

Static Pressure Controller (ASPC)

Residential & Light Commercial HVAC Static Pressure Controller & Modulating Bypass Damper

- Air Pressure Sensing Switch
- Use with Round or Rectangular Power Open/Close Dampers
- Adjustable Pressure Set-Point

The **ASPC** is a static pressure switch designed to sense positive pressure in the plenum for the purpose of controlling modulating bypass position. The plated housing contains a diaphragm, a calibration spring and a snap-acting SPDT switch. The barbed sample line connections located on each side of the diaphragm accept flexible tubing. The enclosure cover guards against accidental contact with the live switch terminal screws and the set point adjusting screw. The enclosure cover will accept a 1/2" conduit connection. A **pitot tube** (air-probe) for plenum mounting and 12 inches of flexible 1/4" I.D. poly tubing is included with each **ASPC**.

Mounting Installation

Select a mounting location free from vibration. The **ASPC** must be mounted with the "diaphragm" in any vertical plane in order to obtain the best results. Avoid mounting with the sample line connections in the "up" position. Surface mount via the two 3/16" diameter holes in the integral mounting bracket. The mounting holes are 3-7/8" apart. (See **Figure 1**)

Air Sample Connection

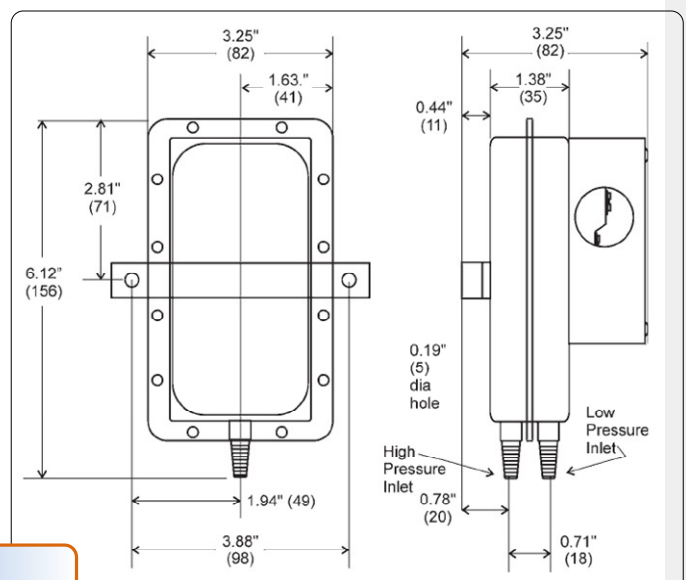
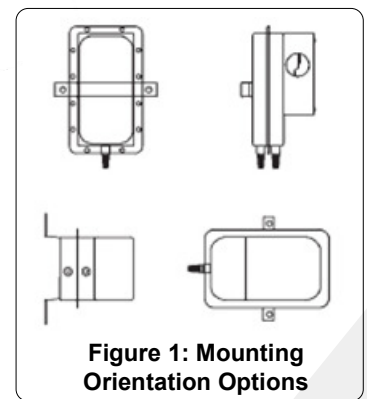
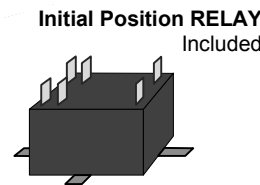
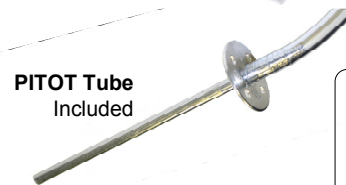
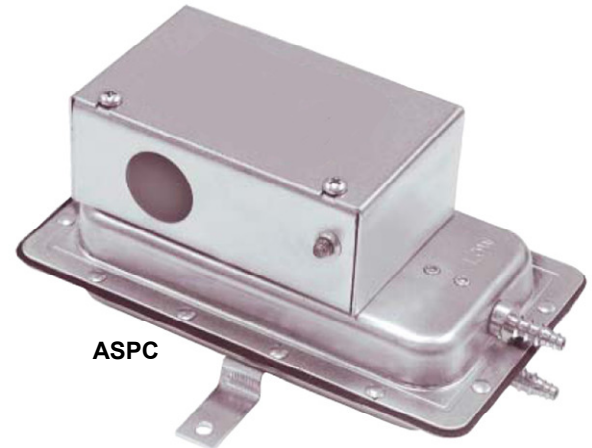
The **ASPC** is designed to accept flexible tubing on barbed 1/4" slip-on connections. A 12" piece of 1/4" ID flexible tubing is included with the SPC as well as a **pitot tube** for mounting in the plenum. Locate the sampling probe a minimum of 2 feet downstream from the air source. Install the sampling probe as close to the center of the airstream as possible. Do not allow supply pressure to blow directly into the **pitot tube**. Connect the included flexible tubing to the **high-pressure inlet** as shown in **Figure 2**.

Initial Position Relay Included

Each **ASPC** includes a **SPDT relay** that should be wired in conjunction with the **ASPC** and Power-Open/Power-Close Damper as shown in **Figure 3**.

PURPOSE of the RELAY: When there is **NO CALL** for the **FAN** on the equipment side of the SmartZone Controller the bypass damper will open. When a **FAN call** occurs the relay allows the **SPC** to modulate the damper blade.

