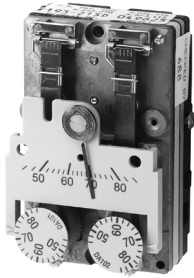


Powerstar (Hesitation) Free Energy Band Heating/Cooling Pneumatic Room Thermostats



193 HC Thermostat chassis.



Typical wall plate and screws.



193 HC Thermostat with plastic cover. Chassis wall plate with easy maintenance plug-in adapters shown (optional).



Description

Providing proportional, single output, dual setpoint, 2-pipe pneumatic room temperature control, the 193 HC Powerstar (Hesitation) Free Energy Band Heating/Cooling Pneumatic Room Thermostat is designed to sequence a heating device or a cooling device.

The hesitation feature keeps the output pressure constant through a 6°F (10.8°C) range (typical), causing a deadband.

Features

- Dual setpoint dials available in Fahrenheit or Celsius scales
- Sensitive bimetal responds to temperature changes
- Integral, field adjustable limit stops
- Adjustable Free Energy Band
- Wall mounting plate for connection to a variety of rough-in terminal boxes included
- Test port for fast check of output pressure without removing the cover
- Field replaceable thermometer, setpoint dials, restrictors, and filters

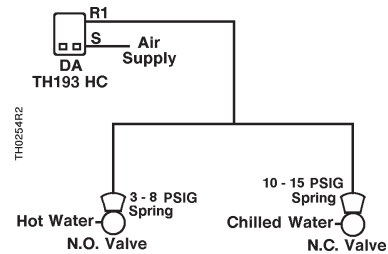
Options

- Fixed limit stops to meet government specifications
- Quick-connect air connections for ease of installation and service
- Large, 1/2" setpoint knob for convalescent homes

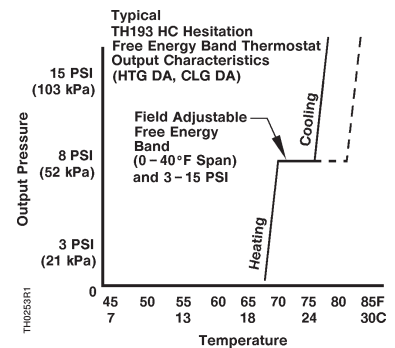
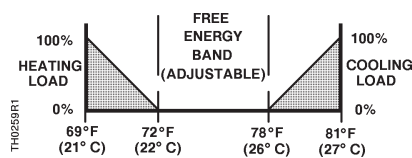
Applications

The 193 HC Powerstar (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 is used. By design, this provides a 2 psi (14 kPa) deadband where no heating or 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. Refer to the Input/Output chart below for more information.

Application Drawing



Input/Output Characteristics



193 HC Thermostat Specifications

Scale; Range
 Major (minor) Divisions..... 45 to 85°F, 10(2)°F/
 (7 to 30°C, 5(1)°C)

Factory Calibration
 "FEB" Output Pressure..... 7.5 psi (52 kPa)
 Temperature 72°F (22°C)
 Sensitivity 2.5 psi/°F (31 kPa/°C)

Sensitivity Adjustment Range 1 to 4 psi/°F
 (12 to 50 kPa/°C)

Limit Stop, Field Adjustment Range 55/75°F (13/24°C)

Temperature
 Storage..... -10 to +140°F (-23 to +60°C)
 Ambient Operating 40 to 140°F (4 to 60°C)

Accuracy at Factory
 Calibration ±2°F (±1.1°C)
 Response 0.1°F (0.06°C)

Supply Air Pressure
 Recommended..... 25 psi (172 kPa)
 Maximum..... 30 psi (207 kPa)

Free Energy Band
 Output Pressure Adjustment 1 to 15 psi (7 to 103 kPa)
 Range..... 0 to 40°F (0 to 20°C)

Nominal Air Capacity for Compressor Sizing 40 scim (11 ml/s)

Nominal Air Capacity for Air Main Sizing 40 scim (11 ml/s)

Nominal Chassis Air Capacity
 Supply 150 scim (41 ml/s)
 Exhaust 150 scim (41 ml/s)
 Supply/2-pipe Exhaust 150 scim (41 ml/s) per side








Air Connections 5/32" (4 mm) OD tubing

Dimensions (with cover) 2.16" W x 3.34" H x 1.59" D
 (55 mm W x 85 mm H x 40 mm D)

Shipping Weights
 Thermostat Chassis and Wall Plate 0.53 lb. (0.24 kg)
 Plastic Cover 0.07 lb. (0.04 kg)
 Metal Cover (dual)..... 0.27 lb. (0.12 kg)

193 HC Thermostat Product Ordering

Model #	Thermostat Chassis Type				Thermostat Chassis & Wall Plate	
	Output	Setpoint	Air Output Capacity	Thermometer & Setpoint Scales	Control Action	
					Heat (DA) / Cool (DA)	Heat (RA) / Cool (RA)
193 HC Hesitation	Single	Dual (Heat and Cool)	High (Integral Relay)	°F	193-219	193-220

Thermostat Covers (Sold Separately)	Plastic Part No.		Metal Part No.
	Desert Beige	White	
 <ul style="list-style-type: none"> • Adjustment setpoint concealed • Indicator setpoint concealed • Chassis thermometer concealed • No logo 	192-257	192-257W	192-357
 <ul style="list-style-type: none"> • Adjustment setpoint concealed • Indicator setpoint concealed • Chassis thermometer concealed • With logo 	192-256	192-256W	192-356
 <ul style="list-style-type: none"> • Adjustment setpoint concealed • Indicator setpoint concealed • Chassis thermometer exposed 	192-254	192-254W	192-354
 <ul style="list-style-type: none"> • Adjustment setpoint key • Indicator setpoint exposed • Chassis thermometer concealed 	192-267	192-267W	192-367
 <ul style="list-style-type: none"> • Adjustment setpoint key • Indicator setpoint exposed • Chassis thermometer exposed • Use with 1/2" setpoint knob option 	192-268	—	192-368
 <ul style="list-style-type: none"> • Adjustment setpoint exposed • Indicator setpoint exposed • Chassis thermometer concealed • Use with 1/2" setpoint knob option 	192-258	—	—
 <ul style="list-style-type: none"> • Adjustment setpoint exposed • Indicator setpoint exposed • Chassis thermometer concealed 	192-260	192-260W	—

Note: • "Exposed features" are indicated in red on corresponding illustration.
 • Universal Cover sold on page F-92.