SIEMENS

Technical Instructions
Document No. 155-061P25
SW 269-1
April 1, 2005

Powers™ Controls

Static Pressure Switch

Description	The 269 Static Pressure Switch senses static pressure and performs a three-way switching function when the specified static pressure level is reached.
Features	Accurate and repeatable switching thresholds 1/8-inch (3 mm) OD brass barb port fittings
Product Number	269-1200
Application	In a typical application, it can be used to close outside air dampers when the fan is off (Figure 1).

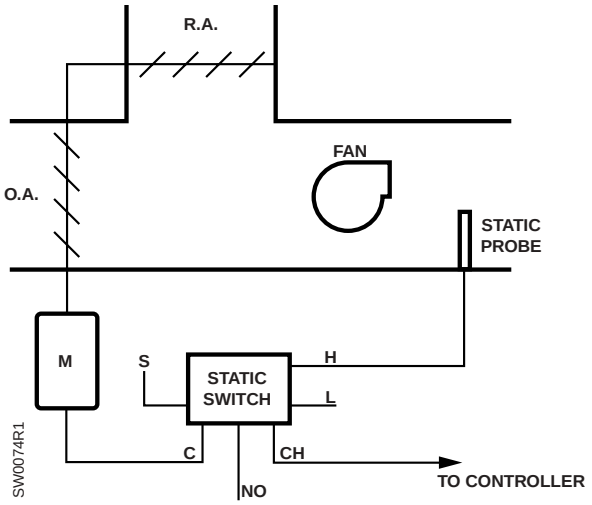

Figure 1. Typical Application.

Specifications

Switching threshold (Differential H To L)	
Increasing static to 0.25-inch WG (62.25 Pa) switches C to N.C.	
Decreasing static to 0.10-inch WG (62.25 Pa) switches C to N.O.	
Standard Sensitivity	0.25-inch WG
Air Capacity	
At 1 psi pressure drop	300 SCIM (82 cm^3/s)
Air Supply	18-28 psi (124-193 kPa)
Maximum Ratings	
Pressure	
Ports S, C, NC or NO	30 psi (206 kPa) max.
Ports H & L	10-inch WG (2.49 kPa) max. differential
Temperature	
Operating	35 to 120°F (2 to 48°C)
Storage	-10 to 140°F (-23 to 60°C)
Air Consumption	30 SCIM (8.19 cm^3/s)
Weight (Net Product Weight)	1 lb 12 oz (0.794 kg)
Dimensions	See Figure 3 5.20-inch (132 mm) H. 3.25-inch (82.6 mm) W. 3.32-inch (84.3 mm) D. 2.50-inch (63.5 mm) mounting hole centers

Accessories

Static Pressure Probe Kit	189-142

Service Parts

These parts make up the restrictor assembly which is the only recommended replacement:

Restriction Cover	182-261
Upper Restriction Gasket	180-251
Restriction Plate	182-276
Lower Restriction Gasket	180-253
Screws (For Restrictor Assembly)	034-014K (Two required)

Operation

The Static Pressure Switch is a device that compares two static pressure inputs. When the high static input is 0.25-inch WG higher than the low static input, the switch will connect the common port to the normally closed port. As the high pressure decreases to within 0.1-inch WG of the low pressure, the switch will again change over and connect the common port to the normally open port.

Referring to Figure 2, the tension spring will maintain a force as set by the adjustment screw in opposition to the high static pressure. When the high static pressure (in reference to the low static pressure) is high enough to overcome the force of the tension spring, the nozzle will be sealed off allowing the pressure in the pilot chamber to build up to supply pressure (the pilot chamber is supplied with a restricted supply). When the pressure in the pilot chamber is high enough to overcome the compression spring, the switching poppet valve will be driven downward connecting the common port to the normally closed port.

When the high static pressure decreases, the nozzle will vent the pilot chamber, and the compression spring will force the poppet valve assembly upward once again connecting the common port to the normally open port.

Operation, Continued

In this sense, the static pressure switch provides a three-way pneumatic switching function. That is, the normally closed or normally open, when not connected to the common port, are essentially sealed chambers.

