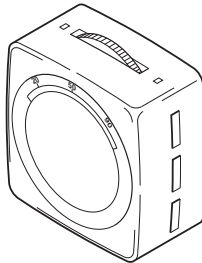


Pneumatic Room Humidistat Installation Instructions

APPLICATION

The 2230-018 Pneumatic Room Humidistat is a proportioning-type device designed to control pneumatic valves or damper actuators associated with heating or cooling coils, humidifiers, air washers, or other humidifying or dehumidifying equipment to maintain constant relative humidity. This device uses a highly sensitive hygroscopic nylon ribbon and a pilot bleed relay with pneumatic feedback. Throttling range, action (direct or reverse), and set point are easily adjusted by graduated dials. Internal limit stops are available to restrict adjustment range when required.



The component parts are die cast aluminum, stainless steel, and glass-filled nylon. Diaphragms are fabric-reinforced neoprene. Air lines are connected to the humidistat with spring-reinforced plastic tubes, and both main and branch connections are provided with internal filters.

SPECIFICATIONS

Action: Proportional, direct or reverse (factory set for reverse action)

Range: 20% to 90% R.H.

Throttling range: Adjustable 5% to 15% (factory set @ 10%)

Main air pressure*: 20 psig (137.8 kPa) operating, 30 psig (206.8 kPa) maximum

Air consumption: 17 scim (4.6 mL/s) (DA), 30 scim (8.2 mL/s) (RA)

Ambient temperature limits:

Shipping & storage, -40 to 150°F (-40 to 65°C)

Operating, 40 to 140°F (4 to 60°C)

Calibration point: Factory calibrated @ 9 psig (62 kPa).

*When set for the reverse acting mode, main air pressure MUST NOT drop below 16 psig (110.3 kPa). Pressure lower than 16 psig (110.3 kPa) will cause the humidistat to switch from reverse to direct acting.

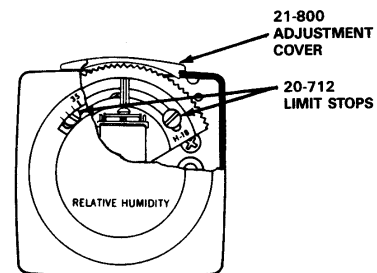
Caution: This device should be installed by a qualified person with due regard for safety, as improper installation could result in a hazardous condition.

Model Chart

Part Number	Replaces Model	Description
2230-018	H18-301	Includes 1/4" by 3/16" barbed couplings, 20-693 tubing, standard mounting plate and screws.

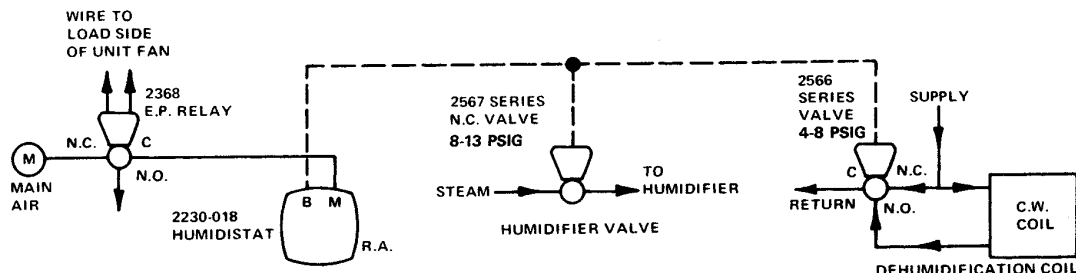
Accessories

Part Number	Replaces Model	Description
Accessories		
20-660	6-441	Cover screw
20-707	10-53	Metal thermostat guard
20-715	10-62	Clear thermostat guard
21-876	10-76	Opaque thermostat guard
21-928		Gray plastic cover, blank dial
21-933		Gray plastic cover, °F/°C dial
Calibration		
20-881	N2-4	Calibration wrench
22-138	MCS-GA	Branch tap gauge adaptor
900-002		Thermostat calibration kit
Installation		
10-82-SS		Outlet box mounting plate, stainless steel
20-850	10-82	Outlet box mounting plate, black
20-642		Mounting ring
21-473		Snap-in drywall mounting
22-021		Universal drywall mounting kit
22-022	N5-95	Competitor replacement mounting kit
22-024		Standard mounting kit



- Humidistat should be located to sense average room humidity. Free circulation of air must exist and locations that are affected by drafts, radiant heat, water pipes, air ducts, etc., should be avoided.
- Mount Humidistat only after wall surface has been finished. Allow the device time to reach ambient conditions before calibration.

