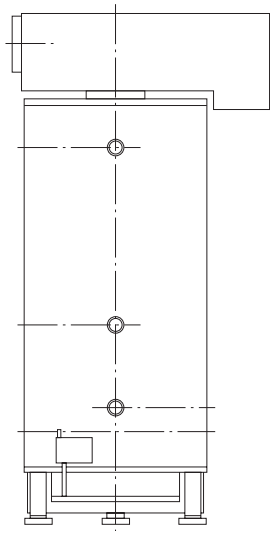

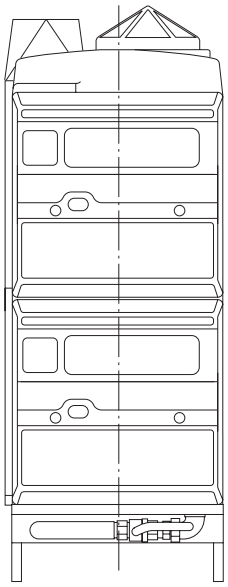

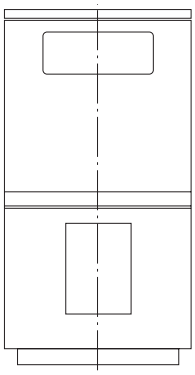

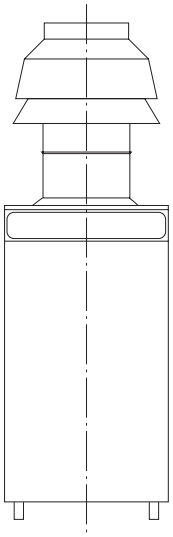

IMPORTANT NOTE

THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD BEFORE INSTALLING, COMMISSIONING, OPERATING OR SERVICING EQUIPMENT

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To supplement the detailed technical brochures, technical advice on the application and use of products in the Hamworthy Heating range is available from our technical team in Poole and our accredited agents.

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DORCHESTER DR-LA, DR-RS
HOT WATER STORAGE HEATERS

CLOSE CONTROL
THERMOSTAT TYPE IR32V0E000

INSTALLATION INSTRUCTIONS

INSTALLATION, COMMISSIONING AND SERVICING INSTRUCTIONS

NOTE: THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD BEFORE ATTEMPTING TO INSTALL, COMMISSION OR OPERATE THIS UNIT.

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1.0 DELIVERY

The close control thermostat is normally supplied as a kit for attachment to the DR-LA and DR-RS ranges of water heaters. The kit should contain the following items :

- Electronic thermostat mounted in an enclosure, a 5 core flying lead c/w cable gland and nut and a temperature sensor c/w integral cable
- Bronze 1½" straight adaptor drilled Rp¼
- Sensor pocket threaded R¼ and c/w sensor locking screw
- 4 self tapping screws
- 2 Self adhesive cable grips

Before proceding with installation, check contents are complete.

2.0 INSTALLATION

NOTE 1: - This supplement deals with the installation and operation of an electronic thermostat, type IR32V0E000, fitted to a Dorchester DR-LA or DR-RS water heater. It MUST therefore be read in conjunction with the installation, commissioning and servicing instruction manual for the Dorchester DR-LA water heaters, HHL publication no. 500001137 or for DR-RS water heaters, HHL publication 500001138. Ensure that these instructions are kept with the relevant manual for future reference.

NOTE 2: - Installation of the close control thermostat involves the fitting of an immersion type sensor into a pocket. The sensor pocket must be inserted into the flow pipework adjacent to the water heater. A suitable pre-drilled fitting is supplied which should be screwed into the water heater flow outlet before any other pipework is connected (see figure 1). If the pipework is already fitted, it may need to be reconfigured or a suitable hole drilled and tapped to take the sensor pocket.

2.1 Ensure electrical supply to heater is isolated.

2.2 Select the bronze 1½" straight adaptor and screw into water heater outlet connection using a suitable sealant for DHW systems. Ensure the tapped hole for the sensor pocket finishes in a suitable position for the sensor relative to where the thermostat is to be fitted (see figure 1).

2.3 Select the sensor pocket and screw into the tapped hole on the adaptor using similar sealant to 2.2. Select M3 locking screw and screw loosely into tapped hole in pocket head.

2.4 Select the close control thermostat enclosure and mark a suitable position on the heater casing, the recommendation being approximately 430mm from the top of the heater and 70mm to the right hand side of the controls column (see figure 1).

2.5 Using the marked position, drill 4 off holes in heater casing as shown in figure 2.

2.6 Remove the four screws in the lid of the thermostat enclosure. Carefully remove the lid together with the thermostat and transformer. The internal wiring will not allow the lid to be completely removed so care should be exercised not to strain or damage the wiring or connections. Mount the body of the enclosure to the heater using the self-tapping screws provided and the holes drilled in 2.5 with the cable entries on the left-hand side. Carefully refit the lid and tighten the screws. Avoid trapping any of the cables.

