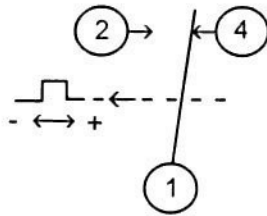


INSTALLATION INSTRUCTIONS

TSA LOW LIMIT CONTROLS

MODELS: TSA-COP Automatic Reset.
TSA-DOP Manual Reset.
SETPOINT RANGE: 35-68°F (2-20°C).
DIFFERENTIAL: 4.5°F (2.5°C), Fixed.
SWITCH ACTION: SPDT, Snap Acting.
ELECTRICAL RATINGS: See Table I.

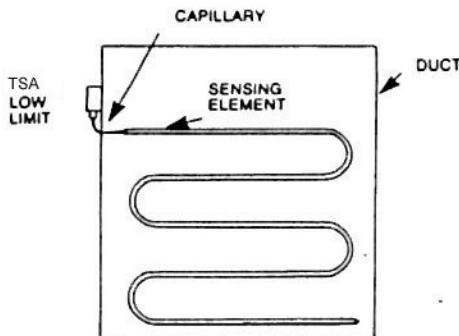
TABLE I. Electrical Ratings	120 vac	240 vac
INDUCTIVE		
F.L.A.	24	24
L.R.A.	144	144
Horsepower	2	3
PILOT DUTY	720 va max @ 120 to 600 vac 144 va max @ 24 vac	



SWITCH ACTION ON
DECREASE IN TEMPERATURE

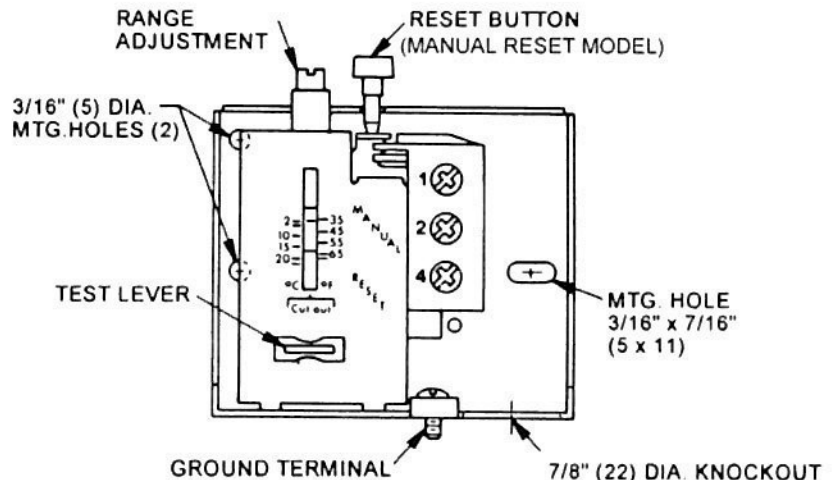
MOUNTING

1. Controller can be mounted in any position. Avoid locations subject to excessive vibration.
2. On manual reset model, position control to permit convenient access to the reset button.
3. Use three mounting holes in rear of case for flush mounting to duct or other flat surface.
4. Install capillary element in horizontal serpentine pattern across duct on downstream side of the coil so it is exposed to areas where low temperatures will occur. Do not kink or apply excessive force to the capillary element.
5. Fasten capillary at sufficient points to prevent damage from air movement or vibration.



INSTALL CAPILLARY IN
HORIZONTAL PATTERN ONLY

SENSING ELEMENT: Vapor-filled Copper Capillary, Tin-plated; 5/64" diameter x 20 feet.
RESPONSE: To lowest temperature sensed by any one foot section of capillary element.
TEMPERATURE LIMITS:
-60° to +160°F (-51° to +71°C), Operating.
300°F (149°C) maximum at sensing element.



WIRING

1. All wiring should comply with national and local electrical codes.
2. An opening for installing a connector for 1/2" conduit is provided in the bottom of the controller case.
3. Recommended wire size is 10 to 14 AWG solid copper wire. Use screwdriver to loosen terminal screws. Strip wire ends 3/8" and insert into box connectors on the switch block. Securely retighten terminal screws.
4. For circuit testing, the SPDT switch can be manually activated by using a screwdriver to operate the test lever located on the bottom portion of the controller scaleplate.

SETPOINT ADJUSTMENT

1. The setpoint shown on the controller scaleplate is the temperature at which switch contacts 1-4 will OPEN on a fall in sensed temperature.
2. To change the setpoint, use a screwdriver or wrench to turn the range adjustment screw located at the top of the spring housing. Clockwise rotation decreases the controller setpoint. Counterclockwise rotation increases the setpoint.

MANUAL RESET MODELS

1. On a temperature fall to setpoint, switch contacts 1-4 open, and contacts 1-2 close.
2. The switch remains "locked" in this position until the controller is manually reset by depressing the reset button located in the top of the controller case.
3. The controller cannot be manually reset until the sensed temperature is at least 5°F (3°C) above setpoint.