

12.0 FAULT FINDING

Indicator	Flashing / Steady	Cause	Action
Alarm (Top)	Flashing Red	No Water	There is No water in the system, switch OFF immediately. Check and fill before restarting.
Alarm (Top)	Steady Red	Thermistor Fault	Check Conn 4 is connected properly on the Main PCB. Replace thermistor if necessary
Call (Bottom)	Flashing Red	Over Temperature Switch	Check direction of flow through the boiler from the pump. Heat output at the top, cold in at the bottom. Turn pump if necessary. Check Conn 3 is connected properly on the main PCB.
Call (Bottom)	Steady Red	100°C Control Trip	Check thermistor is mounted properly on the heat exchanger. If necessary change control PCB.

NOTE: It may be necessary to fit a capacitor between the 'R' run and 'N' neutral terminals on the control connector to prevent the boiler continuing to run when the cylinder and the room thermostats are satisfied. This is due to a leakage current from some manufacturers 3 port valves. The capacitor required is 0.47 micro-farads suitable for 275 volts AC (X2 style). These capacitors are available from Heatrae Sadia part number 95 612 708.

13.0 ALARM RESET

There are 3 steps to reset a tripped condition: -

- 1 Switch "OFF" the electrical supply.
- 2 Correct the fault, check the system is full of water and set to the correct pressure (sealed systems) and there is a good flow of water (i.e. all the valves are open).
- 3 Switch the supply back "ON".

Ensure the customer fully understands the operation of the system.

The boiler must NOT be operated if it is known to have a fault. Switch off, and call a service engineer. (see p.32 for contact details)

9.0 OPERATION AND INDICATORS

The SUPPLY indicator (green) will remain illuminated all the time the supply is present to the boiler.

The CALL indicator will illuminate (green) on demand from the programmer and thermostats or (red) for an alarm overheat condition. It will flash (green) for 2 to 3 minutes during which it carries out self-tests, the bottom heat indication can be seen to operate during this time. At the end of this period the call light will remain on steady (green), until the heating demand is satisfied.

The HEAT indicator will illuminate when the boiler actually produces heat, when the CALL indicator (green) is illuminated. The gradual build up in heating power of the boiler can be seen on the front panel. The HEAT indicator also shows the boiler modulating when it reaches operating temperature, or if the temperature rise is too quick.

Alarm indication by either ALARM light or the CALL light illuminated red flashing or steady depending on alarm sequence tripped. If there is a problem see section 12 - Fault Finding. The HEAT and the CALL (green) indicators will turn off. The boiler will remain in this tripped state until it is re-set. To reset an ALARM follow the 'Alarm Reset' procedure. Section 13, page 22.

TEMPERATURE CONTROL. The boiler output temperature can be adjusted from the front panel.(once set, will not need adjustment.)
Min setting for C series is approximately 65°C and U series 30°C.
Max setting for C series is approximately 80°C and U series is 60°C.

CLEANING

Use only a damp cloth and mild detergent to clean the boiler outer casing. Do not use abrasive cleaners. Do not allow water inside the boiler. Do not immerse in water.

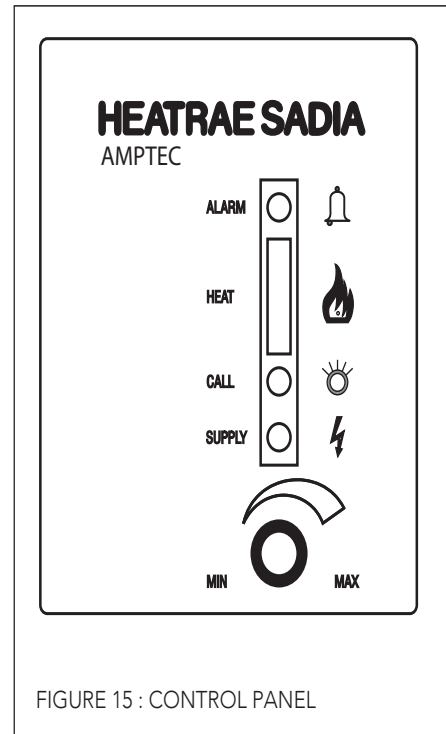


FIGURE 15 : CONTROL PANEL

10.0 SERVICING

IT IS ESSENTIAL THAT THE BOILER IS CHECKED ANNUALLY. Checks must include the electrical connections and inhibitor concentration.

