

Air Differential Pressure Switch

(SAPS-003V) (SAPS-010V) (SAPS-050V)

PRODUCT SPECIFICATION SHEET



FEATURES

- This switch operates by a positive pressure and negative pressure, a differential pressure.
- This switch is operated at low pressure of 0 to 100mbar
- This switch has a various models according to pressure setup.

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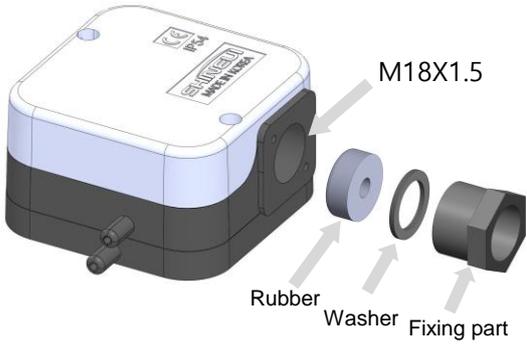
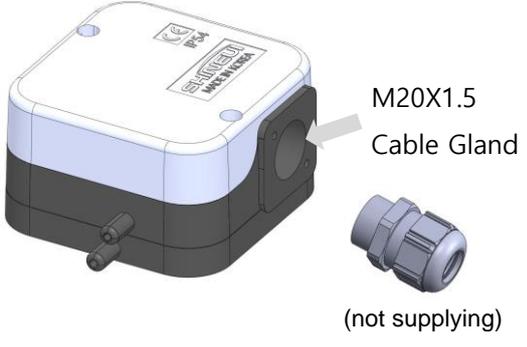
APPLICATION

This switch is used in monitoring flowing of air by differential pressure in HVAC or Gas burner.
This switch has application to sensing of exhaust gas in oil, gas boiler and fan heater.

SPECIFICATIONS

Type	: Adjustable type (Differential pressure type)	
Materials	: Body	Polycarbonate
	: Diaphragm	HNBR
	: Switching contact	Ag-SnO ₂ (Optional : Au-plated)
	Switch part	Polycarbonate
Temperature	: Ambient temperature : -15 ~ 60 °C, : Storage temperature : - 20 ~ 80 °C	
Electrical rating	: Switching Voltage	AC eff. min. 24V max. 250V DC min. 24V max. 48V
	: Carry current	AC eff. max. 6A
	: Switching current	AC eff. max. 6 A at cos φ 1 AC eff. max. 2 A at cos φ 0,6 AC eff. min. 20 mA DC min. 20 mA, DC max. 1A
Control fluid	: Air	

