

PROGRAMMER

DIGITAL TWIN CHANNEL PROGRAMMER

For use with the following Greenstar and standard efficiency oil fired appliances:

Greenstar Camray 12/18, 18/25, 25/32

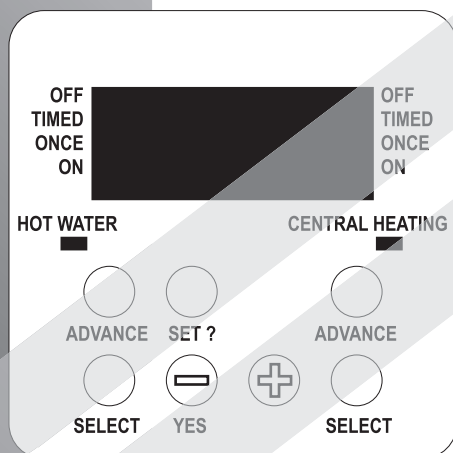
Greenstar Camray System 12/18, 18/25, 25/32

Greenstar Danesmoor 18/25

Greenstar Heatslave 12/18, 18/25, 25/32

Greenstar Wall Mounted 12/18, 18/25

Danesmoor FS 12/18, 18/25



UK/IE

**WORCESTER**
Bosch Group

INSTRUCTION MANUAL

FITTING & OPERATING INSTRUCTIONS

CONTACT INFORMATION

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INSTALLATION REGULATIONS

Failure to install this product correctly could lead to prosecution.

The appliance controls should be installed by a competent person. The person installing this product should be aware of the Health and Safety at Work Act and take appropriate action to ensure that the regulations are adhered to. In order to give optimum efficiency and trouble free operation the appliance must be commissioned by a qualified OFTEC engineer.

The compliance with a British Standard does not, of itself, confer immunity from legal obligations. In particular the installation of this product must be in accordance with the relevant requirements of the following British Standards and regulations in respect of the safe installation of equipment.

BS 5410: part 1: Code of practice for Oil Fired Boilers.

BS 7671: IEE Wiring Regulations, current edition.

The Building Regulations Part J, L1 and P England and Wales; Part F and Part J Section III Scotland; Part L and Part F Northern Ireland.

The Control of Pollution (Oil) Regulations.

OFTEC Standards.

MANUAL INFORMATION

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE OPERATING YOUR APPLIANCE.

THESE INSTRUCTIONS ARE APPLICABLE TO THE WORCESTER, BOSCH GROUP APPLIANCE MODEL(S) STATED ON THE FRONT COVER OF THIS MANUAL ONLY AND MUST NOT BE USED WITH ANY OTHER MAKE OR MODEL OF APPLIANCE.

IF YOU ARE IN **ANY DOUBT** CONTACT THE WORCESTER, BOSCH GROUP TECHNICAL HELPLINE.



PLEASE KEEP THESE INSTRUCTIONS WITH THE INSTALLATION AND SERVICING INSTRUCTIONS IN A SAFE PLACE OR WITH THE APPLIANCE AFTER INSTALLATION OR SERVICING.

DO NOT INTERFERE WITH ANY SEALED COMPONENTS.

ABBREVIATIONS:

CH	Central Heating
DHW	Domestic Hot Water
IP	Ingress Protection
PCB	(Electronic) Printed Circuit Board
GMT	Greenwich Mean Time
C	Celsius
V	Volts
mA	Milliamps
OFTEC	Oil Firing Technical Association for the Petroleum Industry.

SYMBOLS:

	Central Heating
	Domestic Hot Water

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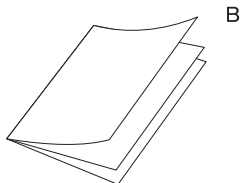
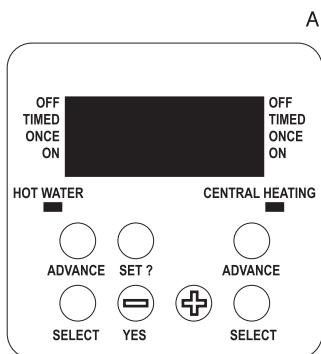
SERVICING
& SPARES

GENERAL INFORMATION

STANDARD PACKAGE:

