TC3 Thyristor Controlled Electric Air Heaters.

Specifically designed to act as pre or re-heaters in small branch ducts from a main AHU or on systems where the supply fan is controlled from elsewhere. The TC3 thyristor controller is designed for use with heaters up to and including 3kW single phase. There is no fan run-on timer so the heater relies on a volt-free or 230V start signal and stays off until airflow is detected by the combined DTFS airflow and temperature sensor.

Similar to other NEATAFAN in-built thyristor controllers the TC3 has a temperature set-point control on the front facia and Indicator lamps to show the status. The heater units come with a pre-wired high temperature manual reset cut-out, a pre-wired duct mount combined DTFS airflow proving and temperature sensor on a 1.8 metre fixed lead. This should be mounted a minimum of 1M after the heater in the supply air duct.

Designed for simple installation into standard spiral ductwork systems the heater operates automatically via the dictate of the temperature setting and duct mounted temperature sensor to pulse the heater on and off to maintain a constant supply air temperature. The temperature set-point is adjustable 0-40 degrees C.

The unit is available in duties from 0.5 to 3kw.

For Installation please see the Electric Heaters – TC3 Installation Instructions.

INDICATOR LAMPS and OPERATION

POWER - YELLOW

AIRFLOW FAILED - RED

HEATER HEALTHY - GREEN

HEATER ON - RED

With the unit powered but not yet enabled via the volt-free ON/OFF or 230V RUN terminals, the yellow POWER lamp and the green HEATER HEALTHY lamp will be lit. (If the green HEATER HEALTHY lamp is not lit then the high temperature manual reset cut-out has tripped and should be reset.) The red AIRFLOW FAILED lamp will also be lit if the supply air fan is not running.

Under normal working conditions with the volt-free ON/OFF or 230V RUN terminals connected, the unit will display both the green and yellow lamps with the red HEATER ON lamp either on or pulsing according to the heat demand.

If the red AIRFLOW FAILED lamp is lit, there is either Insufficient airflow or the combined DTFS sensor has not been fixed into the ductwork correctly. There is an Air-flow direction Indicator arrow on the DTFS and the unit will only operate when this is correctly installed.

ELECTRIC HEATERS – TC3
Installation Instructions

CIRCULAR ELECTRIC AIR HEATERS COMPLETE WITH CONTROLS
Unpack the heater taking care to ensure items and paperwork are removed from the centre of the heater duct.
The terminal box may also contain wiring instructions. If you are only installing the heater in the air duct, leave these instructions for the electrician!

The heater can be installed into an ISO standard spiral duct run, with either horizontal or vertical flow. With vertical ducts consideration must be given to items in the run above the heater which could be damaged by heat rising when the fan is switched off. All heaters should be kept away from plastic conduits or materials easily damaged by heat. Allow for casing temperature of 100°C (ideal minimum air velocity = 2m/s).
These heaters must not be installed outside unprotected or in areas that are washed down!

To install the heater, measure between the swaged rings and cut the spiral to suit. Use high temperature sealant and pop rivets to fix. Do not use flexible connectors directly onto the heater. The best position for the terminal box is on the side of a horizontal duct. Ensure access to the terminal box is possible! Make sure lagging etc. does not cover the terminal box.