SPECIFICATIONS

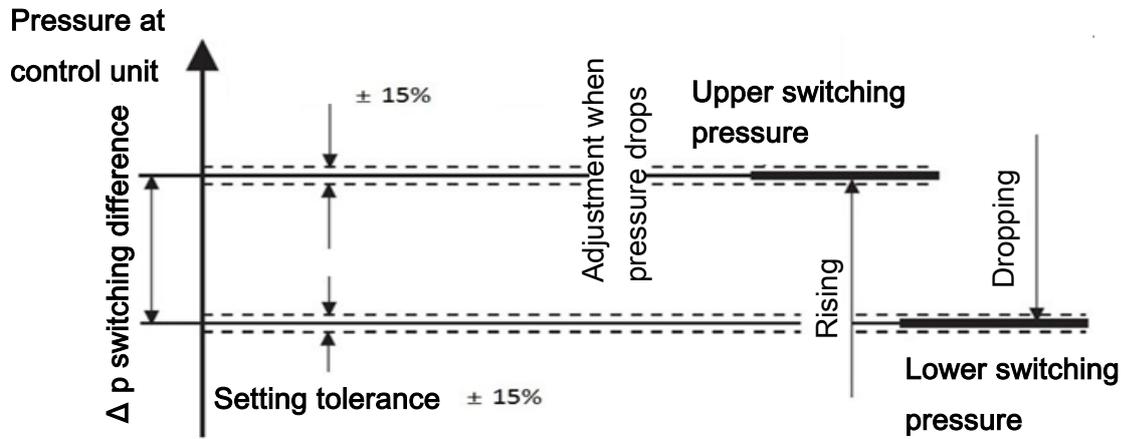
Model	SAPS-003V	SAPS-005V	SAPS-010V
Pressure Range (mbar)	0.4 ~ 3.0	0.5 ~ 5.0	1.0 ~ 10.0
Factory setting (mbar)	0.4	0.5	1.0
Differential pressure (ΔP)max	≤ 0.3 mbar	≤ 0.4 mbar	≤ 0.5 mbar
Permissible Pressure (mbar)	500 (50kpa)		
Dielectric strength	Terminal – Terminal	: 800 VAC/1 min	
	Terminal – Earth	: 1500 VAC/1 min	
	Insulation resistance	: 100 M Ω , Min. DC500V Megger	
Setting tolerance at room temperature	$\pm 15\%$ switch point deviation referred to setpoint, adjusted for rising pressure, vertical diaphragm position. (Optional setpoint : adjusted for dropping pressure)		
Permissible Deviation	Permissible deviation of the set value $\leq \pm 15\%$ in the service life test according to EN 1854		
Electrical connection	Standard : M18x1.5, Optional : M20X1.5 for Cable Gland		
	<p>Standard type : Basic model, so it has assembled with some parts(rubber, Plastic washer and Fixing parts)</p>  <p>M18X1.5</p> <p>Rubber Washer Fixing part</p>	<p>Optional type : Just for a cable gland(M20X1.5), so the users should purchase the cable gland for connection of cable.</p>  <p>M20X1.5 Cable Gland</p> <p>(not supplying)</p>	
Pressure connection	Silicone or poly amide, polyurethane hose ($\phi 5 \times \phi 8$)		
Degree of Protection	IP 54 as per IEC 529 (EN60529)		
Leak – Tightness	Pmax X1.5 for 1minute or Standard (EN1854 (7.2.2))		
Drift	Drift of the operating pressure shall be within $\pm 15\%$ between before and after the endurance test.		
Warranty	1 year		

Notice

In case of following circumstance, we recommend to discuss with us before using.

1. Vapours containing silicone can adversely affect the functioning of electrical contacts. In the case of low switching capacities such as 24V, less than 20mA, for example, we recommend using RC module or electronic switch(no-contact switch) in air containing silicone or oil.
 2. Fall or shock can adversely affect the safety functions. Such products must not be put into operation, even if they do not exhibit any damage
- In case of high humidity or aggressive gas components (H₂S), we recommend using a pressure switch with gold contact. Closed-circuit current monitoring is recommended under difficult operating conditions.

SCHEMATIC 1

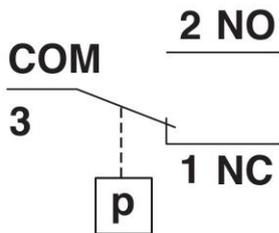


SCHEMATIC 2

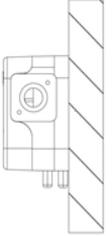
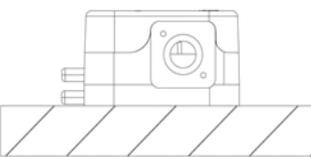
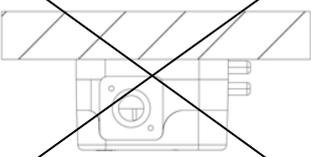
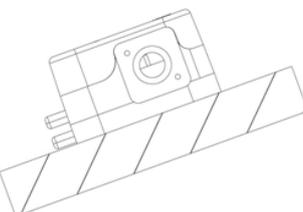
SGPS, SAPS Switching function

As pressure rise:
1 NC opens, 2 NO closes.

As pressure falls:
1 NC closes, 2 NO opens.



Installation position

	<p>Standard installation position if a different installation position is used, pay attention to the changed operating points</p>
	<p>When installed horizontally, the pressure switch switches at the higher pressure.</p>
	<p>Do not use.</p>
	<p>When installed horizontally, the pressure switch switches at the higher pressure.</p>

DIMENSIONS

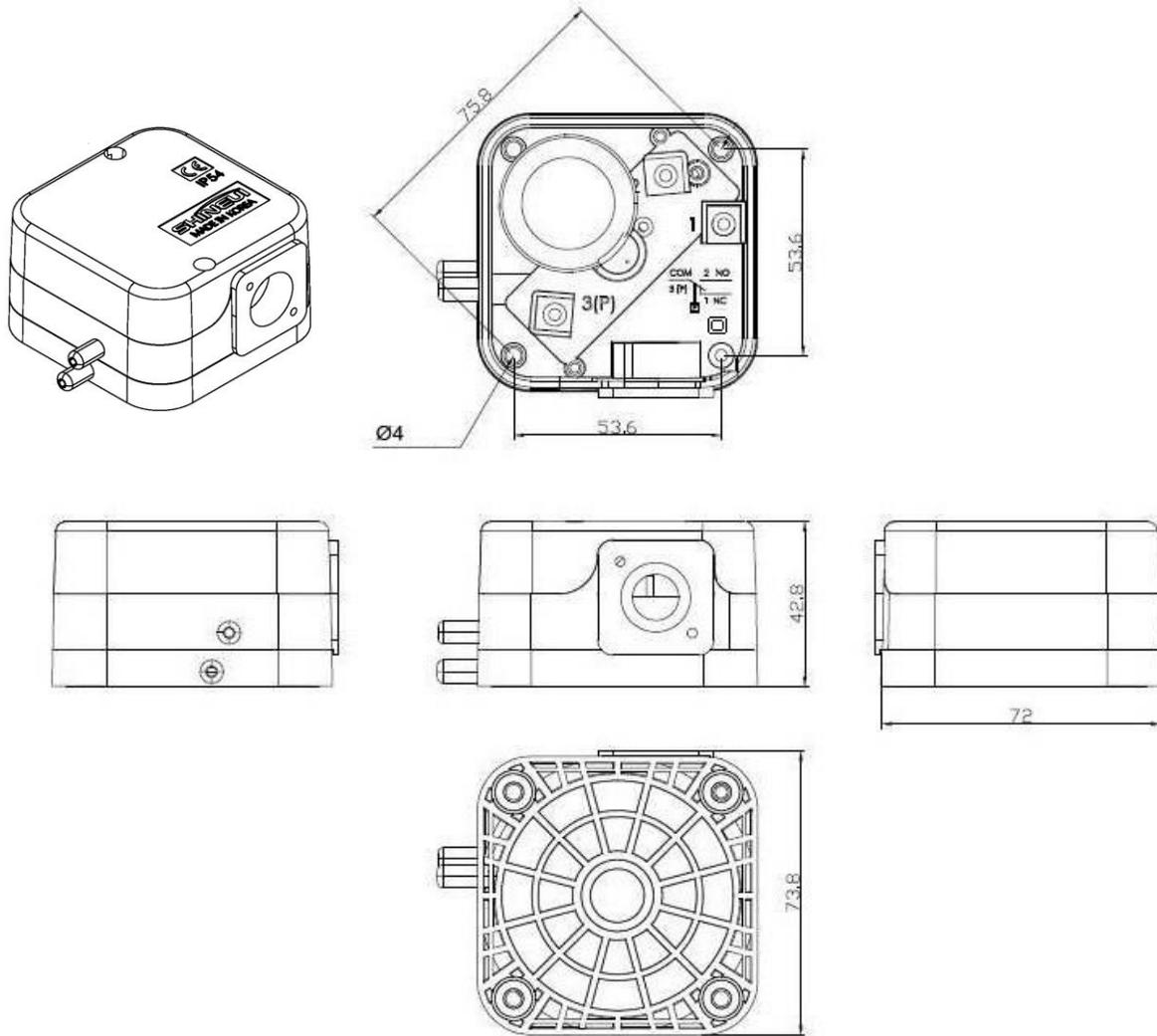


Fig 1. Air differential pressure switch(QPD15.000)

The specifications and dimensions can be changed without warning

Control device class: PSD-M (mechanical pressure switch)

Control Function Class: B

Warning: Before using the air differential pressure switch read the instruction

Permissible drift of the set value $\leq \pm 15\%$ during operational life

Group control device 1

Hysteresis : $\leq 50\%$ upper switching pressure