



**SOLAR 3C**  
Next Generation Heating

Version 4.1  
14/07/2014

Installation Guide Notes  
and  
Checklist

Solar 3C  
3C Jig | 3C Control Panel

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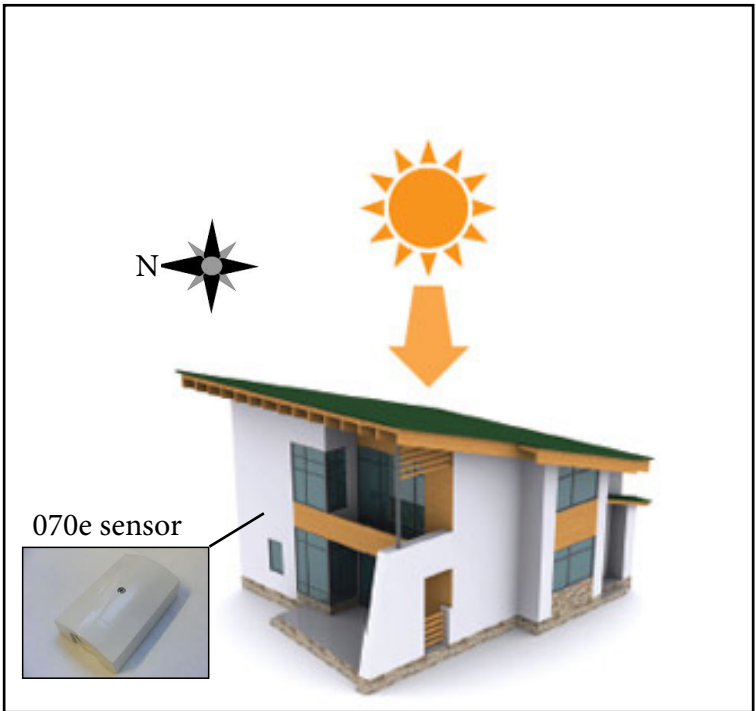
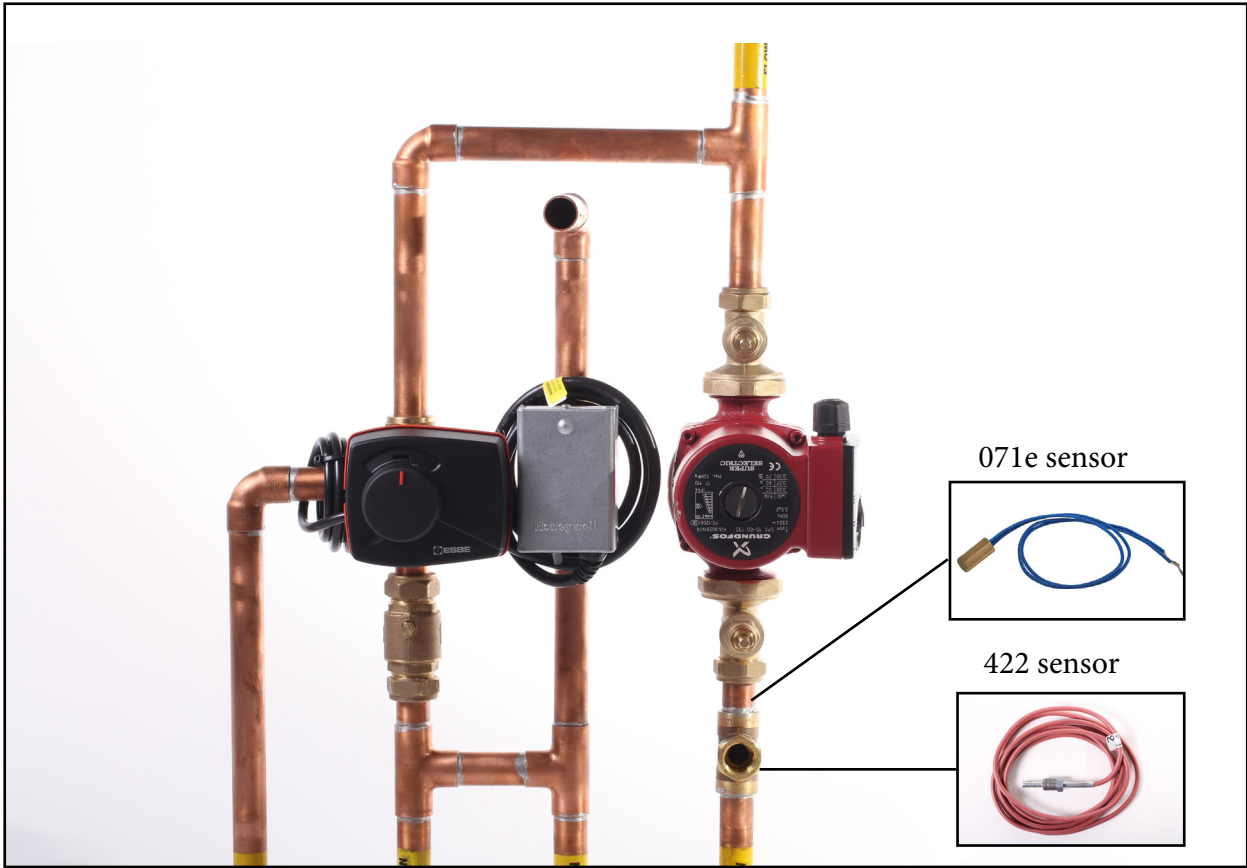
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# Installation Guide

