

2 Zone Instruction Manual



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Two Zone, 7 Day, Heating/Hot Water Programmer User's Operating Instructions

1. Introduction

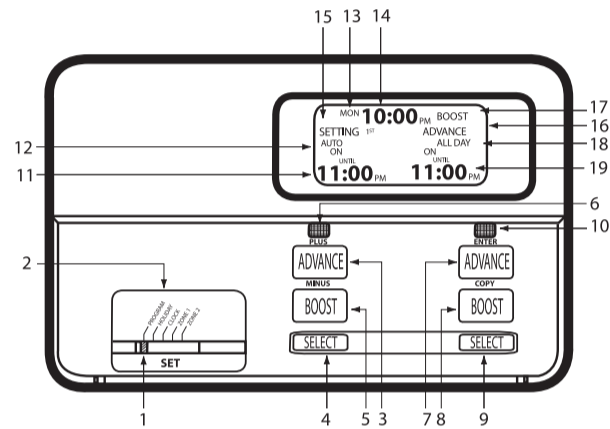
The NOBO Heating 2 Zone Controller is an electronic, 7 day 2 zone programmer. Properly programmed the Controller will help you save energy and create a comfortable environment in your home.

The NOBO Heating 2 Zone Controller has the following features:

- Two separate Heating Zones or one heating and one hot water zone
- 3 ON and 3 OFF periods every 24 hours with different settings for each day of the week.
- Override programme options of AUTO, ALLDAY, ON and OFF
- HOLIDAY facility
- An ADVANCE button allowing an instant switch from ON to OFF, or from OFF to ON.
- A BOOST facility providing a 1 or 2 hour boost of extra heating or hot water when required.

2. Buttons, Indicators & Symbols

Figure 1 – Front view with flap down



1. SET slider switch
2. Set positions
3. Hot water or Zone 1 ADVANCE (PLUS adjust) button
4. Hot water or Zone 1 SELECT button
5. Hot water or Zone 1 BOOST (MINUS adjust) button
6. Hot water or Zone 1 ON indicator light.
7. Heating or Zone 2 ADVANCE (ENTER) button
8. Heating or Zone 2 BOOST (COPY) button
9. Heating or Zone 2 SELECT button
10. Heating or Zone 2 ON indicator light
11. Next Hot water or Zone 1 switch time
12. Current Hot water or Zone 1 programme
13. DAY OF WEEK symbol
14. Current TIME OF DAY
15. Switch time SETTING indicator
16. ADVANCE symbol (Zone 1 & 2)
17. BOOST symbol (Zone 1 & 2)
18. Current Hot water or Zone 2 programme
19. Next Hot water or Zone 2 switch time

Get to know your NOBO Heating 2 Zone Controller programmer. The diagram above (figure 1) can be used to identify the various buttons, indicators and symbols referred to in the following sections of this leaflet.

You will notice that some buttons have two functions e.g. Heating or Zone 2 ADVANCE (ENTER) button. Which function the button performs depends on the position of the SET slider switch in the bottom left hand corner of the programmer.

The function shown in brackets 2(...) applies when the SET switch is NOT in the PROG.RUN (program run) position.

NOTE: The normal working position for the SET switch is PROG.RUN. In order to remind you of this the cover flap will not close when the switch is any other position.

REMEMBER. The display on your programmer has been designed to help you. It provides continuously updated information as to switch times, current programmes etc. and also guides you through the setting process.

3. Setting the day and time of day

Move the SET slider switch to the position marked CLOCK (see figure 2).

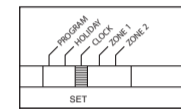


Figure 2

The DAY OF THE WEEK will now flash and the word "SETTING" will appear on the display (see figure 3).



Figure 3

Use the PLUS or MINUS adjust buttons to change the display so that the current DAY OF THE WEEK is flashing; then press the ENTER button. The TIME OF DAY will now flash (see figure 4).

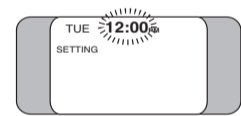


Figure 4

Now use the PLUS or MINUS buttons to alter the display to the correct TIME OF DAY, making sure that the AM (morning)/PM (afternoon) symbol is also correct.

NOTE: By pressing and releasing the PLUS or MINUS buttons you advance or retard the time in one minute steps. If you keep the button depressed for a few seconds the display will fast cycle and the time can be changed more rapidly.

Now press the ENTER button. The display will stop flashing and the word "SETTING" will change to "SET" (see figure 5) confirming that you have now finished setting the day and time of day.



