

TRENCH HEATING LIMITED

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NATURAL CONVECTION ELECTRIC- WIRING/INSTALLATION INSTRUCTIONS

Natural Convection ready to install in- floor units with electric heating element.

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Explanation of symbols:



Caution: Danger

The non-observance of this information can result in serious injury to persons or property.



Danger of electrocution

The non-observance of this information can result in serious damage to persons or property from electrical power.

Read this manual carefully prior to assembly and installation work.

All persons involved in the installation, commissioning and use of this product are obliged to pass this manual on to all persons working simultaneously or subsequently on the equipment, including the end user. Retain this manual until the equipment is ultimately decommissioned.

We reserve the right to make changes to the content or design without prior notification.

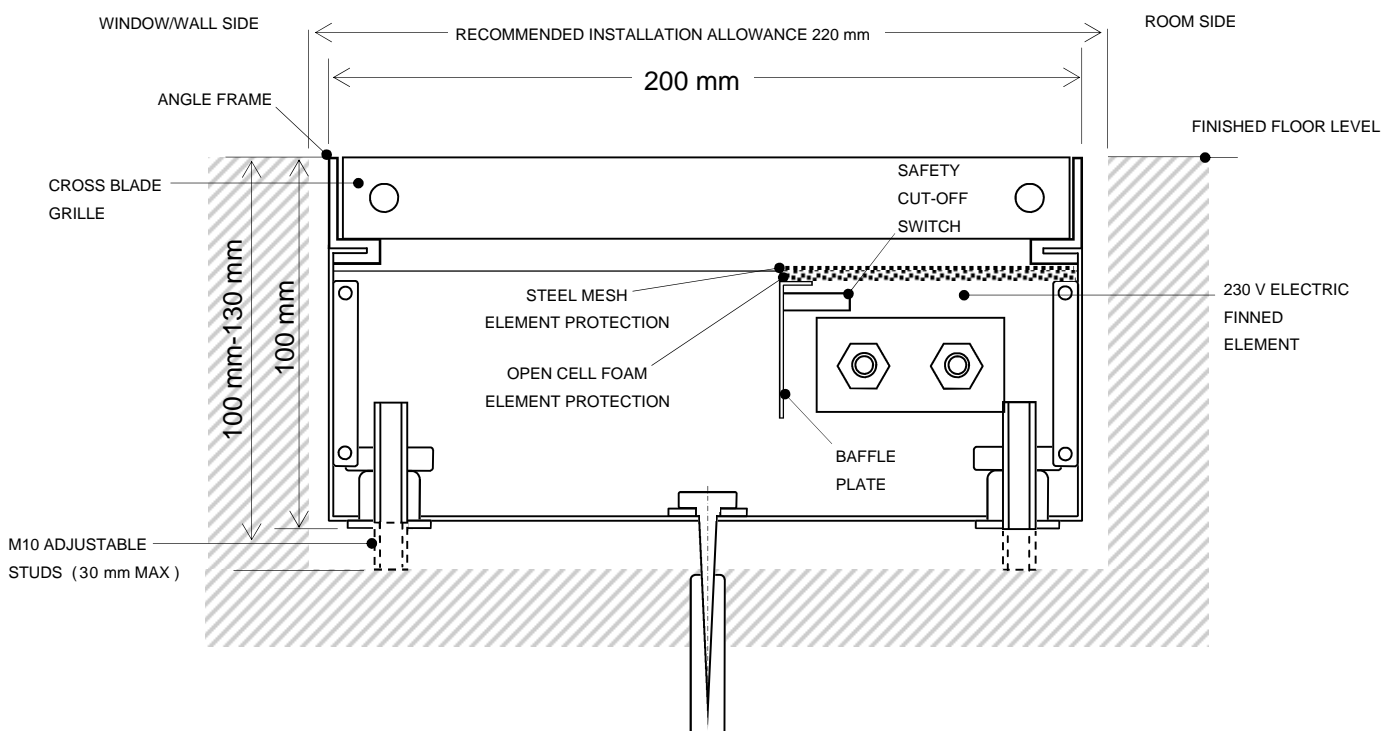


1. Correct and proper use

NATURAL CONVECTION ELECTRIC units are manufactured in accordance with state-of-the-art and recognised safety regulations. Personal danger or damage to the equipment or other property can nevertheless be caused if the units are not installed, commissioned and used correctly and properly.

NATURAL CONVECTION ELECTRIC units should only be used indoors (for example in residential and office buildings, salesrooms etc). They cannot be used in damp areas, such as swimming pools or outdoors. The products should be protected from moisture during installation. In case of doubt discuss the proposed use with the manufacturer. Any damage resulting from improper use is the sole responsibility of the user/operator of the equipment. Correct and proper use will also be deemed to include observance of all information regarding safety, operation and maintenance/servicing, contained in this manual.

The installation and electrical wiring of these products require specialist knowledge in the field of heating, cooling, ventilation and electrical engineering. This knowledge is generally taught as part of a vocational training course in the aforementioned fields and so is not described separately here. Damage resulting from improper installation is the sole responsibility of the operator.



