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Electrical Duct Heaters Type EL-G



User's Guide



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RECEIVING THE GOODS

Inspect carefully for transport damage. Visible damage or deficiency should be notified to the carrier immediately and noted on the freight bill.

The carrier's representative should confirm the note with his signature. Damage which is not visible on delivery should be reported to the carrier as quickly as possible and within seven days.

LIFTING AND HANDLING

Electrical duct heaters have frames with sharp edges and should only be handled by personnel wearing gloves. The heaters should always be installed in a way that minimizes contact by unauthorized personnel. Electrical duct heaters that cannot be lifted by hand are normally equipped with lifting lugs for easy lifting. Extremely large heaters must be lifted by straps and a lifting yoke. Care should be taken to avoid damaging the unit whilst being moved into its final location. Large heaters should be laid down during storage, or at least secured against overturn.

THE CASEWORK HAS SHARP EDGES - USE GLOVES!



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INSTALLATION

Incorrect installation will reduce the capacity of the heater and operational disturbances may result if the guidelines below are not followed. Installation may only be carried out by qualified personnel. Any connection to the power system should be carried out by an authorized electrician.

- Electrical diagram is positioned inside the control box door
- Install in accordance with the airstream direction arrows mounted on the casework
- The EL-G heater should never be installed with the heating rods in the vertical position
- Heaters should be installed so that replacements and maintenance can be easily conducted
- The duct sections in which the EL-G heater is located should be insulated and securely fastened with adequate heat resistant materials. The distance to inflammable fittings should be at least 10 cm and it should never be exposed to temperatures in excess of 80°C
- Installation instructions should comply with national IEEE regulations
- When selecting fuses for EL-G heaters, ensure that the local short circuit current is sized to avoid any damage to the main supply cables. For assistance, consult local IEEE regulations
- Overheating thermostat and fire thermostats must be connected to the control current circuit
- During function tests for the thermostats, the fan should be started immediately following thermostat activation in order to remove accumulated heat and avoid high element surface temperatures
- Check the tightness of all terminal clamps following commissioning
- Ensure heating elements are only operated when the fan motor is operating
- The fan motor(s) should run at least 3 minutes following isolation of the heating elements
- Fan motor(s) should be fitted with a time delay relay to avoid tripping the overheat thermostat
- Fan motor position should be in accordance with national regulations
- Check that airflow rate is correct and is evenly distributed across all elements
- Air filters must be fitted with an indicator showing when they need cleaning/replacement
- Air filters must be positioned at least 25 cm from the heating elements to avoid ignition
- A multi-pole switch should be installed. The switch should be marked with output and voltage
- Follow our lifting instructions for large/heavy EL-G heaters.



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THERMOSTATS

Overheating thermostat (automatic). Adjustable 30 – 100°C.

Fire thermostat (with reset). Non-adjustable at 130°C.

The thermostats are mounted in the upper part of the electric connection box with reset button on the outside of the box. The thermostats are compact and comprise overheating and fire thermostats with indicating lamps as an option. The overheating and fire thermostats each have sensors mounted on the upper part of the coil. The components can only be used for control current.

Adjustments

The overheating thermostat is preset. We suggest turning it down as much as possible until the power is cut off (with max. power output on the coil), and then setting the temperature at 5 – 10°C above this point. This will make the thermostat react quickly to abnormal temperatures.

Overheating thermostat

When the temperature reaches the set temperature (adjustable between 30 – 100°C) the thermostat will cut off from terminal no. 2 to no. 3. When the temperature falls to approx. 15°C below the set point, the thermostat will automatically reset.

Fire thermostat

When the temperature reaches 130°C (preset), the thermostat will trip (terminals 5 & 6). When the temperature falls to 100°C, pressing the button on the outside of the electric connection box will reset the heater.



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MAINTENANCE INSTRUCTIONS

It is important that EL-G heaters are regularly inspected for possible damage or operational irregularities. In the event of damage, contact the supplier and/or our service department. No repair should be carried out without our prior instruction. Warm-air units and their surroundings should be kept clean at all times.

On inspection, check carefully:

- Corrosion of casework or elements
 - Dust or debris on elements
 - Burnt or damaged wiring
 - Loose terminal clamp screws
1. Corrosion damage of casework or elements can be caused by humid or corrosive atmosphere. The cause must be identified and corrected.
 2. Dust or debris on elements cannot be avoided even if the air filter is carefully cleaned. Dust will reduce the capacity. Cleaning of the elements should be conducted with compressed air, if possible in the opposite direction of the airflow. Do not clean with fluid or mechanical tools.
 3. Burnt wiring indicates abnormal operating conditions or damage to components or the system. The power should be isolated immediately (multi-poled switch) and authorized service personnel contacted.
 4. The screws securing the wiring in the terminal clamps may loosen. If this happens heat will develop and damage may occur. Regular inspection should be made to check that all screws are tight.

Cold heater

If the EL-G heater does not emit heat, check that:

1. Fuses are in order.
2. Thermostats are correctly installed and functioning.
3. The limit thermostat (fire thermostat) has not tripped or has been disconnected – manual reset is situated in the control box and can be reconnected when the sensor's temperature is below approx. 75°C. If the limit thermostat is disconnected this can be due to either unevenly distributed or reduced airflow, which could be caused by fan shut down, blocked filter or incorrect installation.

If the EL-G heater does not function or has reduced effect for any other reasons, please contact the supplier and/or our service department.



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SAFETY INSTRUCTIONS

Electrical equipment may present hazards if not handled with care.

In order to minimize the risks associated with this hazard, it is essential that our instructions be carefully followed. The EL-G heater should be installed and maintained by technically competent personnel in order to ensure a safe and reliable installation.

All installations must be completed in accordance with national regulations and our instructions before any attempt is made to turn the power on. The heater must be correctly earthed and no maintenance attempted without first switching off and isolating the heater and its controls from the electrical supply.

Please contact **tt coil as** or their agent/distributor if you have any questions regarding the safety of the product.