
Application

These controls are designed to cover a broad range of general purpose operating temperature control applications in the refrigeration, air conditioning and heating field with a minimum number of models. Typical applications are: frozen food cases, display cases, beverage coolers, milk coolers, etc. Various control ranges are available.

Controls are supplied with an adjustable range (except models with factory sealed settings) and adjustable or nonadjustable differential.

All Series A19 temperature controls are designed for use only as operating controls. Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of the installer to add devices (safety, limit controls) or systems (alarm, supervisory systems) that protect against, or warn of, control failure.

⚠️ WARNING

This product is made of a copper alloy, which contains lead. The product is therefore not to be used on drinking water.

Installation

Follow equipment manufacturer’s instructions if provided. If instructions are not provided proceed as follows:

Mounting

Controls are normally mounted to a surface through holes in back of case.

⚠️ CAUTION: On rough mounting surfaces use the top two mounting holes only. When these controls are mounted on an uneven surface using screws in all four holes, the case can be twisted enough to affect the control’s calibration and operation.

Adjustments

The A19 temperature controls may be supplied with an external range adjustment and screwdriver slot as shown in Fig. 1, range adjustment knob or solid cover. Solid cover models with calibrated dial are adjusted by removing the cover and moving dial so the desired setting is in line with the dial pointer on the stop bracket. (See Fig. 5.) Convertible adjustment models can be field converted from concealed screwdriver slot adjustment to knob adjustment or external screwdriver slot adjustment. They are supplied with a snap-in plug in the cover to provide concealed screwdriver slot adjustment. For knob adjustment remove the snap-in plug and press the knob onto the slotted shaft. For external screwdriver slot adjustment remove the snap-in plug. The convertible adjustment models with remote bulb include a bulb mounting clip.

Fig. 2 – Part No. FTG13A-600R packing nut assembly. (Used with swaged bulb with support tube for direct immersion application.)

Fig. 3 – Bulb well for liquid immersion applications where a temperature bulb may be removed without draining tank.

Dial settings normally indicate the cutout setting unless otherwise specified by the equipment manufacturer. Models with SPDT contacts are normally set so the red (common) to yellow contacts open at the dial setting.
Models with adjustable differential and ranges of 20/80°F (-5/28°C), -30/50°F (-35/10°C) and -30/100°F (-35/40°C) have a differential scale plate showing increments of differential. Other ranges have a scale plate with a multiplier. For example when "MIN" differential is 5°F (2.8°C) then x2 is 10°F (5.6°C), x3 is 15°F (8.3°C), etc. The controls are supplied with adjusting lever at minimum differential stamped on the control. To adjust move the lever to the differential required.

Low cutout or high cutout stop supplied on certain models (specified by the equipment manufacturer).

Wiring

▲ CAUTION: Disconnect power supply before wiring connections are made to avoid possible electrical shock or damage to equipment.

All wiring should conform to the National Electrical Code and local codes. Single-pole, double-throw models should be wired as shown in Fig. 4. Use copper conductor only.

▲ CAUTION: Use terminal screws furnished (8-32 x 1/4 in. binder head). Substitution of other screws may cause problems in making proper connections.

Checkout Procedure

Before applying power, make sure installation and wiring connections are according to job specifications. After the necessary mechanical adjustment and electrical connections have been made, an operational checkout is recommended. Adjust the control setpoint to put the system in operation and observe at least three complete operating cycles to be sure that all components are functioning correctly.

If the system fails to operate, recheck the wiring and components.

Repairs and Replacement

Field repairs must not be made. For a replacement control contact the nearest Johnson Controls representative.

Fig. 5 -- All models have a screw type cutout stop. The stop screw must be loosened and moved to the stop setting desired. Tighten screw after setting is made.

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