the underfloor heating store
suppliers and installers of underfloor heating

INSTALLATION INSTRUCTIONS
MULTIROOM KITS

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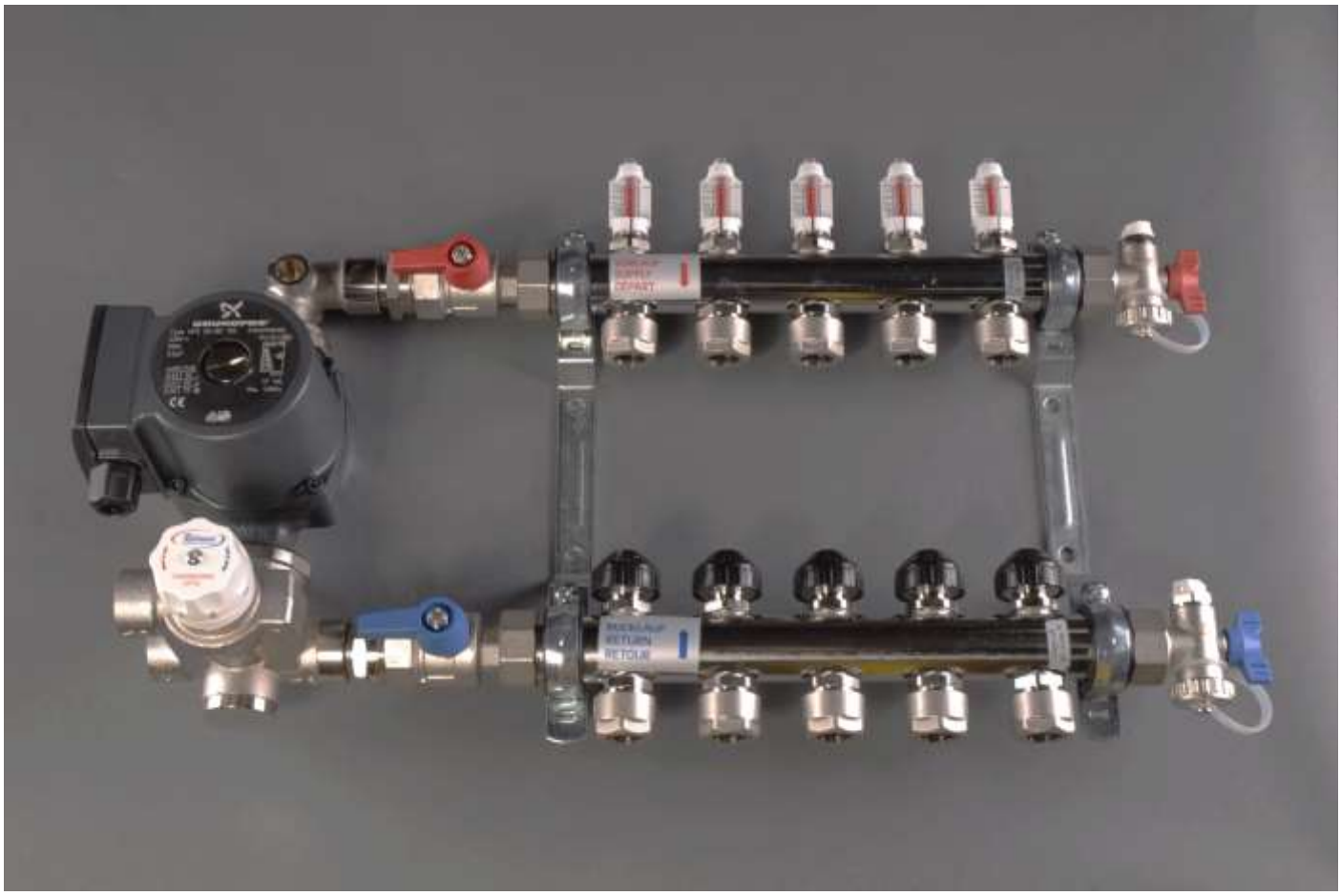
1. Installation

1) Read all of this document first!
2) Refer to the typical pipe installation drawings and determine the pipe layout- the layout is not critical and can be varied to suit site conditions, the important criteria being the pipe spacing.
3) Check each area and calculate the pipe requirement to confirm the pipe lengths shown in the table, there is an excess of pipe to allow for variation.
4) The pipe is marked every metre by the metre.
5) Pipes should be laid 100mm away from walls.
6) Do not lay pipe under kitchen units.
7) Manifolds should be fitted first as detailed in the manifold assembly section.
8) Lay the rooms furthest from the manifold and work back, do the room with the manifold last.
9) Start from the far end of a room and work back to the door.
10) When pipes to/from one area pass through another area, the two pipes should be run together, the 'bunches' of pipes should then be spaced as if they were one pipe.
11) To lay an area, cut the pipe end squarely using the plastic pipe cutter, re-round the pipe end with the tool provided, place the nut over the pipe, the olive and insert is fully fitted over the end of the pipe and the assembly attached to the manifold. Tighten the nut (it is not necessary to over tighten) using an open end spanner.
12) Lay the pipe as planned, fixing every 1.0m and return to the manifold.
13) If the pipe is kinked when bending, the pipe should be straightened and rearranged so that the location of the kink remains in a straight length, no other remedial action is required.
14) Repeat the connecting operation as above for all other zones.
15) Note the lengths of pipe fitted to each circuit, pipe is marked every metre.
16) Note also the room to which each circuit applies.
17) Prevent people from walking on the pipes, keep tools etc away from the pipes and use running boards. The pipe is very tough, but it is better to be safe than sorry.
18) <u>FILLING</u>
    - It is IMPORTANT that the underfloor heating system is properly filled with water and purged completely of air to ensure correct operation, it is therefore necessary to follow the procedure below.
    - <u>IT IS NOT ADEQUATE TO FILL THE SYSTEM USING THE BOILER FILLING LOOP!!</u>
    - Connect a hose from a mains pressure cold water supply to the hose connection on the top (flow) manifold, and another hose from the hose connection on the bottom (return) manifold to a drain.
    - Ensure that all the black caps on the bottom (return) manifold are screwed down, closing the valves.
    - Ensure that the main flow & return ball valves are closed.
    - Turn on the water and open the hose connection valve on the top (flow) manifold.
    - Open the first circuit valve by unscrewing the black cap allowing water to flow into the pipe.
    - Open the hose connection valve on the bottom (return manifold) allowing water to flow freely into the drain until the water is clear with no air bubbles.
    - Open the second circuit valve (black cap) and close the first.
    - Open the third circuit valve and close the second etc.
    - Continue until the last circuit has been purged and close the hose connection valve on the bottom (return) manifold before closing the last circuit valve (black cap).
    - While under pressure, check manifold & pipework for leakage.
    - Close hose connection valve on the top (flow manifold) and remove the hoses.

2. Manifold assembly.



1) Attach manifold to wall.
2) Fit ball valves to manifold, the end with the loose nut to manifold(remember the washers!).
3) Assemble pump & mixing valve as shown.
4) Connect supply pipework to mixing valve using ¾" male iron compression fittings . DO NOT APPLY HEAT TO MIXING VALVE

FRONT CONNECTION IS 'RETURN
REAR CONNECTION IS 'FLOW'

3. Commissioning.

1) Screed or chipboard flooring should be laid immediately after pipelaying to protect the pipe.
2) Concrete screed floors must be cured before any heat is applied, a general rule of thumb is to allow 1 day per 2 millimetres of screed.
3) Timber floor with drymix infill can have heat applied immediately, the drymix must be dried completely before laying the flooring.
4) Hardwood timber flooring must be 'conditioned' before fixing.
5) It is important to purge the pipework from the boiler to the manifold, to avoid air being introduced into the underfloor heating system.
6) It is not normally necessary to balance the system but if required follow the procedure in 7.
7) The system is balanced by running the pump, and adjusting the flow to each pipe circuit by turning the square spigots under the blue caps on the bottom manifold, the flow in the respective sight glasses should be set at a figure calculated by dividing the length of pipe for that zone by 40. Example: Lounge 80m/40 = approx 2 on the scale.
8) Fit actuators to valves after connecting the control wiring.
9) It is important that the actuators are screwed tightly on to the valve.
10) Initially start the system with the thermostatic valve set at min (35°c).
11) Increase the setting by 5° per day, up to a maximum of 50° for concrete floors, max 65° for timber floors.
12) Connect the flow/return pipework using compression fitting, flow to ('H') rear connection, return to ('C') front connection.
13) NOTE. When first starting up the system it may take 12-24 hours for the heating effect to become apparent!