TYPE: ET2 100 mm High x 200 mm Wide



2. Safety information

Installation, assembly and maintenance of electrical equipment should only be conducted by a qualified electrician. Wiring should comply with current BS7671: 2008 amended 2011.

Non observance of these guidelines and the operating manual can lead to malfunctions with subsequent damage to the equipment and risk personal injury. Incorrect wiring can result in fatal injury owing to crossed wires!

Prior to all wiring and maintenance work, all parts of the system have to be made voltage-free and prevented from being reconnected accidentally! The installer of this unit should have adequate knowledge about:

- Safety and accident prevention regulations
- Guidelines and recognised technical regulations e.g E.N standards-EN 60730 (Part 1)

3. NATURAL CONVECTION ELECTRIC units are supplied as standard with:

Height adjustment feet, with rubber bases. Grille removal tool. Fixings.

4. Alignment and Fixing

Remove the blind grommets in the base of the heater. These are the floor fixing points. Position the TRENCH HEATER in the trench and adjust the height using the height adjustment feet. Mark through the fixing holes where the fixing holes are to be drilled. Remove the Heater and drill the fixing holes. Insert the drop in anchor into the holes. Replace the Trench Heater and fix in place. Tighten nuts on Adjustable Feet.

Ensure that the installation manual is visible on the unit for the subsequent trades. Cover the grille and the TRENCH HEATER unit to protect it from dirt or cement.

5. Screeding

Prior to commencing screeding, check whether

- the electrical connection has been made correctly
- the TRENCH HEATER is aligned correctly in terms of height and distance to the window
- the grille has been covered (Caution! Cement can destroy the surface of the grille!),
- sound insulation (not with raised floors) has been fitted under the units where specified.
- ensure rubber/felt feet pads are in place
- there are no sound bridges to the concrete slab, especially around the height adjustment feet
- all openings in the TRENCH HEATER have been sealed with suitable material against the ingress of screed

CAUTION

- the TRENCH HEATER units should not be used as form work for final floor finish. Installation drawings show a recommended working space allowance for best practice.

6. Fitting grilles

Grilles should be handled with care when removing and re-fitting into unit.



7. Wiring

7.1 Safety Information

The installation and electrical wiring of this product requires specialist knowledge in the field of heating, cooling, ventilation and electrical engineering. This knowledge is generally taught as part of a vocational training course in the aforementioned fields and so is not described separately here.

The installer of this unit should have adequate knowledge about

- Safety and accident prevention regulations
- Guidelines and recognised technical
- EN standards
- Accident prevention directives
- EN 60730 (Part 1)

It is mandatory that the following safety-related information is adhered to prior to working on the controller and the units:

Disconnect the unit from the mains power supply and ensure that it cannot be reconnected accidentally.

Wire the unit in accordance with the wiring diagrams supplied.

Wiring should comply with BS 7671: 2008 amended 2011.

The unit should only be wired to fixed cables.

Modifications to the units:

Do not undertake any modifications, conversions or additions to the units without consulting the manufacturer, as this would impair the safety and operation of the equipment.

Incorrect wiring or modifications to the unit can result in damage to the units. The manufacturer cannot be held liable for the damage caused by incorrect wiring and/or incorrect installation and operations.

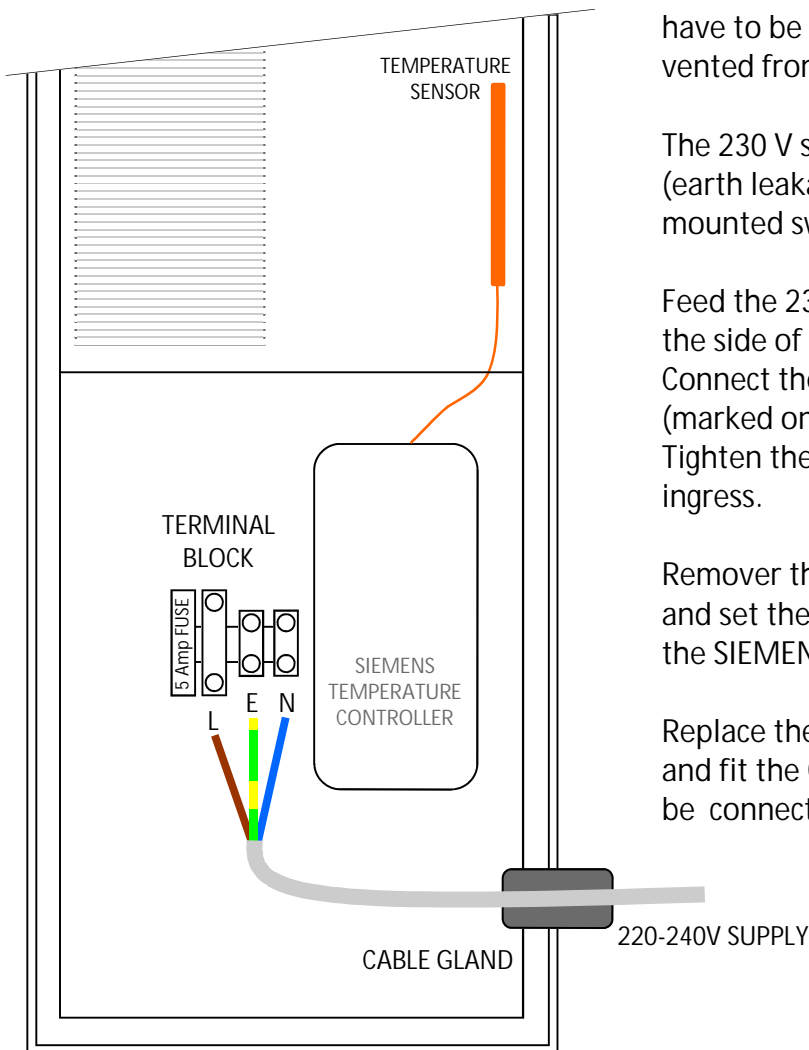
Disregard of the regulations and information contained in the operating manual can cause malfunction of the unit with possible damage to the unit and risk of possible injury. Incorrect wiring and crossed wires can cause fatal injury!

