

A11 Series Low Temperature Cutout Control

Application

A11 Series low temperature cutout controls are available with SPDT or SPST contact action. Typical applications include the sensing of low temperature conditions to avoid overcooling or icing of hydronic coils, cooling coils and liquid handling pipes. The controls are compact and sturdy, and have an adjustable temperature set point range with a fixed differential. The range adjustment screw is accessible at the bottom of the control, and at the top of the control when the cover is removed.

All Series A11 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.

Operation

The A11D and A11E models have SPDT contact action; models A11A and A11B have SPST contacts. When 16 inches (406 mm) or more of an A11's sensing bulb senses a temperature equal to or lower than the set point, the contacts will open on SPST controls, or

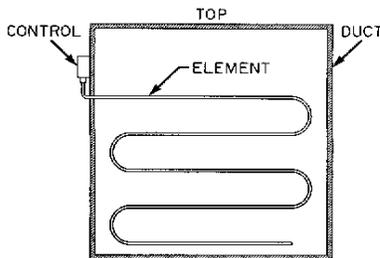


Fig. 2 — Recommended mounting and sensing element installation.

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the circuit between the Red and Yellow terminals will open on SPDT controls. The A11A and A11D models lock out when the temperature decreases below the control's temperature set point and must be manually reset by depressing the trip free reset lever (which must be pressed and released before power will be restored) when the temperature increases 12F° (6.7C°) or more above the set point. The A11B and A11E will automatically recycle on an increase in temperature.

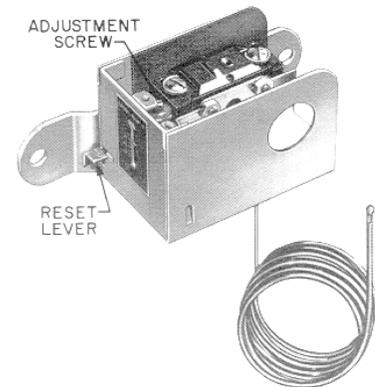


Fig. 1 -- Interior view of a Low Temperature Cutout Control with manual reset.

Installation

Mounting

The bulb is usually located on the downstream side of the coil with the bulb exposed to all areas where low temperatures are likely to be encountered. The sensing element is 20 feet (6.1 m) long and should be horizontally serpentine across the face of the coil to sense temperatures in all areas. (See Fig. 2.) Do not install A11 Series controls where the ambient temperature at the control exceeds 140°F (60°C), or falls below 0°F (-18°C). The maximum temperature at the sensing bulb should not exceed 250°F (121°C).

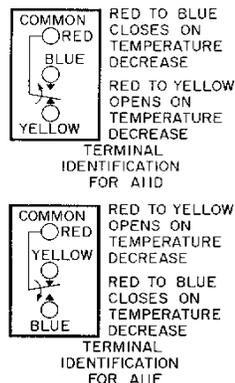


Fig. 3 — Terminal Identification for SPDT models.

Wiring

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

Make all wiring connections using copper conductors only, and in accordance with the National Electrical Code and local regulations. For maximum electrical rating of the control, see the cover label on the inside of the control cover. Loads exceeding the rating of the control can be handled with a relay or motor starter. On the SPDT models the Red terminal is the common terminal. See Fig. 3 for terminal identifications.

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

Adjustment

The set point may be changed by turning the adjustment screw until pointer is opposite the desired cutout point. The adjustment screw is accessible at the bottom of the control or at the top when the cover is removed.

Checkout Procedure

Before leaving the installation observe at least three complete operating cycles to be sure that all components are functioning correctly. When used as a low temperature cutout control, simulate operation by actuating contacts to confirm that electrical connections are correct.

Repairs and Replacement

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



Controls Group
507 E. Michigan Street
P.O. Box 423
Milwaukee, WI 53202

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