Figure 5

If you wish to make further changes or corrections simply press the ENTER button again and the above cycle can be repeated.

4. Setting the "ON" & "OFF" times for hot water or zone 1 & heating or zone 2

Your programmer already contains a factory pre-set programme of ON/OFF times in its memory. These are based on the most commonly used settings and are shown below.

Water or Zone 1/ Heating or Zone 2 Times

Mon - Fri
 1st ON: 6.30 a.m. 1st OFF: 8.30 a.m.
 2nd ON: 12.00 p.m. 2nd OFF: 12.00 p.m.
 3rd ON: 4.30 p.m. 3rd OFF: 10.30 p.m.

Sat - Sun
 1st ON: 7.30 a.m. 1st OFF: 10.00 a.m.
 2nd ON: 12.00 p.m. 2nd OFF: 12.00 p.m.
 3rd ON: 5.00 p.m. 3rd OFF: 11.00 p.m.

You can programme up to three ON/OFF times in a 24 hour period at minimum intervals of 10 minutes. However if you use the factory set programme the 2nd ON and 2nd OFF

display, a press of the COPY button will duplicate Monday's programme onto Tuesday. Further presses of the COPY button will repeat this process for other days of the week.

Each time the COPY button is pressed the display will "scroll" through the times that are being copied and will show the day they are being copied from.

Once the switch times for all seven days have been entered the display will go blank except for the word "SET". You have now completed your heating or water programme for the week.

If you wish to make further changes or any corrections simply press the ENTER button and the above cycle can be repeated.

NOTE: The word SET will only appear on the display if all seven days have been altered or re-entered. It will not appear if just certain days have been altered.

Your 2 Zone Controller programmer will prevent you from accidentally setting ON/OFF times in the wrong order.

For example if the 1st OFF time happens to be set at 10.00a.m. and you try to set the 1st ON at 11.30a.m. then the 1st OFF will be "pushed back" to 11.30a.m. as well.

You may find that the time you are trying to adjust will not move any further and just keeps "bouncing back" by 10 minutes. This indicates that further adjustment of this particular switch time will not be possible without first altering the switch times before or after to accommodate it.

Once the 3rd OFF time has been ENTERED the display will flash the next day and the word "SETTING" will be shown.

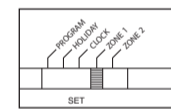
You can now alter the times for this day in the same way as the previous day and then repeat the procedure for the other days in the week as required.

Copy Feature.

The times you set for one day may be suitable for other days e.g. Monday's program might be applicable right through to Friday. Your programmer allows you to COPY times from one day to another. For example if you have just entered the 3rd OFF time for Monday and "TUE" (Tuesday) is flashing on the

settings will have no effect because they are set to the same time. If the above settings do not suit your requirements they can be easily changed as explained below.

Move the SET slider switch to the WATER OR ZONE 1 position (see figure 6) or HEATER OR ZONE 2 position depending on which Zone you are programming.



The current DAY OF THE WEEK will flash and the word "SETTING" will be displayed. (see figure 7).



Figure 7

Use the PLUS or MINUS buttons so that the day you wish to alter the switch times for is flashing. Now press ENTER. The DAY OF THE WEEK will stop flashing and the existing first ON and OFF times for that day will be displayed.

The first ON time will flash and the words "SETTING 1st" will appear at the top of the display. The latter constantly reminds you which set of times are currently being altered (see figure 8).



Figure 8

Use the PLUS and MINUS buttons again to adjust the first ON time as necessary, then press ENTER.

The first OFF time will now flash and this can be altered in the same way as the ON time.

Press ENTER again. The words "SETTING 2nd" will appear and the second ON and OFF times for that day will be displayed. Follow the same procedure to alter these times, if required, and then again for the 3rd ON and 3rd OFF times.

The 3rd OFF time can be set past Midnight for any time up to 10 minutes before the 1st ON time of the following day.

If you do not wish to alter a particular switch time simply press the ENTER button and the display will move onto the next one.

If you do not wish to use all three ON/OFF periods they can be cancelled by programming the ON operation at the same time as the OFF operation, e.g. 2nd ON at 12.00p.m. and 2nd OFF at 12.00p.m.

5. Programme Selection

The override programmes for hot water or Zone 1 and heating or Zone 2 are chosen by pressing the appropriate SELECT button (see figure 1), until the required programme indicator is displayed (see figure 9).

NOTE: When using the SELECT buttons to change a programme the SET slider switch must be in the PROG.RUN position.

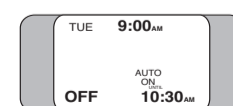


Figure 9

Display showing OFF programme selected for hot water or Zone 1 and AUTO programme selected for Heating or Zone 2.

