



Zeroth

User Guide



The Hot Water Association (HWA) Charter is a code of practise which requires that all members adhere to the following:

- *supply fit for purpose products clearly and honestly described*
- *supply products that meet, or exceed appropriate standards and building and water regulations*
- *provide pre and post sales technical support*
- *provide clear and concise warranty details to customers*

*For further information on HWA Membership, please refer to HWA website:
www.hotwater.org.uk*

All cylinders are certified by KIWA, for further information on this regulation body please refer to the KIWA website: www.kiwa.co.uk

Contents

1.0	Introduction	4
1.1	Product Identification	4
1.2	Safety Information	4
2.0	System Overview	6
2.1	Operation	6
2.2	Electrical Information	6
3.0	User Interface Overview	7
3.1	Thermal System On/Off	7
4.0	Advanced User Controls	8
5.0	Troubleshooting	9
5.1	Fault Screen	9
5.2	Domestic Hot Water - Manual Mode	9
5.3	System Checks	10
6.0	Maintenance	11
7.0	Service	11
8.0	Contact Details	11
9.0	Commissioning Checklist	13
10.0	Service Record	15

1.0 Introduction

Welcome to the Zeroth Energy System by Dimplex. This product is designed to provide space heating, space cooling* and domestic hot water all year round. The Zeroth appliance is fully integrated into the dwellings heating and cooling control system, which allows the user to adjust ambient temperatures and comfort levels at a single central location. To guarantee domestic hot water is maintained independent of the energy loop, an immersion heater is installed in the water cylinder as a back up feature.

*Only available on selected models

1.1 Product Identification

If support is required, it is important to know the serial number and series letter of the appliance (Figure 1). This can be found at the bottom right of the appliance. See Chapter 8.0 for contact details.

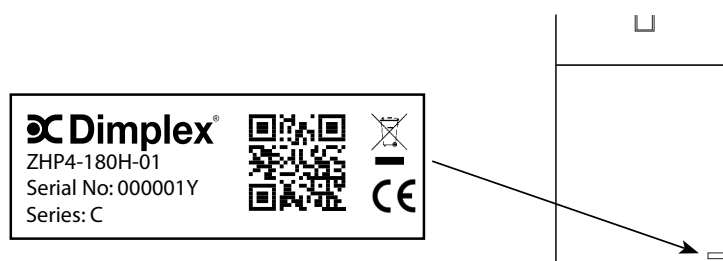


Figure 1: Product Identification



GENERAL WARNINGS

Indicates a general warning against actions which could result in damage to the system or personal injury to the installer and/or user.



ELECTRICAL WARNINGS

Indicates any hazard of an electrical nature.



INFORMATION

Indicates tips and advice for the smooth operation of the system.

1.2 Safety Information

CAUTION:

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY CAUSE INJURY AND/OR DAMAGE AND MAY INVALIDATE YOUR WARRANTY.

"This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision."

WARRANTY:

PLEASE READ THE FOLLOWING STATEMENTS CAREFULLY AS IT AFFECTS YOUR WARRANTY

"Please ensure that the installer has fully completed the Checklist on the inside back pages of this document and that you have signed it to say that you have received a full and clear explanation of its operation. The installer is legally required to complete a commissioning checklist as a means of complying with the appropriate Building Regulations Part G3 (England and Wales), Part P of Northern Ireland and Section 6 of Scotland."

All installations must be notified to Local Area Building Control either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer who should, on receipt, write the Notification Number on the Checklist.

This product should be serviced annually to optimise its safety, efficiency and performance. The service engineer should complete the relevant Service Record on the Checklist after each service.

The Checklist will be required in the event of any warranty work."

The permanent supply to the appliance must be maintained at all times. Failure to do so may result in the appliance not functioning as required.

SERVICING AND REPAIRS:

Servicing and product repairs should only be undertaken by the manufacturers approved service agent, using only exact manufacturer approved spare parts.

MANUAL RETENTION:

The instructions included in this manual are important for the correct usage of the Zeroth appliance. Please ensure that you retain this manual for reference.

The specifications and information supplied in this manual may be subject to change without notice at the discretion of Glen Dimplex UK Ltd. All attempts have been made to ensure that this document is complete and that the information supplied is correct at the time of publication, however Glen Dimplex UK Ltd will assume no responsibility for damages (including consequential and indirect / accidental damages) resulting from reliance on the information presented in this document.

