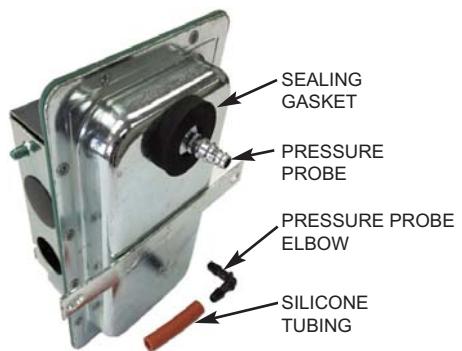




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MODEL PS1503 Duct Airstat™ Switch (Hard-Wired)



SPECIFICATIONS

Electrical Ratings: 300 VA Pilot Duty @ 120 to 277 VAC (Duct Booster, Humidifier)
15 Amps Non-Inductive to 277 VAC (Duct Heater, UV Air Purifier)

Electrical Switch: SPST, Normally Open, Non Adjustable

Operating Position: Diaphragm must be vertical

Operating Pressure: (+.05 ± .02" W.C.)

Operating Temperature Range: -40 to 180°F.

Maximum Pressure: 1/2 PSI

Dimensions: 5.75" x 4.5" Across Bracket, 2.75" High

Listings: CE, CSA, UR

INSTALLATION CAUTIONS

Always disconnect the power supply before making wiring connections.

All wiring and electrical must comply with the National Electrical Code (NFPA 70) and/or applicable local codes.

PS1503 DUCT AIRSTAT OPERATION

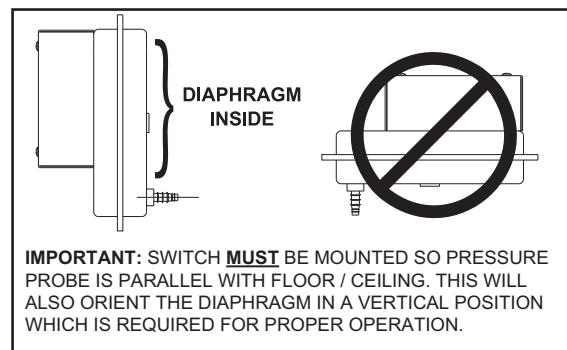
The PS1503 Duct Airstat switch is designed to sense the positive pressure increase in a supply plenum or duct when an air handler or furnace blower is in operation. The increased duct pressure expands a diaphragm which in turn mechanically closes the normally open electrical switch contacts to activate accessories in tandem with the central blower. Typical accessory devices activated include duct booster fans, furnace mounted humidifiers, UV air purification units and duct heaters.

MOUNTING ORIENTATION & LOCATION

IMPORTANT: Since gravity will affect switch operation, the switch must be mounted so that the tip of the Pressure Probe points in a line that is parallel to the floor and ceiling which will orient the diaphragm in a vertical position that is required for proper operation, (See Figure A).

Install the pressure switch on the supply plenum or in a main supply duct. Installing too close to a duct booster fan will cause the switch to short cycle the fan, (See Figure B). Mark a point on the side of the plenum or duct where a hole will be drilled for the barbed sensing pressure probe. Verify that the mounting bracket holes will allow switch to be securely fastened to the duct or plenum.

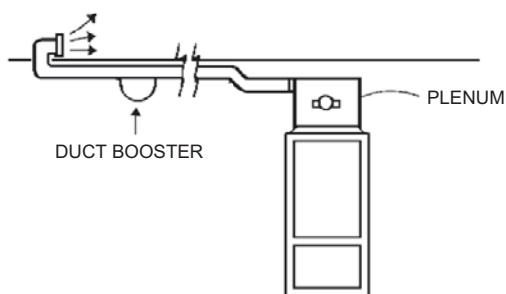
FIGURE A



INSTALLATION

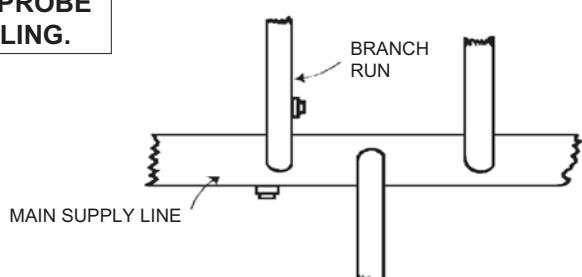
FIGURE B

SIDE VIEW



INSTALL SWITCH ON MAIN SUPPLY PLENUM OR DUCT. SWITCH MUST BE MOUNTED WITH PRESSURE PROBE PARALLEL TO FLOOR / CEILING.

TOP VIEW



IMPORTANT: Since gravity will affect the switch's operation the switch **must be** mounted so that the tip of the Pressure Probe points in a line that is parallel to the floor and ceiling, (See Figure A). For round ducts, the mounting bracket may be bent if needed for a secure attachment and seal of the pressure sensing probe, (See Figure C).

FIGURE C



BRACKETS MAY BE BENT TO FORM AROUND ROUND PIPE FOR SECURE ATTACHMENT.