The following programmes are available:

AUTO: When AUTO is selected your NOBO Heating 2 Zone Controller will switch on and off according to the switching times you have chosen i.e. up to 3 ON/OFF periods per day.

ALLDAY: When ALLDAY is selected the programmer will switch the system on at the 1st ON time and will then stay ON until the 3rd OFF time.

ON: When ON is selected the system remains switched on continuously ignoring all time settings.

OFF: When OFF is selected the programmer clock continues to operate but the system remains off continuously, ignoring all time settings.

6. Using the boost facility

Your hot water or Zone 1 and heating or Zone 2 can be "boosted" for an extra 1 or 2 hours by pressing the appropriate BOOST button (see figure 1). Press the button once for 1 hour or twice in quick succession for 2 hours. The word "BOOST" will appear on the right of the display. If hot water or Zone 1 has been boosted the figure "1" will also appear, if heating or Zone 2 has been boosted then the figure "2" will be shown (see figure 10).



Figure 10

If the system is off when you use the boost then it will switch on for 1 or 2 hours. A boost can be cancelled at any time by a further press of the BOOST button.

NOTE: The BOOST will not operate when the programmer is in the permanently ON programme.

7. Using the advance

The ADVANCE facility allows you to start ON or OFF periods early without altering the programmed on/off times. Both the Zones can be "advanced" by pressing the appropriate ADVANCE button (see figure 1).

When the advance is used the word "ADVANCE" will appear on the right hand side of the display. If hot water or Zone 1 has been advanced then the number "1" will also be displayed. If the heating or Zone 2 has been advanced then number "2" will be shown.

The advance can be cancelled simply by pressing the relevant ADVANCE button again. The word ADVANCE will then disappear from the display.

NOTE: The ADVANCE will not operate when the programmer is in either the permanently ON or OFF programme.

8. Holiday programme

Your NOBO Heating 2 Zone Controller has a unique HOLIDAY programme facility which allows you to set the programmer OFF for up to 32 days after which it will automatically revert to its normal programme. Move the SET slider switch to HOLIDAY position. The current day of the week, the word SETTING and the number "00" will be displayed. (see figure 11).



Figure 11

Use the PLUS or MINUS buttons so that the number of NIGHTS you intend to be away is shown on the display. You will notice that the day symbol will have changed and this should now reflect the day on which you expect to return. Return the SET slider switch to the PROG.RUN position. The HOLIDAY program is now in operation and the system will remain OFF until the 1st ON time of the day you intend to return.

During this time the NOBO Heating 2 Zone Controller display will continually show the number of nights until the day of return, the actual day of return and confirm the fact that the

system is currently OFF. Should you come back earlier than you expected or just wish to cancel the HOLIDAY program simply press one of the SELECT buttons.

NOTE: The HOLIDAY programme always starts on the day it is set, it cannot be pre-set in advance. Therefore it should be one of the last things you do before leaving.

9. Re-Setting your programmer

Electronic equipment can in some circumstances be affected by electrical interference. If your programmer's display or switching program becomes frozen or scrambled; or if you wish to revert to the factory pre-set times; you can completely RESET your programmer by pressing the heating ADVANCE and SELECT buttons at the same time.

10. Reserve Battery

Your programmer is fitted with a NON-RECHARGEABLE, LONG-LIFE battery which will maintain programmed time settings for a minimum of TEN MONTHS with the mains supply disconnected.

THIS IS MORE THAN SUFFICIENT TO COVER ALL THE EXPECTED POWER INTERRUPTIONS DURING THE LIFE OF THE UNIT.

NOTE: When running on battery reserve your programmer's display will go blank. If disconnection lasts longer than THREE DAYS then the current time of day will be lost but switch times will continue to be maintained. These measures help to prolong the life of the battery.

11. Service and Repair

Your programmer is NOT USER SERVICEABLE.

DO NOT TRY TO DISMANTLE THE UNIT.

In the unlikely event of a fault developing please contact a local Heating Engineer or qualified Electrician, but before doing so try RE-SETTING your programmer as described in section 9 of this leaflet.

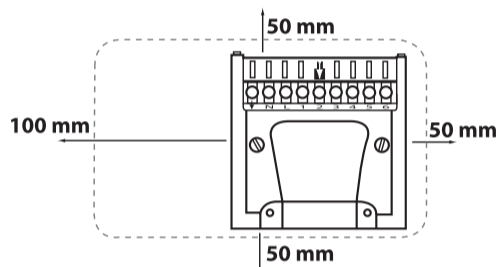
12. Installation Instructions

NOTE: INSTALLATION AND CONNECTION SHOULD ONLY BE CARRIED OUT BY A SUITABLY QUALIFIED PERSON AND IN ACCORDANCE WITH THE CURRENT EDITION OF THE IEE WIRING REGULATIONS.