2.7 Remove the cover of the water heater control column by undoing the 4 screws holding it in place. This will reveal the top gland plate of the column through which the 5 core flying lead will pass. A spare gland may be available already situated in the gland plate depending on which options are already fitted to the heater (e.g. powered anodes) If not, it may be necessary to drill an additional 20mm hole in the gland plate to accommodate the cable gland supplied. **Note:** Care should be taken to ensure that any drilling undertaken does not cause damage to other components or allow swarf to deposit on the electrical and electronic components within the column.

2.8 Select the 5 core flying lead from the thermostat and pass it through the cable gland at the top of the column. Pull the cable down the column, near the back plate and behind the controls fascia until there is sufficient cable to loop up to the terminal rail below the fascia.

2.9 Check the type of water heater (DR-LA or DR-RS) from its data label and identify the correct terminal rail, located immediately below the heater control fascia, with respect to the wiring diagram shown in figure 3. Connect the brown (L), blue (N) and green/yellow (Earth) cables of the 5 core flying lead to the three left hand terminals ensuring they are connected in the correct order. Remove the link between the last two L terminals on the right hand end of the rail and connect in the 2 black cables from the 5 core flying lead in any order (see figure 3).

2.10 Adjust the length of external cable between the thermostat and the gland (see figure 1). Tighten cable gland and replace heater control column cover.

2.11 Place the thermostat sensor into its pocket and lock into position using the screw. Do not over tighten.

2.12 Adjust the length and position of the sensor cable to suit (excess length can be accommodated in the enclosure if necessary, by loosening the cable gland) and place the self adhesive cable grips on the heater casing to hold the two cables in position (see figure 1).

2.13 Finally, adjust the water heater control thermostat to setting 4.

3.0 ADJUSTMENT

3.1 Switch on the electrical supply to the heater. The close control thermostat will be energised and the digital display will illuminate showing the water temperature in °C. The heater may fire depending on the set point of the thermostat. If the thermostat is calling for heat, a green light in the upper left-hand corner of the display will flash under the label "**reverse**".

3.2 Adjusting the Set Point.

3.2.1 The set point of the thermostat can be adjusted in 0.1°C intervals between 40 and 80°C, but should normally be set around 60°C.

3.2.2 Press **SEL** button until display shows "**St1**" Release button and the current set point will flash. If no other buttons are pressed, the display will continue to flash for approximately 1 minute then revert to current water temperature.

3.2.3 Press **SEL** button again and while the set point is flashing press either the ▲ button to increase or the ▼ button to decrease the set point. One press will change the set point by 0.1°C or holding the button down will rapidly change the set point.

3.2.4 When required value is set press the **SEL** button immediately to enter the new value.

3.3 Adjusting the Switching Differential.

3.3.1 The switching differential of the thermostat can be adjusted in 0.1°C intervals between 0.1 and 99.9.

3.3.2 Press **PRG/mute** button for approximately 10 seconds until "**P1**" is displayed. "**P1**" is the code for the switching differential. There are other codes available (P14, P25, P26, P27) but these must not be changed from the original setting. If, following the pressing of the **PRG/mute** button one of these additional code numbers is shown on the display use the ▲ or ▼ buttons to scroll the display to "**P1**".

3.3.3 With "**P1**" shown, press the **SEL** button and the value of "**P1**" will be shown on the display. Use the ▲ and ▼ buttons to change the differential. One press will change the differential by 0.1°C or holding the button down will rapidly change the differential. For the thermostat to achieve the desired control, the differential should be set between 1 and 10.

3.3.4 When the required value is set press the **SEL** button to confirm the setting and the code "**P1**" will re-appear. To return to the normal temperature display, press the **PRG/mute** button.

4.0 OPERATION

4.1 The heater will turn off at the set point value and turn on again at the value of the set point less the differential. As each system has individual characteristics, it will be necessary to fine-tune the thermostat settings to give the desired control. It is always preferable to use the largest switching differential possible to maintain the flow temperature from the heater between acceptable tolerances. A differential of 1 may result in rapid cycling of the heater.

4.2 For example: if the heater flow temperature is to be maintained at an average of 60°C, initially adjust the set point to 62°C and the differential to 4. The heater will then switch off at 62°C and switch on at 58° C. Allow the heater to cycle a number of times and monitor the water temperatures on the thermostat display.

If the flow temperature rises above 63°C reduce the set point by 1°C and reduce the differential by 1°C. If the flow temperature drops below 57°C, reduce the differential by 1°C. Allow the heater to further cycle a number of times and monitor the display. Continue to adjust the thermostat as necessary.

