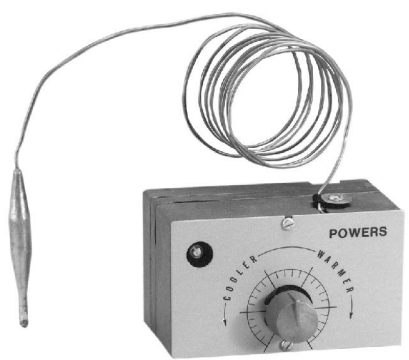


POWERS™ CONTROLS

Pneumatic Thermostats

Quick Reference Guide

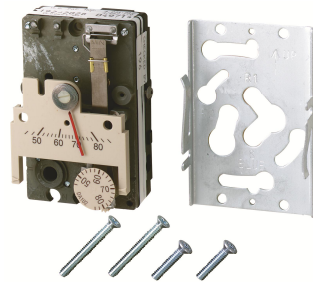


Scan code to download
this reference guide

192 S Single Setpoint Pneumatic Room Thermostats

Features

- Single setpoint dial available in Fahrenheit or Celsius scales.
- Direct or reverse acting models
- Sensitive bimetallic element responds to temperature changes
- Integral, adjustable limit stops.
- Wall mounting plate included for easy connection to rough-in boxes.



Applications

Designed for heating and cooling applications for control of pneumatic valves and damper actuators, the 192 S Single Setpoint Pneumatic Room Thermostat is excellent for commercial and institutional facilities.

These are available with both 1-pipe and 2-pipe configurations.

1-pipe: Use when limited output air capacity is required to operate a single valve and/or actuator; requires external restrictor, 20 scim (5.4 ml/s) air supply.

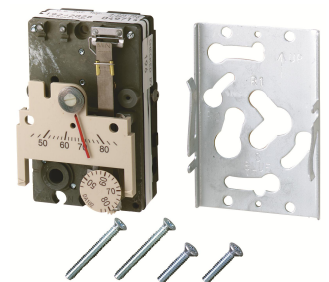
2-pipe: Use for high output capacity for control of multiple valves and actuators, used with or without high/low limiting controls.

[Click on this link for 192 S Technical Instructions](#)

192 DN/DNV Day/Night/Vent Pneumatic Room Thermostats

Features

- Dual setpoint dials available in Fahrenheit or Celsius scales.
- Direct or reverse acting models.
- Sensitive bimetallic element responds to temperature changes
- Manual override selector for off-hour occupant comfort.
- Adjustable changeover pressure.



Applications

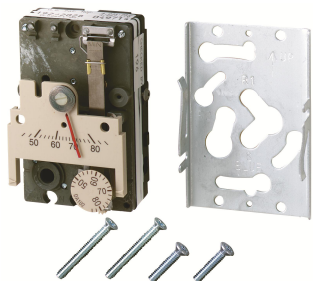
The 192 DN/DNV Pneumatic Room Thermostat controls valves and damper actuators in cooling equipment, automatically performing setback changes from day to night. The 192 DNV also performs a purge sequence at night to bring in "vent" outside air to cool the building. A manual override selector switch allows individual room or zone "day" control locally during the night cycle. During the night control cycle, the 192 DNV models provide a separate output signal (full air supply) allowing ventilation control. Periodic resetting to the "night" control mode during evening or weekend periods using time clocks ensures optimal energy management.

[Click on this link for 192 DN/DNV Technical Instructions](#)

192 HC Heating/Cooling Pneumatic Room Thermostat

Features

- Dual setpoint dials available in Fahrenheit or Celsius scales.
- Direct or reverse acting models.
- Sensitive bimetallic element responds to temperature changes
- Integral, adjustable limit stops.
- Adjustable changeover pressure.
- Large volume air capacity relay



Applications

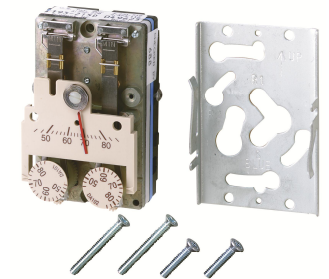
Designed for temperature control of heating and cooling applications, the 192 HC Heating/Cooling Pneumatic Room Thermostat controls valves and damper actuators in cooling equipment. Providing energy management and occupant comfort, the thermostat automatically adjusts to seasonal changes from heating setpoint to cooling setpoint in commercial and institutional facilities. It is available in a 2-pipe configuration.

