



A19QSC Series Temperature Controls with Type 4X Enclosures Installation Guide

24-7664-2667 Rev D

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Applications

- **Important:** Use this A19QSC Series 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 Series 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.

You can use the A19QSC Series Temperature Controls for many agricultural applications. For installations that require compliance with Article 547 of the National Electrical Code (NEC), use an A19P or T19P series control.

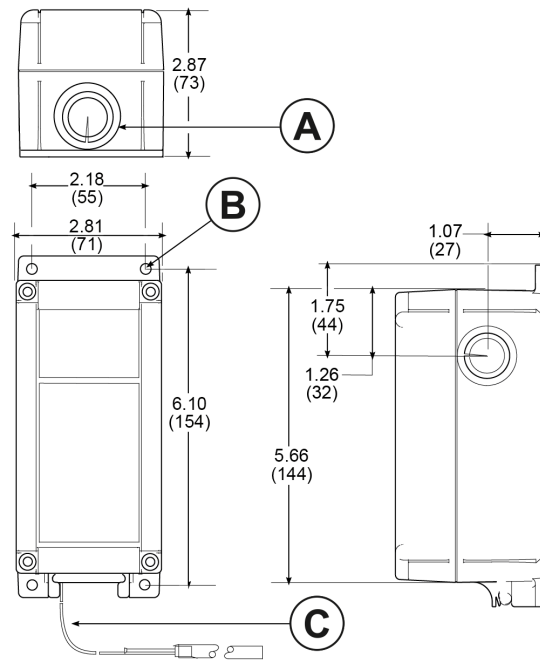
The A19QSC Controls use polycarbonate enclosures and are UL listed as Type 4X. For more information, see [Dimensions](#) and [Technical specifications](#).

The A19QSC Controls include internal setpoint adjustment dials and range scales.

Dimensions

See the following figure for the dimensions of the A19QSC controls:

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



Callout	Description
A	3 in. x 1/2 in. conduit knockout
B	Four 0.20 in. (5 mm) mounting holes
C	0.06 in. (1.5 mm) OD, length varies by model

Mounting



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.

 **ATTENTION**

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.

 **ATTENTION**

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.

 **ATTENTION**

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). If you installing the device where temperatures exceed 140°F (60°C) you could cause damage to the A19QSC Control and you void the warranty.
- To mount the temperature control to a flat surface, insert screws through the mounting ears on the back of the case. For more information, see Figure 1.

Wiring

Before you begin:

 **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.

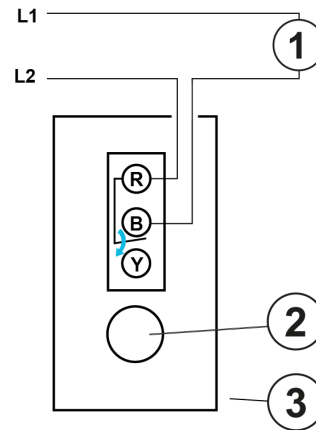
- **Important:** Use copper conductors only. Make all wiring connections in accordance with local, national, and regional regulations. Do not exceed the A19QSC Control's electrical ratings.
- **Important:** Use the terminal screws supplied in the contact block. If you use other terminal screws, you could damage the switch and you void the warranty.

The Type 4x enclosure includes three 1/2 in. (1.27 cm) trade-size conduit knockouts. To make wiring connections, perform the following procedure:

1. Loosen the four cover screws and remove the cover. Do not damage the O-ring seal.
 2. Select the knockout that you want to remove.
 3. Place a screwdriver blade on the knockout near the edge.
 4. Apply a sharp blow to the screwdriver handle to loosen the knockout.
 5. Connect an approved watertight conduit fitting to the conduit.
 6. Connect the fitting to the A19QSC control enclosure.
- i Note:** For flexible conduits, you can reverse Step 5 and Step 6.
7. Insert the wire through the conduit opening.
 8. Connect the wires to the screw terminals. For more information, see Figure 2, Figure 3, and Figure 4.
 9. Ensure that the enclosure O-ring is securely seated in the groove so that it forms a correct seal between the cover and case.
 10. Replace the cover and tighten the screws.

