

Technical Bulletin

Installation Advice: Miscellaneous Greenstar CDi Classic Wiring

Whilst in most boiler installations the electrical connections are installed correctly, we have identified some of the most common faults, and compiled them as follows:

All Greenstar CDi appliances

- All appliances require a permanent 3A fused live supply; with external controls being wired from the boiler's **L_s** & **N_s** terminals, and not from a separate power source (see Fig. 3).
- Link for terminal 8-9 on connector ST8 must not be removed.
- Should the circuit board be replaced, spare control boards are not supplied with connector ST8 and this must be transferred from the original control box, otherwise the boiler will show fault code **d3**
- In some cases for pre-ErP CDi appliances, the PCB control box will require upgrading to an SMPS PCB instead of using the (older) transformer PCB. Worcester provide conversion kit part numbers for use with these appliances. The kit contains a replacement harness. This must be fitted as the SMPS PCB is not compatible with the harness used on earlier appliances:

SMPS Conversion kits	
Greenstar CDi Highflow	8-748-300-751-0
Greenstar FS CDi	8-748-300-750-0
Greenstar CDi Combi FD<788	8-748-300-836-0
Greenstar CDi System FD<788	
Greenstar CDi Combi FD>789	8-748-300-837-0
Greenstar CDi System FD>789	
Greenstar CDi Regular FD<788	8-748-300-837-0
Greenstar CDi Regular FD>789	

- The appliances are not compatible with Open Therm external control signals.

Greenstar CDi Regular boiler Pump Control

External pumps **must** be wired to the boiler control circuit. This must be connected to **L_Z** & **N_Z** Connections on the circuit board **L_P** & **N_P** **should not be used**. This allows the boiler to control the pump-overrun feature provided by the PCB.

When connecting to ST2, ensure that the polarity of the live & neutral connections is as per the boiler installation instructions as removal/re-fitting of this plug during installation may result in incorrect polarity.

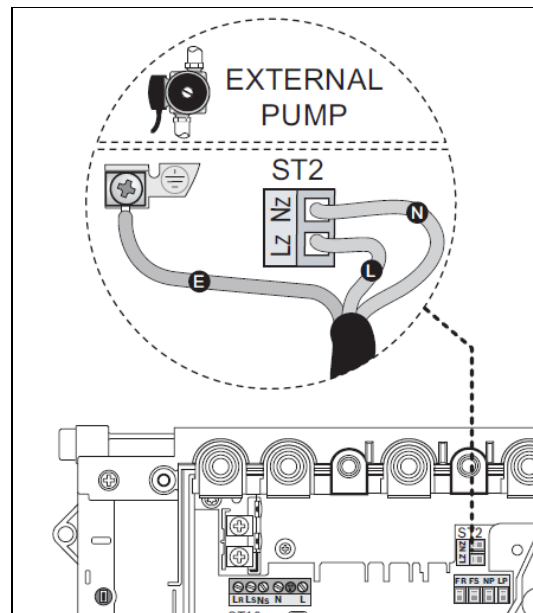


Fig. 1) Greenstar CDi Regular External Pump connection

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Greenstar CDi Combi Outdoor Weather Sensor

Connections **A & F** on the PCB connector ST19 are only for use with the Worcester Outdoor Weather Sensor device and associated control unit (FW100 or Sense II control). If the control unit is wall-mounted away from the appliance, these must be connected to **B & B** (also on ST19). **Connections 1, 2, 4 should never be used.**

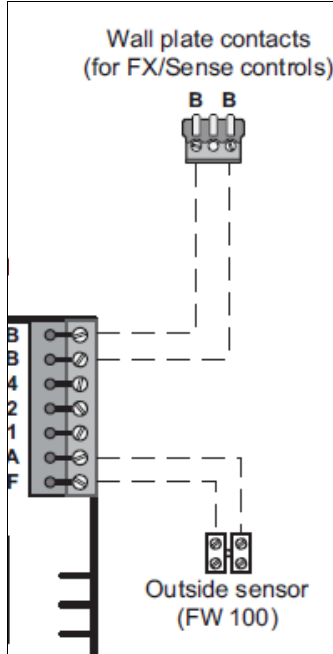


Fig. 2) Greenstar CDi Combi Outdoor Weather controls connection

Greenstar CDi System boiler (no integral valve kit) Demand

When a Greenstar CDi System boiler leaves the factory, it will only recognise a demand from a 230V External control unit wired to demand connector block ST10, terminal **L_R**. No other input signals are compatible.