TEMPORARY POWER SUPPLIES:

Temporary power supplies (generators) are not suitable for use with this product. Connection of a generator to the product may cause irreparable damage, Glen Dimplex UK Ltd will assume no responsibility for damages or delays caused by the connections of a temporary power generator (including consequential and indirect / accidental damages) and replacements will be charged at full cost to the contractor responsible.

CYLINDER LEGAL REQUIREMENTS:

The cylinder supplied is an unvented model and therefore must be fitted and commissioned by a competent person qualified in the installation of these systems. The product is supplied with factory fitted safety devices, but the discharge arrangement must be fitted in situ and certified.

WATER PRESSURE RATINGS:

The product has maximum stated operational water pressures, exceeding these ratings may cause irreparable damage, Glen Dimplex UK Ltd will assume no responsibility for damages or delays caused by failures due to over-pressurisation (including consequential and indirect / accidental damages) and replacements will be charged at full cost to the contractor responsible.

TRANSPORTATION DAMAGE:

Glen Dimplex UK Ltd cannot accept liability for any damage caused to the product after it has been unloaded from the transportation vehicle. It is the contractors responsibility to ensure the product does not get damaged once the product has been unloaded. Glen Dimplex UK Ltd will assume no responsibility for damages or delays caused by failures/damages due to handling damage (including consequential and indirect/ accidental damages) and replacements will be charged at full cost to the contractor responsible. Fitted to the packaging of the product is a tilt indicator, which records if the product has been tilted beyond 45° angle. If so Glen Dimplex UK Ltd cannot guarantee full functionality and the product could be permanently damaged.

MAINTENANCE:

The maintenance of this appliance must be carried out by a suitably qualified person only. It is recommended to maintain the unit on an annual basis. Please contact your service agency for further information.

The product casing must not be washed with chemicals, if the casing becomes dirty during installation or during its life, please use a cloth which is damp with warm soapy water to remove stains or marks. Avoid cleaning near the controller.

2.0 System Overview

The overall benefits of the Zeroth Energy System include

- High efficiency heating/cooling* and hot water system.
- Mains pressure domestic hot water.
- Compatible with standard home heating control systems.
- Easy to use controls.
- Compact design i.e. occupies a single floor space providing heating, cooling* and hot water.

*Cooling is only available on selected models

2.1 Operation

The Zeroth Energy System fully integrates with standard space heating and hot water control systems. The end user should only adjust the dwelling space heating thermostats to match their comfort requirements and the Zeroth Energy System will adjust accordingly. To do this, simply increase or decrease the room thermostat to the desired temperature and the Zeroth energy system will adjust to meet comfort level accordingly. Refer to the thermostat manufacturers user guide if unsure how to use it.

When turning on a hot tap for the first time after a heat up period there might be a short surge of water. This is normal in unvented systems and does not constitute a fault. Sometimes the water may appear milky – this is due to very fine air bubbles in the water which will clear quickly.



Once the system has been fully commissioned, no user intervention with the appliance should be required to fully enjoy the comfort and benefits of unvented hot water, efficient space heating and space cooling.



Glen Dimplex UK Ltd cannot take responsibility for ensuring safe operation of the appliance outside of the scope of intended use.



The Zeroth appliance is factory set to deliver user comfort at peak operational efficiency. For further modification please see Advanced User Controls (see Section 4.0).

2.2 Electrical Information

The appliance must be permanently connected to the building electricity supply and not switched off. If power supply is interrupted or appliance is switched off for an extended period of time it must be recommissioned.

The Zeroth appliance has two primary electrical supplies, these should be located adjacent to the appliance in order to isolate power to the heat pump module and immersion heater separately. By switching these supplies off the appliance may fail to operate properly. It may be necessary to switch off the main supplies during long periods of disuse.

There may be additional mains 240V connections wired into the Zeroth appliance for system controls that have isolation points away from the appliance.



Multiple electrical supplies connected to the Zeroth appliance, please ensure a Dimplex Engineer is the only person permitted to access the internal connections of the Zeroth unit.