A - Programmer

B - Instructions



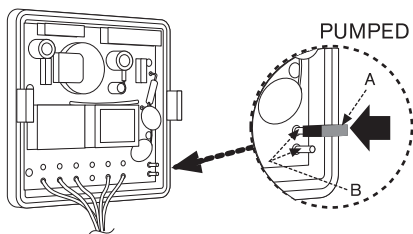
SPECIFICATIONS:

- Twin channel programmer for CH & DHW mounted into the boiler fascia
- Factory set date and time
- Automatic switch over to and from Daylight Savings time (GMT - BST)
- 7 day programmer
- 3 on/off periods per day
- Pre-programmed on/off periods
- Dedicated advance buttons
- 12 hour digital display
- Holiday function
- Pre-wired with connector

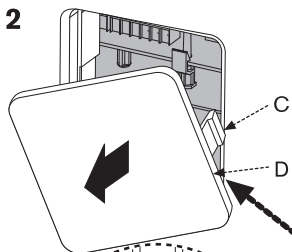
TECHNICAL DATA

DESCRIPTION	UNITS	PROGRAMMER
Electrical supply	Volts AC	230
Ambient operating temperature	°C	0 to +50
Humidity operating range	% non-condensing up to 45°	30 - 95
Class of protection	-	II
Degree of protection	IP	20
Battery backup: program		Always
Battery backup: time		Always
Battery backup: display	hours	None
Shortest switching period	minutes	1
DHW & CH On/Off periods	number/day	3
DHW & CH Programs	days	7

1

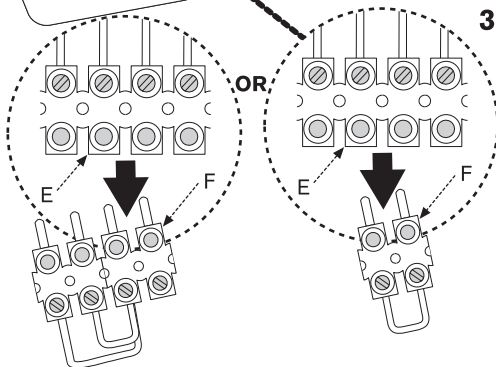


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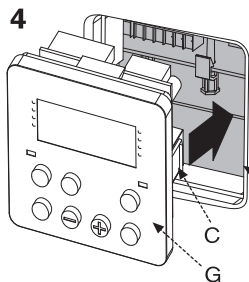


INSTALLATION & COMMISSIONING

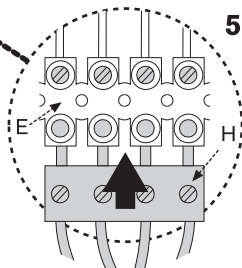
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4



5



FITTING THE PROGRAMMER



DANGER - 230V:
ISOLATE THE MAINS
ELECTRICITY SUPPLY
BEFORE STARTING ANY
WORK AND OBSERVE ALL
RELEVANT SAFETY
PRECAUTIONS.

**IMPORTANT: OBSERVE
ELECTRONIC STATIC DISCHARGE
PRECAUTIONS. DO NOT TOUCH
THE PCB CIRCUITS.**

► IMPORTANT: Switch off the boiler.

- 1 ► Set the programmer link:
 - Pumped systems, fit link (A) only to one pin (B) or remove the link.

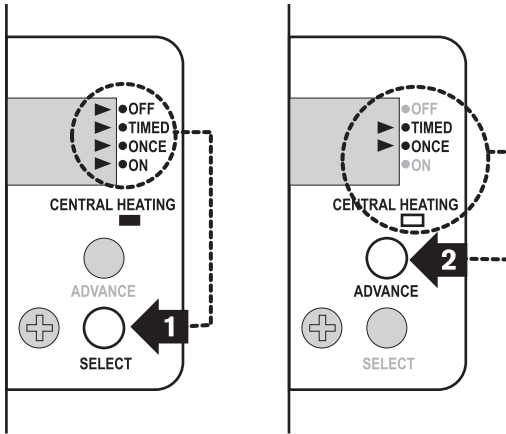
NOTE:

Part L of the building regulations requires a fully pumped system if the boiler and/or DHW cylinder have been changed.