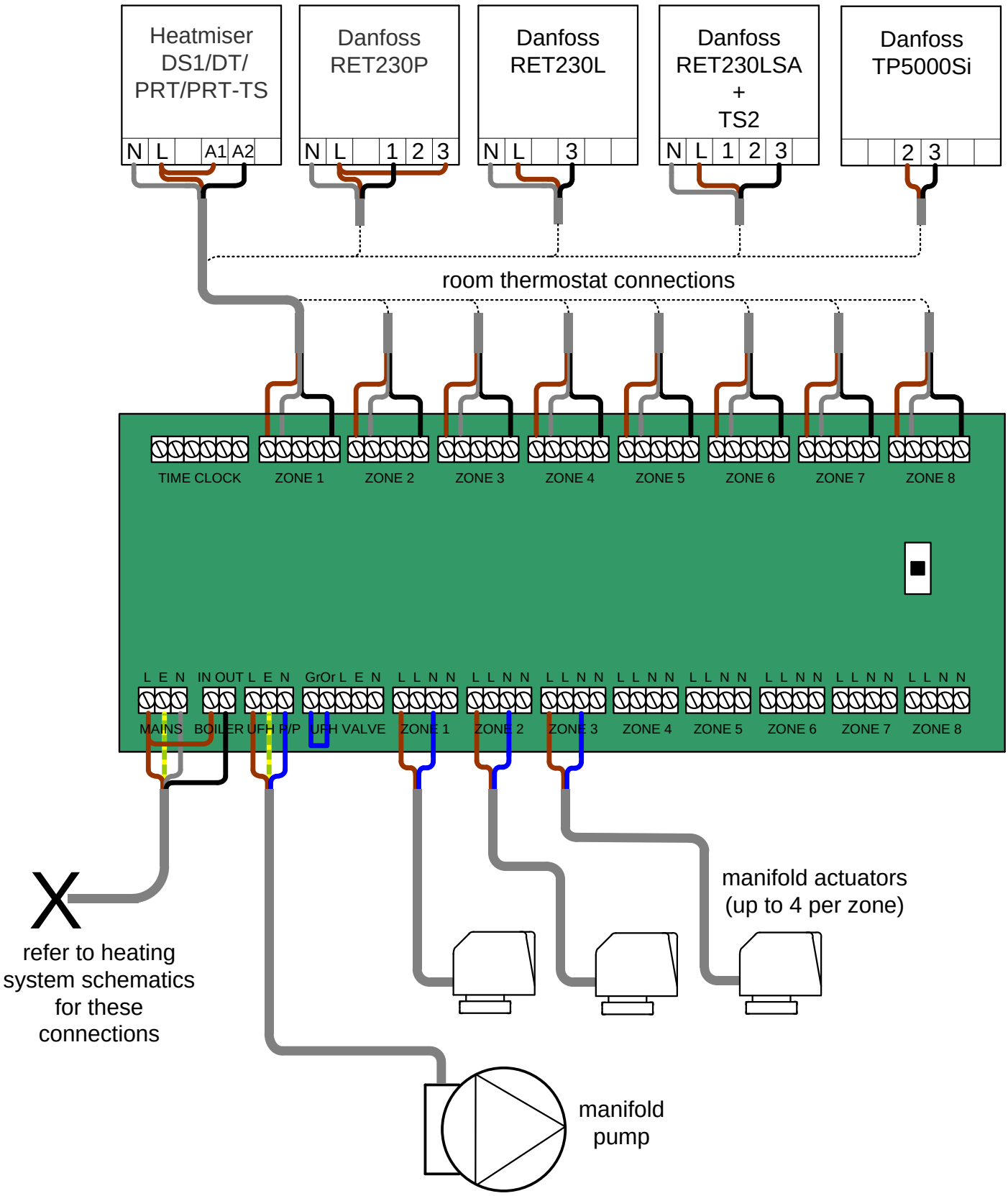
3a. Maintenance

1) It is recommended that the following maintenance be carried out annually.
2) Check that all actuator nuts are tightened firmly and that actuators are not loose.
3) Remove end plug from pump and check that pump rotates when energised.
4) Turn up thermostats and check that actuators move into open position also check flow gauges are indicating. If not, de-pressurise manifold, remove indicator, clean and replace, re-pressurise manifold.

