A421ABC-02C   **A421AEC-02C**

Description

The A421 Series Controls is a single Stage Electronic Temperature control with a single-pole, double-throw (SPDT) output realy. The controls feature an adjustable backlit LCD for viewing the temperature and status of other functions, and a three-button touchpad for set-up and adjustment. An LED indicates the on/off status of the output relay.

The A421 controls provide heating or cooling control, sensor offset, temperature setback, adjustable anti-short cycle delay and restricted user adjustment mode. The temperature units can be displayed in ^{o}F or ^{o}C. The temperature adjustment range is -40 to 212°F or -40 to 100°C

The A421 controls are available in type NEMA 1/IP20 high-impact plastic enclosures suitable for surface or DIN rail mounting and type 4X/IP66 watertight, corrosion-resistant surface mount enclosures.

Features	Benefits
Control Front Panel LCD	Displays the temperature, parameters, and status and allows you to adjust the backlight intensity for ambient light conditions. Custom icons display the system and control status.
Basic and Advanced Programming Menu	Provides two levels of parameter adjustment and control setup, allowing you to set up advanced features in one menu and easily adjust basic parameters **in** the other menu.
On/Off T emperature Adjustment	Allows you to select the temperature values at which the relay turns On and Off, which automatically defines the Heating or Cooling mode of operation.
Switch-Activated Temperature Setback	Allows you to shift the On/Off temperature by an adjustable setback value. When a user-supplied switch closes the binary input control circuit, the control operates at the defined setback temperatures.
Adjustable Anti-Short Cycle Delay	Allows you to select the minimum time the output relay remains off before the next on cycle; avoiding short cycling, hard starts, and nuisance overload outages on compressors and other inductive applications.
Adjustable Sensor Offset	Allows you to adjust the displayed temperature to the actual sensed temperature.
Optional Restricted Adjustment Mode	Allows you to restrict the On/Off adjustment to your defined temperature range.
Sensor Failure Mode	Allows you to select the relay On/Off state in the event of a sensor or sensor wire failure.
Backlight Brightness Level	Allows you to adjust the LCD backlight intensity.

Applications

Important : Use this A421 Series Electronic Temperature Control only as an operating control.

Where failure or malfunction of the A421 Series Control could lead to personal injury or property damage to the controlled equipment or other property, additional precautions must be designed into the control system. Incorporate and maintain other devices, such as supervisory or alarm systems or safety or limit controls, intend to warn of or protect against failure or malfunction of the A421 Series Control.

The A421 Electronic Temperature Control can be used to control a wide variety of single-stage refrigeration or HVAC equipment. Sample temperature control applications include:

- Temperature monitoring and alarm
- On/off control of boilers and chillers
- Boiler and chiller pump control
- Heating or cooling control
- Cooling tower fan control based on water temperature
- Supply, makeup and mixed air temperature control
- Temperature actuated valve control
- Supply and makeup air damper and fan control
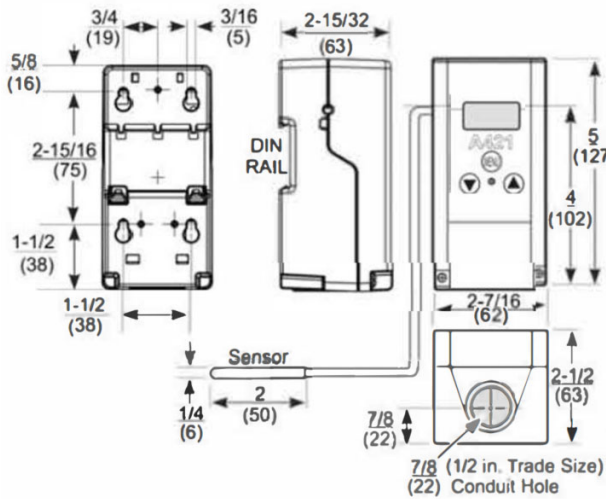- Condenser fan control based on condenser temperature.

Product Specifications

A421 Series Electronic Temperature Controls				
Power Consumption	1.8 VA maximum			
Supply Power	Low Voltage Models: 24 VAC (20 to 30 VAC), 50/60 Hz, Class 2 or Safety Extra-Low Voltage Line Voltage Models: 110/120 or 208/230/240 VAC, 50/60 Hz			
Ambient Conditions	Operating: Type 1 Models: -40 to 150°F (-40 to 66°C), 0 to 95% RH Noncondensing Type 4X Models: -40 to 140°F (-40 to 60°C), 0 to 95% RH Noncondensing Shipping and Storage: -40 to 185°F (-40 to 85°C), 0 to 95% RH Noncondensing			
Temperature Control Range	-40 to 212°F (-40 to 100°C)			
Input Signal	1,035 ohm at 77°F (25°C) for A99 PTC temperature sensors			
Sensor Offset Range	±5°F or ±3°C			
Output Relay Contacts Electrical Ratings	24 VAC models: 100 VA, 30 VAC maximum, Class 2			
	120/240 VAC models:			
	Applied Voltage:	**24 VAC**	**120 VAC**	**208 VAC**	**240 VAC**
	Horsepower N.O. (N.C.):	--	1 (0.25) hp	1 (0.33) hp	1 (0.5) hp
	Full Load Amperes N.O. (N.C.):	--	16 (5.8) A	9.2 (4.0) A	8.0 (4.9) A
	Locked Rotor Amperes N.O. (N.C.):	--	96 (34.8) A	55.2 (24) A	48 (29.4) A
	Resistive Amperes N.O. (N.C.):	15 (10) A	15 (10) A	10 (10) A	10 (10) A
	Pilot Duty N.O. (N.C.):	125 (50) VA	125 (125) VA	125 (125) VA	125 (125) VA
Enclosure Material	Type 1/IP20 high-impact thermoplastic or Type 4X/IP66 watertight, corrosion-resistant, high-impact thermoplastic			
Compliance CE	**North America:** cULus Listed; UL 60730, File E27734, Vol. 1; FCC Compliant to CFR47, Part 15, Subpart B, Class B Industry Canada (IC) Compliant to Canadian ICES-003, Class B limits **Europe:** CE Mark – Johnson Controls, Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC and the Low Voltage Directive 2006/95/EC. **Australia:** Regulatory Compliance Mark (RCM)			

Product Code Number	Description
Control Front Panel LCD	**Line-Voltage Type 1 Electronic Temperature Control:** Type 1 (NEMA), IP20 standard enclosure for DIN rail and surface-mount applications. Rated for 120/240 VAC. Includes an A99BB-200C temperature sensor with 6 ft 7-1/5 in. (2.0 m) cable.
Basic and Advanced Programming Menu	**Line-Voltage Type 4X Electronic Temperature Control:** Type 4X (NEMA), IP67 weathertight enclosure for surface-mount applications. Rated for 120/240 VAC. Includes an A99BB-200C temperature sensor with 6 ft 7-1/5 in. (2.0 m) cable.

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