- Remove the boiler top panel and the top panel of the electrical control box.
- 2 ► Disengage lugs (C) to remove fascia blanking plate (D) or existing programmer.
- 3 ► Remove link plug (F) from the 4 way terminal block (E), 2 way plug on Greenstar Camray, Danesmoor and Danesmoor FS, 4 way plug on Greenstar Heatslave.
- 4 ► Insert the programmer (G) into the fascia aperture ensuring the retaining lugs (C) are locked.
- 5 ► Plug the connector plug (H) into the 4 way terminal block (E).
- Refit the electrical control box top panel and boiler top panel before switching on the electricity supply.
- Switch on the boiler when completed.
- Refer to **USERS INSTRUCTIONS** section for details of pre-set and setting programs.

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OPERATING CONTROLS



Central heating:

1 Press **SELECT** button to choose:

- ▶ **OFF** = constantly off
- ▶ **TIMED** = up to 3 **ON** and 3 **OFF** time periods as program
- ▶ **ONCE** = **ON** from 1st **ON** until 3rd **OFF** time period as program
- ▶ **ON** = constantly on

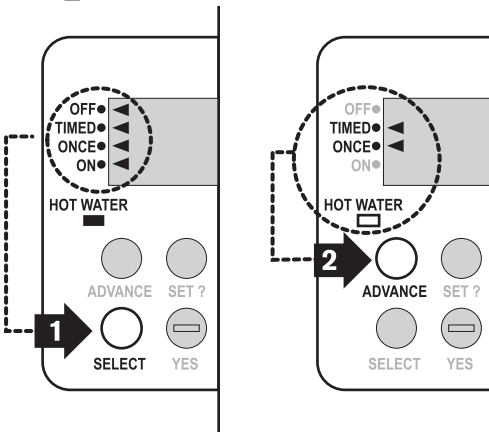
2 Press **ADVANCE** button:

CENTRAL HEATING light on (heating stays on until the next OFF time period)

CENTRAL HEATING light off (heating stays off until the next ON time period)

NOTE:

ADVANCE will not function with constant **ON** or **OFF** selected.



Hot Water:

1 Press **SELECT** button to choose:

- OFF** ◀ = constantly off
- TIMED** ◀ = up to 3 **ON** and 3 **OFF** time periods as program
- ONCE** ◀ = **ON** from 1st **ON** until 3rd **OFF** time period as program
- ON** ◀ = constantly on

2 Press **ADVANCE** button:

HOT WATER light on (hot water stays on until the next OFF time period)

HOT WATER light off (hot water stays off until the next ON time period)

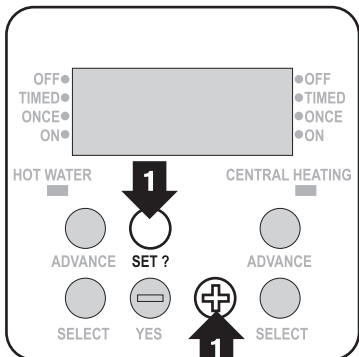
NOTE:

ADVANCE will not function with constant **ON** or **OFF** selected.

PRE-SET PROGRAMS

If you need to restore the factory pre-set program times then:

- 1 Press the **SET?** and **+** buttons together to restore the default program times to those shown in the table opposite.



The default **ON/OFF** periods pre-programmed for **CH** and **DHW** are shown in the table opposite.

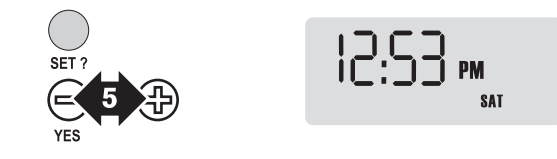
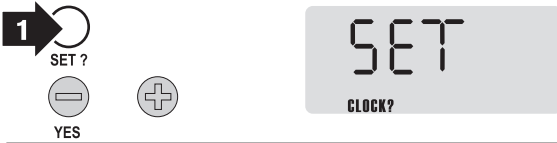
NOTE:

Two ON/OFF periods can be used instead of 3 by setting the 2nd ON/OFF times to 12.00 as shown in the default program table.

One ON/OFF period can be achieved by setting the 2nd and 3rd ON/OFF times to the same time.

See **SETTING PROGRAMS** in the **USER INSTRUCTIONS** section if changes are required to the pre-programmed settings.