[Click on this link for 192 HC Technical Instructions](#)

193 HC Free Energy Band Heating/Cooling Pneumatic Room Thermostats

Features

- Dual setpoint dials available in Fahrenheit or Celsius scales.
- Integral, adjustable limit stops.
- Sensitive bimetallic element responds to temperature changes
- Adjustable Free Energy Band.
- Wall mounting plate included for easy connection to rough-in boxes.



Applications

Designed for buildings with early morning heat requirements and mid-morning to afternoon cooling requirements, the 193 HC Free Energy Band Pneumatic Room Thermostat two temperature thermostat controls valves, damper actuators and mechanical heating and cooling equipment. Providing energy management and occupant comfort, the thermostat automatically reduces heating load and increases cooling load.

2-pipe (dual 1-pipe): Use when a limited air capacity is required to operate a single valve and/or actuator.

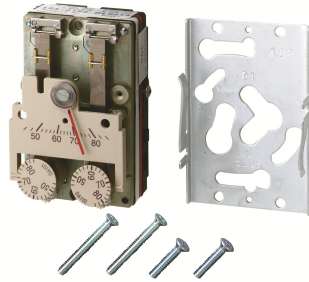
3-pipe (dual 2-pipe): Use for multiple valves and actuators with or without high/low limiting controls which require higher air capacities.

[Click on this link for 193 HC Technical Instructions](#)

193 HC Hesitation Free Energy Band Heating/Cooling Room Thermostats

Features

- Dual setpoint dials available in Fahrenheit or Celsius scales.
- Sensitive bimetallic element responds to temperature changes
- Integral, adjustable limit stops.
- Adjustable Free Energy Band.
- Wall mounting plate included.



Applications

The 193 HC Hesitation Free Energy Band Heating/Cooling Pneumatic Room Thermostat is an excellent choice for saving energy by sequencing heating and cooling valves. In most heat/cool pneumatic applications, a 3 to 8 psi (21 to 55 kPa) heating valve and a 10 to 14 psi (69 to 103 kPa) cooling valve are used. By design, this provides a 2 psi (14 kPa) deadband where no heating and cooling is occurring. The hesitation feature allows you to change the deadband range to a 3, 4 or 5 psi (21, 28, or 34 kPa) range to save energy.

[Click on this link for 193 HC Hesitation Technical Instructions](#)

832 D "All-Metal" Pneumatic Room Thermostat

Features

- All metal, rugged construction for dependable long-term service.
- Rapid response to temperature change
- Unique design of supply and exhaust air valves prevents waste.
- Quiet operation.
- Easy-to-calibrate and service.



Applications

Designed for controlling rooms heated or cooled by radiation, ventilation, or an air conditioning system, the 832 D Pneumatic Room Thermostat is versatile and responsive for individual room control.

Other applications include room control of radiant panels, finned radiation, and unit ventilators.

[Click on this link for 832 D Technical Instructions](#)

Thermostat Covers Thermostat Accessories

Thermostat Cover Features

- Covers are available with concealed or exposed setpoint adjustment, room temperature indication, and setpoint indicator.
- Available for 192, 193, and 832 series.
- 192 plastic covers in desert beige and white.
- 192 metal covers available in desert beige only.



[Click on this link for Thermostat Covers Specification](#)

Thermostat Accessories

- Thermostat accessories and calibration tools are available for the POWERS 192, 193, and 832 pneumatic thermostat series.