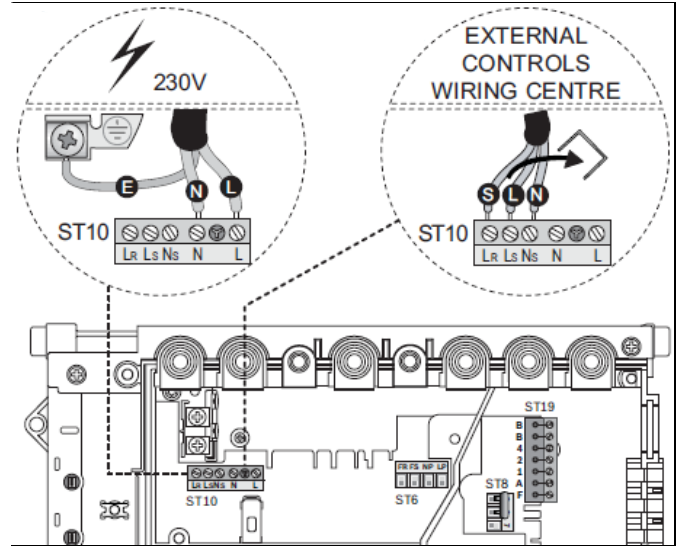


Fig. 3) Greenstar CDi System Demand connection

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Greenstar CDi System boiler with Optional Integral diverter

The code plug supplied with the conversion kit **must** be used. If not, external hot water demands will not be recognised.

The cylinder sensor supplied with the conversion kit should be used as a preference because it provides the best control of the cylinder temperature. The sensor connects to the edge of the control board at ST15. If an external **volt-free** cylinder thermostat is used in place of the sensor, it must be connected across terminals **7-9** of connector ST8. Link 8-9 should remain connected (see Fig. 4). **Never** connect both Cylinder sensor and external thermostat devices.

The control unit will automatically recognise the first connected device and no other device thereafter. If the wrong connection is made, a factory reset must be performed to enable the control unit to look for both inputs again. Instructions for a factory reset can be found at the end of this document.

Note that when using an external cylinder thermostat wired in to ST8, the hot water temperature control on the boiler will be inactive; the hot water temperature must be set on the external cylinder thermostat.

The high limit thermostat on the cylinder **must** safely isolate the cylinder from the heat source if it is activated. This can be achieved either with a 2 port spring return zone valve on the flow pipe to the cylinder or by wiring the power supply to the boiler through the high limit thermostat. Consider *Technical Bulletin 0052a* for more information.

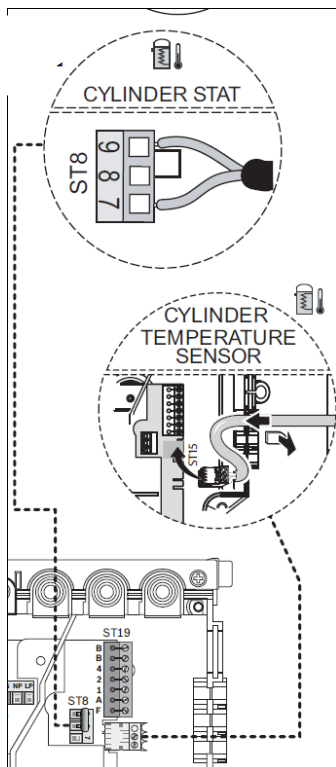


Fig. 4) Greenstar CDi System DHW control connections

Greenstar CDi PCB Factory Reset

A Factory Reset will return all boiler settings to their factory default. Further details can be found in the appliance Engineer Service Booklet.

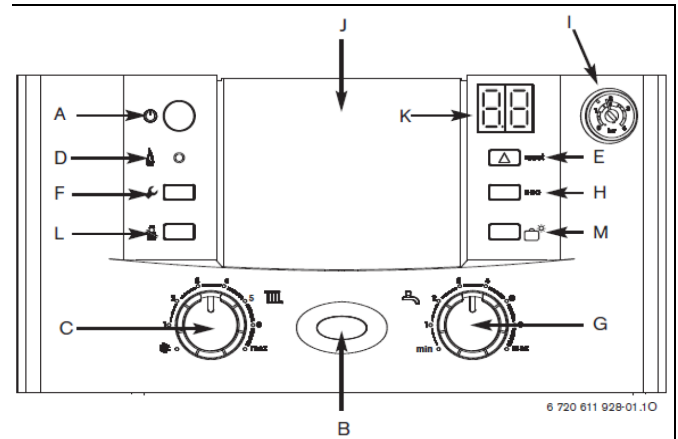


Fig. 5) Example Greenstar CDi fascia

- Press & hold the spanner button (F) for 10 seconds (display showing dash indicates registered button press) until spanner button lights orange and then release. Display shows **1A**
- Press & hold the Eco (H) and Holiday (M) buttons simultaneously for approximately 3 seconds until display shows **8A**
- Press Eco (scroll "up") or Holiday (scroll "down") through the 8 menu until **8E** is displayed
- Press and release the chimney sweep (L) button, display will show **00**
- Press & hold the chimney sweep button for approximately 3 seconds to store this setting and complete the reset
- All fascia lights will flash and the boiler will start the initial programs ran at installation i.e. siphon fill program

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