7716 192 031 Transmitter 8716 105 1280 Receiver 8716 105 1290

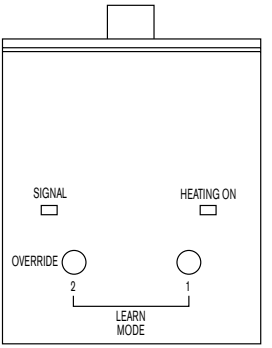
WORCESTER

Bosch Group

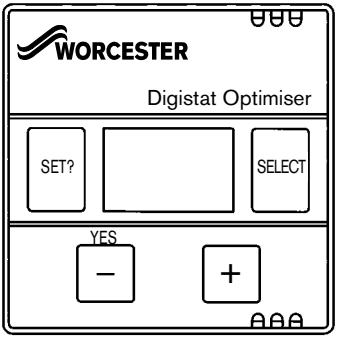
# FITTING AND OPERATING INSTRUCTIONS FOR DIGISTAT OPTIMISER PROGRAMMABLE 7 DAY ROOM THERMOSTAT SYSTEM

General information is given in the users instruction leaflet despatched with the appliance and/or on the lighting instruction plate fitted to the appliance.

RECEIVER




TRANSMITTER




CONFORMS TO THE ESSENTIAL REQUIREMENTS
OF THE FOLLOWING DIRECTIVES:
89/336/EEC – ELECTROMAGNETIC COMPATIBILITY
73/23/EEC – LOW VOLTAGE DIRECTIVE

CE

THESE INSTRUCTIONS APPLY IN THE UK ONLY

THESE INSTRUCTIONS ARE TO BE LEFT WITH THE USER OR AT THE APPLIANCE

**Gas Safety (Installation and Use) Regulations 1988: All gas appliances must be installed by a competent person, in accordance with the above regulations. Failure to install the appliance correctly could lead to prosecution. the manufacturers notes must not be taken, in any way, as overriding statutory obligations.**

**IMPORTANT:** Read these instruction carefully in order to get the best from your appliance.

**WARNING:** This appliance must be earthed and protected by a 3A fuse if a 13A plug is used, or, if any other type of plug is used, by a 5A fuse either in the plug or adaptor or at the distribution board.

**NOTE:** The radio signal transmitter used in the Digistat conforms to DTI standard and is licence exempt.

## TO FIT THE RECEIVER

**WARNING:** Switch off the power supply before starting work.

Release the blanking plate by gently pulling the top lug and withdraw it from the front of the facia.

Present the receiver to the facia and plug the programmer connector into the four-way connection on the board (Fig. 1).

Push the receiver into position ensuring that the lead is not trapped and that the top lug snaps into place.

Refit the control panel before switching on the power supply.