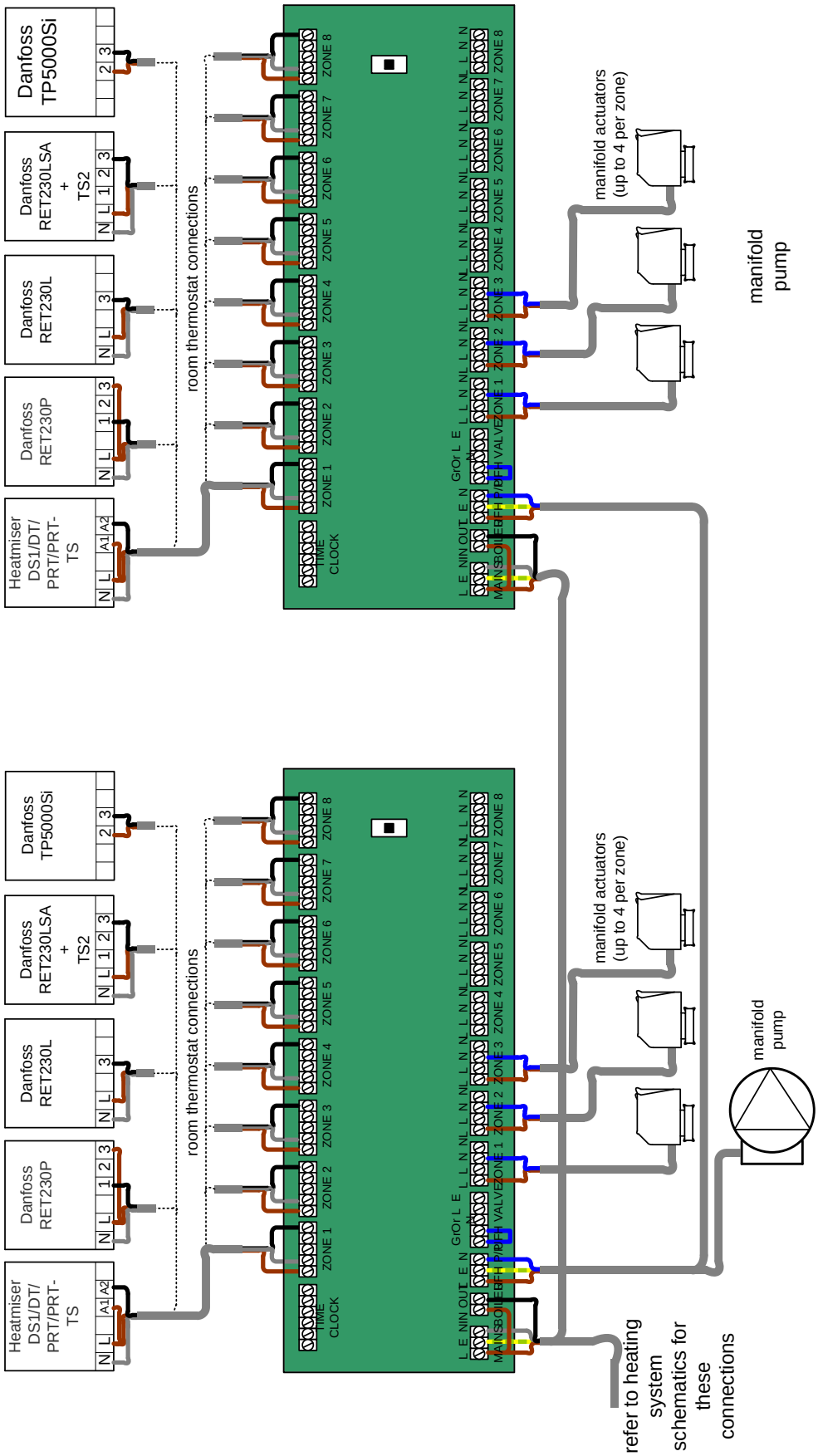
3b. Electrical

1) Wiring from thermostats to manifold wiring centre should be 1mm 3core + earth (6243Y).
2) The wiring centre has a back entry to avoid surface wiring.
3) Where one room has more than one pipe circuit it will be necessary to connect all the circuit actuators to that particular zone on the controller, controlled by one thermostat.
4) Thermostat position in the room is not critical but positions affected by the sun should be avoided, mounting height approx.1.5M.

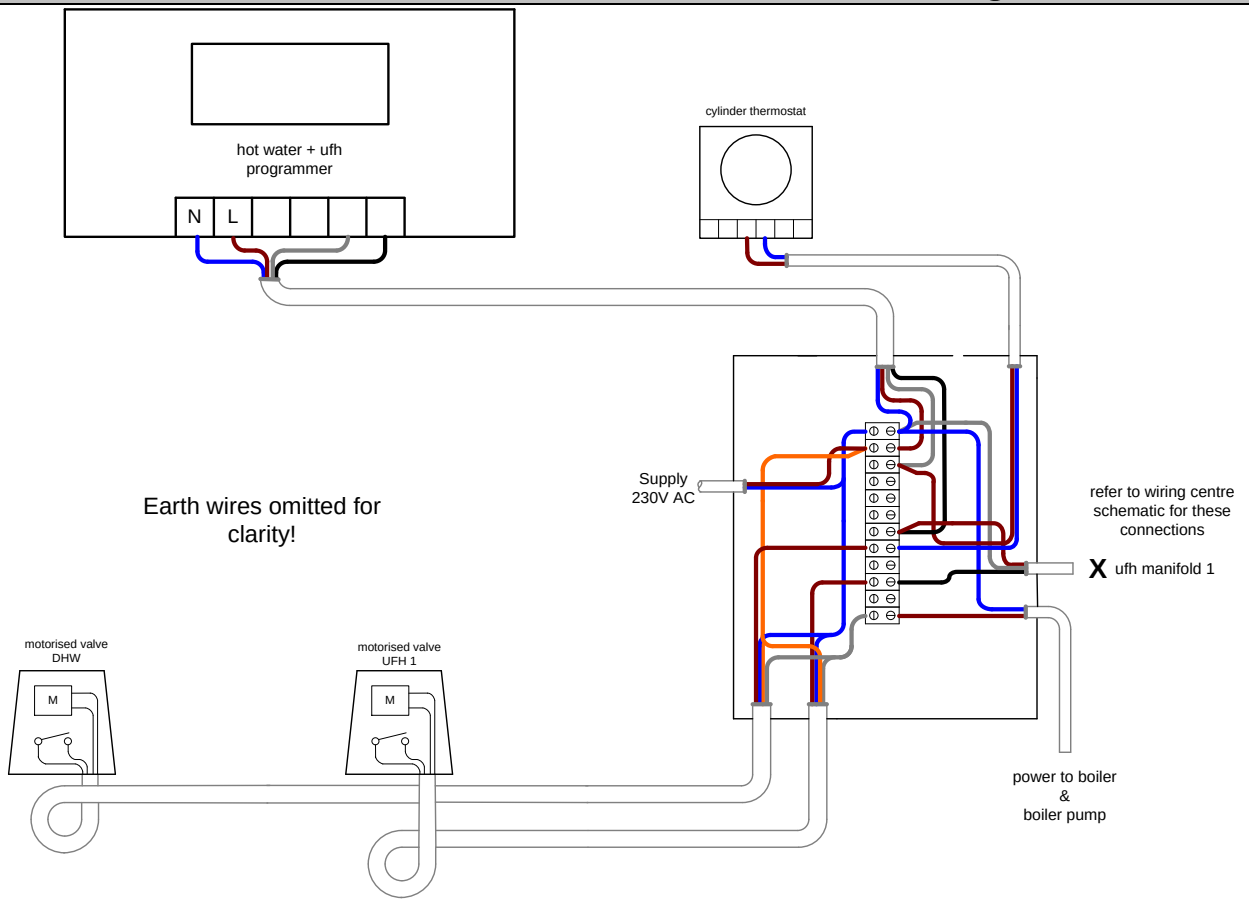
4.Electrical: 1x wiring centre (less than 8 thermostats per manifold).



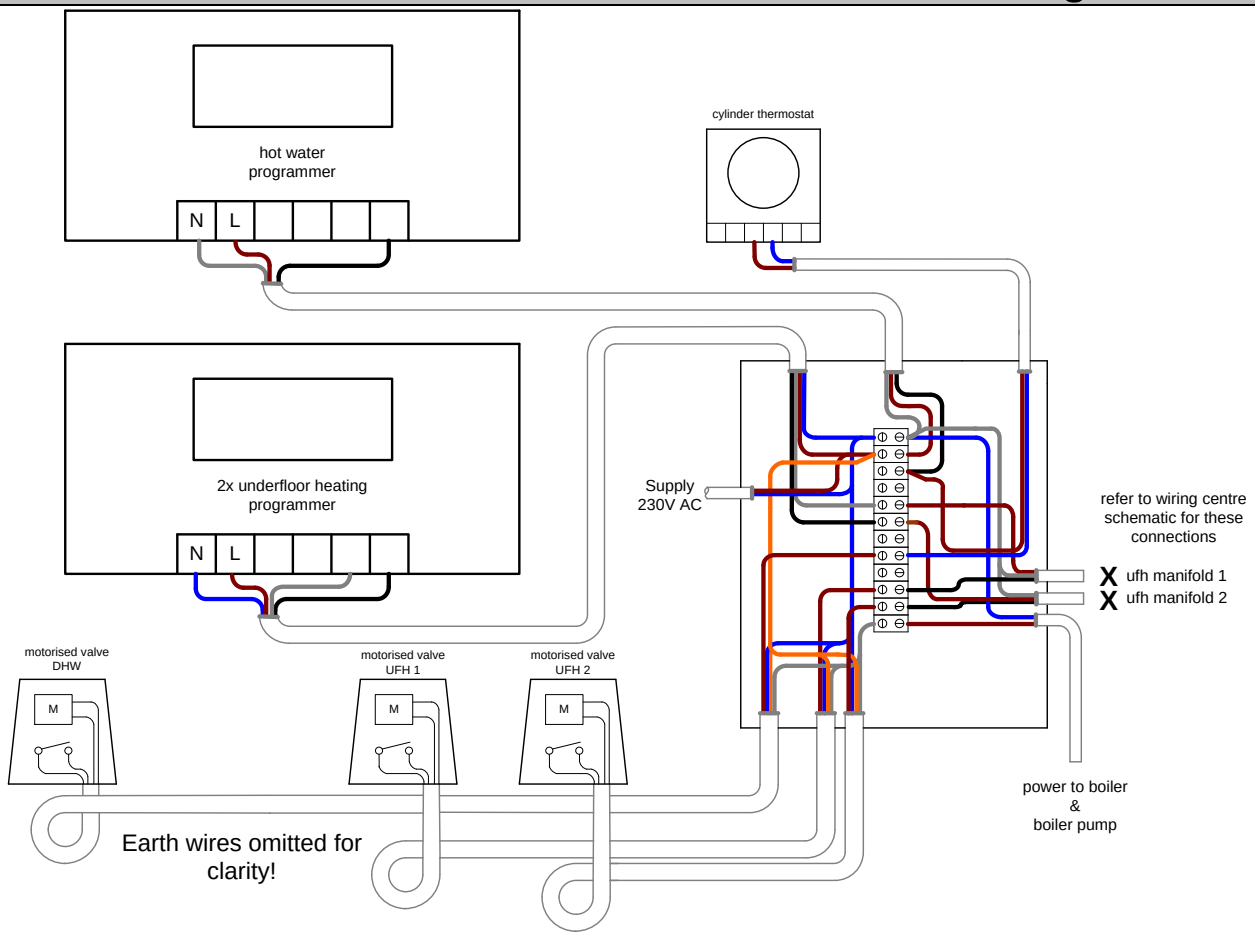
5. Electrical: 2x wiring centre (more than 8 thermostats per manifold).



