

A19QSC Type Temperature Controls with NEMA 4X Raintight Enclosures

Installation Instructions

Part No. 24-7664-2667, Rev. C
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Applications

IMPORTANT: Use this A19QSC Type Temperature Control only as an operating control. Where failure or malfunction of the temperature 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, intended to warn of or protect against failure or malfunction of the temperature control.

IMPORTANT : Utiliser ce A19QSC Type Temperature Control uniquement en tant que dispositif de contrôle de fonctionnement. Lorsqu'une défaillance ou un dysfonctionnement du temperature control risque de provoquer des blessures ou d'endommager l'équipement contrôlé ou un autre équipement, la conception du système de contrôle doit intégrer des dispositifs de protection supplémentaires. Veiller dans ce cas à intégrer de façon permanente d'autres dispositifs, tels que des systèmes de supervision ou d'alarme, ou des dispositifs de sécurité ou de limitation, ayant une fonction d'avertissement ou de protection en cas de défaillance ou de dysfonctionnement du temperature control.

The A19QSC Type Temperature Controls are designed for use in many agricultural applications. For installations that require National Electrical Code (NEC) Article 547 compliance, use a series A19P or T19P control.

The A19QSC Controls have rugged Noryl plastic enclosures and are UL Listed as Type 4X. See Figure 1 and the *Technical Specifications* section for additional information.

The A19QSC Type Temperature Controls have internal setpoint adjustment dials and range scales.



Dimensions

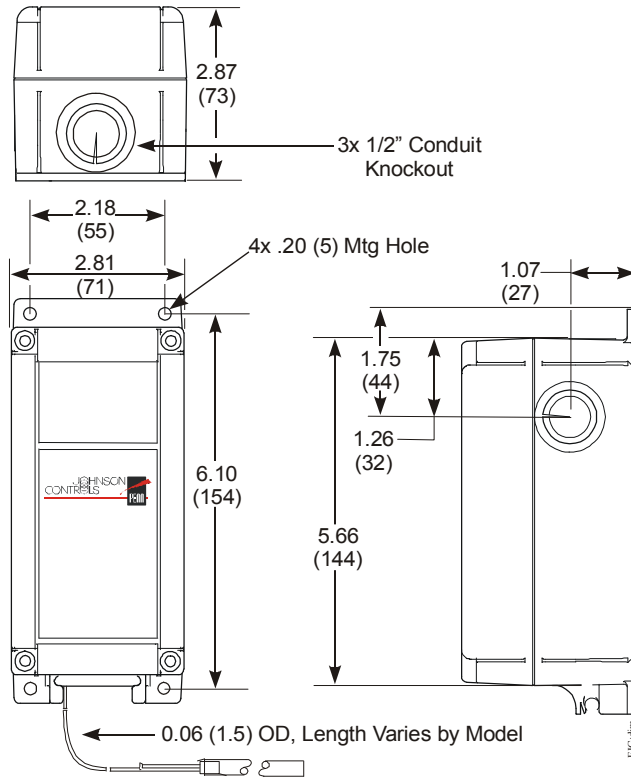


Figure 1: Dimensions for A19QSC Temperature Controls with NEMA 4X Enclosures, in. (mm)

Mounting



CAUTION: Risk of Environmental and Property Damage.

Avoid sharp bends in the capillary tubes. Sharp bends can weaken or kink capillary tubes, which may result in refrigerant leaks or restrictions of flow.

MISE EN GARDE : Risque de dommages environnementaux et dégâts matériels.

Éviter de former des coudes serrés avec les tubes capillaires. Les coudes serrés peuvent affaiblir les tubes capillaires ou engendrer des pliures, ce qui risque de provoquer des fuites de réfrigérant ou d'en gêner l'écoulement.



CAUTION: Risk of Environmental and Property Damage.

Coil and secure excess capillary tubing away from contact with sharp or abrasive objects or surfaces. Vibration or sharp or abrasive objects in contact with capillary tubes can cause damage that may result in refrigerant leaks (or loss of element charge), which may result in damage to the environment or property.