3.0 User Interface Overview

The Zeroth User Interface (UI) is located on the front of the appliance (Figure 2) and performs a number of functions:

- Provides a status of the system operation, i.e. on/off.
- Adjusts comfort levels.
- Display of system errors.

The UI consists of the following elements as shown in Figure 2.

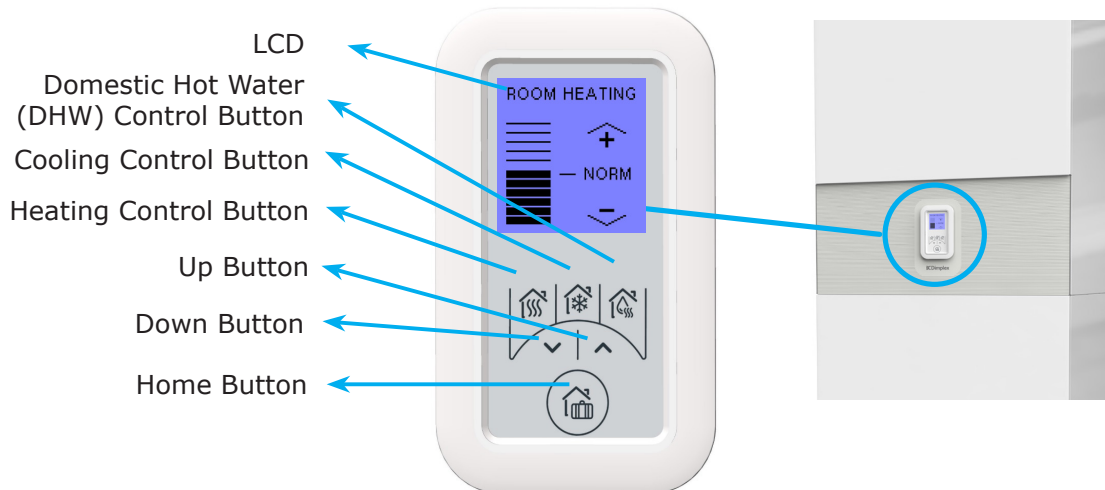


Figure 2: User Interface Overview



After 1 minute of inactivity, the LCD screen goes into power saving mode. This results in the screen only powering down, the appliance remains functional as required. Pressing the Home Button powers the screen back up.

3.1 Thermal System On/Off

Turning the thermal system off will result in no heating, cooling or hot water, and may take some time in order to return to normal usage.

- To select thermal system off, press the Home Button to energise the screen.
- Pressing the Home Button a second time gives the option to turn the thermal system off.
- Use the down arrow to show OFF, then press the Home Button to apply the change entering thermal system off. Screen shown in Figure 3.
- To turn thermal system on, press the Home Button so that it displays the green screen shown in Figure 3.

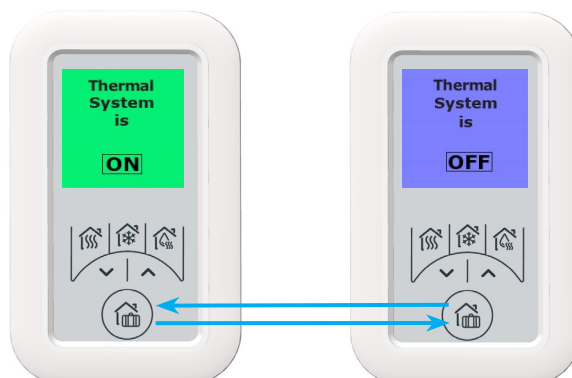


Figure 3: Thermal System On/Off

4.0 Advanced User Controls

The settings on the appliance itself should not need to be adjusted. However, should the heating system fail to achieve user comfort levels, by adjusting the central heating system controller, an advanced menu on the appliance can be accessed to vary the capacity of the Zeroth appliance. Please use the relevant contact details found in Section 8.0, or further advice in respect to the options below.

Within the advanced user controls functions, three parameters can be adjusted to optimise the operation of the Zeroth Thermal System:

- Heating Controls.
- Cooling Controls.
- Domestic Hot Water Controls.

Each can be adjusted by following the steps below:

- Press the corresponding button highlighted in Figure 4.
- Change to the desired comfort level by using the up and down arrows.
- Having selected the comfort level, simply press the Home Button when the desired level is selected to store it.

