

IMMERSION HEATER PCB SETUP/TEST INSTRUCTIONS

Connect all field wiring to the appropriate terminals within the unit. This should be carried out by competent person and in accordance with BS7671 18th edition wiring regulations.

When mains power is applied to the board for the first time, the amber heater on the red fault LEDs will flash 4 times. This indicates that the latest version 4 software is installed.

On board diagnostic LED

LED flashes once = fault on immersion heater.

LED flashes steady on off (heartbeat) system ok

Link pins

Link pin 1 (Test) is provided on the board to enable an auto test to be performed. For normal operation, the pin should be in place. The board will carry out a system test every 2 hours.

Removing the link from the board will allow the system to perform an auto test every 60 seconds. This is for test and commissioning purposes only.

Link pin 2 (Single) has no function when board is configured for immersion heater monitoring.

Temperature selection

On the top right-hand side of the board are a bank of 4 switches. These have no function in immersion heater mode.

Power selection

On the top right-hand side of the board below the temperature selection switches are a bank of 8 switches. These are used to select the desired monitored load.

Select switch number 8 ONLY. This is the default setting of 3000 watts for monitoring the immersion heater.

On all factory units this switch will have been preselected.

Test procedure

Under normal operating conditions, with main power applied to the unit and the ambient temperature above 50c, the green power on LED should be illuminated on the front cover, and the on-board diagnostic LED should pulse on off (heartbeat)

The unit will carry out an automatic test every 2 hours and providing the 3000-watt load is detected, the unit will return to standby.

A manual test can be carried out at any time by pressing the green test/reset button for a minimum of 5 seconds until the amber on LED illuminates. Then release the button.

If the immersion heater is healthy, the unit will return back to standby, but should the red fault LED illuminate during the test, this would indicate a fault on the immersion heater unit, which should then be investigated. The red fault LED will only be extinguished when any fault has been cleared and the green test/reset button is pressed. Any fault indicated on the front panel will cause the diagnostic LED to flash on and off once.

When the ambient air temp drops below 50c, the amber on LED will illuminate showing that the immersion heater has switched on.