MISE EN GARDE : Risque de dommages environnementaux et dégâts matériels.

Enrouler et fixer l'excédent de tubes capillaires de manière à éviter tout contact avec des objets coupants ou des surfaces abrasives. Des vibrations ou des objets coupants ou abrasifs en contact avec les tubes capillaires risque d'endommager ceux-ci et d'occasionner des fuites de réfrigérant (ou des pertes de charge), susceptibles de provoquer des dommages environnementaux ou des dégâts matériels.



CAUTION: Risk of Property Damage.

Do not dent or deform the sensing bulb. Dents or deformations in the sensing bulb can change the calibration, may cause the control to operate at temperatures other than the set point, and may result in other property damage.

MISE EN GARDE : Risque de dégâts matériels.

Ne pas bosseler ou déformer le bulbe thermostatique. Tout bosselage ou toute déformation du bulbe thermostatique risque de modifier les paramètres d'étalonnage, d'induire des températures de fonctionnement du dispositif de contrôle différentes du point de consigne et de provoquer d'autres dégâts matériels.

IMPORTANT: Do not install the A19QSC Control where the maximum temperature exceeds 140°F (60°C). Installing the device where temperatures exceed 140°F (60°C) may cause damage to the A19QSC Control and may void the warranty.

Mount the temperature control to a flat surface with screws through the holes in the mounting ears on the back of the case. See Figure 1.

Wiring



WARNING: Risk of Electric Shock.

Disconnect the power supply before making electrical connections. Contact with components carrying hazardous voltage can cause electric shock and may result in severe personal injury or death.

AVERTISSEMENT : Risque de décharge électrique.

Débrancher l'alimentation avant de réaliser tout branchement électrique. Tout contact avec des composants conducteurs de tensions dangereuses risque d'entraîner une décharge électrique et de provoquer des blessures graves, voire mortelles.

IMPORTANT: Use copper conductors only. Make all wiring connections in accordance with local, national, and regional regulations. Do not exceed the A19QSC Control's electrical ratings.

IMPORTANT: Use the terminal screws supplied in the contact block. Using other terminal screws may cause damage to the switch and will void the warranty.

There are three 1/2 in. (trade-size) conduit knockouts on the NEMA 4X enclosure. To make wiring connections, proceed as follows:

1. Loosen the four cover screws and remove the cover. Do not damage the O-ring seal.
2. Select the knockout to be removed. Place a screwdriver blade on the knockout near the edge. Apply a sharp blow to the screwdriver handle to loosen the knockout.
3. For watertight connection to rigid conduit, connect an approved watertight conduit fitting to the conduit first, and then connect the fitting to the A19QC control enclosure.
4. Insert wire through conduit opening.
5. Make wiring connections to the screw terminals. See Figure 2, Figure 3, and Figure 4.
6. Verify the O-ring seal is properly seated.
7. Replace the cover and tighten the screws.