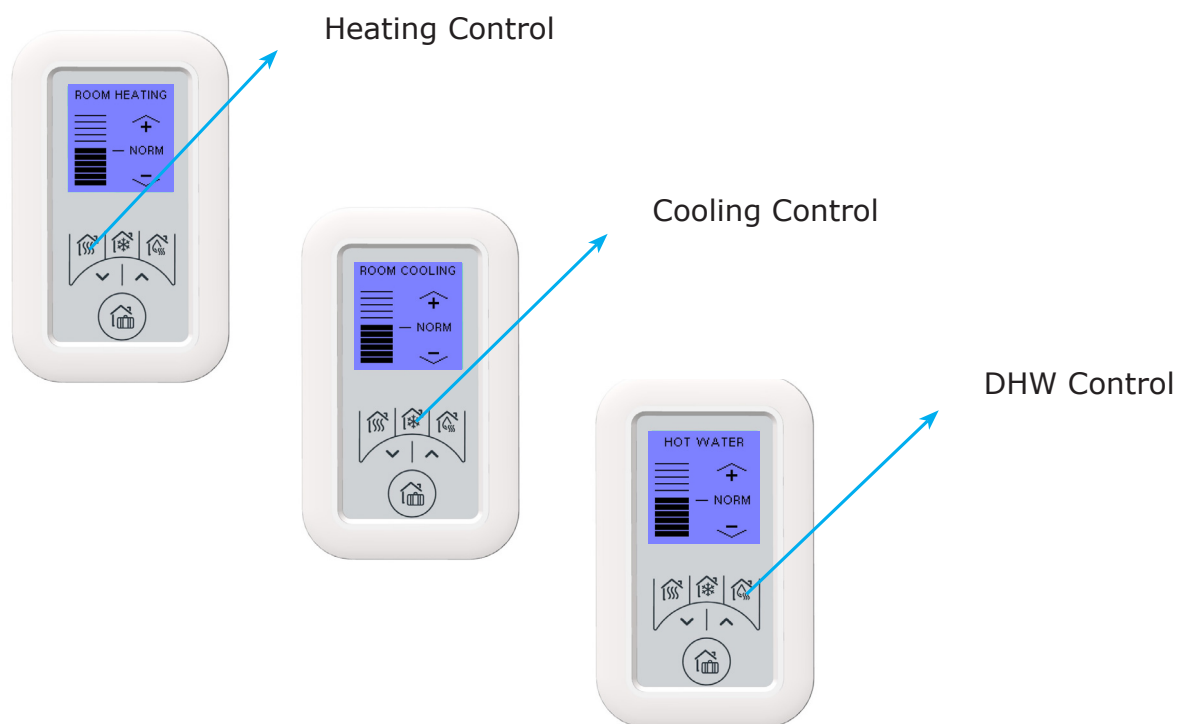


Figure 4: Advanced User Controls



There are 11 levels of comfort for each operating mode. The up and down arrows vary the comfort levels from "Cooler" through to "Hotter" in order to meet the required need.

5.0 Troubleshooting

In any circumstances when the heating/cooling* system fails to deliver desired levels of comfort, the user should follow the guidance provided in this section to either resolve any issues, contact technical support, or activate back up.

*Cooling is only available on selected models

5.1 Fault Screen

If there is a fault with the Zeroth Energy System the following screen will be displayed on the user interface:

- System Fault - Contact Support (see Section 8.0).



Figure 5: Fault Screen

5.2 Domestic Hot Water - Manual Mode

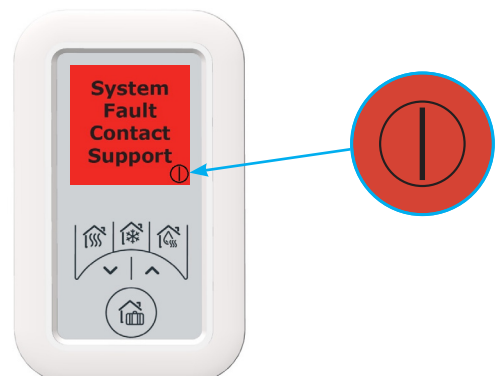
A wall mounted switch, which will be located in the building switches the backup immersion heater from automatic to manual mode. This switch should only be activated should the Zeroth fail to deliver hot water in normal mode.

