

SPC (Static Pressure Controller)

- Air Pressure Sensing Switch
- For use with PO/PC Dampers
- Adjustable Air Switch Set Point Range

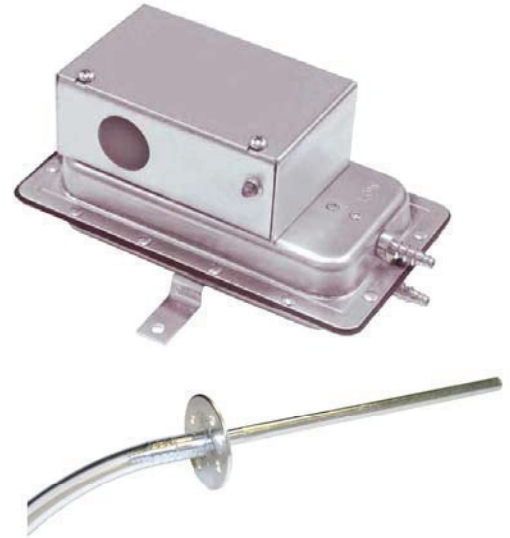
General Description

The **SPC** 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 and set point adjusting screws. The enclosure cover will accept a 1/2" conduit connection.

Pitot tube (air-probe) for mounting in plenum and 36 inches of flexible 1/4" I.D. poly tubing is included with each **SPC**.

Initial Position Relay included to maintain open damper position during NO FAN CALL (Not pictured).



Mounting

Select a mounting location which is free from vibration. The **SPC** must be mounted with the diaphragm in any vertical plane in order to obtain the lowest specified operating set point. Avoid mounting with the sample line connections in the "up" position. Surface mounting by the two 3/16" diameter holes in the integral mounting bracket. The mounting holes are 3 7/8" apart as shown in **Figure 3**.

Air Sample Connection

The **SPC** is designed to accept a flexible tubing by means of a barbed 1/4" slip-on connection. A 36" piece of 1/4" ED Flexible Tubing is included with the SPC as well as the Pitot Tube for mounting in the plenum. Locate the sampling probe a minimum of 2 feet down stream 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 provided flexible tubing to the High-Pressure Inlet as shown in **Figure 2**.

Initial-Position Relay

Each **SPC** includes a SPDT Relay that should be wired in conjunction with the SPC and Power-Open/Power-Close Damper as shown in **Figure 1**. This relay is included so that when there is NO CALL for the FAN on the equipment side of the Braeburn Zone Controller the bypass damper will drive open. When a FAN call occurs the relay allows **SPC** to operate normally.

Specifications

Mounting	Mount with the diaphragm in any vertical plane. (See Figure 3)
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	1/2 psi (0.03 b ar)
Operating Temperature	-40°F to 18 0°F (-4 0°C to 8 2°C)
Electrical Rating	300VA pilot duty at 115 to 277 VAC, 15 Amps no n-inductive 277 VAC @ 60Hz
Contact Arrangement	SPDT
Sample Line Connections	1/4" B arbed connectors for flexible tubing
Approval	UL, FM, CSA, CE

