

TEMPERATURE SETTING INSTRUCTIONS FOR KBT CAL-STAT

Normally Open CAL-STAT (NO): Contacts close on temperature rise at setpoint temperature.

Normally Closed CAL-STAT (NC): Contacts open on temperature rise at setpoint temperature.

Unless otherwise specified, the temperature setting of a CAL-STAT should be made in the following manner:

For all 1/2" and 5/8" diameter CAL-STAT temperature adjustments:

NOTE: Counterclockwise rotation of the adjusting screw INCREASES temperature setpoint.

NOTE: Clockwise rotation of the adjusting screw DECREASES temperature setpoint.

1. Connect test light or other device suitable for determining contact position across CAL-STAT leads.

2.1 Install CAL-STAT in media to be controlled.

2.2 Allow the temperature of media to increase 10 to 20 degrees above required temperature setpoint by turning the adjusting screw counterclockwise. (Note: adjusting rate for the 5/8" diameter CAL-STAT is approximately 90 degrees F per revolution; for 1/2" diameter CAL-STAT, rate is 120 degrees F per revolution.) Allow media to stabilize at this temperature.

2.3 Turn adjusting screw clockwise in small increments until desired control temperature (setpoint) is reached.

2.4 CAL-STAT is now set.

3. If an over adjustment is made during step 2.3 or if a readjustment is required, restart at step 2.2 and repeat the procedure. Remember that all readjustments must be made by turning the adjusting screw CLOCKWISE to reach the desired setpoint.

For 1/4" diameter CAL-STAT temperature adjustments:

NOTE: Counterclockwise rotations of the adjusting screw DECREASES temperature setpoint.

NOTE: Clockwise rotations of the adjusting screw INCREASES temperature setpoint.

1. Connect test light or other device suitable for determining contact position across CAL-STAT leads.

2.1 Install CAL-STAT in media to be controlled.

2.2 Allow the temperature of media to increase 10 to 20 degrees above required temperature setpoint by turning the adjusting screw clockwise. Do not turn adjusting screw more than 1/4 revolution in either direction from room temperature without checking setpoint (Adjusting rate is approximately 700 degrees F per revolution.)

2.3 Turn adjusting screw counterclockwise in small increments until desired control temperature (setpoint) is reached.

2.4 CAL-STAT is now set

3. If an over adjustment is made during step 2.3 or if a readjustment is required, restart at step 2.2 and repeat the procedure. Remember that all readjustments must be made by turning the adjusting screw COUNTERCLOCKWISE to reach the desired setpoint.

NOTE: All CAL-STATS may be subject to a small amount of setpoint drift after a few cycles under load due to relaxation of stress and other factors. Check the setpoint and readjust if required after approximately 100 cycles under load to improve performance.

CAL-STAT APPLICATION PRECAUTIONS (Please read carefully):

- Do not expose this unit to more than 100 degrees Fahrenheit (38 degrees Celsius) above setpoint.
- On 1/2" and 5/8" diameter CAL-STATS, do not turn adjusting screw more than 7 revolutions in either direction from room temperature.
- On 1/4" diameter CAL-STATS, do not turn screw more than 1/4 revolution in either direction from room temperature without checking setpoint.
- Disassembly of adjusting screw may also render CAL-STAT inoperative.
- If necessary to reduce the temperature setting in a heated system, do not turn adjusting screw more than one revolution (or 100 degrees Fahrenheit temperature drop) at any one time.
- Do not exceed the rating shown on CAL-STAT-shell.
- Optimum performance is achieved when the contact load is half the maximum rating. Improved performance will result when a contactor is used to control the load and the CAL-STAT is wired through the holding coil of the contactor.
- System vibration can cause contact bounce. Also, controlling systems where thermal rise over time is slow can result in overshooting the setpoint. The addition of a capacitor will reduce the bouncing and overshooting. The capacitor is wired in parallel across the leads of the CAL-STAT. Consult factory for application assistance, capacitor selection, and availability.
- Proper hole sizing for the CAL-STAT is extremely important to avoid restricting shell expansion during operation and at the same time maintaining proper fit for the best temperature control.
The required hole sizes are:
1/4" models - .25 diameter hole; 1/2" models - .5 diameter hole; 5/8" models - .625 diameter hole
- Do not seal lead end of CAL-STAT with silicone sealant materials such as oils, caulking or grease.
- Do not distort CAL-STAT shell.