The back up switch location is determined by the building electrical designer and may be placed in another location in the building. Please consult the facilities manager should the back up switch be difficult to locate.

 ***When activated, this switch keeps the immersion heater activated until manually switched off.***

In domestic hot water manual mode, the appliance will heat the entire volume of the water cylinder, 180l to 60°C.

 ***Attention, when the immersion heater back up switch is activated a "ⓘ" symbol appears on the User Interface to flag the immersion heater is in Manual Mode. To avoid increasing energy bills, please switch off the back up immersion heater switch after use.***



5.3 System Checks

Should an issue occur with the Zeroth energy system, please follow the steps below:

- Take note of exactly what the problem is.
- See if it can be resolved by carrying out some checks as highlighted in the table below.
- Turn power off and on again to the appliance.
- If the problem persists contact building services.
- If still unresolved, note the appliance serial number (see Figure 1) and then please use the relevant contact number shown in section 8.0.

Issue	Checks	Action
No domestic hot water	Check mains power to the Zeroth appliance is switched on.	Turn on mains power supply to the appliance.
	Check the Zeroth UI and ensure the Thermal System is On.	Refer to Section 3.1 to turn on Thermal System.
	Check if fault screen is presented on the UI, refer to Section 5.1.	Contact support (see Section 8.0).
Domestic hot water temperature too low	Check if fault screen is presented on the UI, refer to Section 5.1.	Contact support (see Section 8.0).
	Increase temperature set point.	Refer to section 4.0 Advanced User Controls.
Domestic hot water temperature too hot	Check the immersion heater back up switch is not permanently on.	Refer to section 4.0 Advanced User Controls.
Space heating/cooling not working	Ensure heat emitters (radiators) have not been isolated or switched off.	Check radiator valves are fully open.
	Check mains power to the Zeroth is switched on.	Turn on mains power supply to the Zeroth.
	Check if fault screen is presented on the UI, refer to Section 5.1.	Contact support (see Section 8.0).
	Check the set temperature is suitable (shown in section 4.0).	Adjust temperature control thermostat higher for additional heat or lower for cooling.
Space heating/cooling not achieving temperature set point	Check wall thermostat.	Adjust if required.
	Check if fault screen is presented on the UI, refer to Section 5.1.	Contact support (see Section 8.0).
	Increase temperature set point.	Refer to section 4.0 Advanced User Controls.
Back up immersion heater not working	Check that the switch is in the on position.	Turn the back up immersion heater switch off and on again.
Water discharge from appliance	Identify location of the discharge.	Report fault to an approved Service Engineer.

Figure 6: Troubleshooting



For faults that cannot be resolved from the above table, please contact an approved Service Engineer (Section 8.0).

6.0 Maintenance

The maintenance of this appliance must be carried out by a suitably qualified person only. It is recommended to maintain the unit on an annual basis. Please contact your manufacturer approved service agency for further information.

The product casing must not be washed with chemicals, if the casing becomes dirty during installation or during its life, please use a non-abrasive cloth which is damp with warm soapy water to remove stains or marks. Avoid cleaning near the controller.

If so Glen Dimplex UK Ltd cannot guarantee full functionality and the product could be permanently damaged.

7.0 Service

Your apartment heat pump should be serviced annually, to maintain the warranty and to ensure optimal performance is retained. Glen Dimplex UK Ltd offer the option of purchasing an annual service through one of its approved service agents. Upon take up of a service package with Glen Dimplex UK Ltd, your warranty will automatically be extended for that year, up to a maximum of five years from the warranty commencement date (please see installation certificate). Please contact Glen Dimplex UK Ltd to obtain prices and details of what is included in the service package.

This product should also be serviced annually to optimise its safety, efficiency and performance. The service engineer should complete the relevant Service Record on the Checklist after each service (Section 9.0 and Section 10.0).

8.0 Contact Details

To speak to customer services please contact:

www.dimplex.co.uk

Glen Dimplex Heating and Ventilation
Millbrook House, Grange Drive, Hedge End,
Southampton, SO30 2DF

Glen Dimplex Europe
Airport Road, Cloghran,
Co. Dublin K67 VE08

MAINS PRESSURE HOT WATER STORAGE SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the storage system as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission this equipment to the manufacturer's instructions will invalidate the warranty, but does not affect statutory rights.