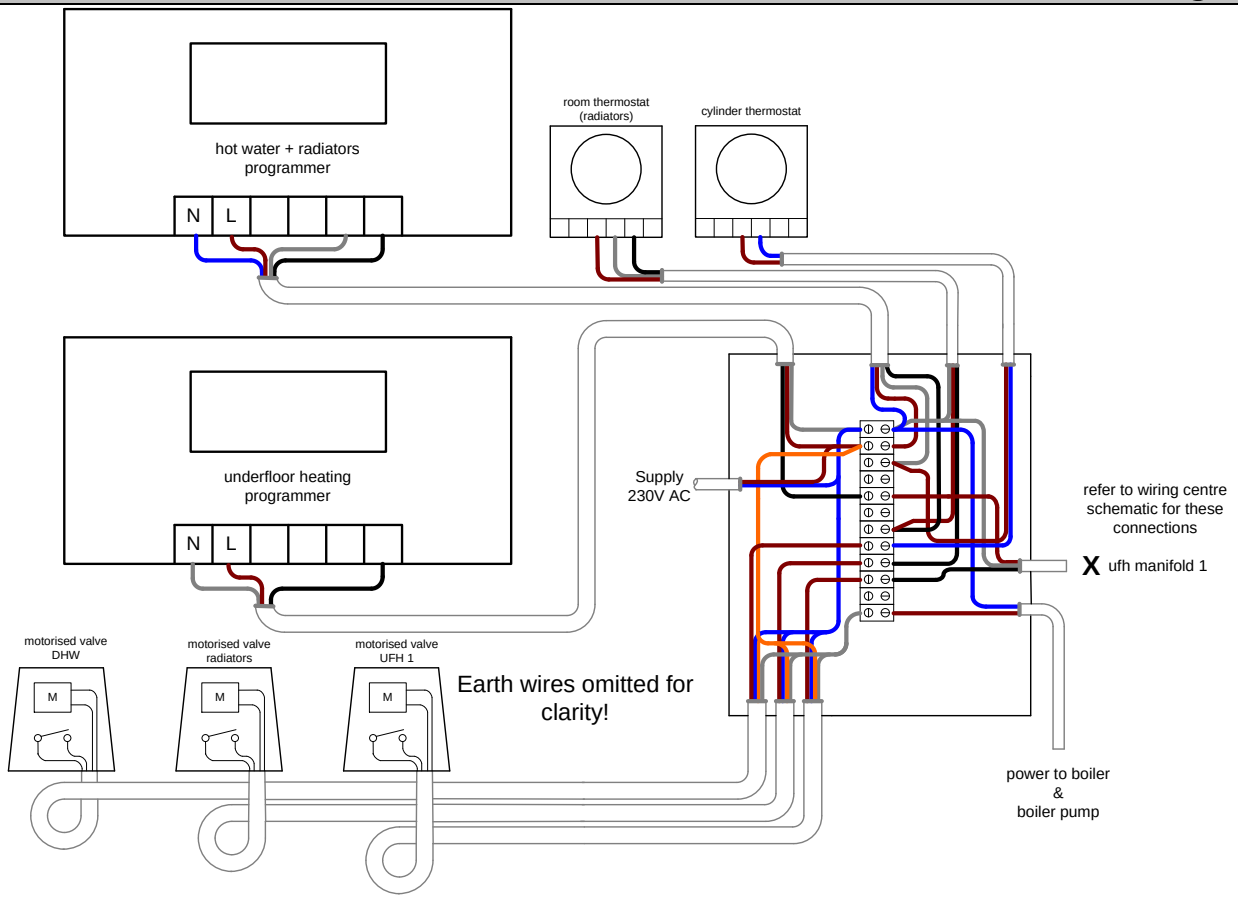
6. Electrical: SYSTEM BOILER + hot water + underfloor heating.



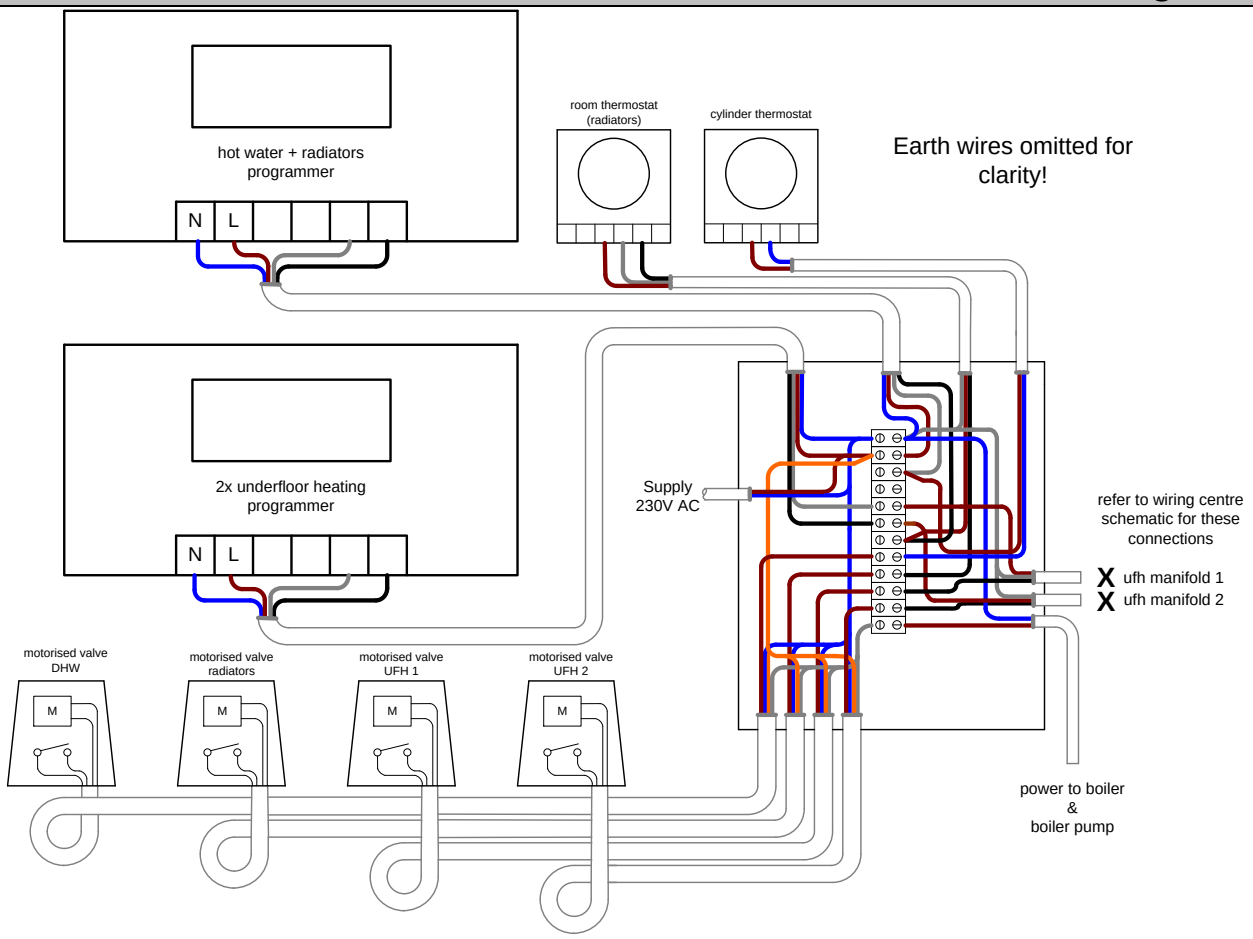
6a. Electrical: SYSTEM BOILER + hot water + 2x underfloor heating.



