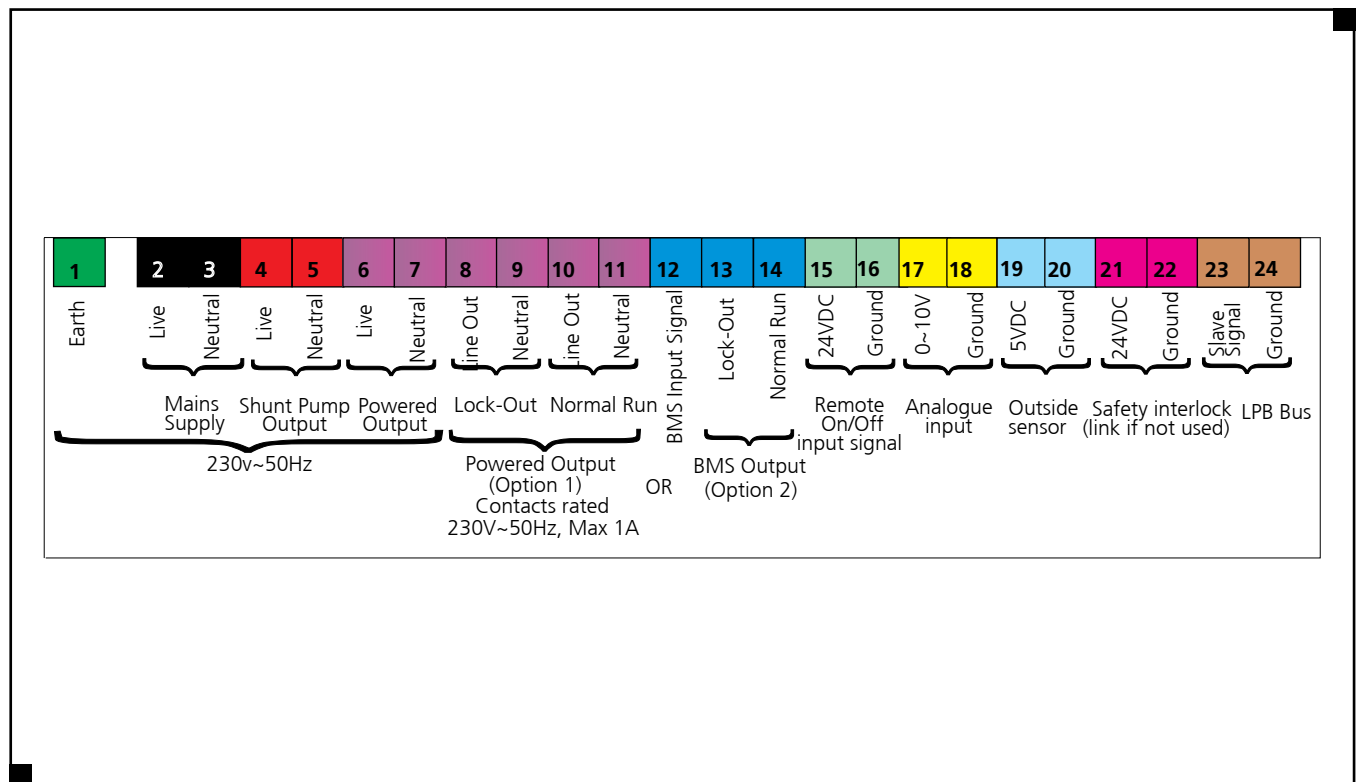


Wiring Diagram

Purewell VariHeat Boilers

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
- 0-10v analogue control signal input
- Remote on/off control input
- Boiler shunt pump output
- Safety interlock circuit input



Electrical Connections

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 electrical supply is recommended for each boiler. Supply 230 volt, 50Hz, single phase. Wiring external to the boiler must be installed in accordance with IEE Regulations and any local regulations which apply. Wiring must be completed in heat resistant 3 core cable, (size 1.0 mm² 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.