Customer Name		Telephone Number	
Address			
Cylinder Make and Model			
Cylinder Serial Number			
Commissioned by (print name)		Registered Operative ID Number	
Company Name		Telephone Number	

ALL SYSTEMS

What is the static cold water pressure at the inlet to the system?		psi
Has a strainer been cleaned of installation debris (if fitted)?	Yes	No
Is the installation in a hard water area (above 200ppm)?	Yes	No
If, yes has a water scale reducer been fitted?	Yes	No
What type of scale reducer has been fitted?		
What is the hot water thermostat set temperature?		°C
What is the maximum hot water flow rate at set thermostat temperature (measured at high flow outlet)?		l/min
Time and temperature controls have been fitted according to CSA Standards and local codes?	Yes	
What is the hot water temperature at the nearest outlet?		°C
All appropriate pipes have been insulated up to 1 metre or the point where they become concealed.	Yes	

ALL SYSTEMS

What is the static cold water pressure at the inlet to the system? psi

Has a strainer been cleaned of installation debris (if fitted)? Yes ☐ No ☐

Is the installation in a hard water area (above 200ppm)? Yes ☐ No ☐

If, yes has a water scale reducer been fitted? Yes ☐ No ☐

What type of scale reducer has been fitted?

What is the hot water thermostat set temperature? °C

What is the maximum hot water flow rate at set thermostat temperature (measured at high flow outlet)? l/min

Time and temperature controls have been fitted according to CSA Standards and local codes? Yes ☐

What is the hot water temperature at the nearest outlet? °C

All appropriate pipes have been insulated up to 1 metre or the point where they become concealed. Yes ☐

UNVENTED SYSTEMS ONLY

Where is the pressure reducing valve situated (if fitted)?

What is the pressure reducing valve setting? psi

Has a combined temperature and pressure relief valve been fitted and discharge tested? Yes ☐ No ☐

The tundish and discharge pipework have been connected and terminated according to CSA Standards and local codes? Yes ☐

Are all energy devices fitted with a cut out device? Yes ☐ No ☐

ALL INSTALLATIONS

The hot water system complies with the appropriate CSA Standards and local codes? ☐ Yes

The system has been installed and commissioned with the manufacturer's instructions. ☐ Yes

The system controls have been demonstrated to and understood by the customer. ☐ Yes

The manufacturer's literature, including this Checklist and Service Record, has been explained and left with the customer. ☐ Yes

Commissioning Engineer's Signature

Customer's Signature

(To confirm satisfactory demonstration and receipt of manufacturer's literature)

10.0 Service Record

SERVICE RECORD

It is recommended that your hot water system is serviced regularly and that the appropriate Service Record is completed.

Service Provider

Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer’s instructions.

SERVICE 1

Date

Engineer Name

Company Name

Telephone Number

Comments

Signature

SERVICE 2

Date

Engineer Name

Company Name

Telephone Number

Comments

Signature

SERVICE 3

Date

Engineer Name

Company Name

Telephone Number

Comments

Signature

SERVICE 4

Date

Engineer Name

Company Name

Telephone Number

Comments

Signature

SERVICE 6 Date
Engineer Name
Company Name
Telephone Number
Comments
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Signature

SERVICE 8 Date
Engineer Name
Company Name
Telephone Number
Comments
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Signature

SERVICE 10 Date
Engineer Name
Company Name
Telephone Number
Comments
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Signature

SERVICE 5 Date
Engineer Name
Company Name
Telephone Number
Comments
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Signature

SERVICE 7 Date
Engineer Name
Company Name
Telephone Number
Comments
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.....
.....
Signature

SERVICE 9 Date
Engineer Name
Company Name
Telephone Number
Comments
.....
.....
.....
Signature

Disregarding the instructions given in this manual in its entirety and any relevant regulations, standards and codes of practice will void the guarantee of this product. Glen Dimplex UK Ltd reserve the right to revise products, literature and guarantee terms without prior notice due to a policy of continuous improvement.

To speak to customer services please contact:

www.dimplex.co.uk

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This manual is available online, follow the link by scanning the QR Code below:

