



PRODUCT SPECIFICATIONS

E4X-35235 and E4X-1

ADJUSTABLE CONTROL THERMOSTATS

APPLICATION

The E4X-35235 and E4X-1 are designed for use as adjustable control thermostats for freeze protection and temperature maintenance applications requiring pipewall or tankwall sensing.

E4X-35235 A nonmetallic NEMA 4X enclosure provides watertight, dust tight and corrosion-resistant protection to the thermostat switch.

E4X-1 A nonmetallic NEMA 4X enclosure combines thermostat functions and heating cable power connection into a single unit that can be installed directly onto a heat-traced pipe (or to a nozzle protruding from a tank). The E4X-1 provides watertight, dust tight and corrosion-resistant protection to the thermostat switch while permitting one heating cable to enter through the mounting expediter.

The E4X-35235 and E4X-1 thermostats are approved for use in ordinary (nonclassified) locations.



RATINGS

Voltage rating.....	125/240/277/480 Vac
Switch rating	30/30/25/15 amps
Switch type	SPST ¹
Electrical connection ²	screw terminals on switch
Adjustable control range....	35°F to 235°F (2°C to 113°C)
Maximum control differential	9°F (5°C)
Maximum bulb exposure temperature	300°F (149°C)
Bulb dimensions	1/4" x 6-3/8" (6.4 x 162 mm)
Bulb material.....	nickel-plated copper
Capillary length	
E4X-35235	6' (1.8 m)
E4X-1	5' 6" (1.7 m)
Capillary material.....	nickel-plated copper

Notes

- The National Electrical Code, Article 427-56(b) states: "Temperature- controlled switching devices which do not have an "off" position shall not be required to open all ungrounded conductors and shall not be permitted to serve as the disconnecting means." The E4X-35235 and E4X-1 thermostats have no "off" position and therefore may be used for switching one conductor of a two-phase heating circuit.
- The E4X-35235 and E4X-1 require a customer supplied fitting for connection to power. The thermostats include an internal grounding terminal.

CERTIFICATIONS / APPROVALS



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E4X-35235 and E4X-1

ADJUSTABLE CONTROL THERMOSTATS

The following installation procedures are suggested guidelines for the installation of a Thermon mechanical thermostat. They are not intended to preclude the use of other methods utilizing accepted engineering or field construction practices.

UPON RECEIVING, THERMOSTAT

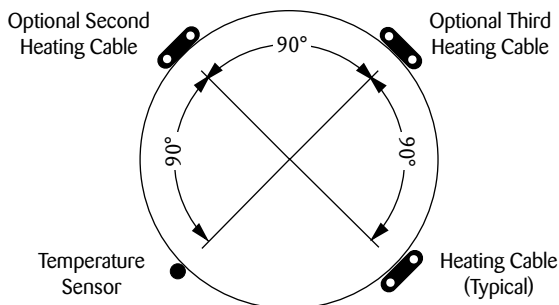
1. Upon receiving thermostat, check to make sure the proper type has been received.
2. Store in a dry place.

APPLICATIONS

1. Mechanical thermostats are used for freeze protection or temperature maintenance of piping, tanks and instrumentation.
2. **Thermostat may be installed in ordinary (nonclassified) locations.** Ensure that thermostat/junction box combination is suitable for the area classification.
3. Check the line voltage and the heater circuit current to be sure that the ratings of the thermostat are not exceeded.
4. Mount the thermostat/junction box vertically upright and in a position that will prevent condensation from draining into the enclosure from the connected conduit.

THERMOSTAT CONNECTIONS

- When a **line sensing controller** is specified, the sensor should be placed at least 90° around the circumference from the heating cable, or at least 2" (5 cm) from the cable. Mount the bulb in a location that is representative of the overall system temperature away from valves, pipe supports, nozzles, or other heat sinks. Fasten the bulb, capillary and flexible armor (where provided) securely to the pipe/vessel with fiber or metallic tape, being sure that the entire length of the bulb is in intimate contact with the pipe surface. The bulb may be covered with a parallel pass of metallic



tape to enhance heat transfer. The thermostat may require more than one support point. **Prevent kinking of the capillary.**

- For **line sensing control**, a leg of the heating circuit is to be connected in series with the control contacts as shown in the illustration below. Seal all thermal insulation penetrations after installation to prevent moisture intrusion.
 - For **ambient sensing control**, a leg of the heating circuit should be connected in series with the control contacts as shown in the illustration below. When using an ambient sensing temperature controller, the mounting location should be representative of the coldest region, and the sensing element should not be exposed to direct sunlight or any additional heat source.
5. **All electric power supply circuits should be disconnected and locked out prior to beginning wiring of the thermostat/junction box.**
 6. Set the thermostat dial to the control set point, and complete the electrical wiring. The heating system should not be energized prior to the circuit being properly tested.
 7. Once the piping or vessel is insulated and in service, the temperature of the process fluid may be measured and compared with the control set point. Adjust the set point where necessary.
 8. **Power should always be disconnected and a lockout/tagout procedure performed prior to opening the thermostat/junction box enclosure for maintenance.**
 9. Any modification to the enclosure or deviation from these procedures may affect unit's rating or approvals. Contact factory if modifications are necessary.
 10. If recalibration becomes necessary, contact factory for procedures/assistance.

TYPICAL WIRING DIAGRAM