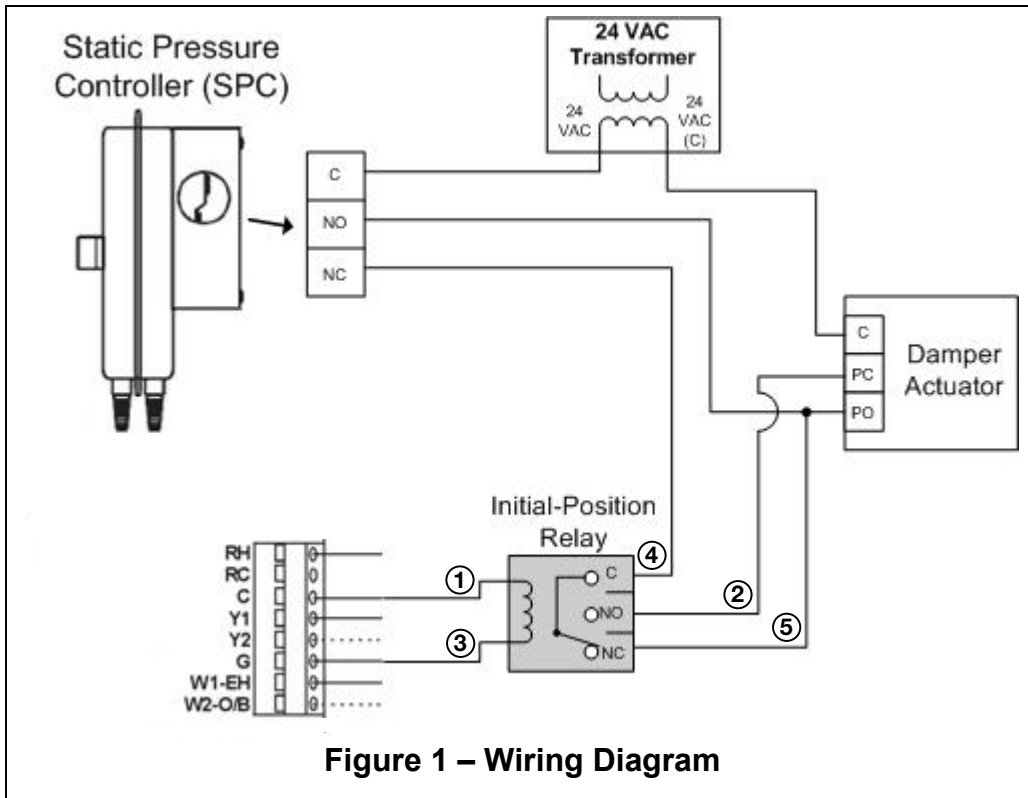


Figure 1 – Wiring Diagram

Electrical Connections

Before pressure is applied to the diaphragm, the switch contacts on the SPC will be in the normally closed (NC) position. This snap switch has screw top terminals with cup washers. Wire according to **Figure 1**.

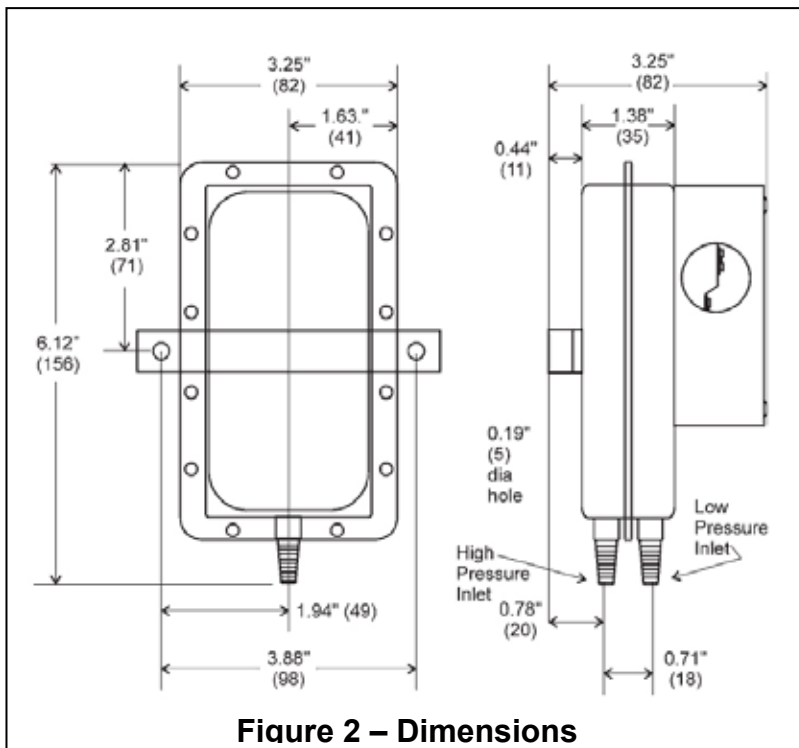


Figure 2 – Dimensions

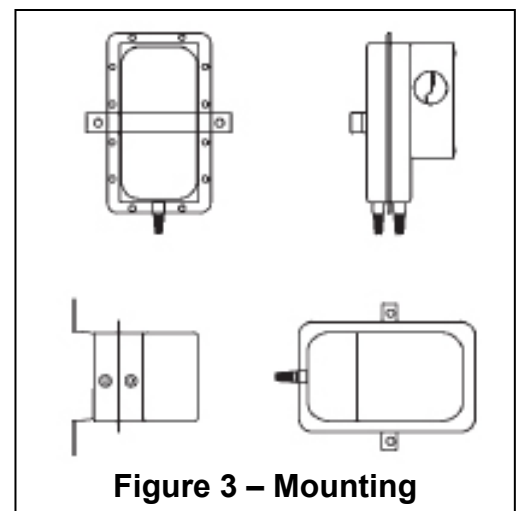


Figure 3 – Mounting

Modulating Bypass Setup

With all zones calling (all dampers open), make certain that the fan is in the highest speed that will be used when the system is running.

Turn the set screw clockwise $\frac{1}{4}$ turn each time until the bypass damper motor is obviously running closed. If the bypass damper should reverse and start opening, turn the set screw another $\frac{1}{4}$ turn and repeat until the damper is closed. Next, slowly turn the set screw counter clockwise until the bypass damper motor start to run open. Immediately, turn the set screw clockwise until the damper motor starts to close again.

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. 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 zone's were open.