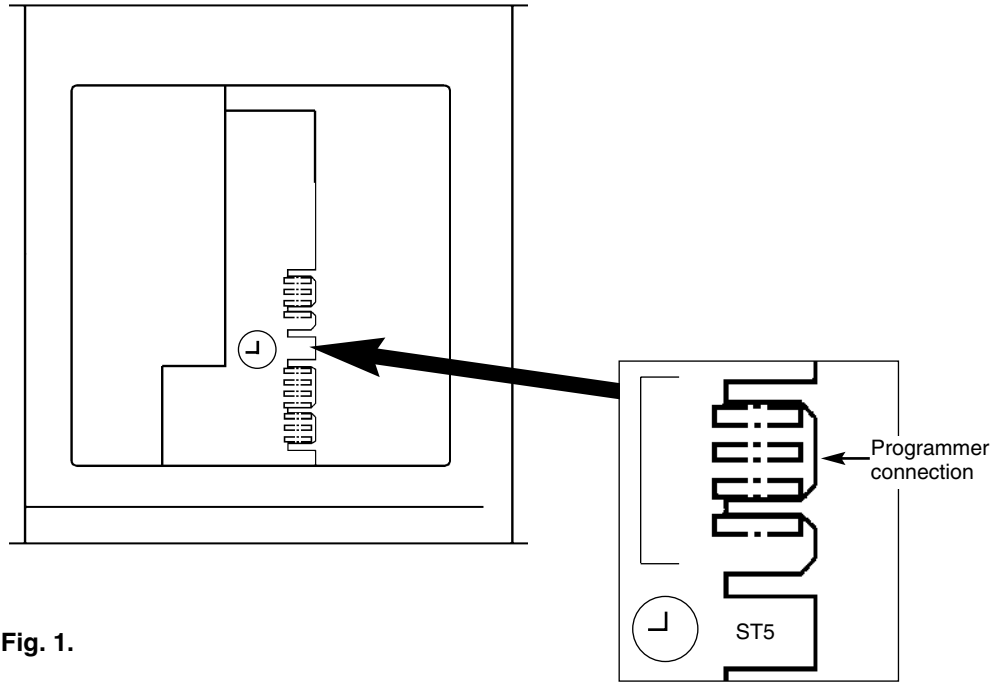



**Fig. 1.**

# COMMISSIONING THE DIGISTAT AND RECEIVER

1. Turn on the power to the appliance/receiver.
2. Push the "override" button on the receiver once. The green LED should come on and the appliance should run in central heating mode.
3. To enter the "learn" mode push (and hold) the button marked **1** followed by the button marked **2** (OVERRIDE) and hold both depressed together. The red LED should flash for two seconds then go out signifying that the receiver is in learn mode. Release both buttons.
4. The red and green LED's should now both be on.
5. Take the Digistat **(no closer than one meter from receiver.)**
6. Slide down the right hand battery drawer of the Digistat, remove the plastic insulator strip and slide drawer back into place.
7. Repeat the same procedure with the left hand battery drawer. The procedure on the right hand drawer must be carried out first.
8. As soon as both battery compartments are slid back into place, the red LED on the receiver should flash for 7 seconds and then go out. The green LED may be ON or OFF depending on the room temperature at the time of commissioning.
9. The Digistat should now display the actual room temperature and the time at 12.00 am midnight. If the unit has been stored in a cold place, it may take time to warm up.
10. If the red LED remains on, slide down both battery drawers on the Digistat, check the battery positions are correct, and once the display has faded, repeat steps 6 to 9.
11. Increase the "SET" temperature on the Digistat by pressing the "+" button until a flame symbol appears, in the left hand segment of the display.
12. The red LED on the receiver should flash for 7 seconds. This confirms that the radio signal is being sent and received. After 7 seconds the red LED should go out and the green one come on.
13. Check that the appliance is running in central heating mode.
14. Decrease the "SET" temperature on the Digistat by pressing the "–" button until the flame symbol disappears.
15. The red LED on the receiver should flash for 7 seconds. After the 7 seconds both the red and green LED's should go out. Check that the appliance has switched off.
16. The Digistat can now be secured to the wall in the desired position.

During normal operation the red LED on the receiver will flash for 7 seconds each time a radio signal is received from the Digistat. This will occur approximately every 5 minutes.

The green LED on the receiver denotes a call for heat (ON).

**Once the system has been successfully commissioned, buttons 1 and 2 on the receiver should not be pressed simultaneously, unless a replacement Digistat or receiver is fitted.**

# INSTALLING THE DIGISTAT

**WARNING:**
ISOLATE MAINS SUPPLY BEFORE REMOVING ANY EXISTING THERMOSTATS

**IMPORTANT**

The Digistat is a battery powered (Four type AA 1.5V **alkaline** cells, supplied, and replacement must be of the same type) wireless unit, using radio signal technology and DOES NOT require any electrical connections. If the Digistat is being used to replace an existing hard wired thermostat, the wiring to the old thermostat must be made electrically safe and isolated, as it is no longer required.

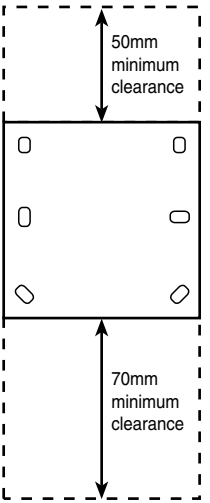
**LOCATION**

Care should be taken to mount the Digistat in a position which is not subjected to direct sunlight or draughts. Preferably it should be mounted on an inside wall, about 1.5m (5ft) above the floor, in a position where it can respond to room temperature but away from the direct influence of radiators or other appliances giving off heat. Minimum wall plate clearances are shown in Fig. 2. It is advisable to carry out the commissioning procedure BEFORE fixing the wallplate, to ensure your chosen location is suitable for transmitting and receiving radio signals. The range of the radio signal is typically 30m, typical house walls have no effect on the signal.