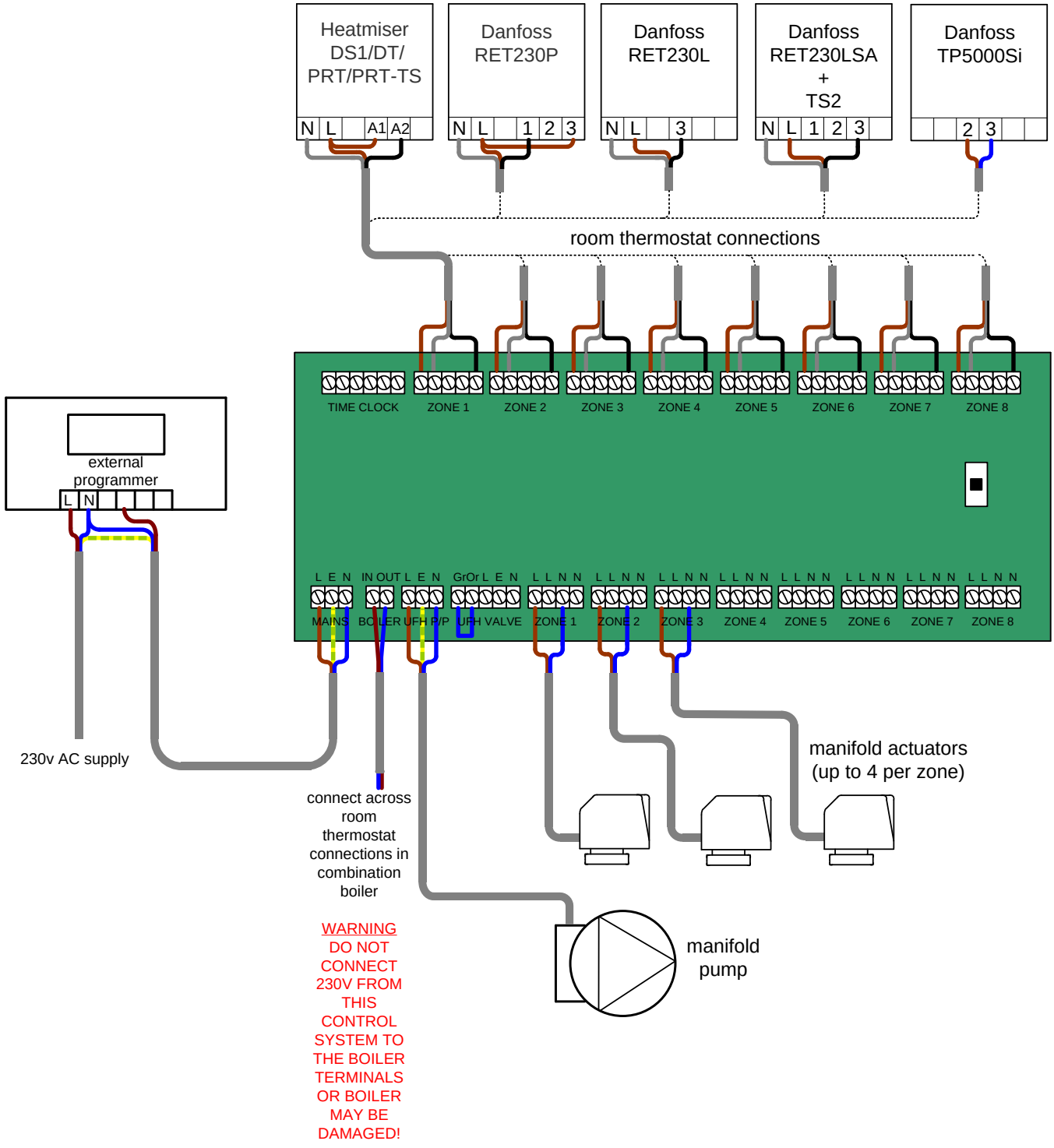
7. Electrical: SYSTEM BOILER + hot water + radiators + underfloor heating.



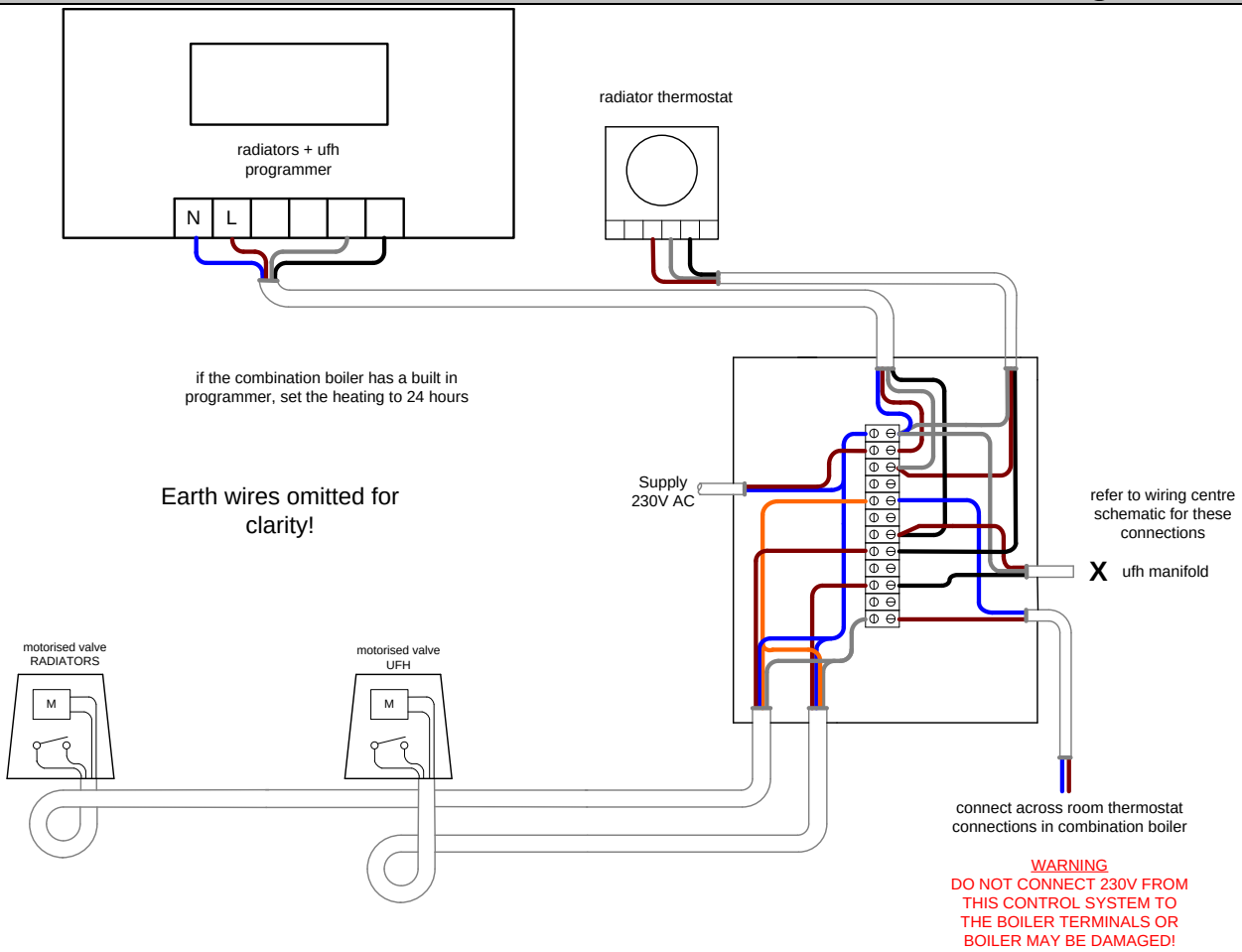
7a. Electrical: SYSTEM BOILER + hot water + radiators + 2x underfloor heating.



