Wiring Diagram

Purewell VariHeat c Boilers

Electrical Connections

The following electrical connections are provided on each module:

- Supply live neutral and earth
- Supply input for boiler fault and normal run signals
- Boiler fault alarm system signal output
- Boiler normal run signal output
- 0-10 V analogue control signal input
- Remote on/off control input
- Boiler shunt pump output
- Safety interlock circuit input

There is a gland plate fitted to the front of the boiler, at floor level, to accept cables for power supply and controls.
A single terminal rail is fitted inside the front cover, and all external connections are made to this terminal rail.
The plug-in terminal rail facilitates easy removal for improving access during servicing and maintenance.

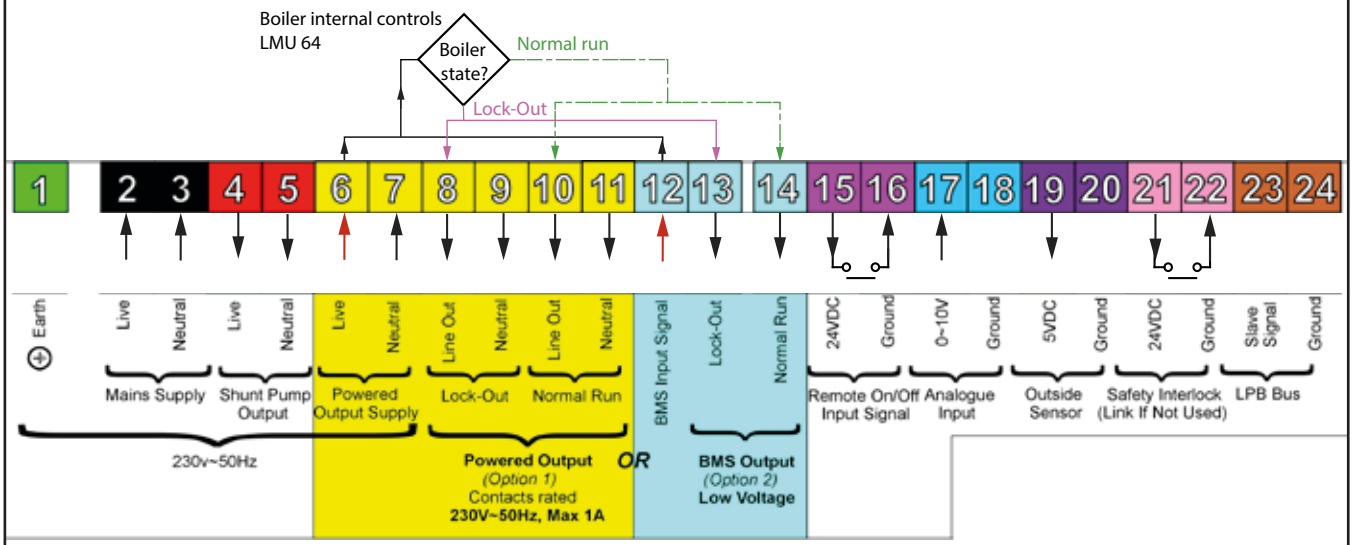
Power Supply

An independent isolator and fused 230 V, 50 Hz, single phase electrical supply is recommended for each boiler as its permanent supply. For normal operation (not maintenance), boiler enable/disable should be carried out via the remote On/Off function which requires a volt-free contact (not HHL supply) to make a connection between terminals 15 and 16. Making the connection switches on the internal 24 V DC control circuit which enables the boiler. Breaking the connection switches off the control circuit and disables the boiler.

Wiring external to the boiler must be installed in accordance with IET Regulations and any local regulations which apply Wiring must be completed in heat resistant 3-core cable, (size 1.0 mm^2 c.s.a.). Fascia fuse rating is 2 amp.
External fuses should be 6 amp for all single boiler sizes.

To prevent drawings excessive current (>1 amp) through the boiler control panel, it is recommended that pumps are connected via contactors.

Terminal Rail Connections



The Purewell VariHeat provides options for powering the Lock-Out/Normal Run indication function by a choice of either 230 V AC mains or by a low voltage (typically 12V or 24V DC) supplied from a BMS. A choice of two sets of terminals, Option1 (yellow terminals 6 to 11) for 230 V AC mains signalling and Option 2 (pale blue terminals 12 to 14) for Low Voltage signalling have been provided for the Lock-Out/ Normal run indication function. Note that only one option may be selected.

Caution:
For safe operation, ensure to connect to only one of these sets of terminals, and not to both. This will prevent any risk of mains voltages being unintentionally supplied via the "Low Voltage" outputs to any BMS equipment connected to them.

Notes:

1. *Shunt pump output terminals 4 and 5 should be connected via contactors to the separately supplied pumps.*
2. *Any voltage applied on linked terminals 6 or 12 will return, via the LMU 64, the same voltage as output on terminals 8 and 13 with the boiler in lockout state, or will produce the same voltage as the output on terminals 10 and 14 with the boiler in normal run state.*
3. *For remote On/Off control, a volt free contact is required across terminals 15 and 16, and must be closed to enable the boiler.*
4. *Terminal 17 is for an analog 0-10 V input signal from the BMS to remotely control the boiler modulation.*
5. *Terminal 19 is a 5 V DC output for an outside sensor.*
6. *Terminals 21 and 22 are for safety interlock circuit. An open circuit across terminals 21 and 22 will disable the boiler.*
7. *A link must be fitted between terminals 21 and 22 if safety interlock circuit is not used.*