

Technical Bulletin

Installation: Greenstar Danesmoor ErP appliances

SHORT CYCLING

Important! Our installation manuals state that provision should be made to prevent short cycling of the burner. Burner run times should exceed 2 minutes as often as possible during normal operation. Failure to ensure this can lead to heavily sooted up boilers which can result in severe appliance damage.

Where it is found that heavy sooting or appliance damage has been caused due to lack of such provision, then the appliance guarantee may be affected.

Due to the fact that our oil boilers are of a fixed output, they cannot modulate to match the system load, so as load decreases, the boilers will begin to cycle. It is important that they must not frequently short cycle.

Constant short cycling of oil burning appliances will lead to sooting up of the appliance.

Heating systems with controls that can significantly reduce the load for long periods of time such as multizone systems or systems that incorporate thermostatic Radiator Valves (TRV's) throughout, must incorporate a means of reducing short cycling.

This can be achieved in several ways such as increasing system volume by including a thermal store or buffer vessel, or electrically by installing a time delay relay.

This Technical Bulletin provides instructions for installing a suitable time delay relay. The relay must have a 230v coil and contacts with a minimum 5a rating. Due to the cost and space constraints of additional hydraulic components, this is often the most acceptable means of preventing short cycling

Before carrying out any work, you must:

- Ensure the appliance is safely isolated from the electrical supply.
- Remove the cover from the boiler control box. Familiarise yourself with the control box layout and decide where the relay can be securely and safely mounted within the control box.
- Some wires may need to be extended. You must ensure cables are correctly sized to carry the load, and that suitable connectors (e.g. Wago) are used to connect the wires.

Installation process.

- Find a suitable mounting location for the relay. A relay mounting base should be used to provide a secure mounting.
- Identify the wire from the boiler control stat to the burner.
- Cut the wire in a suitable location and prepare the ends to either connect into the relay or to extend if required.
- Connect the wire from the boiler control stat into the coil input of the relay (A1), and link to the common switch terminal. (15)
- Connect a wire from the relay neutral into the neutral terminal of the control box.
- Connect the timed, switched, normally open output (18) from the relay to the burner.
- Set the relay timer for 8 minutes delay.
- Re-establish power and create a demand.
- Test operation of the boiler control stat and ensure the burner is delayed for at least 8 on initial and subsequent demands.
- Check that subsequent burner demands last for at least 2 minutes, especially once the system is up to temperature.
- In all cases, ensure other wiring is not disturbed

As an example: Fig 1 shows the required connections when using RS Time delay relay RE17RAMU.

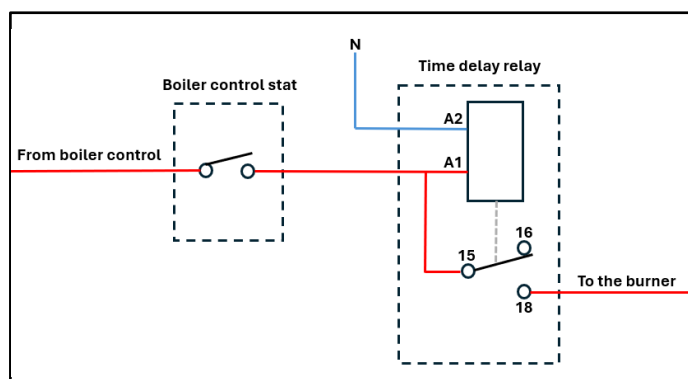


Fig 1

RE17RAMU RS stock number 791-2711

Relay mounting base RS stock number 188-2162

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