Before any servicing or maintenance is carried out on the system ensure that the electrical supply has been disconnected first. Care must also be taken as the water may be scalding hot and at a high pressure. Check the main electrical power connections are tight. Loose connections can cause a fire.
Part Locations and comments (see page 2)

Fuse FS1 is found near the top of the main power PCB assembly.

The temperature switch connected to Conn 3 is situated on the body of the boiler approximately 1/3rd of the distance up from the bottom between insulation and boiler.

The thermistor assembly plugs into the main power PCB assembly through Conn 4 and is clamped at the top of the boiler. Care must be taken not to break the fine wires.

The control PCB assembly is mounted on the back of the bottom front panel and plugged into the main power PCB Conn 2. Great care must be taken when changing this board assembly not to damage any of the components, especially those adjacent to the mountings.

To change the main power PCB follow 'Replacing the Main Power PCB' procedure (see page 20).

Each of the main electrical elements should have a resistance of approximately 19 ohms (29 ohms for 2kW elements used in 4kW and 11kW boiler) terminal to terminal, (red to red, yellow to yellow, blue to blue and black to black) and an insulation resistance greater than 2 Meg ohms between terminal and case. If the elements are open circuit terminal to terminal, or have short circuit insulation resistance terminal to case, then the boiler must be replaced.