## Notes

In principle the Solar 3C system, in particular the 3C Jig and its associated 3C Control Panel, are just a "Zone" in a standard "S-Plan" heating system. As such, we DO NOT recommend that the Solar 3C system be fitted in any other configuration, "W" or "Y-Plan" for example.

1. On 1st fix wiring, remember to wire for the outside sensor 070e on an external north facing wall.
2. Installation of the flow sensor 422 on the Solar 3C Jig will require a 1/2" - 3/8" brass bush.
3. Where possible site the Solar 3C Jig and Control Panel in the same location as the Solar 3C Cylinder to reduce the need to extend the component wiring.
4. Where possible install the Solar 3C Control Panel on a raised board to allow the wiring to enter the box at the rear. The cables must be secured in-line with IET Wiring Regulations.
5. All sensor cables must be routed separately from mains voltage (230v) wiring to prevent signal interference.
6. Check the boiler manufacturer's requirements with regards to supplying the boiler fire signal. i.e. some boiler manufacturers require the signal to be supplied from the boiler through the volt-free contacts on the Solar 3C Control Panel (terminals 3 and 4).
7. In most cases we recommend that the space heating controls for the circuit to be run through the Solar 3C Jig, to be supplied electrically from the Solar 3C Control Panel. In this case, link terminal 2 to the N terminal in the Solar 3C Control Panel. If the space heating is already supplied by a different electrical circuit then terminal 2 MUST be supplied from that circuit to prevent a "crossed or borrowed" neutral.
8. We recommend that the Solar 3C Control Panel is wired through it's own 3mm DP switch to allow for safe isolation. A separate isolator may be required by the Control Panel if the boiler provides the signal supply to terminal 3 inside the Solar 3C Control Panel.



# Installation Check List

- Wiring and connection of external sensor '070e' on external north facing wall
- Connection of flow sensor '071e' on the Solar 3C Jig just below the Solar 3C Jig pump
- Connection of cylinder sensor '522' in the pocket in top third of the Solar 3C Cylinder
- Connection of flow sensor '422' on the Solar 3C Jig
- Correct alignment and connection of the Solar 3C mixing valve on the Solar 3C Jig (See included alignment guide if required)
- Wiring and connection of the Solar 3C zone valve on the Solar 3C Jig
- Wiring and connection of the Solar 3C pump on the Solar 3C Jig
- Wiring and connection of supplied DHW thermostat in the pocket in the middle of the Solar 3C Cylinder
- Wiring and connection of supplied DHW 2-Port zone valve
- Wiring and connection of a 3A supply via a 3mm gap DP isolation switch for the Solar 3C Control Panel
- Wiring and connection of the boiler 'fire' signal wiring in accordance with boiler manufacturer's requirements (may require a separate isolation switch)
- Wiring and connection of the 'heating demand' signal from the space heating controls. Please refer to manufacturers instructions in the case of underfloor heating.
- Correct setting on the Kanmor controller on the Solar 3C Control Panel for the required space heating design 'heat-curve'. Factory default setting is for screeded underfloor heating (setting 1). Please see included Kanmor instructions for alternative space heating 'heat-curves', e.g. radiators
- On initial start up with a demand for heat from the space heating, check the Solar 3C pump is running and no error messages are displayed on the Solar 3C Control Panel Kanmor controller. Refer to the Kanmor instructions to check for reasonable outside temperatures and water flow temperatures. There will be approximately a seven minute delay before a 'DEM' demand symbol is displayed on the Kanmor this is to allow the Solar 3C Cylinder to provide the flow temperature. If there is sufficient temperature in the Cylinder then the Solar 3C zone valve on the Solar 3C Jig will be open. After the initial seven minute period the Kanmor will try to refine the flow temperature by small movements in the Solar 3C mixing valve.