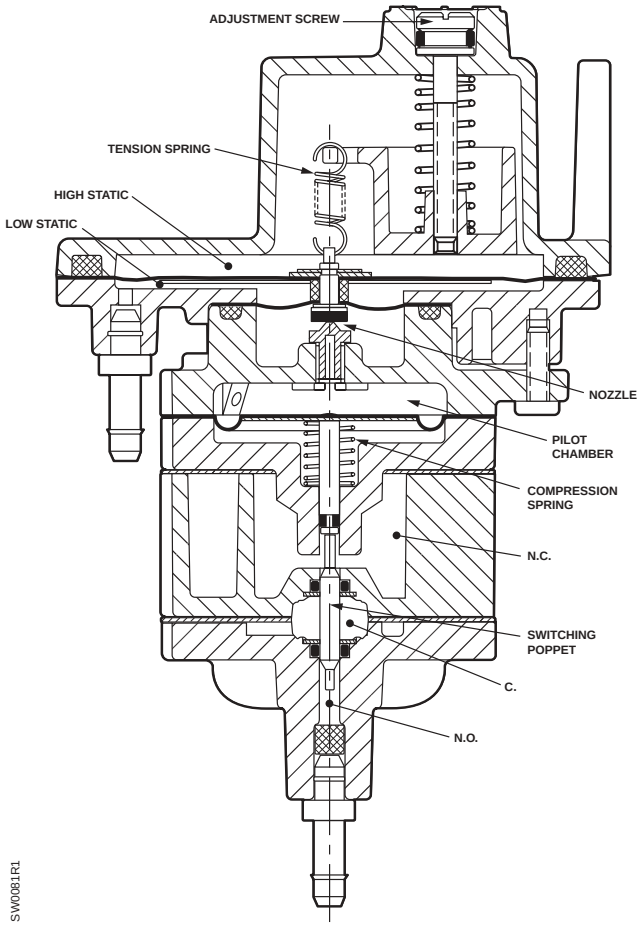

Figure 2.

Dimensions

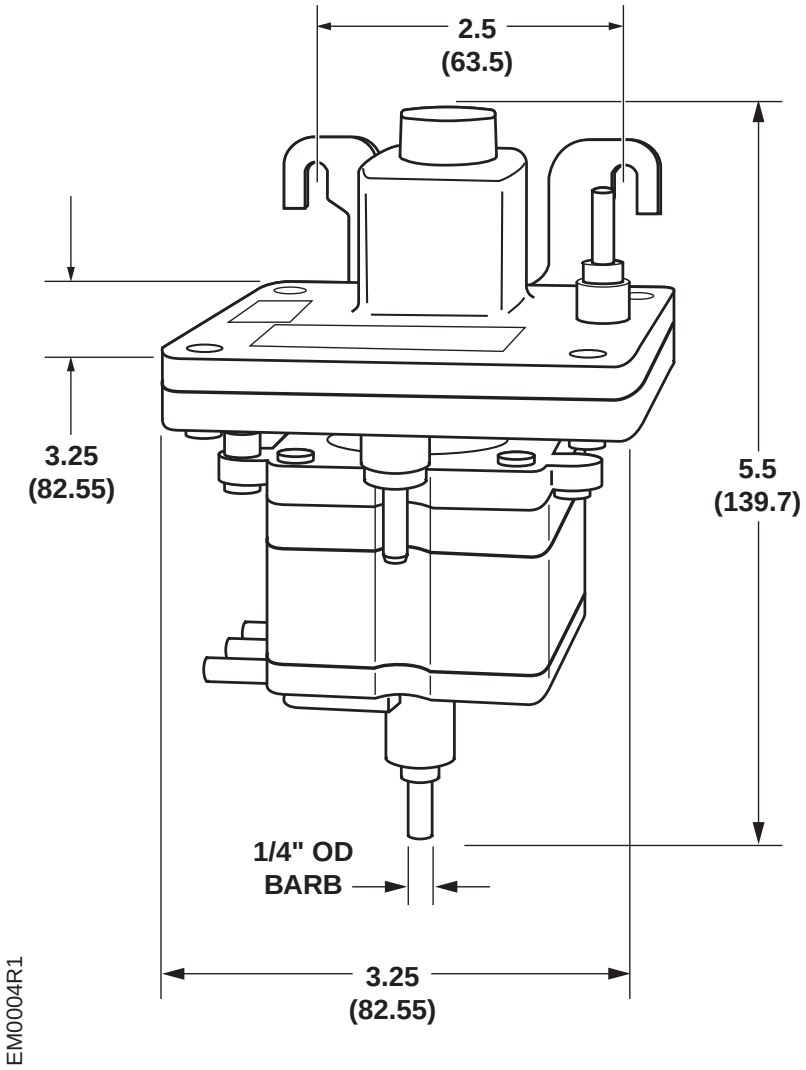

Figure 3. Dimensions in Inches.