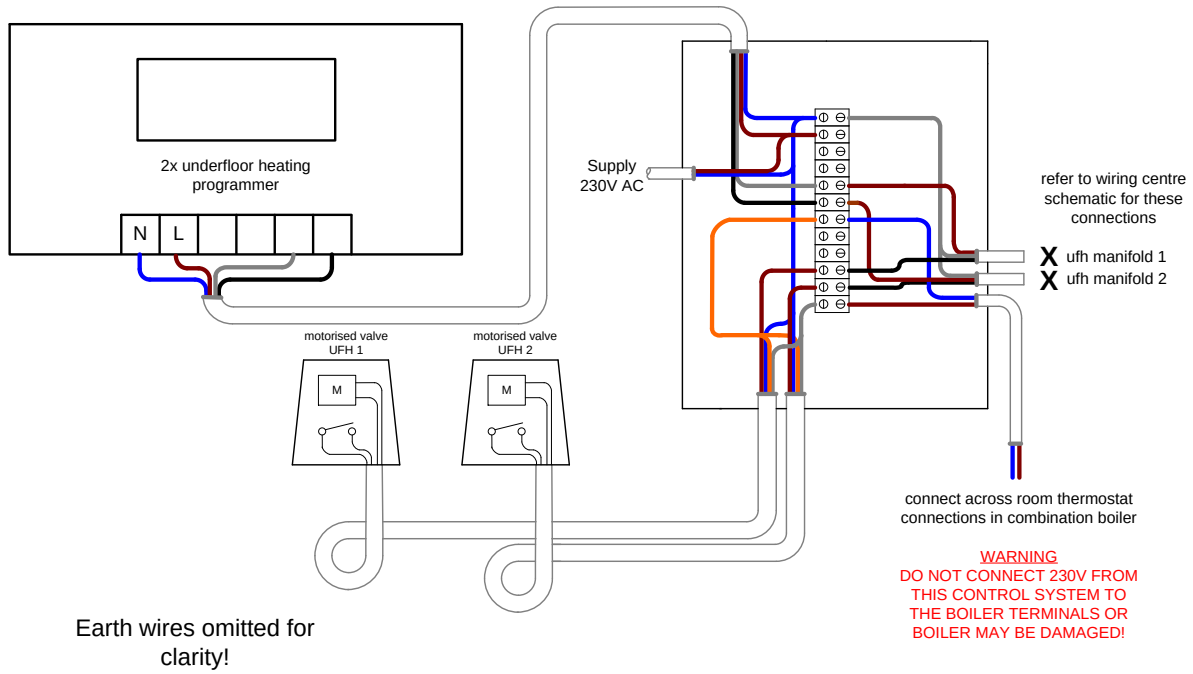
8. Electrical: COMBINATION BOILER + underfloor heating.



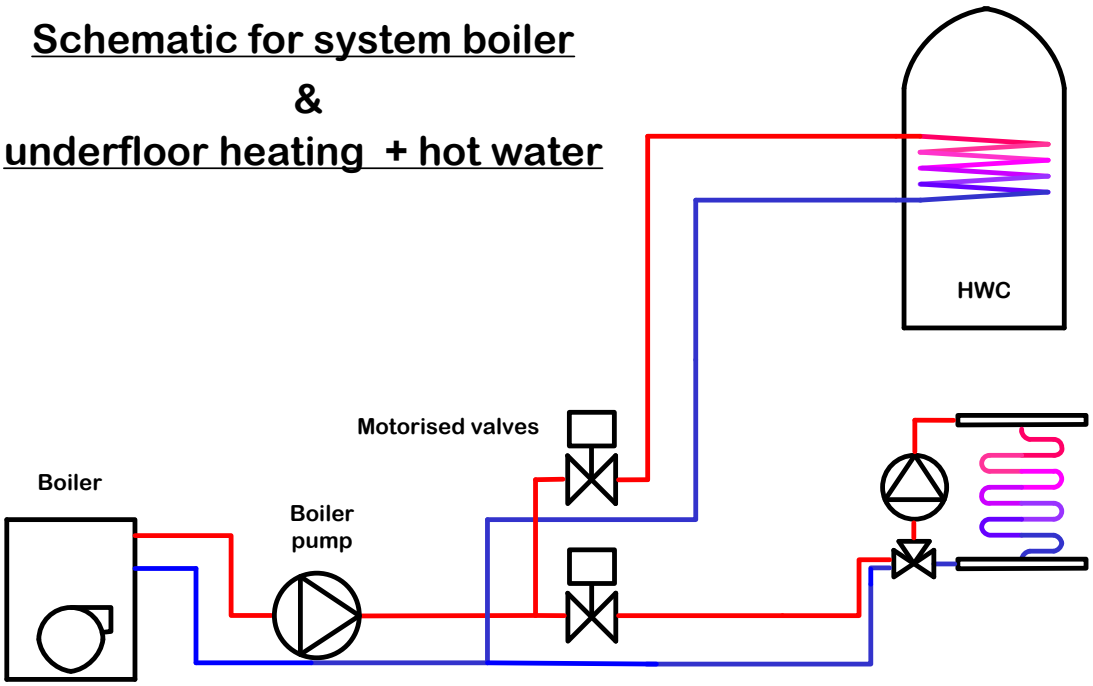
9. Electrical: COMBINATION BOILER + radiators +underfloor heating.

