

**Pneumatic Room Thermostats**
**Description**

The 2212-118-CS&S and 2212-119-CS&S Series Pneumatic Room Thermostats are designed for proportional control of pneumatic devices and actuators in environmental control systems. These two-pipe thermostats incorporate a highly sensitive bimetal thermostatic element and a pilot operated relay with pneumatic feedback for accuracy and stability over the entire operating range.

These thermostats have a serrated thumb wheel for setpoint adjustment under a grey cover with a 55 to 85 °F thermometer. The 2212-118-CS&S is a direct acting Thermostat. The 2212-119-CS&S is a reverse acting Thermostat. A functional equivalent for the T18-301 is the 2212-118-CS&S. 2212-119-CS&S is a functional equivalent for the T19-301.

Weights & Dimensions: Unit - 2-1/8" H X 2-1/8" W X 1-1/2" D.

Package\* - .29#, 3-1/2" X 3-1/2" X 1-5/8"

\* Does not include packaging materials required for shipping

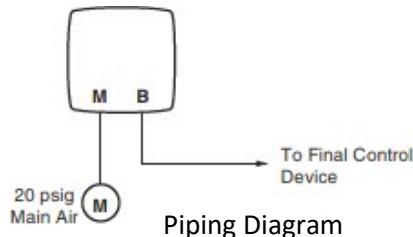
Replaces:

CS&S Part Number	Manufacturer/Supplier	Replaces
2212-118-CS&S	Schneider Electric	T18-301
2212-118-CS&S	Schneider Electric	2212-118
2212-119-CS&S	Schneider Electric	T19-301
2212-119-CS&S	Schneider Electric	2212-119


**Installation:**

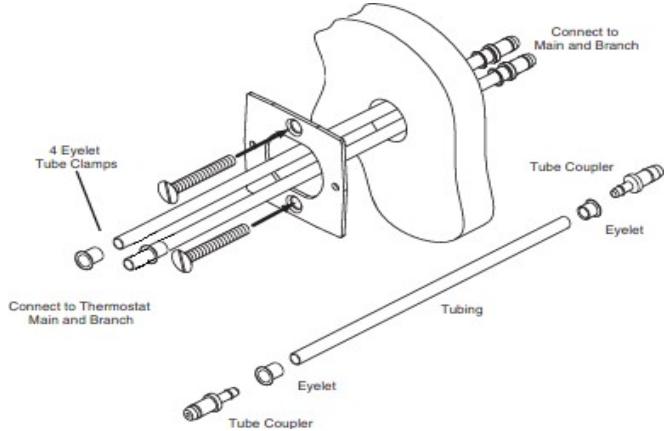
Tools (Not included):

- Appropriate screwdriver for mounting the thermostat
- 20-881 Thermostat Calibration Tool (or 1/16" Allen wrench)



**Process:**

1. Assemble the eyelets and the two tube couplers to the tubing.
2. Cut the tubing in half.
3. Connect the tube couplers to the Main and Branch lines in the wall. (Note which line is the Main and which is the Branch.)
4. Insert the Tubing ends through the mounting plate and secure the mounting plate in place with the flat head screws.
5. Connect the Main and the Branch lines to the appropriate ports on the back of the thermostat.
6. Secure the thermostat to the mounting plate with the round head screws. (Be careful to not kink the tubing during installation.)



**Calibration:**

Tools (Not included – see Accessories for tools available for purchase):

- 1/16" Allen wrench (or 20-881 Thermostat Calibration Tool)
- 0-30 PSI Pressure Gage (or equivalent means to read Branch pressure)
- Branch Tap Gage Adaptor (or equivalent means to read Branch pressure)
- Thermometer (or other means to measure the ambient temperature)

**Process:**

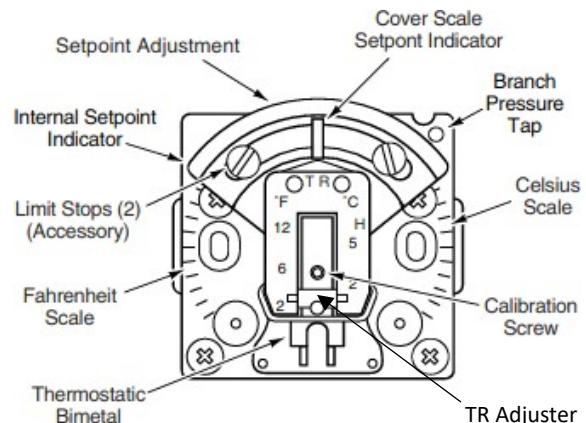
These units are factory calibrated to provide a 9 psig output when the unit's setpoint is set at the ambient temperature and preset with a 2° F Throttling Range. Should either the setpoint or Throttling Range require adjustment, proceed as follows:

**Calibration:**

1. Turn the cover screw inward until the Cover can be removed.
2. Attach a pressure gage to the Branch line, either by connecting to the Branch output line or by using a Branch Tap Gage Adaptor inserted into the Branch Pressure Tap in the upper right hand corner of the Thermostat.

Warning – Inserting the Adaptor in the Tap too deeply can damage the valve resulting in leakage. Insert the Adaptor just deep enough to obtain a pressure reading.

3. Note the ambient temperature near the Thermostat.
4. Turn the Setpoint Adjustment until the temperature scales on the Thermostat match the ambient temperature.



5. Using the 1/16" Allen Wrench, adjust the Calibration Screw until the Branch pressure gage reads 9 PSIG.
6. Remove the test gage and replace the Cover and secure in place by backing the cover screw out to a point where the Cover cannot be removed.
7. Adjust the Setpoint Adjustment to the desired Thermostat setpoint.

**TR adjustment:**

7. As with the calibration, remove the Cover and connect the Branch to a pressure gage.
8. To increase the Throttling Range (TR) of the Thermostat, slide the TR Adjuster upward (or towards the "TR"). To reduce the TR move the slider away from the "TR".
9. After making adjustments to the TR, the unit should be re-calibrated per the above instructions.
10. Verify the desired TR by rotating the Setpoint Adjustment until the Branch reads 3 PSIG note the Scale reading. Next rotate the Setpoint Adjustment until the Branch reads 15 PSIG and note this Scale reading. The difference between these two readings is your new Throttling Range.

**Cautions:**

- Use clean dry air.
- Do not locate the thermostat near sources of heat or cold. Thermostats exposed to lamps, motors, sunlight, or concealed ducts or pipes could result in false temperature reading and poor system control.
- Mounting a thermostat to an outside walls could also result in false temperature sensing. If such a location is necessary, mount the thermostat on an insulated plate.
- Mount thermostats only after the wall surfaces have been finished.
- Be sure air lines are not pinched - use spring reinforced tubing provided.
- Locate the thermostat in a location exposed to unrestricted air flow of a temperature representing the space that is to be controlled.
- Do not use flat head screws to secure thermostat to mounting plate. Chamfered head (of a flat head screw) can cause distortion of the thermostat resulting in the unit not functioning properly.

These products are proudly manufactured by Crandall Stats and Sensors, Inc. in Machesney Park, Illinois, USA.