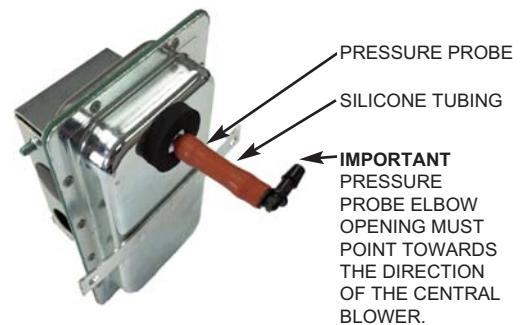
Mark the plenum or duct at a place that conforms with the Mounting Orientation & Location directions and will allow the mounting bracket to be securely fastened. Drill a 1/2" hole for the pressure sensing probe assembly. Insert the pressure sensing probe into the hole and mark the duct or plenum through the two mounting holes in the bracket. Drill (2) 1/16" pilot holes where mounting bracket holes were marked.

Push the included silicone tubing onto the barbed pressure probe and push the 90° plastic elbow into the open end of the tubing. Orient the open end of the elbow towards the direction of the central blower / air handler, (See Figure D).

Insert the elbow into the duct or plenum by bending the tubing back to gain clearance for the elbow, making sure the elbow's open end points towards the central blower. Make sure that the black foam donut shaped sealing gasket around the probe is in place. Secure the switch to the duct or plenum with the (2) provided #8 sheet metal screws.

Prior to wiring you can validate that the pressure switch is installed where the central blower / air handler generates enough pressure to activate the switch by turning on the blower and listening for a click indicating switch closure or measuring switch continuity. If the switch does not close with the central blower operating remove switch, seal the holes with duct tape and reinstall closer to the central blower / air handler.

FIGURE D



PS1503 WIRING

WARNING: Always disconnect the power supply before making wiring connections. All wiring and electrical must comply with the National Electrical Code (NFPA 70) and/or applicable local codes.

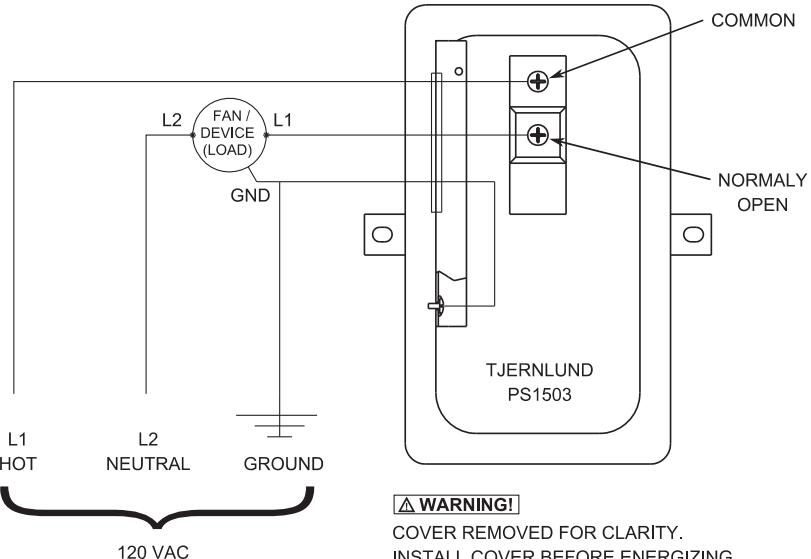
The hot leg of a circuit breaker protected 120 VAC power supply is connected to the Common terminal of the pressure switch.

The hot leg of the 120 VAC power feed to the accessory device being controlled is connected to the Norm Open terminal of the pressure switch.

Verify that any excess stripped wire does not come into contact with the switch body or electrical box cover.

A neutral lead must be connected directly to the accessory device being controlled. If using wire that includes a green ground wire connect to green ground screw in the switch electrical box. If not, install wire from ground screw to an earth ground.

Use only #14, 16 or 18 gauge solid core or #14 or 16 gauge stranded insulated wire. Strip insulation back 1/2" from end and bend bare wire lead around its respective terminal in a clockwise direction and firmly tighten screw.



WARNING!
COVER REMOVED FOR CLARITY.
INSTALL COVER BEFORE ENERGIZING.

TROUBLESHOOTING & WARRANTY

Installations in larger ducts or "dead spots" in duct work may not create enough positive pressure "impact" to activate the Duct Airstat. Try locating pressure probe at several points and make sure the silicone tubing with pressure probe elbow are installed with elbow opening pointing towards the direction of the central blower / air handler. Contact Tjernlund Products customer service @ 1-800-255-4208 or email us at fanmail@tfans.com for further assistance.

TJERNLUND LIMITED 1 YEAR WARRANTY

Tjernlund Products, Inc. warrants to the original purchaser of this product that the product will be free from defects due to faulty material or workmanship for a period of (1) year from the date of original purchase or delivery to the original purchaser, whichever is earlier.

ALSO AVAILABLE:
PS1503P PLUG-IN SWITCH