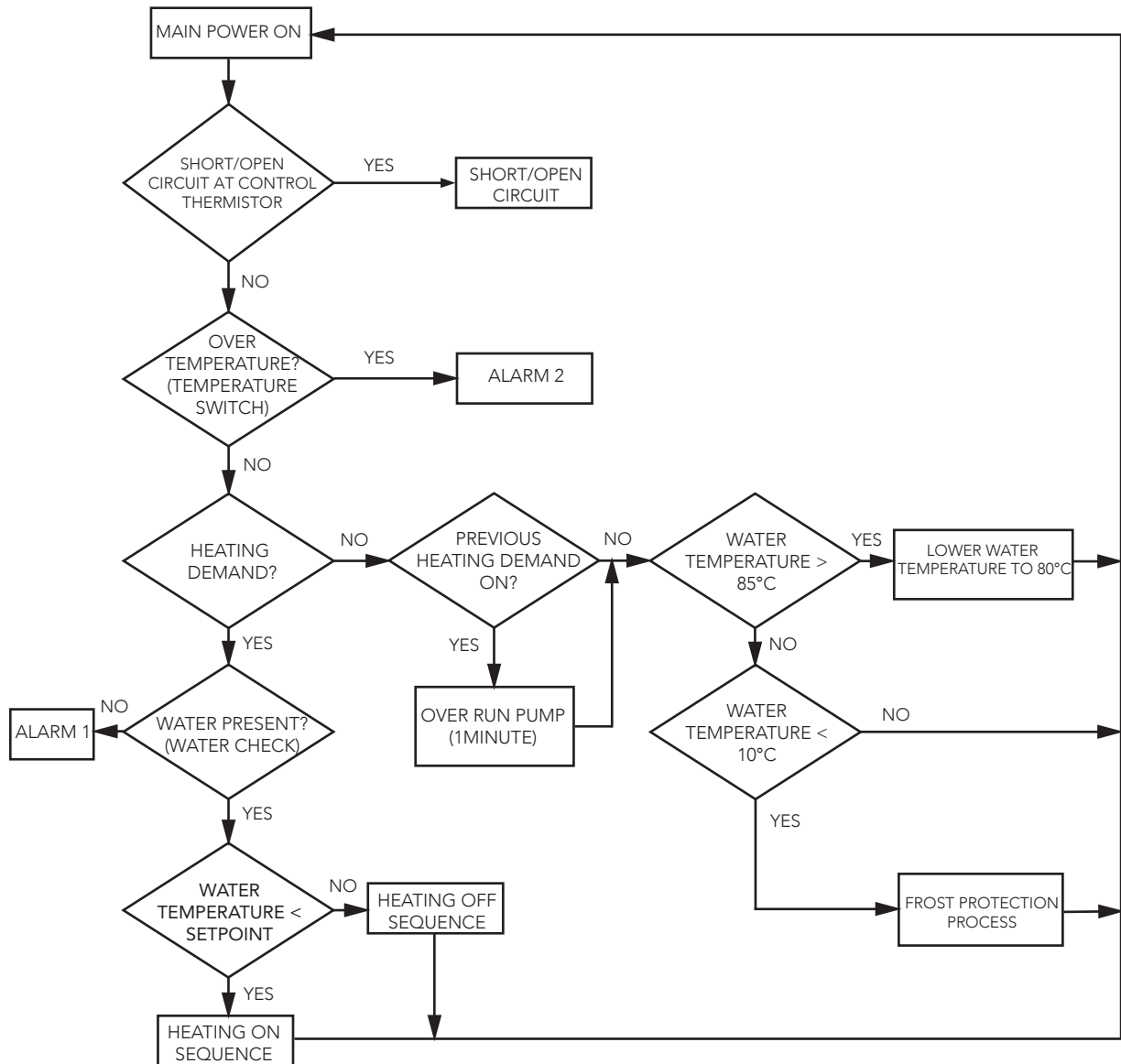


FIGURE 14 : OPERATION OF THE C SERIES BOILER