[Click on this link for Pneumatic Thermostat Accessories Specification](#)

Retroline™ Powerstar Pneumatic Room Retrostats

Features

- Complete kit including Retrostat cover kit with exposed or concealed setpoint adjustment.
- Setpoint dials available in Fahrenheit or Celsius scales
- Factory calibrated for accuracy.
- All installation hardware and calibration wrench provided.
- Integral, field adjustable limit stops.



Applications

Retroline Retrostat kits are available for most 2-pipe applications in direct reverse acting models including single temperature, day/night, and heat/cool.

[Click on this link for Retroline Installation Instructions](#)

356 Limitem™ Rigid Bulb Thermostats

Features

- Durable copper motor tube and 18" (457mm) steel rod temperature sensing element.
- Two-valve design reduces air waste.
- Direct or reverse acting models.
- Duct mount hardware included.
- Rugged, all metal construction.



Applications

The 356 Limitem™ Rigid Bulb Thermostat provides primary control for unit ventilators, fan coils and other air handling units. This device can also be used as low limit control for air flow to a controlled space.

Available in three temperature operating ranges:

- 0 to 100 °F (-18 to +38°C)
- 30 to 180°F (-1 to +82°C)
- 100 to 250°F (38 to 121°C)

[Click on this link for 356 Limitem Rigid Bulb Technical Instructions](#)

357 D Limitem™ Remote Bulb Thermostats

Features

- Direct acting operation only.
- Remote or averaging bulbs for flexibility in installation
- Liquid-filling sensing element for rapid response to changes in temperature.
- Two-valve design reduces air waste.
- Adjustable sensitivity.



Applications

The 357 D Limitem Remote Bulb Thermostat provides primary monitoring and control for air handling units or a low limit control.

Available in three temperature operating ranges:

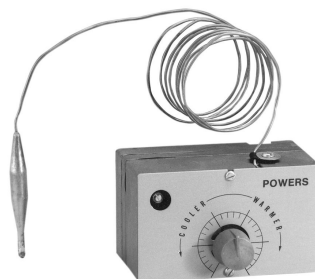
- Averaging Bulb Model: 35 to 145°F (2 to 63°C)
- Remote Bulb Model: 20 to 100°F (-7 to +38°C)
- Remote Bulb Model: 120 to 230°F (48.9 to 110°C)

[Click on this link for 357 D Limitem Remote Bulb Technical Instructions](#)

188 Unit Mounted Thermostats

Features

- Liquid-filled thermal system temperature sensing element.
- Durable die-cast metal case with rugged setpoint knob.
- Adjustable sensitivity.
- Universal mounting bracket for easy installation.
- Integral adjustable limit stops.



Applications

The 188 Unit Mounted Thermostats are designed primarily for use in fan coil induction units and unit ventilators to control the temperature within an occupied space. The thermostat's temperature range is limited to applications at ambient temperatures.

Available with three control actions:

- Direct Acting only (Heating)
- Reverse Acting only (Cooling)
- Heat or Cool depending on supply air pressure

[Click on this link for 188 Unit Mount Thermostat Technical Instructions](#)

134 Pneumatic High and Low Temperature Detection Thermostats

Features

- Snap-acting pneumatic switch.
- Sight-set calibrated setpoint scale.
- No leakage of air prior to reset of switch
- Easily adjustable settings.
- Normally closed air valve; bleeds to less than 2 psi (14 kPa) when supplied through a restrictor.



Applications

The 134 Pneumatic High and Low Temperature Detection Thermostats are used on pneumatic heating and cooling systems in areas protected from the weather.

On a typical high limit application, the thermostat shuts down air conditioning or ventilating fans when the duct temperature becomes excessively high. A normally closed switch opens at setpoint.

On a typical low limit application, the thermostat stops the fan or closes a damper when the temperature drops to the setpoint at any one foot (30.5 cm) or more of the sensing element.

[Click on this link for 134 High-Low Temp Detect Technical Instructions](#)

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