



INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FOR EXPLOSIONPROOF SPACE HEATING THERMOSTATS

I. GENERAL

HEATREX Explosion-proof Space Heating Thermostats are FM and CSA approved for use in industrial areas that are classified as Class I, Division 1, Groups B, C & D. And Class II, Division 1, Groups E, F & G, as indicated on the data plate. The thermostats are intended to be used in conjunction with electric space heaters for temperature control.

For details on the particular hazardous environments having the potential for explosion, refer to Articles 500 through 516 of the National Electrical Code, and/or Section 18 of the Canadian Electrical Code, Part I.

A. The HEATREX Explosion-proof Space Heating Thermostats are intended to be permanently mounted to a wall or mounting brackets with the base plate provided as a part of the assembly. When factory mounted on the heater cabinet the enclosures are connected to the heater terminal box using rigid metal conduit and the controls are factory wired. All wiring connections to a remotely located thermostat must be made using rigid metal conduit, and an explosion-proof conduit seal must be located within 18 inches of the enclosure entrance. All wiring must comply with all national and local codes for equipment in hazardous locations.

B. When installing:

1. Observe all nameplate ratings, warnings and notes.
2. Follow the wiring diagram in making all electrical connections.
3. Keep all electrical connections tight.
4. Carefully read and comply with all warnings and cautions.

III. INSTALLATION

A. Mechanical Installation. Once an acceptable location has been determined, follow these instructions to complete the mechanical installation.

1.) See Figure 1 for mounting hole location dimensions.

- 2.) Mark the mounting screw locations.
- 3.) Center punch and/or drill the mounting screw locations.
- 4.) Carefully remove the 2 machine screws holding the enclosure to the base plate.
- 5.) Insert 2 mounting screws through the enclosure mounting holes, through the base plate holes and screw into the mounting surface.

B. Electrical Installation. Follow these instructions to complete the electrical installation.:

WARNING

Potentially lethal voltages are present. Be sure to lock the branch circuit disconnect switch in the off position and tag the circuit "Out for Maintenance" before working on this equipment.

- 1.) Follow the heater wiring diagram and any Code recommendations in making all electrical connections.
- 2.) Use only an approved explosion-proof means of wiring, such as insulated copper conductors in rigid metal conduit with threaded connections per the NEC or the CEC to make the electrical connections to the thermostat.
- 3.) Determine the voltage, phase and KW rating of the heater to be controlled from the heater data plate.
- 4.) The branch circuit voltage and phase must match the heater voltage and phase rating.
- 5.) The thermostat cannot be used to carry the load directly for heaters requiring a three phase voltage source.
- 6.) The thermostat cannot be connected to a voltage greater than the nameplate rating.
- 7.) The thermostat cannot be used to carry the load directly for heaters requiring a single phase current greater than the nameplate rating.

8.) Calculate the rated load current for single phase heaters as follows:

$$\text{Rated load current (Amps)} = \frac{\text{Kilowatt rating X 1000}}{\text{Branch Circuit Voltage}}$$

9.) Use branch circuit supply wires rated for 75°C and the rated load current to connect the heater.

10.)For thermostats connected to an optional built on or remote contactor, for three phase or high voltage and or high amperage applications, electrically connect the thermostat to break the contactor holding coil voltage, which cannot be greater than the nameplate voltage rating.

11.)Install an appropriately rated conduit sealing fitting in one of the 3/4" NPT connection hubs to the thermostat.

12.)Install an appropriately rated pipe thread plug in any un-used hubs.

13.)Remove the terminal box cover.

14.)Remove the thermostat adjustment knob by

pulling it up and off the shaft.

15.)Remove the fish paper barrier.

16.)Pull the thermostat and heater connection wires out of the terminal box through the cover opening.

17.)Using approved wire nut or crimp type connections make the electrical connections, ensuring they are tight and secure.

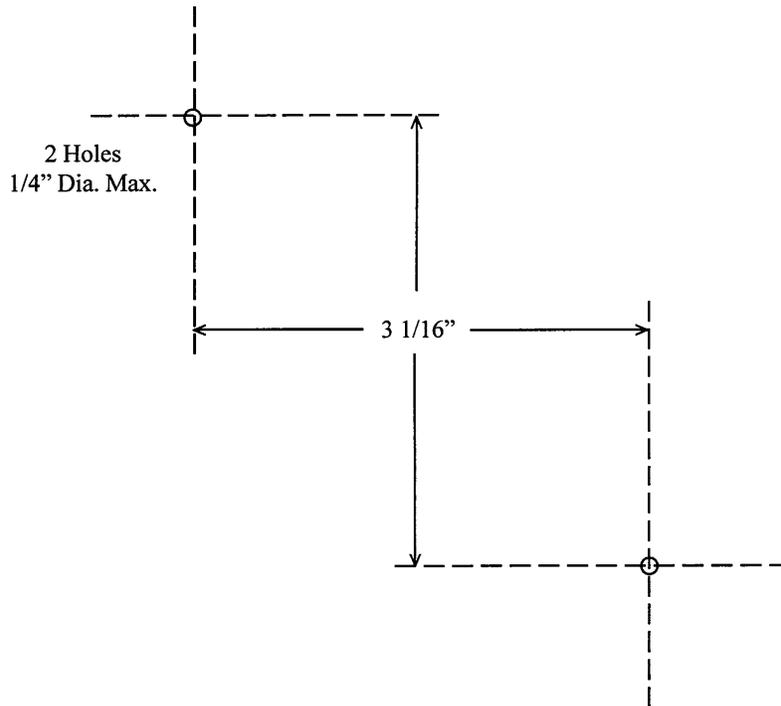
18.)Carefully push the wires back into the terminal box.

19.)Install the fish paper barrier and thermostat knob.

20.)Install the terminal box cover, making sure it is screwed tightly in place.

21.)Pour the explosion-proof seal in the sealing fitting.

Keep these instructions with the heater for future reference.



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