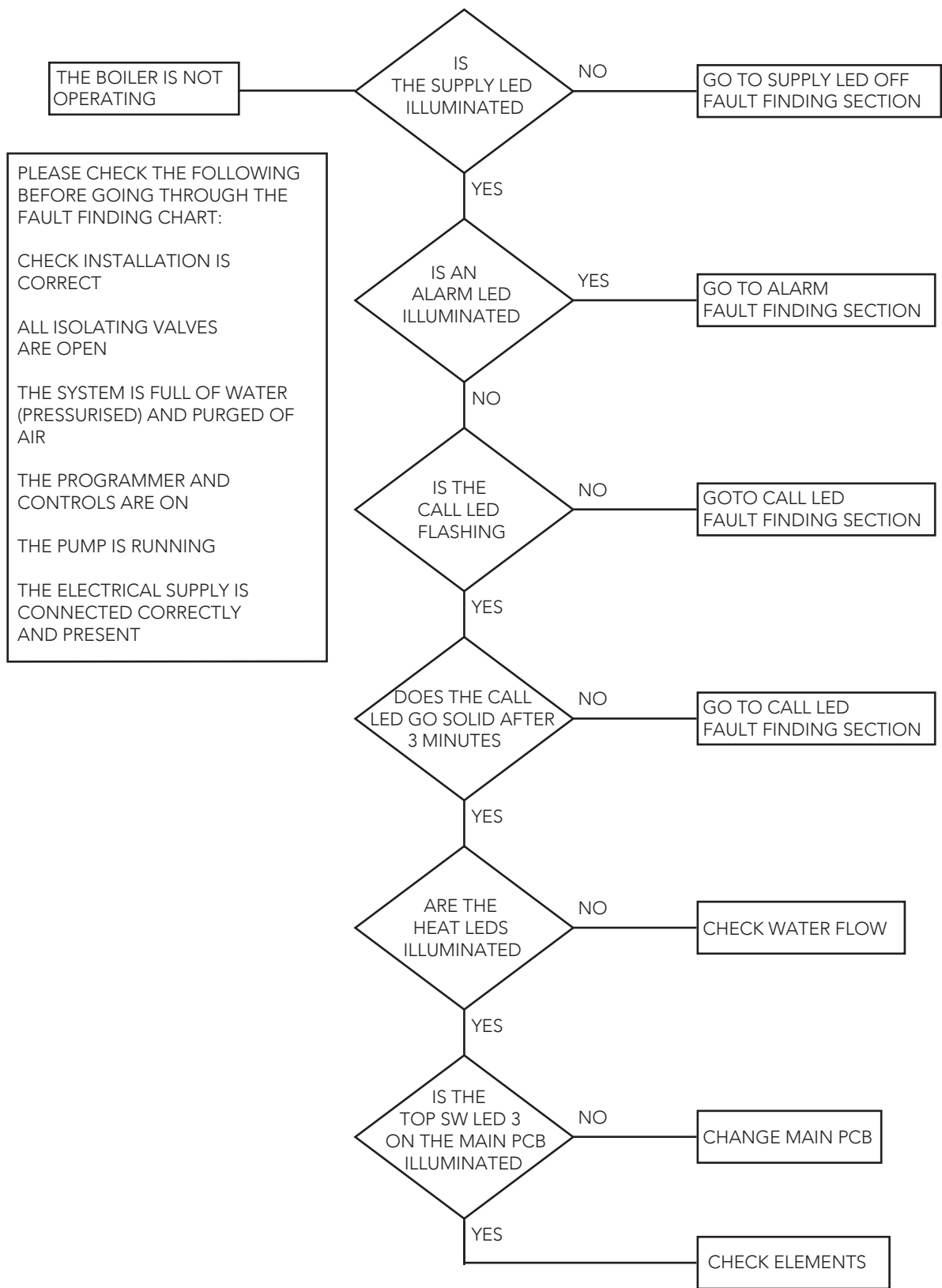


FIGURE 17 : FAULT FINDING CHART

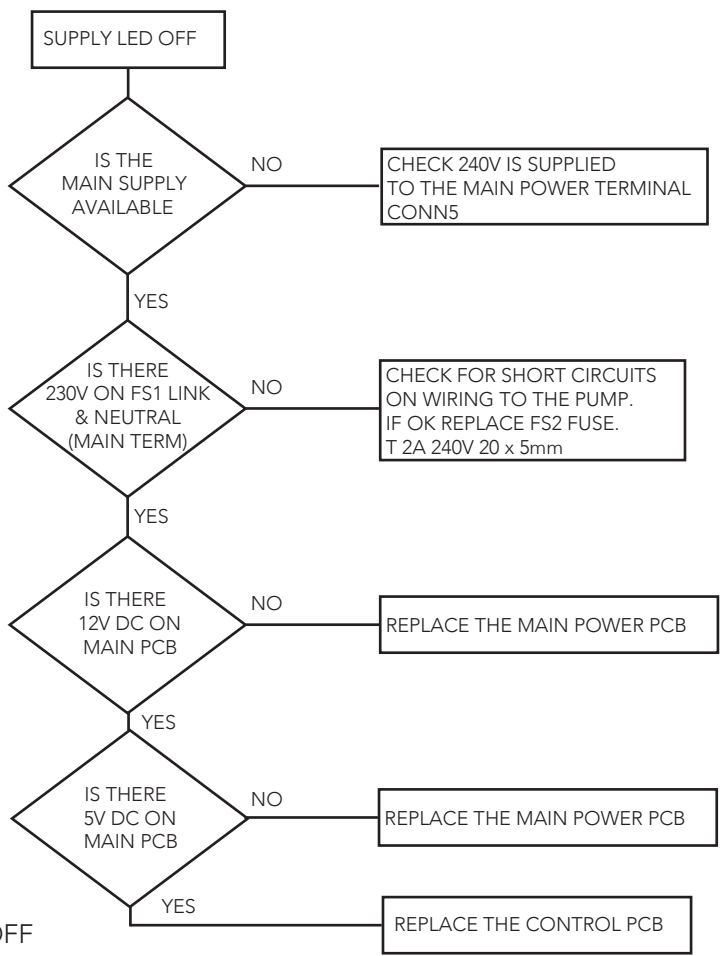