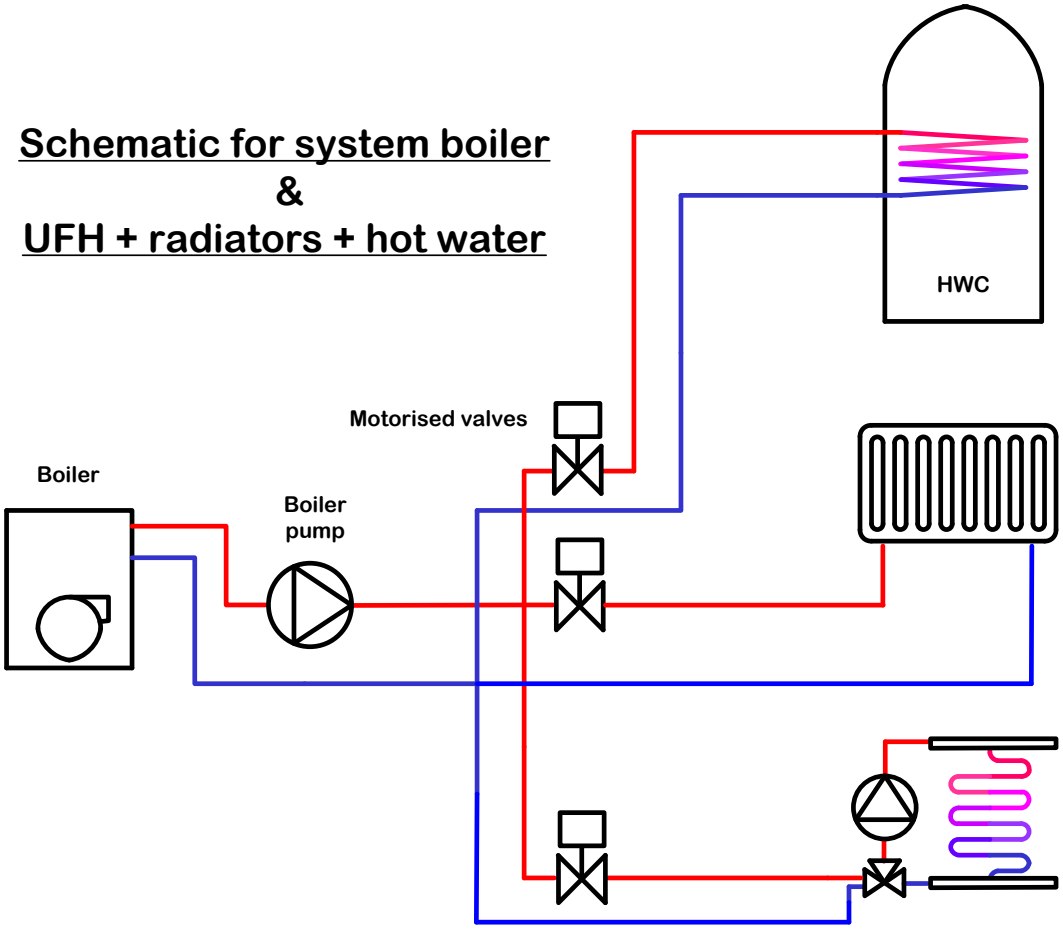


9a: Electrical: COMBINATION BOILER + 2x underfloor heating.