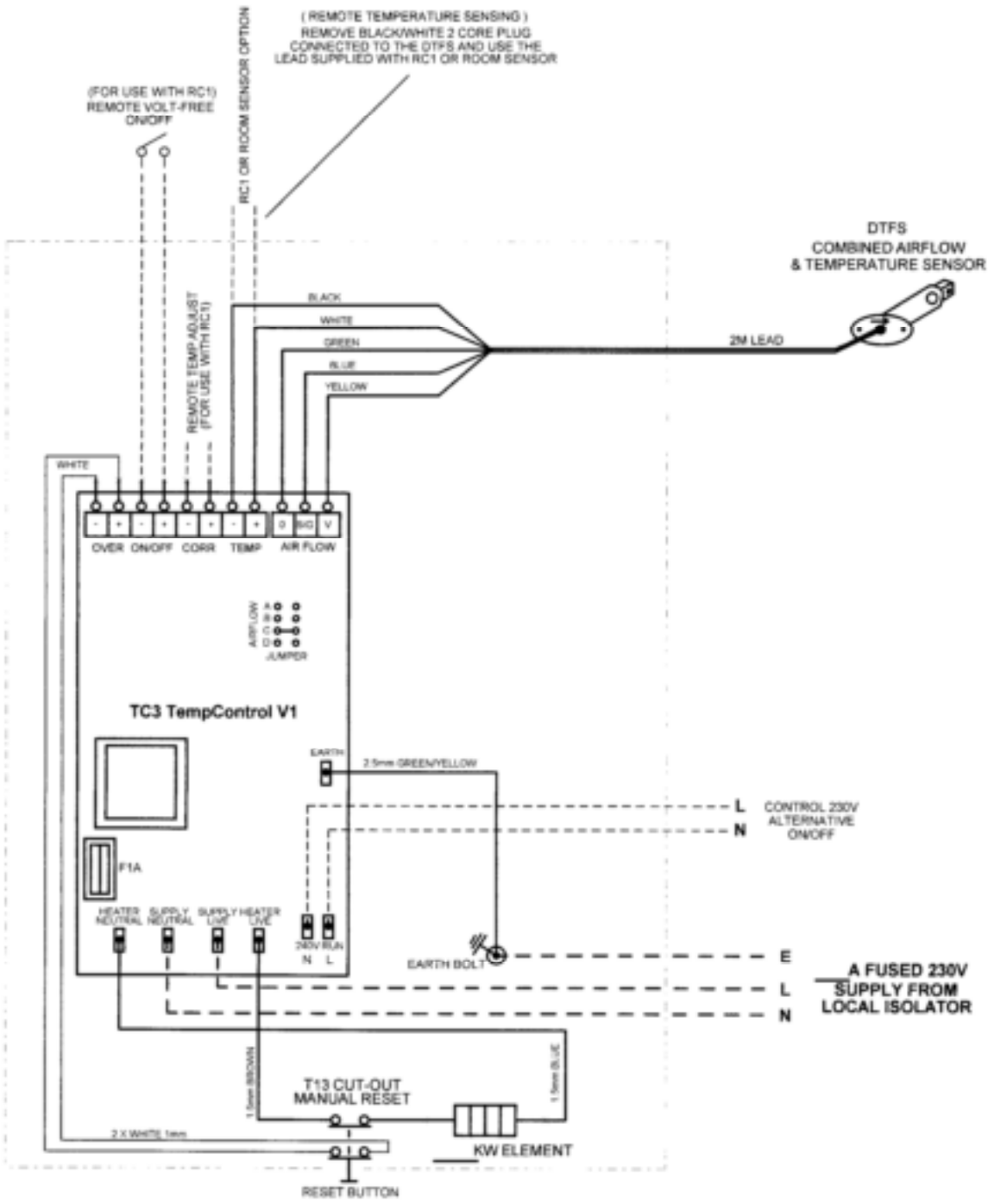
A DTFS combined temperature and airflow sensor will be found attached to a coiled lead. This should be mounted in the duct 1.5 to 2m downstream from the heater where the sensor cannot be damaged by heat. A 20mm holesaw and 2 PK fixing screws will be required.

IMPORTANT
The DTFS has an Airflow direction arrow, and will only operate if installed with the arrow pointing in the direction of airflow.

WIRING
All wiring must be carried out by a qualified electrician in compliance with the latest regulations.
These units are internally pre-wired and require only a suitable supply feed connection to operate (see rating label).
See wiring diagram for connection details.

SAFETY
Every system should have an isolator switch which can be locked in the off position to prevent accidental reconnection during maintenance. When resetting the thermal cutout, the heater may suddenly switch on and element terminals, etc. will become live.

Ensure the heater is correctly earth bonded. Terminal covers must be secured after inspection and should be labelled “DISCONNECT SUPPLY BEFORE REMOVING THIS COVER”. It is the installer’s responsibility to ensure the installation meets all current Health & Safety Regulations.



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