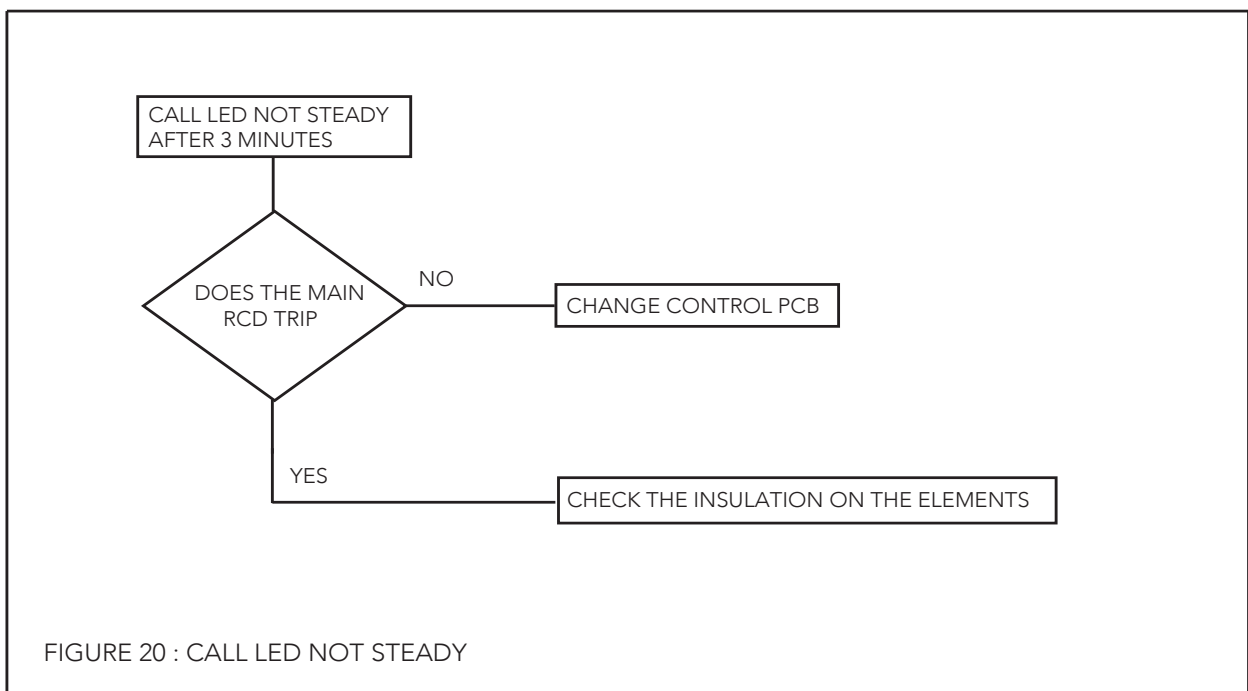
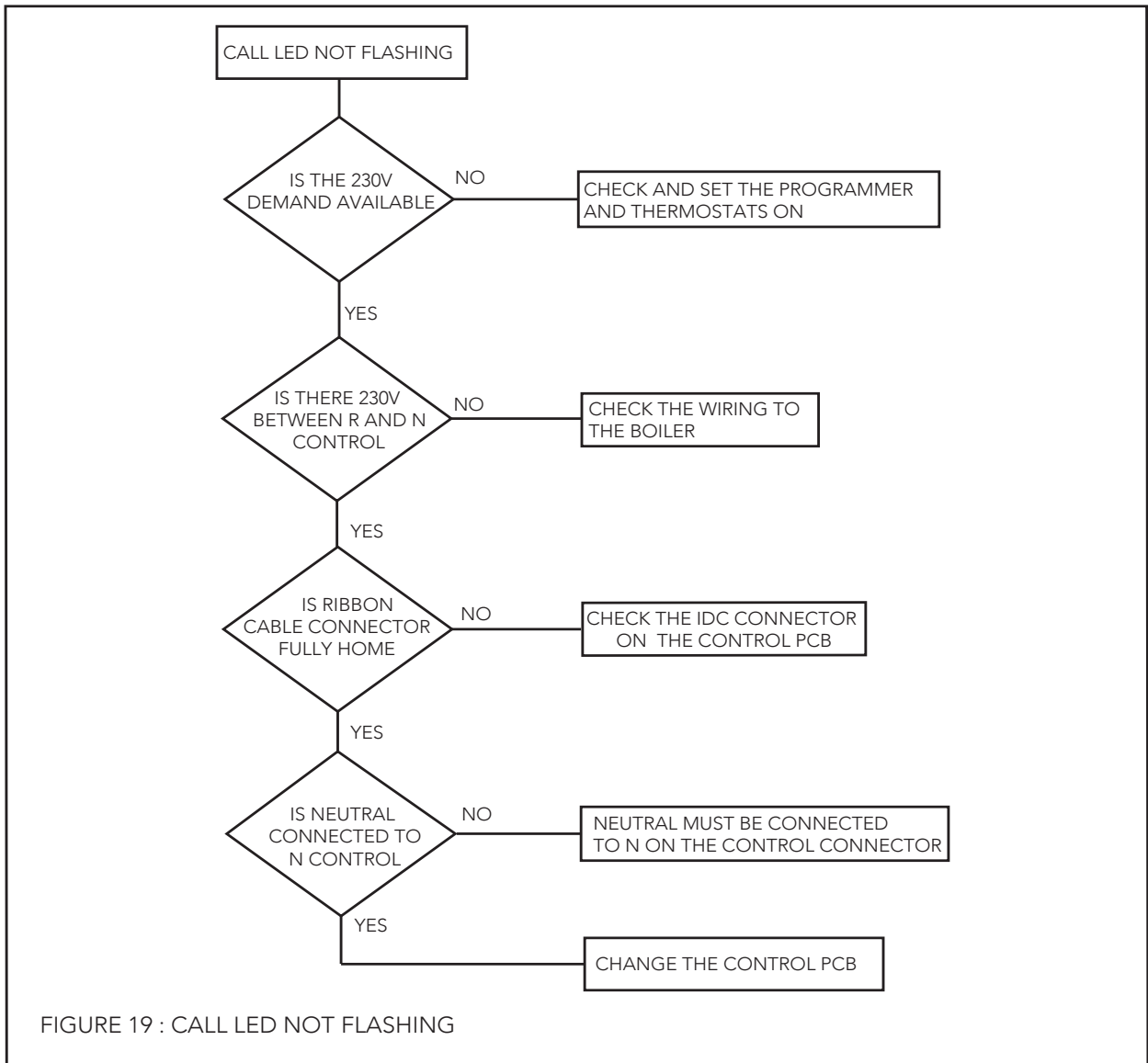