Static Pressure Controller



MORE INFORMATION
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SPECIFICATIONS

Mounting	Mount with the diaphragm in any vertical plane. (See Figure 1)
Set Point Range	0.05" ± 0.02" w.c. to 2.0"w.c.
Field Adj. Operate Range	0.07"w.c. to 2.0"w.c.
Field Adj. Release Range	0.04"w.c. to 1.9"w.c.
Field Adj. Operate Range	0.07"w.c. to 2.0"w.c.
Approx. Switching Differential	Progressive, increasing from 0.02" ± 0.01"w.c. at minimum set point to 0.1"w.c. at maximum set point.
Measured Media	Air or combustion by-products that will not degrade silicone
Maximum Pressure Operating Temperature	½ psi (0.03 bar) -40°F to 180°F (-40°C to 82°C)
Electrical Rating	300VA pilot duty at 115 to 277 VAC, 15 Amps non-inductive 277 VAC @ 60Hz
Contact Arrangement	SPDT
Sample Line Connections	¼" Barbed connectors for flexible tubing
Approval	UL, FM, CSA, CE

Included with ASPC

- Pitot Tube Air Pressure Probe
- Initial Position Relay
- SPC Specification Sheet & Installation Instructions
- Superior 5-Year Limited Factory Warranty

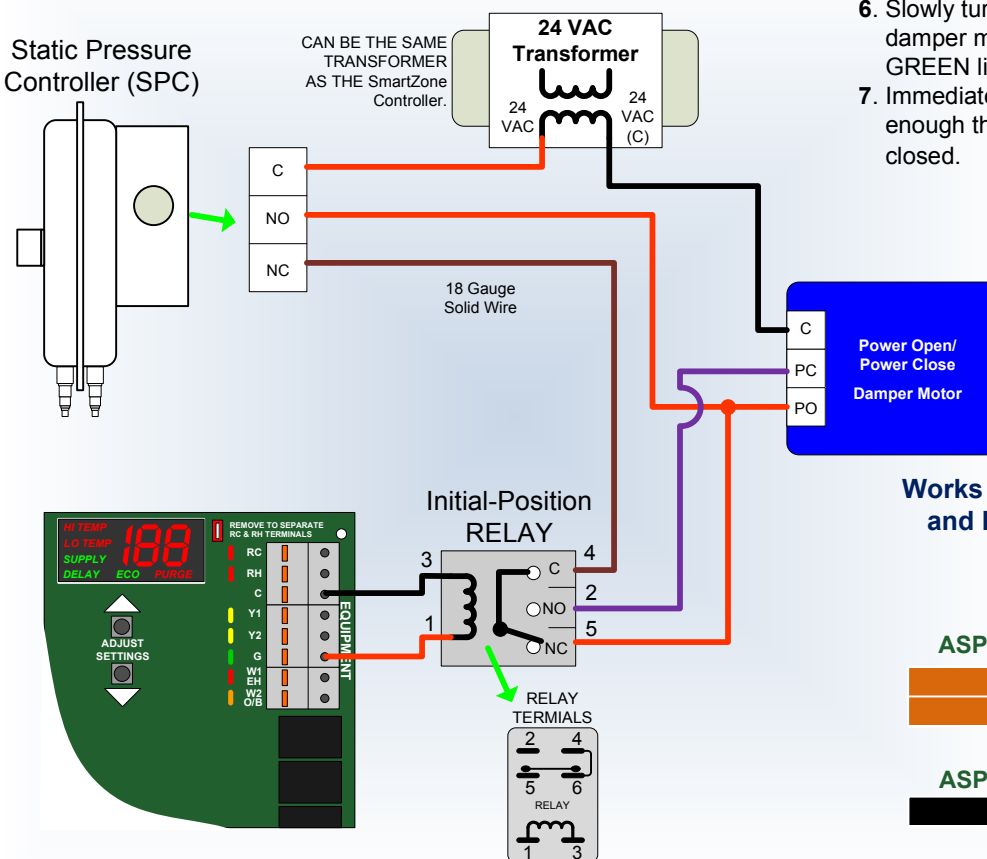
Modulating Bypass Configuration

The goal is to set the bypass damper so that it is barely staying closed when all zones are open. This will cause the bypass damper to open if supply dampers close and the plenum pressure goes up. Follow the steps below to set the static pressure controller correctly:

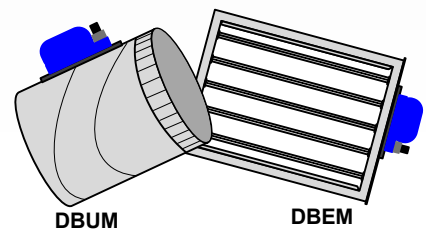
1. Make a call from ALL zones for Cooling.
2. Wait 15 Minutes to make sure the fan (blower) speed is the HIGHEST speed it is capable of.
3. Turn the set screw **clockwise** ¼ turn at a time until the bypass damper motor is running closed (IF using an ECOJAY damper the RED light will begin flashing)
4. After the bypass damper has started closing, it may reverse and start opening again. (This will be indicated with a GREEN light flashing on the damper motor) If this happens turn the set screw **clockwise** ¼ turn to start the damper closing again.
5. Repeat the above step until the damper is fully closed (This will be indicated with a SOLID RED light on the damper motor)
6. Slowly turn the set screw **counter-clockwise** until the bypass damper motor starts to run open (Indicated with a flashing GREEN light on the damper motor).
7. Immediately, turn the set screw **clockwise** once again just enough that the damper motor starts to close again AND stay closed.

As dampers open and/or close during operation, the static pressure sensor will sense a pressure change and make the power open/power close bypass damper move to maintain the same pressure in the plenum that was established when all zones were open.

Figure 3: Wiring



Works with Round and Rectangular Dampers



ASPC INCLUDED WITH:

DBUM	Modulating Round Bypass Damper
DBEM	Modulating Rectangular Bypass Damper

ASPC ONLY:

ASPC	Static Pressure Controller (Replacement Part)
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