4.3 Notes.

4.3.1. If the temperature sensor fails or becomes disconnected, the display will show "**Er0**".

4.3.2. The factory set values are:

Set Point	60°C
Differential	4°C

Figure 1 General Arrangement

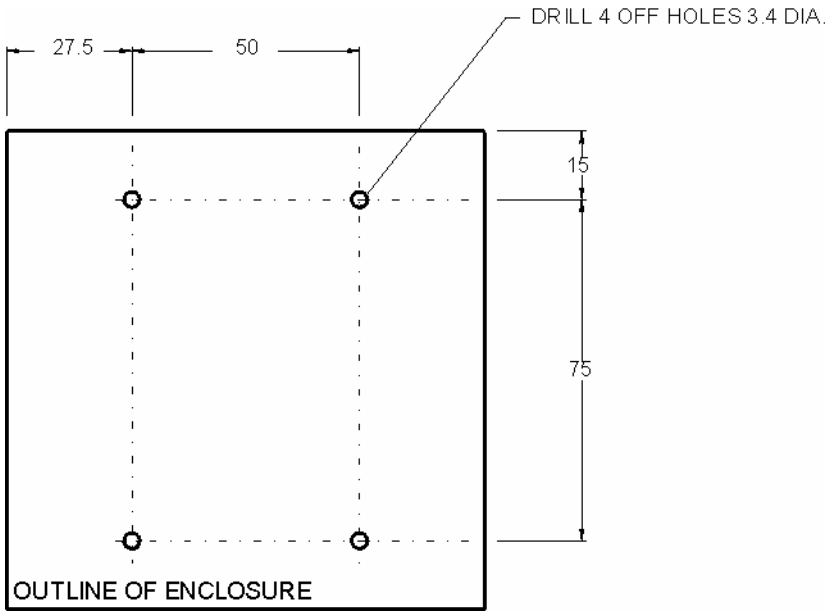

Figure 2: Drilling Details

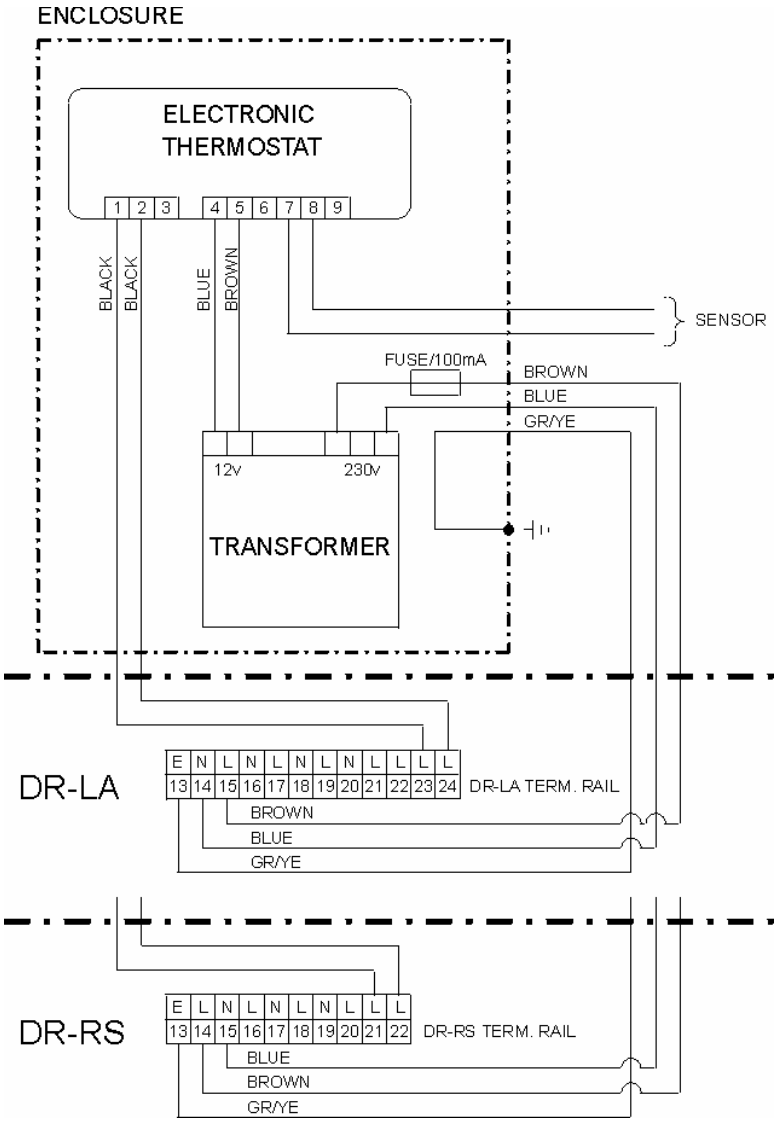

Figure 3: Wiring Diagram

Notes

Connect direct

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