FIGURE 18 : SUPPLY LED OFF



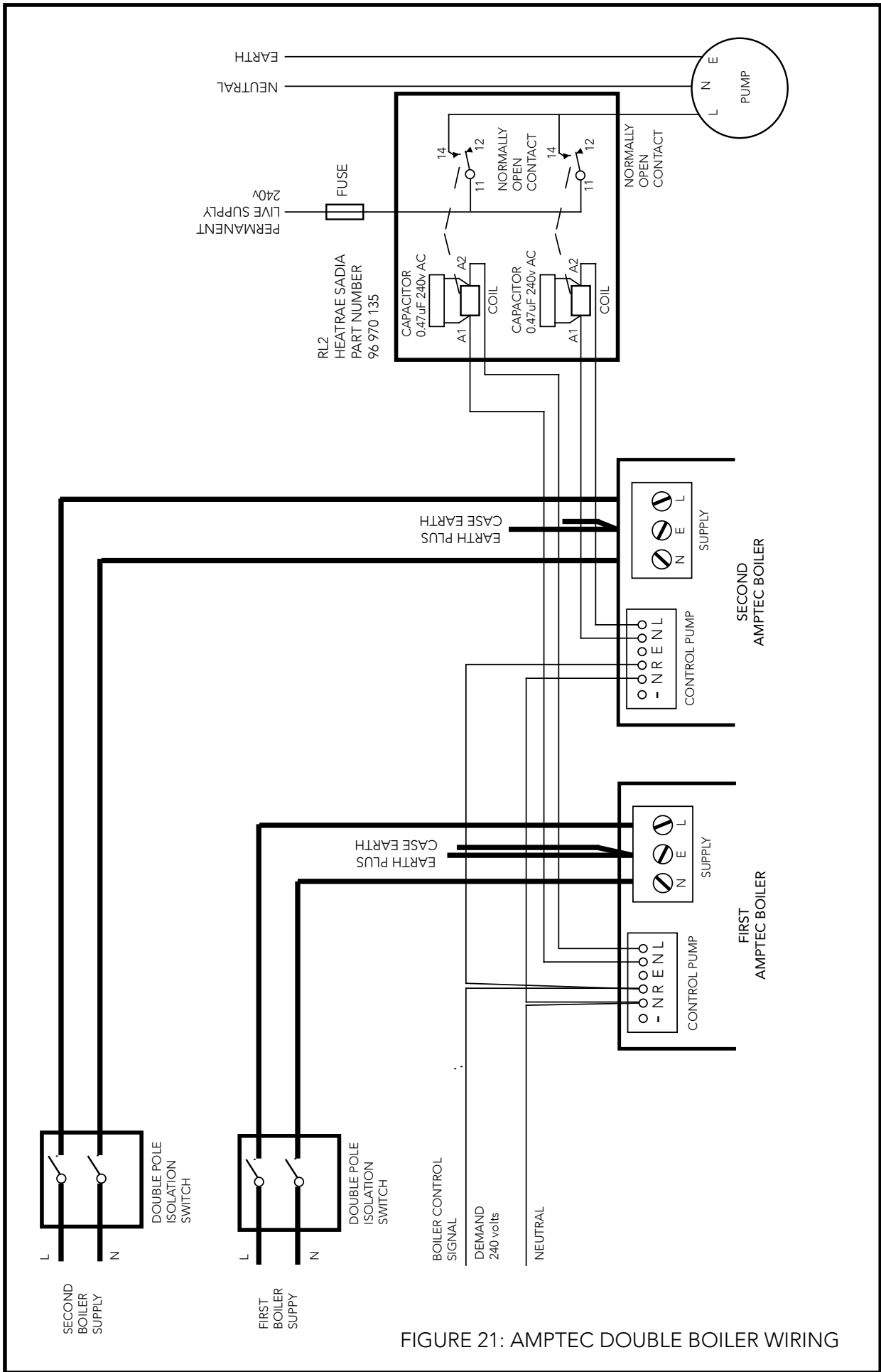


FIGURE 21: AMPTEC DOUBLE BOILER WIRING