ZONEFIRST ™

Static Pressure Switch
Model SPS

The Static Pressure Switch, Model SPS, is used to sense the supply air duct's static pressure and control the modulating by-pass damper (Models ZDM or RDM) in order to maintain the duct system air pressure. When used on a zone control system, the supply air static pressure increases as various zone dampers close down. The increase in static pressure can become noisy and reduce the volume of air through the HVAC Unit, if the static overcomes the rating of the blower.

The SPS controls this by sensing the increased static and signaling the modulating by-pass damper to open. As the by-pass damper opens to relieve the excess static, the air pressure in the duct decreases. The damper responds to the control signal of the SPS. When the static pressure rises above 0.3″W.C., the SPS will power the motorized by-pass damper open. As the by-pass damper opens the duct static should decrease below this higher setting of 0.3″ and as it does the damper stops. If other zone dampers open and the static continues to fall below the lower setting of 0.2″ W.C., the by-pass damper will close. The two setpoints of 0.2″ and 0.3″ and the SPST contacts for each, provide the control for the by-pass damper to truly modulate to prevent excessive static in the system.

By-Pass Control Operation
Above 0.3″ W.C. - Damper Opens
Between .20″W.C. and 0.3″W.C. - Damper Stops
Below 0.20″ W.C. - Damper Closes

The SPS design incorporates two pressure sensitive diaphragms, two single pole single throw snap action electrical switches,

INSTALLATION
The SPS must be installed with the diaphragms in the vertical position. It should be located close to the insertion point of the sampling tube. The sampling tube is inserted into the supply air plenum before the farthest zone damper from the blower. This insures pressure is maintained to the farthest zone before by-passing any air.
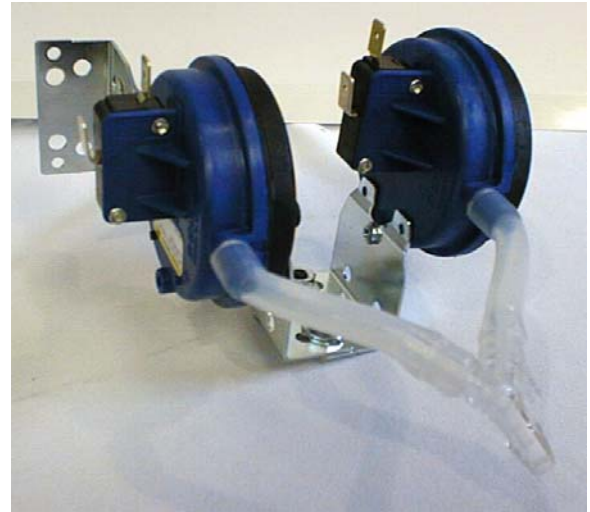
Electrical Ratings:
SPST Snap Acting Electronic Switches
28VA Pilot Duty @ 24VAC
125VA @ 125VAC
SPST Electrical Load
3 A Resistive @ 120VAC