	1st	1st	2nd	2nd	3rd	3rd
	ON	OFF	ON	OFF	ON	OFF
	AM	AM	PM	PM	PM	PM
Central Heating:						
<i>MON to FRI</i>						
Time	6:30	8:30	12:00	12:00	4:30	10:30
<i>SAT & SUN</i>						
Time	7:00	9:00	12:00	12:00	4:00	11:00
Hot Water:						
<i>MON to FRI</i>						
Time	6:30	8:30	12:00	12:00	4:30	10:30
<i>SAT & SUN</i>						
Time	7:00	9:00	12:00	12:00	4:00	11:00



SETTING THE TIME

NOTES:

The time is preset and normally does not need to be changed, British Summer Time and GMT time change are adjusted automatically.

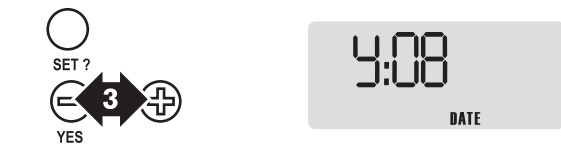
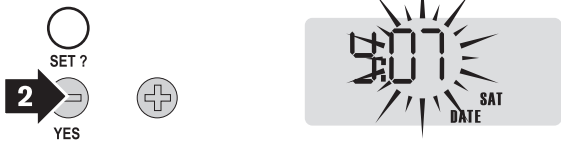
- 1 Press the **SET?** button to show **SET** and **CLOCK?** in the display
- 2 Press **YES** to display the time with the hours flashing
- 3 Press \oplus or \ominus to correct the hour taking note of the AM or PM shown

NOTE:

Speed up the display changes by holding down the \oplus or \ominus buttons.

- 4 Press the **SET?** button to set the correct hour and the minutes will flash on the display
- 5 Press \oplus or \ominus to correct the minutes
- 6 Press the **SET?** button to set the correct minutes, **SET** and **DATE?** then appears in the display.

*If you do not wish to change the date, press **SET?** until the normal display is resumed. Alternatively, do not press any buttons and the display will revert to normal display after two minutes.*



SETTING THE DATE

NOTE:

The date is preset and normally does not need to be changed.

- 1 Press the **SET?** button to show **SET** and **DATE?** in the display
- 2 Press **YES** to display the date with the year flashing
- 3 Press **+** or **-** to correct the year

NOTE:

*Speed up the display changes by holding down the **+** or **-** buttons.*

- 4 Press the **SET?** button to set the correct year and the month will flash on the display
- 5 Press **+** or **-** to correct the month
- 6 Press the **SET?** button to set the correct year and the day will flash on the display.
- 7 Press **+** or **-** to correct the day
- 8 Press the **SET?** button to set the correct day and the current DLS status will start flashing.
- 9 Press **+** or **-** to turn DLS on or off.

NOTE:

British Summer Time and GMT time change are adjusted automatically if DLS is turned on.

- 10 Press **SET** to return to normal operation.

1 SET ?

YES



2 SET ?

YES



3 SET ?


YES



4 SET ?

5


YES



6 SET ?

7

YES



8 SET ?

YES

3rd CH OFF

SET ?

YES



9 SET ?

YES



SETTING PROGRAMS

NOTE:

If you require different ON/OFF times during the week, see 'Setting individual weekdays'

Setting CH MON - FRI:

- 1 Press **SET?** until **SET** and **PROG?** are shown in the display
- 2 Press **YES** to enter program
- 3 Press **YES** to select MON-FRI
- 4 Press **YES** to select **CH**
- 5 Press or to change the ON time

NOTE:

Speed up the display changes by holding down the or buttons.

- 6 Press **SET?** to set the **ON** time and select the **OFF** time
- 7 Press or to change the OFF time
- 8 Press **SET?** to set the **OFF** time and select the next **ON** time

Repeat operations 5 to 8 to set the 2nd and 3rd CH ON/OFF times.

