

**Pneumatic One-Pipe Room Thermostats
Installation Instructions**

Application

The 2211 Series Pneumatic Room Thermostat is designed for proportional control of pneumatic devices and actuators in environmental control systems. These one-pipe thermostats are force-balanced and utilize an external restrictor in the supply line. Their design incorporates a highly sensitive bimetal thermostatic element and a ball valve for pneumatic feedback, which ensures accuracy and stability over the entire operating range.

These thermostats have a serrated thumb wheel for setpoint adjustment.

Specifications

Action: Proportional.

Setpoint Range: 55 to 85 °F (13 to 29 °C).

Throttling Range: 2 to 12 °F, adjustable.

Supply Air Pressure: 20 psig.

Maximum Air Pressure: 30 psig.

Main Air Consumption: 29 scim.

Calibration Point: 9 psig branch line pressure when ambient equals setpoint (factory-set).

Setpoint Adjustment: Serrated thumbwheel.

Construction:

Mechanical Components, Die cast aluminum, stainless steel, and glass-filled nylon.

Diaphragm, Fabric-reinforced Neoprene.

Air Lines, Connect to thermostat nipples with spring-reinforced plastic tubes.

Branch Connections, Equipped with internal filters.

Environment

Humidity: 5 to 95% relative humidity, non-condensing.

Ordering Data

Table-1 Model Chart — Thermostats.

Part Number	Replaces Model	Action	Description
2211-012	T12-301	Direct	Includes (1) 1/4" x 3/16" barbed couplings, 20-693 tubing, 20-714 wall plate, 20-711 mounting plate, and mounting screws.
2211-013	T13-301	Reverse	

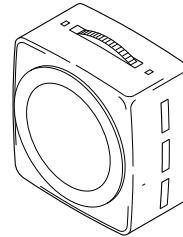
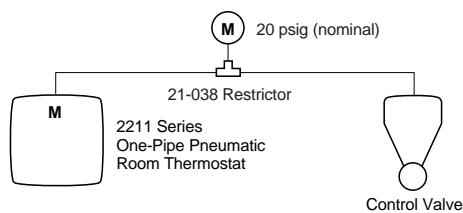


Table-2 Accessories.

Part Number	Replaces Model	Description
Accessories		
20-660	6-441	Cover screw
20-707	10-53	Metal thermostat guard
20-712	10-59	Internal stop kit
20-715	10-62	Clear cover thermostat guard
21-876	10-76	Opaque cover thermostat guard
21-928	—	Cover, gray plastic with blank dial
21-933	—	Cover, gray plastic with °F/°C dial
Calibration		
20-881	N2-4	Thermostat calibration wrench
22-138	MCS-GA	Branch tap gauge adaptor
900-002	—	Thermostat calibration kit
Installation		
20-850	—	Thermostat mounting plate
20-944	N4-32	1.0 SCFH restrictor tee, copper tubing
21-038	N100-0010	1.0 SCFH restrictor tee, polyethylene tubing
21-153	N100-2501	In-line 1.0 scfh restrictor, polyethylene
22-021	—	Universal wall mounting kit
22-022	N4-95	Thermostat conversion kit
22-023	—	Thermostat conversion kit
10-82-SS	—	Outlet box mounting plate S.S.
21-473	—	Snap-in drywall mounting

Piping Diagram



Installation

Requirements

- Tools (not provided):
 - Appropriate screwdriver for mounting the thermostat
 - 20-881 Thermostat calibration and cover screw wrench (or 1/16" and 1/4" hex wrenches)

Location

Caution:

- Do not locate the thermostat near sources of heat or cold, such as lamps, motors, sunlight, or concealed ducts or pipes. Doing so will affect the accuracy of the thermostat.
- Avoid installing the thermostat on outside walls. If such a location is necessary, mount the thermostat on an insulated back plate (accessory item).
- Mount thermostats *only after the wall surfaces have been finished.*

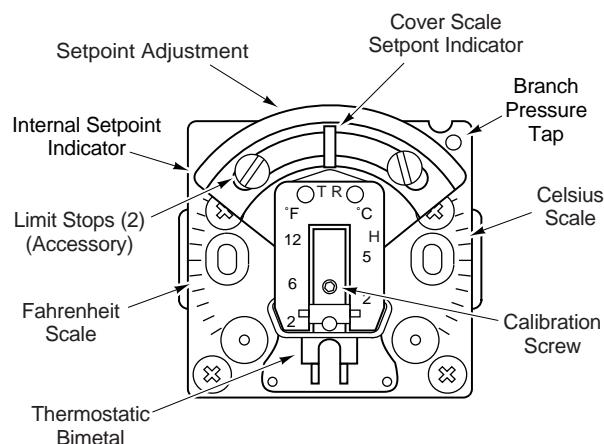
Locate the thermostat where it will be exposed to an unrestricted circulation of air, which represents the average temperature of the controlled space.

Calibration

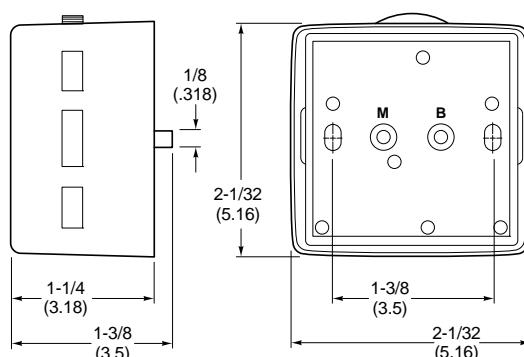
Calibration and Throttling Range Setting

The 2211 series thermostats are factory calibrated and are shipped with the throttling range set at 3 °F. They should not require calibration upon installation. However, if it is necessary, change the calibration or throttling range setting as follows:

- Remove the thermostat cover, using a 20-881 thermostat wrench (1/4" hex wrench), and install a 22-138 branch tap gauge adaptor into the branch pressure tap hole. Note, a damaged gauge adapter can damage the tap sealing ring.
- Measure the ambient temperature with an accurate thermometer. This temperature *must be within the range of the thermostat.*
- Move the setpoint adjustment to the measured ambient temperature, using the internal setpoint indicator.
- Taking care not to breathe on, or place the hand near the bimetal, use a 20-881 thermostat wrench (1/16" hex wrench) to turn the calibration screw until the branch line pressure indicates 9 psig. Clockwise rotation increases the branch line pressure. Counterclockwise rotation lowers the branch line pressure.
- Reinstall the thermostat cover and set the thermostat to the desired setpoint.



Dimensional Data



Dimensions are in inches (mm).

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