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A419AEC-2C

Electronic Temperature Control

DESCRIPTION
Delta-Therm's A419AEC-2C is a single-stage, electronic temperature control with a SPDT output relay. The control features a keypad for programming and a liquid crystal display for viewing the sensed temperature and the status of other functions. A front panel LED indicates the control's output relay status. The control has a setpoint range of -30° to 212°F (-34.4° to 100°C). The control operates at 120, 208, or 240 VAC.

The A419AEC-2C control has heating and cooling modes with adjustable setpoint and differential, a lockable keypad, an adjustable anti-short cycle delay, and a temperature offset function. The control combines remote sensing capability and interchangeable sensors with electronic accuracy in a NEMA 4X, high-impact plastic enclosure suitable for surface mounting.

APPLICATIONS
Pipe Tracing Systems
Permafrost Prevention Systems
Heating And Cooling Systems

APPROVALS
UL Listed

A419AEC SPECIFICATIONS

Enclosure:	NEMA 4X High Impact Gray Thermoplastic
Setpoint Range:	-30° to 212°F (-34° to 100°C)
Differential Range:	1° to 30°F (17° to 1°C)
Input Voltage:	120, 208, or 240 VAC, 50/60Hz
Switch:	Single pole, double throw
Electrical Rating:	16 Amps at 120 VAC 9.2 Amps at 208 VAC 8 Amps at 240 VAC
Exposure Limits:	-30° to 140°F (-34° to 60°C)
Sensor:	A99BB-200C PTC Sensor with 6-1/2 Ft. (2m) Leads

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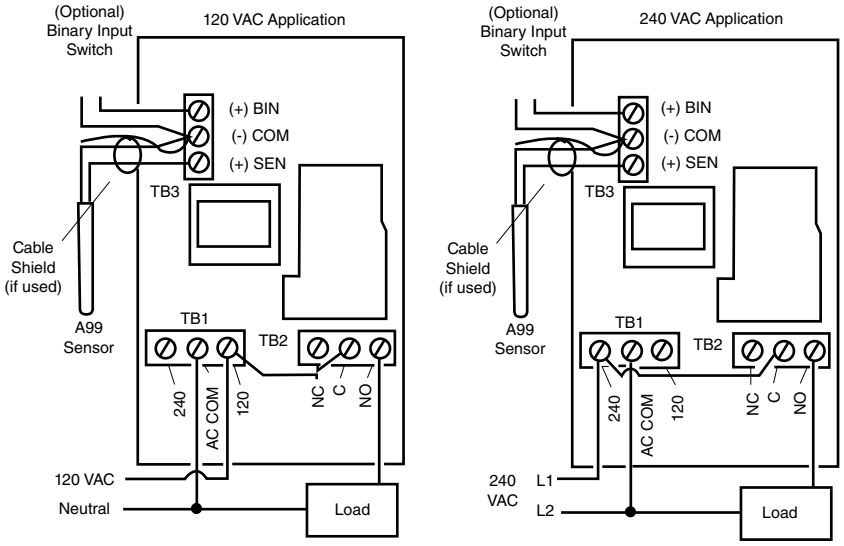


Detail 1. Typical wiring diagram for the A419AEC-2C Thermostat: 120 and 240 VAC Applications

Maximum Recommended Sensor Cable Lengths And Wire Sizes

Wire Gauge	Maximum Sensor Cable Length* Ft (m)
16 AWG	500 (150)
18 AWG	300 (100)
20 AWG	200 (60)
22 AWG	125 (40)

*At the listed maximum cable lengths there is less than 1°F (0.6°C) error in the actual temperature vs. displayed temperature.

SETUP, ADJUSTMENTS AND JUMP POSITIONING

Warning: Risk of Electrical Shock. To avoid the risk of electrical shock disconnect all power sources to the control before opening control cover and repositioning jumpers. More than one disconnect may be required to completely de-energized the control and equipment.

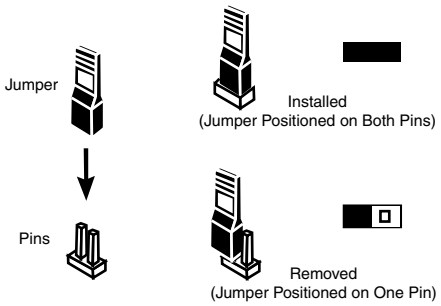
IMPORTANT: To ensure that the output relay operates as intended, verify that all three of the jumpers are positioned properly for the application before powering the A419AEC-2C control.

IMPORTANT: The touchpad cannot be unlocked without a jumper installed across the P5 jumper pins. Do not discard jumpers in case they are required in the future. Refer to Details 2 and 3.

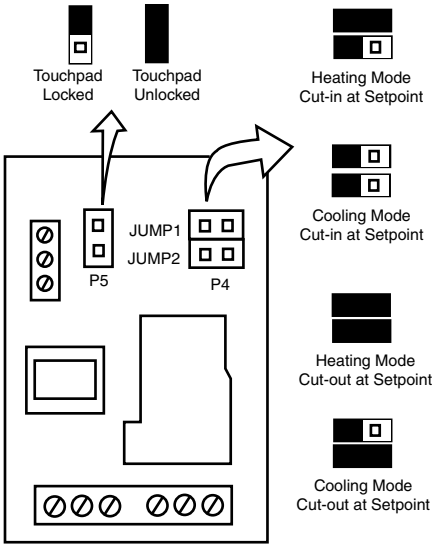
The **P5 jumper** position determines if the touchpad is locked or unlocked.

The **P4 jumper** pin block has two pairs of jumper pins. The top pair of pins (JUMP1), determines if the control is set for Heating or Cooling mode. The bottom pair of pins, (JUMP2) establishes whether Setpoint is at cut-in or at cutout. Refer to Details 2 and 3.

To position a jumper in the **Installed** position, place the jumper on both pins, which closes the circuit between the pins. To position a jumper in the **Removed** position, place the jumper on one pin only. Refer to Detail 2.



Detail 2. Positioning the jumpers



Detail 3. Jumper positions and control settings