with the installation instructions.
- Ensure the problem is not being caused by the heating system or its controls.

Free of charge repairs

During the **two year** guarantee period no charge for parts or labour will be made provided that the EvoLink hybrid system hub has been installed and commissioned correctly in accordance with the manufacturer's installation instructions, it was registered with Grant Engineering (UK) Limited within thirty days of installation[4] and, for a EvoLink hybrid system hub over twelve months old, details of inspection when the heat source and/or heating system is serviced are available[3].

The following documents must be made available to Grant Engineering (UK) Limited on request:

- Proof of purchase
- Commissioning Report Form
- Service documents
- System Design Criteria

Chargeable repairs

A charge may be made (if necessary following testing of parts) if the breakdown is due to any fault(s) caused by the plumbing or heating system, e.g. contamination of parts due to system contamination, sludge, scale, debris or trapped air. Refer to 'Extent of manufacturer's guarantee'.

Extent of manufacturer's guarantee

The manufacturer's guarantee does NOT cover the following:

- If the EvoLink hybrid system hub has been installed for over **two years**.
- If the EvoLink hybrid system hub has not been installed, commissioned, or inspected by a competent person in accordance with the installation instructions.
- Instances where the serial number has been removed or made illegible.
- Fault(s) due to accidental damage, tampering, unauthorised adjustment, neglect, misuse or operating the EvoLink hybrid system hub contrary to the manufacturer's installation instructions.
- Damage due to external causes such as bad weather conditions (flood, storms, lightning, frost, snow, or ice), fire, explosion, accident or theft.
- Fault(s) due to incorrectly sized expansion vessel(s), incorrect vessel charge pressure or inadequate expansion on the system.
- Fault(s) caused by external electrics and external components not supplied by Grant Engineering (UK) Limited.
- Product servicing, de-scaling or flushing.
- Checking and replenishing system pressure.
- Electrical cables and plugs, external controls not supplied by Grant Engineering (UK) Limited.
- Heating system components, such as radiators, pipes, fittings, pumps and valves not supplied by Grant Engineering (UK) Limited.
- Instances where the EvoLink hybrid system hub has been un-installed and re-installed in another location.
- Use of spare parts not authorised by Grant Engineering (UK) Limited.
- Consumable items including, but not limited to, antifreeze and biocide inhibitor.

Terms of manufacturer's guarantee

- The Company shall mean Grant Engineering (UK) Limited.
- The EvoLink hybrid system hub must be installed by a competent person and in full accordance with the relevant Codes of Practice, Regulations and Legislation in force at the time of installation.
- The EvoLink hybrid system hub is guaranteed for **two years** from the date of installation[4], providing that every twelve months the annual service has been completed[3] and the EvoLink hybrid system hub registered with the Company within thirty days of installation. Any work undertaken must be authorised by the Company and carried out by a competent service engineer.
- This guarantee will be invalid if the EvoLink hybrid system hub is not inspected when the heat source/heating system receives its annual (every twelve months) service and will then be limited to twelve months from the date of installation[4].
- The EvoLink hybrid system hub is operated correctly, in accordance with the Installation instructions.
- Grant Engineering (UK) Limited **strongly recommends** that a Grant Mag-One in-line magnetic filter/s (or equivalent[5]) is fitted in the heating system pipework. This should be installed and regularly serviced in accordance with the filter manufacturer's instructions. We reserve the right to ask for proof of installation – failure to provide this may result in the guarantee becoming invalid.
- Proof is provided that the system has been flushed or chemically cleaned where appropriate (refer to BS 7593) and that the required quantity of a suitable corrosion inhibitor added.
- Proof of annual servicing (including the checking of any expansion vessels and pressure relief valves) must be provided if and when requested by the Company.
- This guarantee does not cover breakdowns caused by incorrect installation, neglect, misuse, accident or failure to operate the EvoLink hybrid system hub in accordance with the manufacturer's installation instructions.
- The EvoLink hybrid system hub is registered with the Company within thirty days of installation. Failure to do so does not affect your statutory rights[1].
- The balance of the guarantee is transferable providing the installation is serviced prior to the dwelling's new owners taking up residence. Grant Engineering (UK) Limited must be informed of the new owner's details.
- The Company will endeavour to provide prompt service in the unlikely event of a problem occurring, but cannot be held responsible for any consequences of delay however caused.
- This guarantee applies to Grant Engineering (UK) Limited EvoLink hybrid system hubs purchased and installed on the UK mainland, Isle of Wight, Channel Islands and Scottish Isles only[2]. Provision of in-guarantee cover elsewhere in the UK is subject to agreement with the Company.
- All claims under this guarantee must be made to the Company prior to any work being undertaken. Invoices for call out/repair work by any third party will not be accepted unless previously authorised by the Company.
- Proof of purchase and date of installation, commissioning and service documents must be provided on request.
- If a replacement EvoLink hybrid system hub is supplied under the guarantee (due to a manufacturing fault) the product guarantee continues from the installation date of the original EvoLink hybrid system hub and **not** from the installation date of the replacement[4].
- The EvoLink hybrid system hub must be connected to a mains water supply (installations utilising a private water supply are not covered by this guarantee).
- Breakdown/failure due to lime scale will not be covered by this guarantee.
- The replacement of an EvoLink hybrid system hub under this guarantee does not include any consequential costs.
- The EvoLink hybrid system hub must not be sited in a location where it may be subjected to frost.

Foot notes

1. Your statutory rights entitle you to a one year guarantee period only.
2. The UK mainland consists of England, Scotland and Wales only. Please note that for the purposes of this definition, Northern Ireland, Isle of Man and Scilly Isles are **not** considered part of the UK mainland.
3. We recommend that your heating system is serviced every twelve months, and that your EvoLink hybrid system hub is inspected at the same time (even when the guarantee has expired) to prolong the lifespan and ensure it is operating safely and efficiently.
4. The guarantee period will commence from the date of installation, unless the installation date is more than six months from the date of purchase, in which case the guarantee period will commence six months from the date of purchase.
5. As measured by gauss. The MagOne magnetic filter has a gauss measurement of 12,000.

Notes

Notes

GRANT ENGINEERING (UK) LIMITED

Frankland Road, Blagrove Industrial Estate, Swindon, Wiltshire, SN5 8YG
Tel: +44 (0)1380 736920 Fax: +44 (0)1380 736991
Email: info@grantuk.com www.grantuk.com