NOTE:

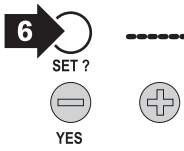
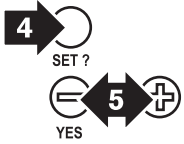
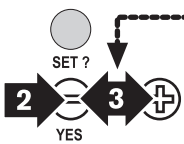
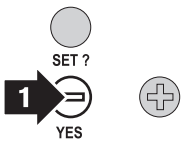
*After pressing **SET?** for the 3rd CH OFF time the display shows **SET HW MON-FRI***

Setting HW MON - FRI:

- 9 Press **YES** to select the first **ON** time
- Repeat operations 5 to 8 to set the 1st, 2nd and 3rd HW ON/OFF times.

NOTE:

*After pressing **SET?** for the 3rd HW OFF time the display shows **SET MON** refer to the next page*



SETTING PROGRAMS

Setting individual weekdays:

NOTE:
If you do not require individual weekday times, then press **SET?** until **SET SAT-SUN** are displayed and continue on the next page.

- ▶ If you do not wish to change the settings for the day displayed, then press **SET?** until the first day you want to change is displayed

Setting CH individual weekdays:

- 1 Press **YES** to select weekday
- 2 Press **YES** to select **CH**
- 3 Press \oplus or \ominus to change the **ON** time

NOTE:
Speed up the display by holding down the \oplus or \ominus buttons.

- 4 Press **SET?** to set the **ON** time and select the **OFF** time
- 5 Press \oplus or \ominus to change the **OFF** time
- 6 Press **SET?** to set the **OFF** time and select the next **ON** time

Repeat operations 3 to 6 to set the 2nd and 3rd **CH ON/OFF** times.

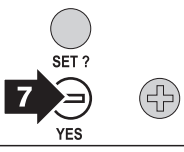
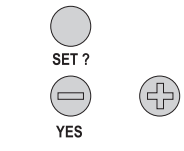
NOTE:
After pressing **SET?** for the 3rd **CH OFF** time the display shows **SET HW** for that weekday

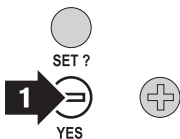
Setting HW individual weekdays:

- 7 Press **YES** to select the first **ON** time
- Repeat operations 3 to 6 to set the 1st, 2nd and 3rd **HW ON/OFF** times.

NOTE:
After pressing **SET?** for the 3rd **HW OFF** time **SET** and the next weekday are displayed shown.
After completing the steps above for **FRI** the display shows **SET SAT SUN** (see next page)

3rd CH OFF





SETTING PROGRAMS

Setting CH SAT - SUN:

- 1 Press **YES** to select weekend
- 2 Press **YES** to select **CH**
- 3 Press \oplus or \ominus to change the **ON** time

NOTE:

Speed up the display by holding down the \oplus or \ominus buttons.

- 4 Press **SET?** to set the **ON** time and select the **OFF** time

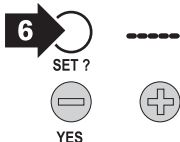
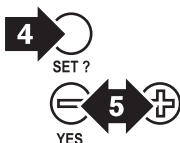
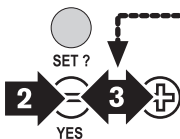
- 5 Press \oplus or \ominus to change the **OFF** time

- 6 Press **SET?** to set the **OFF** time and select the next **ON** time

Repeat operations 3 to 6 to set the 2nd and 3rd **CH ON/OFF** times.

NOTE:

After pressing **SET?** for the 3rd **CH OFF** time the display shows **SET HW SAT-SUN**.



Setting HW SAT - SUN:

- 7 Press **SET?** to select the first **ON** time

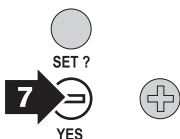
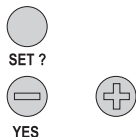
Repeat operations 3 to 6 to set the 1st, 2nd and 3rd **HW ON/OFF** times.

NOTE:

After pressing **SET?** for the 3rd **HW OFF** time, the display shows **SET SAT**. refer to the next page.

If you do not require individual weekend times, then press **SET?** until the normal display is resumed.

3rd CH OFF





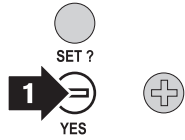
SETTING PROGRAMS

Setting individual weekend days:

NOTE:

If you do not require individual weekend times, then press **SET?** until the normal display is shown.