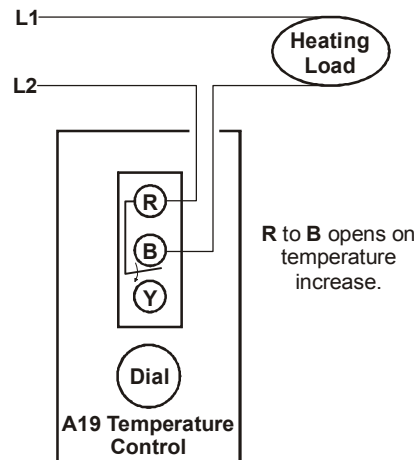


Figure 2: Typical Wiring for Heating Applications

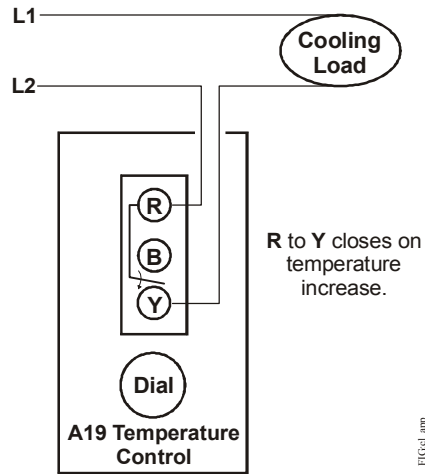


Figure 3: Typical Wiring for Cooling Applications

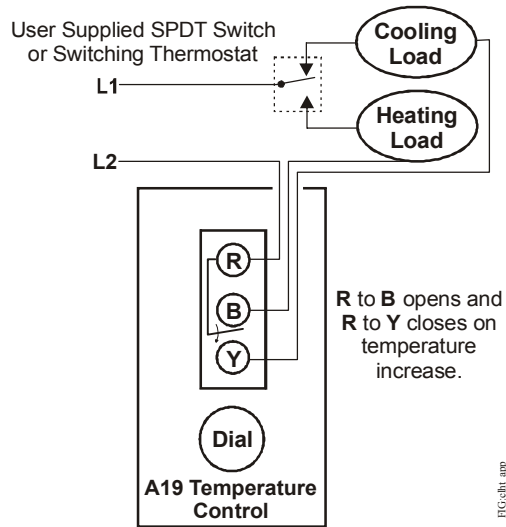


Figure 4: Typical Wiring for Combination Heating and Cooling Applications

Setup and Adjustments

Turn the knob under the temperature control cover to adjust the setpoint.

Before leaving the installation, observe at least three complete operating cycles of the controlled equipment to ensure that all components are functioning correctly.

Follow the guidelines in the Operation section to check for proper A19QSC temperature control operation.

For heating applications:

1. Turn the dial clockwise to a setpoint greater than the sensed temperature. The heating system should cycle on.
2. Turn the dial counterclockwise to a setpoint less than the sensed temperature and the heating system should cycle off.

For cooling or ventilating applications:

1. Turn the dial clockwise to a setpoint greater than the sensed temperature and the ventilating or cooling system should cycle off.
2. Turn the dial counterclockwise to a setpoint less than the sensed temperature and the ventilating or cooling system should cycle on.

If the temperature does not operate in the manner described previously, check the wiring and tightness of wiring connections.

Operation

When the temperature at the sensing element rises to the setpoint (dial setting), the switch between R and Y closes and the switch between R and B opens on SPDT models. See Figure 2, Figure 3, and Figure 4.

Repair Information

If the A19QSC type electromechanical temperature control fails to operate within its specifications, replace the unit. For a replacement A19QSC control, contact the nearest PENN by Johnson Controls® representative.

Technical Specifications

A19QSC Type Temperature Controls with NEMA 4X Raintight Enclosures

Switch Contact Ratings	Applied VAC	24	120	208	240	277	600
	Motor, Full Load Amperes	-	16	9.2	8	-	-
	Motor, Locked Rotor Amperes	-	96	55.2	48	-	-
	Non-inductive, Single-Pole, Single-Throw (SPST) Amperes	-	22	22	22	22	-
	Non-inductive, Single-Pole, Double-Throw (SPDT) Amperes	-	16	16	16	16	-
	Pilot Duty Volt-Amperes	125	125	125	125	125	125
Ambient Operating Conditions	-26–140°F (-32–60°C)						
Ambient Storage Conditions	-40–140°F (-40–60°C)						
Shipping Weight	1.2 lb (0.54 kg)						
Compliance	UL Listed; File E6688, CCN XAPX (US) and XAPX7 (Canada) UL Listed as Type 4X						

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult Johnson Controls Application Engineering at (800) 275-5676. Johnson Controls shall not be liable for damages resulting from misapplication or misuse of its products.

European Single Point of Contact:

JOHNSON CONTROLS
WESTENDHOF 3
45143 ESSEN
GERMANY

NA/SA Single Point of Contact:

JOHNSON CONTROLS
507 E MICHIGAN ST
MILWAUKEE WI 53202
USA

APAC Single Point of Contact:

JOHNSON CONTROLS
C/O CONTROLS PRODUCT MANAGEMENT
NO. 22 BLOCK D NEW DISTRICT
WUXI JIANGSU PROVINCE 214142
CHINA



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