**FIXING**

1. Loosen the securing screw on the bottom of the Digistat and remove the wallplate.
2. Fix the wallplate with securing screw at the bottom directly onto a flat wall. The wall plugs and screws provided must be used. Minimum wall plate clearances are given below (Fig. 2).
3. **Note:** The Digistat comes pre-set with a temperature range of 5°C to 30°C. If you wish to select the optional range of 16°C to 30°C remove the selector link at the rear of the unit.
4. Plug the Digistat onto the wallplate and tighten the securing screw. DO NOT remove the plastic strips from the battery drawers until you are ready to carry out the commissioning.

Fig. 2.




**MAINTENANCE**

No maintenance is required for the Digistat, apart from battery replacement (Four type AA 1.5V **alkaline** cells, rechargeable batteries must not be used)

# PROGRAMMING & OPERATING INSTRUCTIONS

Once the system has been commissioned, the unit will display the actual room temperature and the time at somewhere after 12.00 am (midnight).

Digistat has an indicator to show when the heating system is ON or OFF, for example if the SET temperature is 20°C and the actual temperature is below 20°C a flame symbol will appear on the display (Fig. 3).This indicates a demand for heat (system will switch ON).

During normal operation, the Digistat will display actual room temperature continuously.

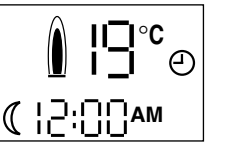
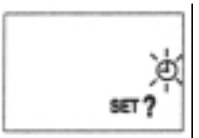


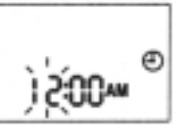
Figure 3

## TO SET THE CLOCK

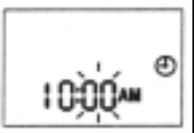
1. Press 'SET?' button.




2. Press 'YES' (–) button. The hours will flash. Use the + and – buttons to set correct hour.




3. Press 'SET?' button again and the minutes will flash, use + and – buttons to set correct minute time.




4. Press 'SET?' button, day of week will flash, 1 = Monday, 7 = Sunday, use + and – buttons to set correct day.


5. Press 'SET?' button twice to return to normal operating mode.


Digistat is supplied with a pre-set programme shown below which can be easily changed to suit your requirements:

## FACTORY PRE-SET PROGRAMMES

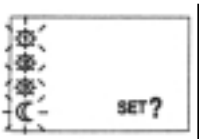
**Table 1**

| Setting | Time (Mon-Fri) | Time (Sat-Sun) | Temperature |
|---|---|---|---|
| Start of early morning | 6.30am | 7.00am | 21°C |
| Start of day time | 8.30am | 9.00am | 16°C |
| Start of evening | 4.30pm | 4.00pm | 21°C |
| Start of night time | 10.30pm | 11.00pm | 7°C* |

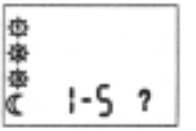
*** 16°C if selector pin removed see INSTALLING THE Digistat**

## TO VIEW OR CHANGE THE PRE-PROGRAMMED TIMES AND TEMPERATURES

6. Press 'SET?' button until display is shown.




7. Press 'YES' (–) button. You have selected the Monday to Friday part of the programme.

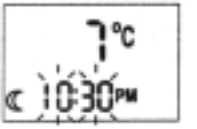



8. Press 'YES' (–) button again. This tells you that at 6.30am, the heating system will control your home at 20°C. If you wish to alter the temperature use the + and – buttons.

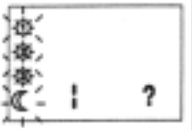

9. Press 'SET?' button. The time will now flash. If you wish to alter the switching time use the + and – buttons. This will change the switching time in 10 minute steps.

**10.** Press 'SET?' button, this tells you that at 8.30am, the heating system will control your home at 16°C. If you wish to alter this temperature use the + and – buttons.

