



Installation Instructions

SERVICE REFERENCE

DIVISION 4	SECTION
SALES REFERENCE	PL400-OMC
	161-305399-010
DATE	FEBRUARY, 2004

Silicone Rubber Enclosure Heaters

GENERAL

Silicone Rubber Enclosure and General Purpose Air Heaters are used for freeze protection and condensate protection in electrical enclosures.

Silicone rubber heaters are vulcanized directly to an aluminum plate. The plate has a 1/2" mounting flange with 7/32" x 1/2" slotted holes for ease of installation. Heaters are available with or without a built in thermostat.

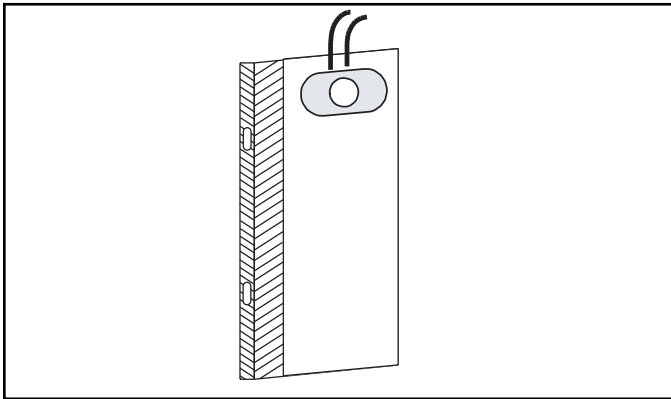


Figure 1 Typical Enclosure Heater

INSTALLATION

Standard installation of enclosure heaters is to mount the heater vertically with the thermostat towards the top. The preferred location inside the enclosure is toward the bottom center of the enclosure. Mounting the heater in this way will set up convection currents inside the enclosure that will allow warm air to circulate to all parts of the enclosure.

The enclosure heater may be mounted to one side of the enclosure, however air temperature inside the enclosure will not be as uniform as it would be if the heater is mounted closer to the center.

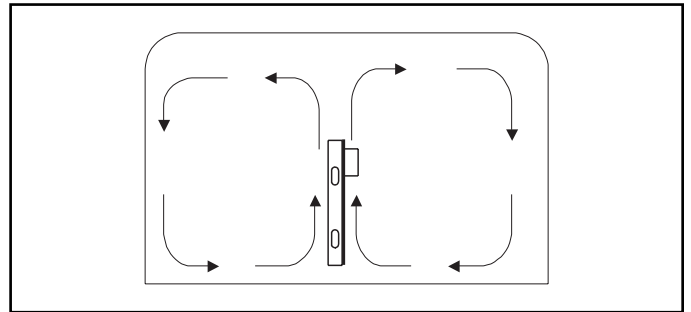


Figure 2 Enclosure Installation and Air Circulation

OPERATION

Built in Thermostat

Most enclosure heaters have a built in ambient sensing thermostat, i.e. the thermostat senses the air temperature, not the temperature of the heater.

The standard thermostat turns the heater on when the air temperature drops to 40°F, and turns the heater off when the air temperature reaches 55°F. This is referred to as a 55/40 thermostat. Other temperature ranges are also available, but may require longer lead times. At present we stock 80/50 and 100/70 thermostats in addition to the standard 55/40.

Watt Density

Enclosure heaters are stocked in Tennessee in 2.5 and 5 wsi designs. Custom enclosure heaters are available in whatever sizes and wattage's a customer desires, however we do not recommend watt density above 5 wsi, and any enclosure heater above 3 wsi must have a thermostat or other type of temperature control to prevent it from over heating.

The surface temperature of enclosure heater that is 5 wsi will reach 450°F in 2 minutes, and it will burn out shortly there after. There is also the potential that components near the heater may be damaged from the heat. It is important the heater be controlled by a thermostat or other temperature control device, and the temperature controller must sense the change in air temperature very quickly. This is why we recommend the thermostat be located at the top of the heater when it is installed.

Field installed thermostat kits are available, however it is important that they be located in such a way that they will quickly see the change in air temperature being generated by the heater.

The heater and the thermostat orientation are less important on heaters that are 3 wsi and less. These heaters are less likely to cause damage to other components in the enclosure, and there is little likelihood they will get hot enough to burn themselves out. It is still important to locate the heater in such a way to create convection currents to warm the entire enclosure.

Electrical Ratings

⚠ WARNING

ELECTRIC SHOCK HAZARD. Disconnect all power before installing or servicing heater. Failure to do so could result in personal injury or property damage.

Do not exceed the rated voltage of the heater.

Heater must be installed or serviced by a qualified person in accordance with the National Electrical Code, NFPA 70.

Heaters stocked in Tennessee are all rated at 120V. Custom heaters can be up to 480V.

All enclosure heaters are UL certified component parts.

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