Wiring Diagram

Cascade and Heating Zone Controls

Controls Installation

The RVA46 and RVA47 controls are designed for panel mounting. It is recommended that the controls are mounted with the fascia exposed externally for ease of use.

All electrical connections use polarised coloured screwed terminal blocks to ensure that once installed and commissioned, connections are easy to relocate in their original position, if removed.

The LPB bus communication cable between controllers and boiler can be extended to a maximum 1400 metres length. Cable should be (non interchangeable) two core twisted with 1.5mm² CSA.

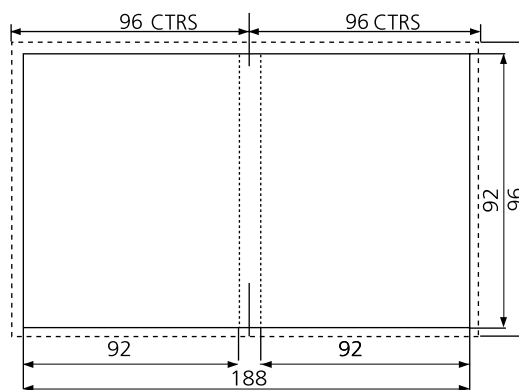
Room temperature sensors, QAA10, QAA50 and QAA70, may be located up to 50 metres from their respective RVA controller. Wiring between controllers and the room sensors using 2 wire (interchangeable) cable. Max 1.5mm² CSA.

External air sensor QAC34 may be located up to maximum 120 metres from the RVA controller. Usually connected to the RVA47, wiring using 2 wire (interchangeable) cable. Max 1.5mm² CSA.

Water temperature sensors, QAZ21, may be located up to maximum 120 metres from the RVA controller. Wiring using 2 wire (interchangeable) cable. Max 1.5mm² CSA.

Pump outputs are volt free contacts rated to 2 amps 230V max. It is strongly recommended that pumps and mixing valves are connected via contactors, where higher running currents will be experienced.

Panel cut-out dimensions for RVA46 & RVA47 controllers



The mechanical mounting allows fitting in panel fronts that have a thickness of 2mm to 10mm.

Wiring terminal connections - RVA47 cascade controller

Low voltage terminals

6	5	4	M	2	1	M	M
H1	B3	M	B10	B9	MDA6	MBDB	

Mains voltage terminals

3	2	F	4	3	2	F	L	N
Q3	Q1	F1					L	N

- Remote enable circuit - H1/M - Volt free / 0-10 v Dc
- DHW cylinder sensor - B3/M
- Ground for sensors and remote enable circuit-M
- Cascade sensor - B10 / M
- Outside air sensor - B9 / M
- Ground for room sensor-MD
- Signal for room sensor-A6
- Ground for LPB Bus Communication-MB
- Signal for LPB Bus Communication-DB
- Live output for DHW cylinder pump max 1AMP load-Q3
- Live input for DHW cylinder pump 230v 50Hz
- Live supply 230v 50Hz 5AMP
- Neutral

Wiring terminal connections - RVA46 zone controller

Low voltage terminals

6	5	4	M	2	1	M	M
H1	M	B1	B9	MDA6	MBDB		

Mains voltage terminals

3	2	F	4	3	2	F	L	N	
Y2	Y1	F2				Q2	F6	L	N

- Remote enable circuit - H1/M - Volt free / 0-10 v Dc
- Ground for sensors and remote enable circuit-M
- Flow sensor for mixing valve - B1/M
- Outside air sensor - B9/M
- Ground for room sensor-MD
- Signal for room sensor-A6
- Ground for LPB bus communication - MB
- Signal for LPB bus communication - DB
- Close output for mixing valve max 1AMP load-Y2
- Open output for mixing valve max 1AMP load-Y1
- Live input for mixing valve 230v 50Hz
- Live output for heating zone pump max 1AMP load-Q2
- Live input for heating zone pump 230v 50Hz
- Live supply 230v 50Hz 5AMP
- Neutral