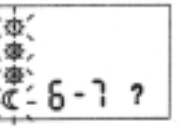

**11.** Continue to press the 'SET?' button as in 9 & 10 above to advance through the times & temperatures for Mon to Fri. (1-5). If you wish to alter any of the times & temperatures use the + & – button, when the one you wish to alter is flashing.




**12.** Once Mon-Fri have been set, the display will show this. This means do you want to set the times for Monday (1) differently from the rest of the week? If you do, press the Yes (–) button, and follow the routine as points 9 to 11.




**13.** Continue to press the 'SET?' button to advance through the week (1-5). When the display is this. press the Yes (–) button if you wish to view or alter the times for Sat-Sun. (6-7). Repeat steps 9-12 as required.




**14.** Continue to press 'SET?' button until you return to normal operating mode with a display similar to:


## OPERATING MODES

The Digistat can be operated in one of three modes.

1) – Normal Running (all pre-set times and temperatures)

2) – Continuous night temperature (useful for low limit temperature protection when on holiday)

3) – Continuous "DAY 1" preset temperature

Use the "SELECT" button to change the operating mode to suit your requirements, The symbols are positioned on the right hand side of the display.

## OPTIMUM START

The Digistat Optimiser unit features a unique self learning energy saving system by delaying the first start up point when the weather is milder. There is no extra programming required.

The self learning software is factory preset and will start to monitor and adjust the boiler start time for the first switching time of the day, as soon as the unit is installed.

The delay period can vary between 0-60 minutes depending on;

a) The actual room temperature at the first switch time.

b) The set temperature of the Digistat Optimiser.

c) The stored information on how fast the heating system responded the previous day.

The flame symbol provides the operating status as follows;

Flame on = heating on

No flame = heating off

Flashing flame = saving energy (optimum start cycle operating)

When the flame is flashing, the optimum start can be overriden by pressing the + button once. This returns the unit to normal operation.

### IMPORTANT

Always set your heating to the time that you would normally want it to start allowing for the coldest weather conditions eg. perhaps one hour before you get out of bed. Optimum start will automatically delay the start time and save you money on milder days.

**NOTE:** There is no delay for the other switch times of the day.

There is no delay if the room temperature is 13°C or lower.

## TEMPERATURE OVERRIDE

If at anytime during normal operation, you wish to increase or decrease the set temperature simply use the "+" or "–" buttons to change to your desired setting. 5 seconds after releasing the "+" or "–" button the display will revert to showing the actual room temperature. The Digistat will now control the temperature to the override setting until the next programmed switching time, when it will revert to the times and temperatures you have already programmed.

**NOTE:** If the next programmed temperature setting is the same as the present programmed setting, the override temperature will remain in force.

# ADDITIONAL INFORMATION

**IMPORTANT: ENSURE THAT THE COMMISSIONING PROCEDURE HAS BEEN CARRIED OUT AS DESCRIBED ABOVE.**

### *NORMAL OPERATING MODE*

Once the Digistat system has been commissioned, there should be little need for any user interface with the receiver.

During normal operation the red and green LED's will occasionally be on, and these signify the following:

**GREEN LED**

The green LED will be on when there is a demand for heating, and off when there is no demand.

**RED LED**

The red LED will flash for 7 seconds, approximately every 5 minutes. This denotes that a radio signal is being received from the Digistat unit.

### *SITUATIONS REQUIRING ATTENTION*

**RED LED CONTINUALLY FLASHING**

This denotes that the batteries in the Digistat unit are approaching the end of their life (see **Battery replacement**).

**RED LED CONTINUALLY ON**

This denotes that the receiver has been unable to receive a radio signal from the Digistat unit. This may be caused by the batteries being dead (see **Battery replacement**) or some temporary interference with the radio signal.

To re-send and test the signal, go to the Digistat unit. If the flame signal is visible on the display, press the "–" button until it disappears. If the flame symbol is not visible, press the "+" button until it appears. If the radio signal has been successfully transmitted and received, the red LED will flash for seven seconds then go off. If the red LED is still on, "learn mode" may have been selected by accident. To correct, open both Digistat battery drawers and wait for the display to fade, close the right hand drawer followed by the left and re-programme the Digistat with your desired time and temperature settings.