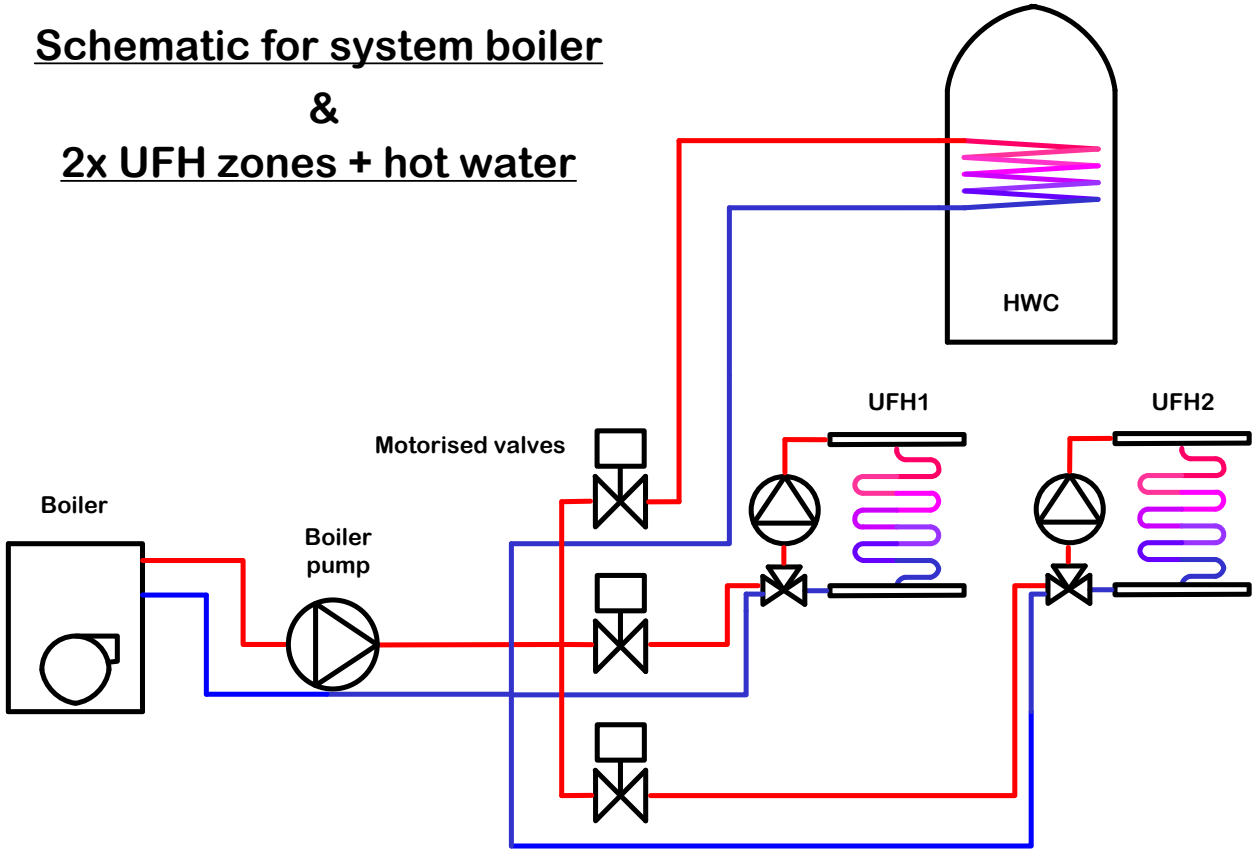


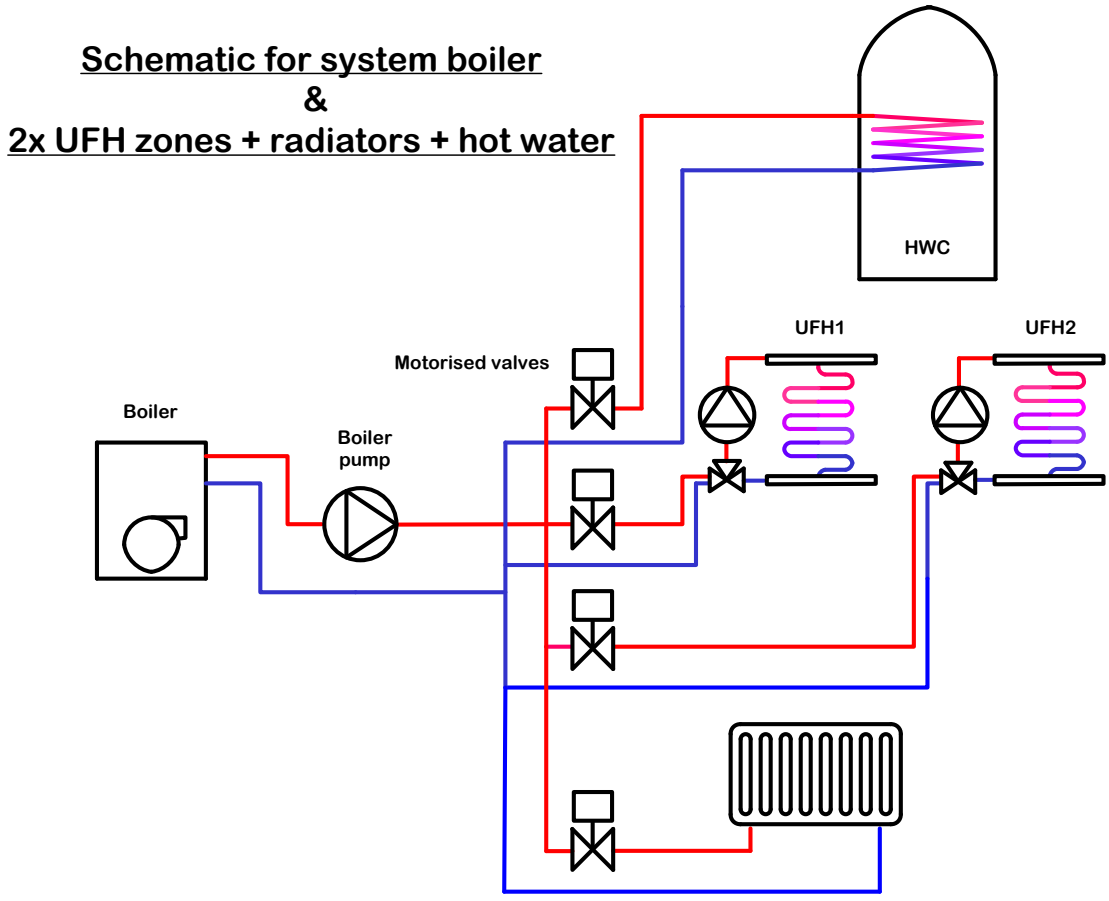
15. System schematic.





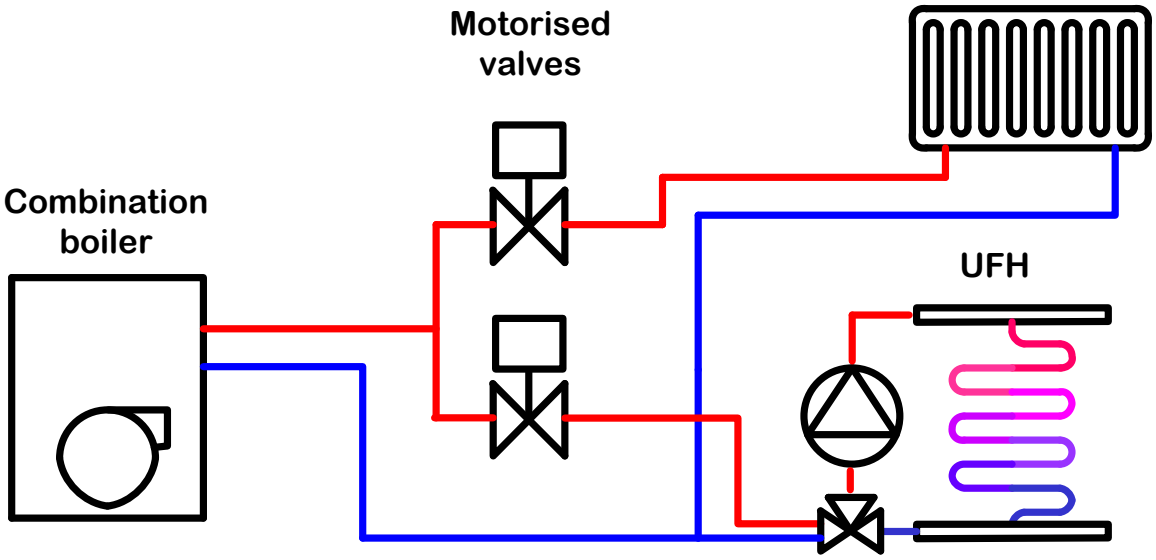
16. System schematic.



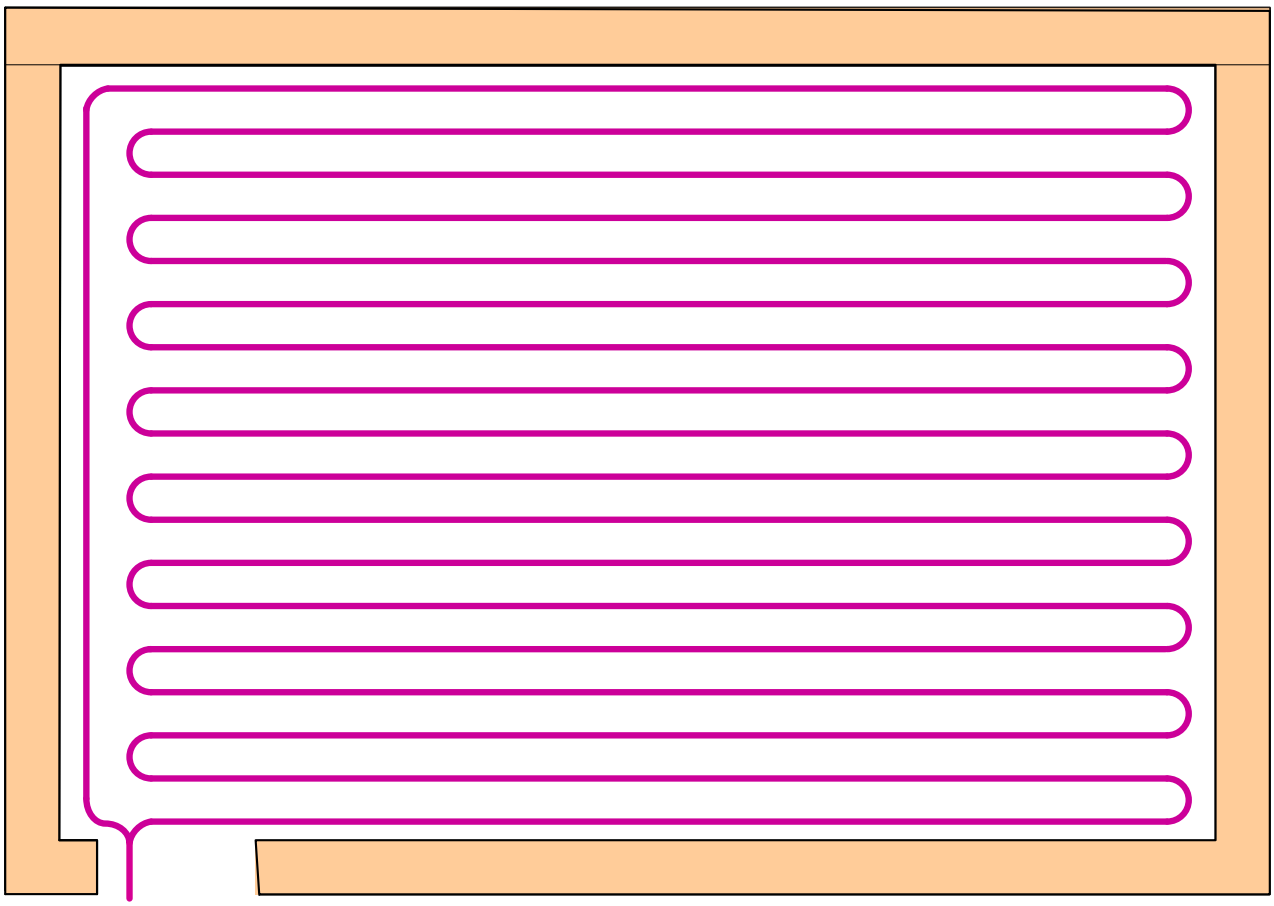


17. System schematic.

Schematic for gas combination boiler
&
underfloor heating + radiators



18. Typical pipe layout-concrete floor.



19. Typical pipe layout-two circuits in one room.