- ▶ If you do not wish to change the settings for **SAT**, then press **SET?** to move to **SUN**



Setting CH individual weekend days:

- 1 Press **YES** to select day displayed
- 2 Press **YES** to select **CH**
- 3 Press \oplus or \ominus to change the **ON** time

NOTE:

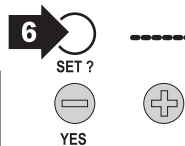
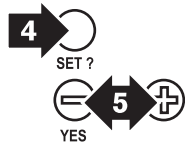
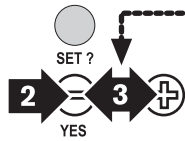
Speed up the display by holding down the \oplus or \ominus buttons.

- 4 Press **SET?** to set the **ON** time and select the **OFF** time
- 5 Press \oplus or \ominus to change the **OFF** time
- 6 Press **SET?** to set the **OFF** time and select the next **ON** time

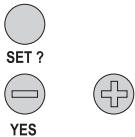
Repeat operations 3 to 6 to set the 2nd and 3rd CH ON/OFF times.

NOTE:

After pressing **SET?** for the 3rd CH **OFF** time the display shows **SET HW** for that day



3rd CH OFF

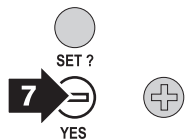


Setting HW individual weekend days:

- 7 Press **YES** to select the first **ON** time
- Repeat operations 3 to 6 to set the 1st, 2nd and 3rd HW ON/OFF times.

After completing the steps above the display shows **TEST?**, see the next page to check your **CH** and **HW** program settings.

If you do not require to check the program settings, then press **SET?** until the normal display is resumed.





TESTING PROGRAMS

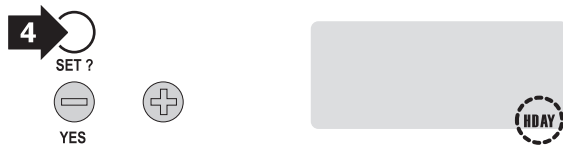
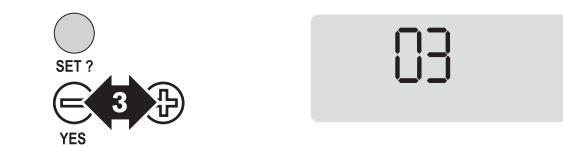
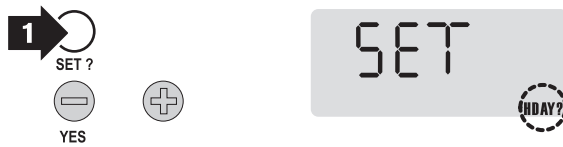
- 1 Press the **SET?** button until **TEST?** is displayed.
- 2 Press **YES** to enter the test program.
- 3 Press and hold down the **YES** button to continually cycle through all the programmed **ON** and **OFF** times for each day of the week.

*The display pauses when a set program time is shown with the **HOT WATER** and **CENTRAL HEATING** lights, **ON** or **OFF**, according to the program settings.*

NOTE:
To temporarily stop the display advancing, release the **YES** button, then press **YES** again to continue.

- To change the program settings see **SETTING PROGRAMS**.

Press the **SET?** button to return to the normal run mode.



SETTING HOLIDAYS

- 1 Press the **SET?** button until **SET** and **HDAY?** is displayed.
- 2 Press **YES** the display shows **00**.
- 3 Press **⊕** & **⊖** to set the number of days you require the system to be off.
- 4 Press **SET?** and **HDAY?** is displayed to show there is no demand for heating from the programmer.

NOTE:
The program will return to normal operation after the set number of days.

- ▶ To cancel the holiday setting and return to normal operation, press any button.

NOTE:
The programmer counts any pass through midnight as 1 day.
For example, if you do not want the heating on from Saturday evening until Tuesday morning, set for 3 days.

USER INSTRUCTIONS

Maintenance:

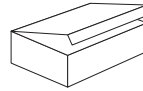
- ▶ The programmer requires no maintenance.
- ▶ The outer casing can be wiped clean using a dry cloth, do not use polish or detergents.

Servicing:

- ▶ This unit cannot be serviced.
- ▶ Should the existing unit fail to function correctly, check that the times and program settings are correct.

Replacement Parts:

- ▶ Twin channel digital programmer replacement spare part number:
7 716 192 033 0



Dedicated to heating comfort

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