Please see the next page for wiring connection details.

7.2 Wiring instructions: 220-240 V supply connection



- Remove grille from Heater.
- Unscrew the 2 screws holding the black protection cover.
- Lift protection cover 5-10 cm and push 1 cm towards end of Heater.
- This will release the end of the cover and it can be lifted out of the heater.



Prior to all wiring, all parts of the system have to be made voltage free and prevented from being reconnected accidentally.

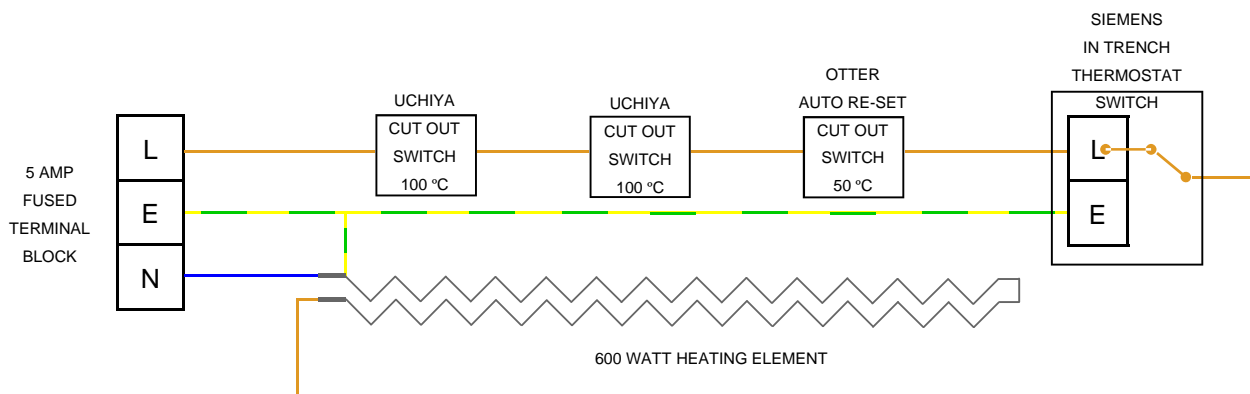
The 230 V supply must be wired from a RCD (earth leakage circuit breaker) and a Wall mounted switched supply.

Feed the 230 V cables through the gland in the side of the TRENCH HEATER. Connect the Live, Earth and Neutral (marked on the MASTER Terminal block). Tighten the Gland to ensure no moisture ingress.

Remove the SIEMENS Thermostat cover and set the required temperature, replace the SIEMENS cover.

Replace the black protection cover. FIG: 1 and fit the Grille in place. The Unit can now be connected to the power supply.

INTERNAL WIRING DIAGRAM



7.3 SIEMENS RAK-TR. 1000S-H

Refer to SIEMENS RAK-T. 1000S-H Instruction/data sheet

7.4 Safety Cut-out Switches

The NATURAL CONVECTION TRENCH HEATER element has 3 Safety cut-out switches. The first switch (Re-set switch) will cut power to the Electric Element If it senses an unusual rise in temperature, that would occur in the event of material being placed over the heater and blocking the air flow. This switch will cut the power as the temperature rises and restart the unit when the temperature has lowered significantly. The other two switches will cut power to the Electric Heater if the temperature rises beyond the cut-off temperature of the first Re-set switch. The unit will not re-start and a fully qualified electrician must be called to investigate if the reason for excessive heat is not obvious. After investigation by a qualified electrician and having identified and resolved the problem the unit can be re-started by disconnecting power to it and then re-connecting power to it.

7.5 NATURAL CONVECTION TRENCH HEATER Electrical Ratings

Rated voltage 220-240 volts
Rated frequency 50 Hz
Rated power input 650 watts at 230 volts

8 TEST CERTIFICATION

IEC 60335-2-30 (Fifth Edition): 2009 in conjunction with IEC 60335-1: 2010 (Fifth Edition).
EN 60335-2-30: 2009 + A11: 2012 in conjunction with EN 60335-1: 2012