If the red LED is still on, there may be a poor battery connection inside a drawer (perhaps due to a leaking battery). Clean contacts. If problem is not solved the fault will require the attention of a heating engineer/electrician.

**MANUAL OVERRIDE**

**In a fault situation,** the heating can be manually switched on and off by using the "OVERRIDE" button on the receiver, even though the red LED will stay on until a satisfactory signal is reinstated.

Once the receiver receives a satisfactory signal again, it will automatically reset itself for normal operation.

## BATTERY REPLACEMENT

Thirty days before the batteries need replacing, a battery symbol will flash in the right hand side of the display. (Fig. 4). This signifies that 4 x 1.5v type AA **alkaline** batteries will be needed to replace the old ones. If battery replacement is carried out in this condition the settings will only be held in the memory for a maximum of one minute, after which reprogramming may be necessary.

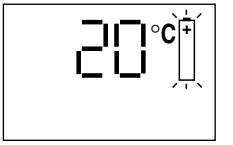



Figure 4

### Important

To avoid the possibility of having to reprogramme the switching times and temperatures, it is advisable to wait until the flashing battery display changes to a continuous battery only display (after 30 days). (Fig. 5).

In this condition the unit will be OFF but your programmed settings will be held in the memory for a number of weeks. The battery compartment can now be left opened, to replace the batteries for approximately one hour. If the compartment is left opened for longer the unit will revert to the factory preset times and temperatures. It may be necessary to reset the correct time of day after changing the batteries.

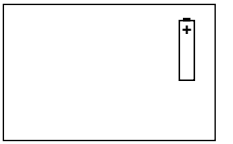


Figure 5

The battery compartment is situated at the bottom of the unit (press to unlatch and slide down). Ensure new batteries are positioned correctly. Close right hand compartment first.

## HELPFUL HINTS

### 1. FIRST/LAST SET TIMES

The Day 1 setting ① cannot be programmed before 12.00 am. The night setting ☾ can be programmed at whatever time you require, even after 12.00 am (midnight) so long as it is not more than 23 hours 50 minutes after the Day 1 setting.

### 2. PART OR FULL DAY OMISSION

If during programming the Digistat one of the symbols on the left hand side of the screen starts to flash, this indicates that two or more of the switching times have been set to the same time. This facility enables you to omit one or more of the switching periods. When one or more of the switching times are programmed together the later setting takes precedent. For example, if all four switching times were set together the Digistat would control continuously at the fourth (night) temperature setting ☾ .

### 3. PROGRAMME SEQUENCE

The Digistat will not allow you to program the switched periods out of sequence but will hold the times together as stated above.

### 4. RESET

If at any time during the programming you get confused and would like to start the procedure from the beginning press the "SELECT" and "–" buttons at the same time and hold for two seconds. This resets the Digistat to the factory pre-set times and temperatures (Table 1).

### 5. SELF REVERT

If during programming no button is pressed for between 1 and 2 minutes the Digistat will revert automatically to its normal operating mode.

## HOT WATER SUPPLY

Hot water is available whenever a tap or shower is turned on. The supply of hot water takes priority over the delivery of heat to the central heating system for the period that the hot water is required.

## TEMPERATURE CONTROL

The central heating water temperature is controlled by the centre knob on the facia.

The domestic hot water temperature is controlled by the right hand knob on the facia up to a pre-set maximum.

# REPLACEMENT PARTS

The receiver and Digistat are available separately for replacements or as a complete system.

| G.C. No. | Part | WHS Part No. |
|---|---|---|
| E90-617 | Transmitter – Digistat Optimiser | 8 716 105 128 0 |
| E89-870 | Receiver – Digistat (Small) | 8 716 105 129 0 |


**Bosch Group**

Worcester Heat Systems Ltd. (Bosch Group), Cotswold Way, Warndon, Worcester WR4 9SW.
Telephone: 01905 754624. Fax: 01905 754619. Technical Helpline 08705 266241.
www.worcester-bosch.co.uk

---



**PUBLICATION 8 716 105 136a 07/02**

06490020001