Wiring diagrams

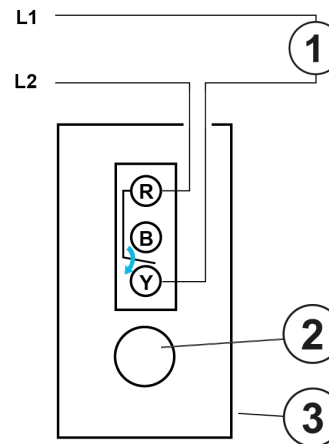
Figure 2: Standard wiring for heating applications



Callout	Description
1	Heating load
2	Dial
3	A19 temperature control

i Note: In Figure 2, R to B opens on temperature rise.

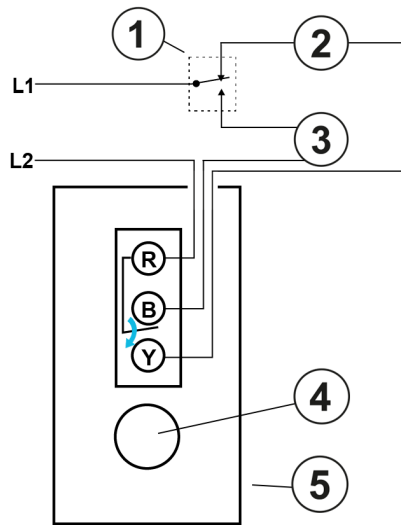
Figure 3: Standard wiring for cooling applications



Callout	Description
1	Cooling load
2	Dial
3	A19 temperature control

i Note: In Figure 3, R to Y closes on temperature rise.

Figure 4: Standard wiring for combination heating and cooling applications



Callout	Description
1	User-supplied SPDT switch or switching thermostat
2	Cooling load
3	Heating load
4	Dial
5	A19 temperature control

Note: In Figure 4, R to B opens and R to Y closes on temperature rise.

Setup and adjustments

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

Before you finish the installation, observe at least three complete operating cycles of the controlled equipment to ensure that all components function correctly. To check for correct A19QSC temperature control operation, see [Operation](#) for more information.

Heating applications

The following procedure describes how to adjust the temperature for heating applications.

- Turn the dial clockwise to a setpoint greater than the sensed temperature. The heating system cycles on.
- Turn the dial counterclockwise to a setpoint less than the sensed temperature. The heating system cycles off.

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

Cooling or ventilating applications

The following procedure describes how to adjust the temperature for heating applications.

- Turn the dial clockwise to a setpoint greater than the sensed temperature. The ventilating or cooling system cycles off.
- Turn the dial counterclockwise to a setpoint less than the sensed temperature. The ventilating or cooling system cycles on.

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

Operation

When the temperature at the sensing element rises to the setpoint or the dial setting, the switch between R and Y closes and the switch between R and B opens on single-pole, double-throw (SPDT) models. The opposite happens when the temperature at the sensing element falls below the following value: the setpoint or dial setting minus the differential.

For more information, 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

Table 1: A19QSC Series Temperature Controls with Type 4X Raintight Enclosures

Specifications	Applied VAC	24 VAC	120 VAC	208 VAC	240 VAC	277 VAC	600 VAC
Switch contact ratings	Motor, full load amperes	-	16 A	9.2 A	8 A	-	-
	Motor, locked rotor amperes	-	96 A	55.2 A	48 A	-	-
	Non-inductive, single-pole, single-throw (SPST) amperes	-	22 A	22 A	22 A	22 A	-
	Non-inductive, SPDT amperes	-	16 A	16 A	16 A	16 A	-
	Pilot duty volt-amperes	125 A	125 A	125 A	125 A	125 A	125 A
Ambient operating conditions	-26°F to 140°F (-32°C to 60°C)						
Ambient storage conditions	-40°F to 140°F (-40°C to 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.

Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Single point of contact

APAC	EU	UK	NA/SA
JOHNSON CONTROLS C/O CONTROLS PRODUCT MANAGEMENT NO. 32 CHANGJIANG RD NEW DISTRICT WUXI JIANGSU PROVINCE 214028 CHINA	JOHNSON CONTROLS VOLTAWEG 20 6101 XK ECHT THE NETHERLANDS	JOHNSON CONTROLS TYCO PARK GRIMSHAW LANE MANCHESTER M40 2WL UNITED KINGDOM	JOHNSON CONTROLS 5757 N GREEN BAY AVE. GLENDALE, WI 53209 USA

Contact information

Contact your local branch office:

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