Typical Applications



Installation

- 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)

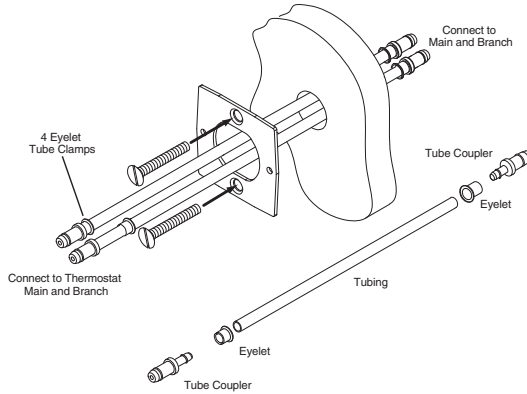


Figure-1

1. Assemble the eyelets and two tube couplers to tubing.
2. Connect the assembly by inserting the tube couplers into existing tubing in the wall (Figure-1). Note which connection is Main and which connection is Branch.
3. Pull tubing through center hole in mounting plate and screw mounting plate to wall with flat head screws. Cut tubing and insert two couplers. The Main and Branch tubing is connected into the corresponding ports on the thermostat (Figure-1).
4. Affix thermostat to mounting ring with round head screws, taking care not to kink the tubing.

Adjustments

The 2230-018 Humidistat is factory-set for a 10% throttling range, set in reverse action, and calibrated for 9 psig (62 kPa) when the ambient relative humidity equals the set point. It should not require calibration upon installation unless the throttling range is changed.

If adjustments are to be made remove cover by turning the Allen screw (8) until bottom of cover can be moved away from the wall, and proceed as follows.

Caution: Do not touch nylon ribbon.

To Set To Direct Action

Rotate the switching screw (3) ten complete turns counterclockwise. This change should not interfere with the factory calibration or T.R. setting, and no further adjustment should be necessary.

To Set To Reverse Action

Control is factory set in reverse acting mode. If control is set in direct acting mode, to restore to reverse action, rotate the switching screw (3) clockwise until it becomes snug. **Do not force the screw.**

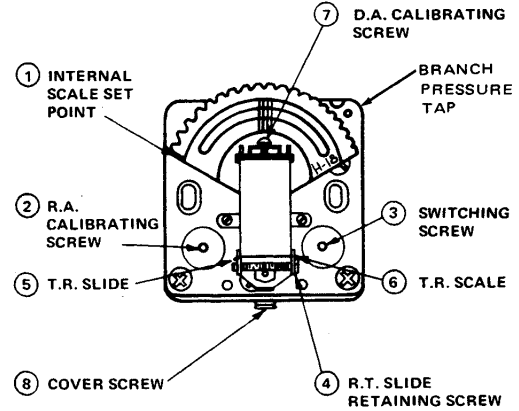
To Set Throttling Range

To change the throttling range, install a test gauge in the branch and rotate the cam by adjusting the set point until 8-10 psig (55-69 kPa) branch pressure.

On October 1st, 2009, TAC became the Buildings business of its parent company Schneider Electric. This document reflects the visual identity of Schneider Electric, however there remains references to TAC as a corporate brand in the body copy. As each document is updated, the body copy will be changed to reflect appropriate corporate brand changes.

To Calibrate And Set Control Point

To check humidistat calibration, install a test gauge in the branch and rotate the cam by adjusting the setpoint until 8-10 psig (55-69 kPa) branch pressure is obtained (R.H. must be within the range of the humidistat). Loosen the T.R. slide retaining screw (4) and slide the T.R. slide (5) to the desired throttling range setting on the T.R. scale (6), making sure to keep the T.R. slide (5) parallel with the T.R. slide retaining screw (4). Tighten this screw to secure the slide (do not over-tighten). Adjust the D.A. calibrating screw (7) to restore 8-10 psig branch pressure.



Reverse Acting

To change calibration in the reverse action mode, adjust setpoint as given for the calibration check procedure. Adjust the R.A. calibrating screw (2) to obtain 8-10 psig (55-69 kPa) branch pressure. Clockwise rotation of screw (2) causes branch pressure to decrease; counterclockwise rotation causes it to increase. Do not force screw (2).

Direct Acting

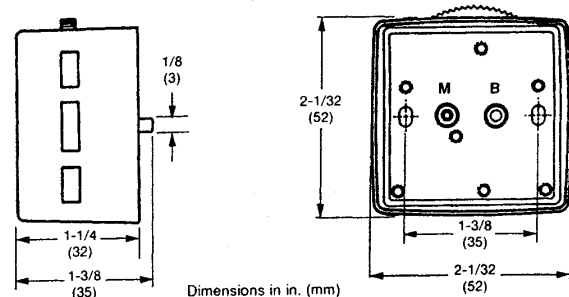
To change calibration in the direct action mode, proceed as given for the calibration check. Then adjust the D.A. calibrating screw (7) to obtain 8-10 psig (55-69 kPa) branch pressure.

To synchronize D.A. and R.A. calibrations, insert test gauge in branch line and adjust setpoint to actual humidity, as described above. Rotate switch screw (3) clockwise until it is snug. Then rotate ten turns counterclockwise and adjust D.A. calibrating screw (7) for 8-10 psig (55-69 kPa) branch pressure. Then rotate switching screw clockwise until snug, and adjust the R.A. Calibrating Screw (2) for 8-10 psig (55-69 kPa) branch pressure. The instrument is now synchronized from R.A. to D.A. and may be used in either mode without change in calibration.

Replace cover after making adjustments.

Mounting Dimensions

MOUNTING DIMENSIONS



Dimensions in in. (mm)