# Solar 3C Control Panel wiring diagram

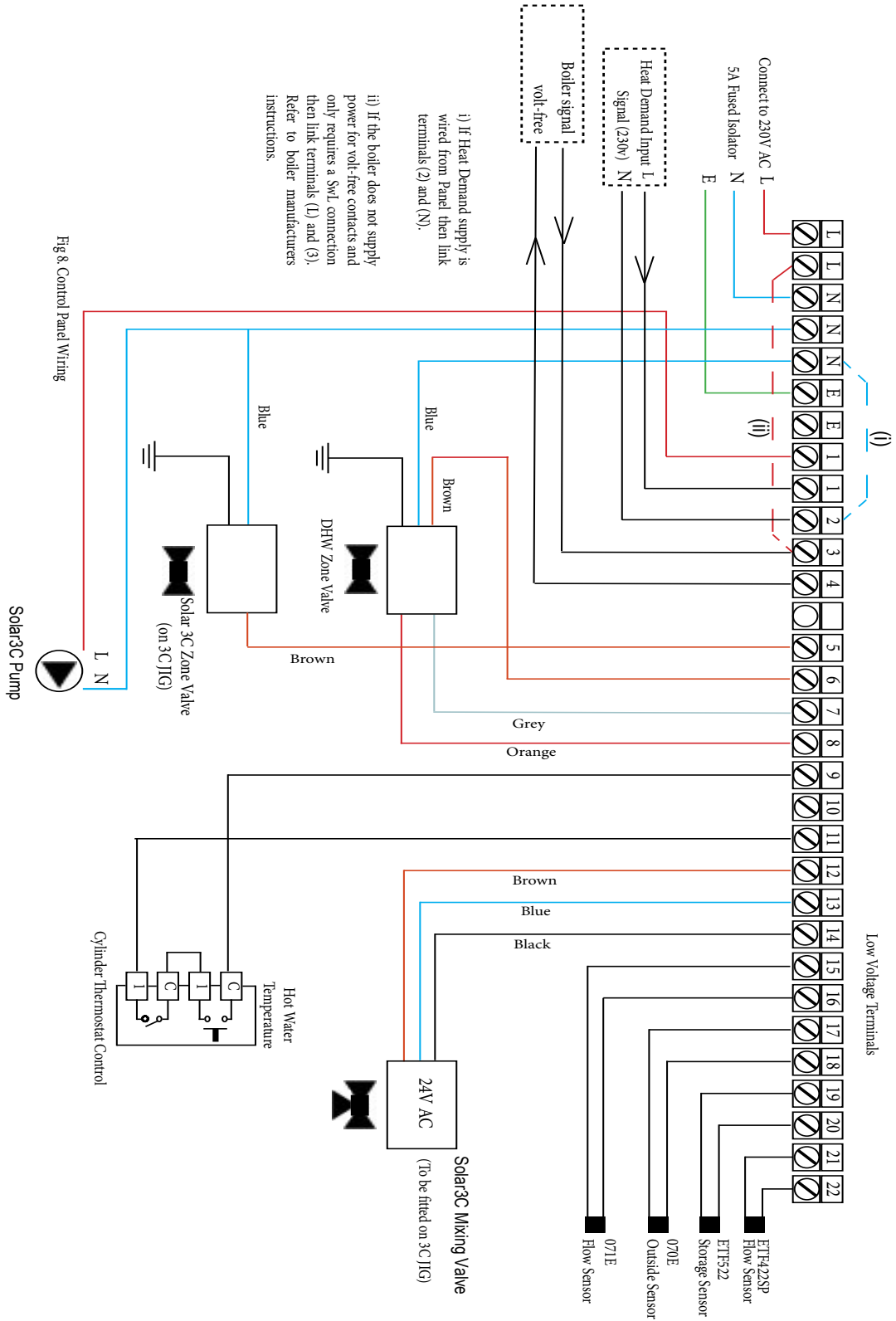


Fig.8 Control Panel Wiring

For illustration purposes only.

## Heating Commissioning

1. Ensure all commissioning requirements outlined in the cylinder installation guide are met. In the case of the Solar 3C Cylinder (section 9 in section A of the manual).
2. Ensure all pipe work to the Solar 3C Jig is configured correctly (section 3 in section B of the manual).
3. Ensure the Solar 3C mixing valve is in the factory position by lining up the white collar with the white dot on the valve flange.
4. Ensure the Solar 3C actuator head is correctly installed onto the mixing valve by pushing in the dial until no orange band is showing between the dial and the body of the actuator. If the actuator has not been energised then the indicator line should be at the '12 o'clock' position.
5. Ensure all electrical connections are correct and connections are secure.
6. Switch on supply to the Solar 3C Control Panel.
7. If the power had already been supplied to the mixing valve before commissioning, then ensure the dial on the actuator is pushed right in at whatever position - the controls will realign the Solar 3C mixing valve.
8. Check the outside temperature sensor (070e) is installed correctly by verifying the outside temperature on the Kanmor control panel.
9. Check flow sensor (071e) is installed correctly by verifying flow temperature on the Kanmor control panel (press item button once).
10. Check correct connection of the heat demand by switching on the 'call' of the space heating controls. The 'DEM' symbol should appear on the Kanmor control panel. There will be a delay of up to seven minutes before the DEM symbol appears to allow the Solar 3C Cylinder to provide the heat.
11. Check the Solar 3C pump is now running.
12. With a cold cylinder you should get a demand from the boiler indicated by the boiler symbol appearing in the Kanmor control panel after the initial seven minute delay.
13. After an initial balancing period, the 'mix supply' temperature should be close to the 'mix target' temperature. Press the 'item' button on the Kanmor panel to verify these readings. Refer to Kanmor instructions included in Solar 3C pack.