WARNING: ISOLATE MAINS SUPPLY BEFORE COMMENCING INSTALLATION.

Fitting the wiring plate

Figure 12: Wiring Plate



Note: Once the wiring plate has been removed from the pack the latter should be re-sealed to protect the programmer from dust, debris etc. The plate should be fitted with the wiring terminals lying along the top and the relevant clearances around it as shown in figure 12.

Direct wall mounting

Offer the plate to the wall in the position where the programmer is to be mounted, remembering that the plate fits to the right hand end of the programmer. Mark the fixing positions through the slots in the back-plate (fixing centres 60.3mm), drill and plug the wall, then secure the plate in place. The slots in the plate will compensate for any misalignment of the fixings.

Wiring box mounting

The plate may be fitted directly onto a single gang steel flush wiring box complying with BS4662, using two M3.5 screws. NOBO Heating 2 Zone Controller programmers are suitable for surface mounting only on a flat surface, they must not be mounted on a surface mounted wall box or on unearthed metal surfaces.

13. Electrical connections

All necessary electrical connections should now be made. Flush wiring can enter from the rear through the aperture in the wiring plate. Surface wiring can only enter from beneath the programmer (see figure 13) and must be securely clamped.

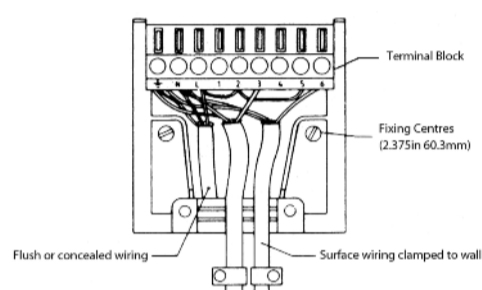


Figure 13
Wiring plate showing methods of entry for surface and flush wiring

The mains supply terminals are intended to be connected to the supply by means of fixed wiring. The recommended cable sizes are 1/1.13mm (1 mm²) or 1/1.38mm (1.5 mm²)

Means for disconnection from the supply having a contact separation of at least 3 mm in both poles must be incorporated in the fixed wiring, e.g. fused Double Pole Switch.

NOBO Heating 2 Zone Controller programmers are double insulated and do not require an earth connection but an earth terminal is provided on the wiring plate for terminating any cable earth conductors. Earth continuity must be maintained and all bare earth conductors must be sleeved. Ensure that no conductors are left protruding outside the central space enclosed by the wiring plate.

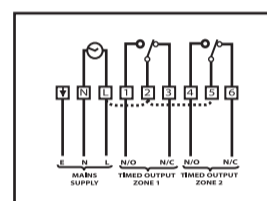


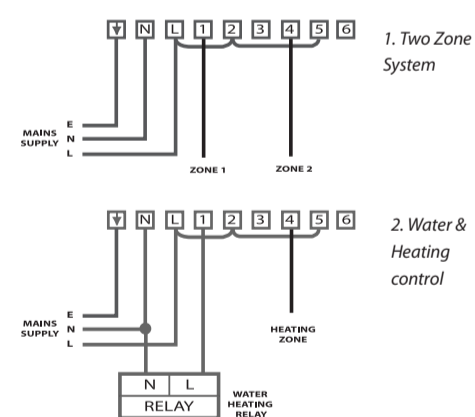
Figure 14
Internal wiring diagram

NOTE: terminals L and 2 and 5 should be electrically linked by means of a suitable piece of sleeved conductor (see figure 14).

14. Installation

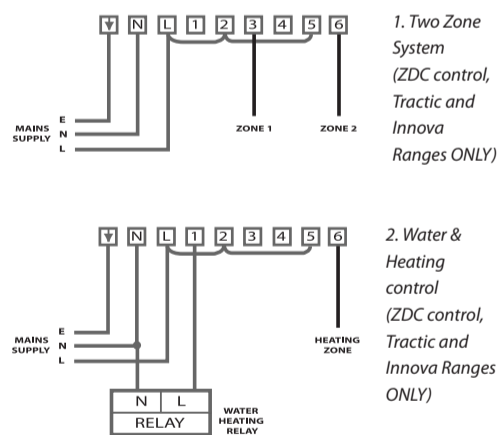
The following wiring diagrams relate to heating and water systems.

THE DIAGRAMMES ON THIS PAGE ARE SCHEMATIC DIAGRAMMES INTENDED FOR GUIDANCE ONLY. PLEASE ENSURE THAT THE INSTALLATION COMPLIES WITH THE CURRENT IEE REGULATIONS.



15. Alternative Installation

The diagrammes below show the connections that must be made if the NOBO Heating 2 zone controller is to be used with our heaters that have the ZDC control, or our Tractic and Innova ranges.



NOTE: The NOBO Heating 2 Zone Controller models covered by this leaflet do not have any SPARE or LINKING terminals. If spare terminals have been used on the programmer being replaced then any connected wires should be removed and re-connected into a separate piece of terminal block. Wires from different spare terminals should not be joined together.

16. Commissioning the programme

Ensure all dust and debris have been cleared away from the work area before removing the control from its pack. It is possible to program independent time settings for hot water or Zone 1 and heating or Zone 2. Correct control of each type of system is ensured by means of a COMMISSIONING SWITCH on the back of the unit (see figure 15).

The programmer is supplied with this switch in the OFF position and in all instances it must be switched to PUMPED SYSTEM in order to engage the battery back up.

Moving the switch from the OFF position also activates the programmers' BATTERY RESERVE. If the unit is installed with the commissioning switch in the OFF position, the word "bAt" will flash on the display when mains power is supplied (see figure

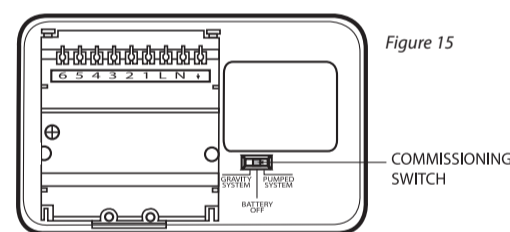


Figure 15

16). The switch will then need to be moved into the correct position before proceeding further.

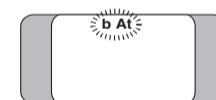


Figure 16

In some cases when the programmer is re-connected the display remains BLANK. Pressing the Heating or Zone 2 ADVANCE and SELECT buttons at the same time will completely RE-SET your programmer and the display should then re-appear.

NOTE: When the programmer is running on battery reserve the clock display will remain blank.

17. Fitting the programmer

If surface wiring has been used, remove the knockout/insert from the bottom of the unit to accommodate it. Loosen the two "captive" retaining screws on the top of the unit. Now fit the programmer to the wiring plate by offering up the bottom of the unit to the bottom of the wiring plate, ensuring that the lugs on the programmer engage under the flanges of the plate (see figure 17).

Swing the top of the programmer into position ensuring that the connector blades on the back of the unit locate into the terminal slots in the wiring plate.

Tighten the two "captive" retaining screws to fix the unit securely, then switch on the mains supply. The unit can now be programmed to suit the user's requirements (see users' instruction leaflet).

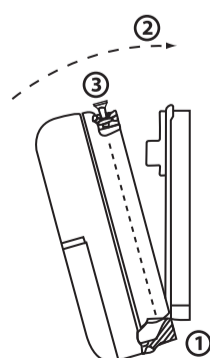


Figure 17

NOTE: Before programming the control RE-SET the unit by pressing the heating (Zone 2) ADVANCE and SELECT buttons at the same time.

18. General

Before handing over the installation to the user, always verify that the system responds correctly on all control programmes and that other electrically operated equipment and controls are correctly adjusted. Explain how to operate the control to the user and hand over the operating instructions.

19. Specification

Contact type: Microgap changeover (voltage free).

Contact rating: 3(1) Amps 230 to 240V AC

Power supply: 230 to 240V AC 50Hz

Operating temperature range: 0°C to 55°C

Double Insulated

Dirt Protection: Normal situations

Enclosure Protection: IP30

Purpose of Control: Electronic time switch

Independently mounted control for surface mounting

Operating Time Limitation: Continuous

Type 1 Action

Battery Reserve: 10 Months continuous operation (minimum)

Case material: Thermoplastic, flame retardant

Dimensions: 101 mm x 163 mm x 33 mm

Display: Liquid crystal with day of week, next switch time, and current program indication

Clock: 12 hour AM/PM

Displayed time adjustment: 1 minute steps

Switched time adjustment: 10 minute steps

Programme Selection: Auto, On all day, On constant, Off, Holiday

Operating periods per day: Three for Zone 1, three for Zone 2

Separate daily programme for each day of the week

Override: Boost -(1 or 2 hour)

Extension to on period - (1 or 2 hour)

Instant advance