

Air Differential Pressure Switch(Variable)

(SAPS-3V) (SAPS-5V) (SAPS-10V) (SAPS-50V) – PNAL

PRODUCT SPECIFICATION SHEET



FEATURES

- This switch operates by a positive pressure and negative pressure, a differential pressure.
- This switch has a structure that user can control the setting by a dial wheel.
- This switch is operated to low pressure of 0 to 100mbar and a user is able to request necessary pressure point.
- This switch has a various models according to pressure setup.

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APPLICATION

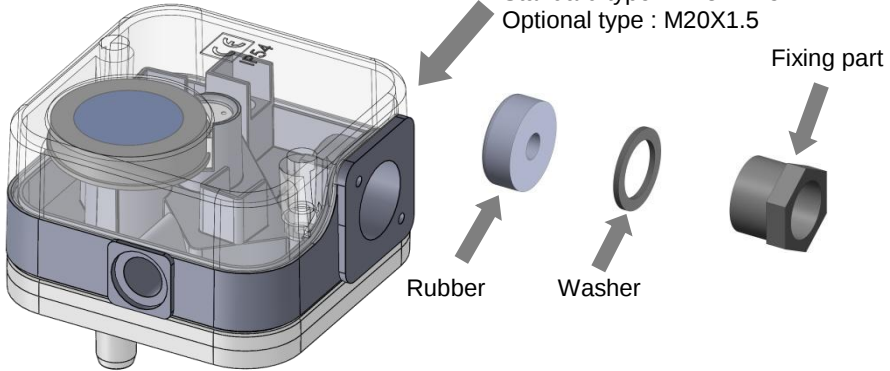
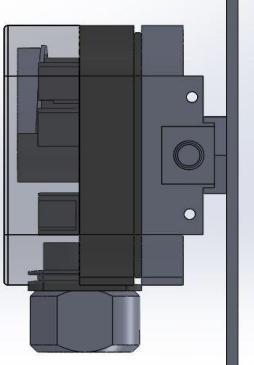
This switch is used in motitoring flowing of air by differential pressure in HVAC or Gas burner.

This switch has application to sensing of exhaust gas in oil, gas boiler and fan heater.

SPECIFICATIONS

Type	: Adjustable type	
Materials	: Body	Aluminum die casting
	: Diaphragm	H-NBR
	: Switching contact	Ag-SnO ₂ (Optioal : Au-plated),
	Switch part	Polycarbonate
Temperature	: Ambient temperature : -15 ~ 60 °C, : Storage temperature : - 30 ~ 80 °C	
Electrical rating	: Switching Voltage	AC eff. min. 24V max. 250V DC min. 24V max. 48V
	: Nominal current	AC eff. max. 6A
	: Switching current	AC eff. max. 4 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. 100mA
Control fluid	: Air	

SPECIFICATIONS

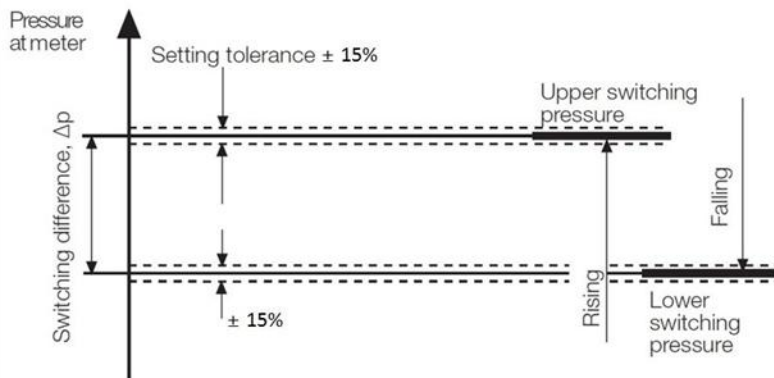
Model		SAPS-3V	SAPS-5V	SAPS-10V	SAPS-50V
Standard Pressure Range (mbar)		0.4 ~ 3	0.5 ~ 5	2 ~ 10	2.5 ~ 50
Workable pressure range (mbar)		0.4 ~ 3.0	2.0 ~ 10	2.5 ~ 50	30 ~ 150
Factory setting pressure (mbar)		0.4	2.0	5.0	30
Permissible pressure (Inrush pressure)		500 mbar			
Switching Difference (ΔP)		≤ 0.4 mbar	≤ 0.5 mbar	≤ 1.5 mbar	≤ 5 mbar
Setting tolerance at room temperature		$\pm 15\%$ switch point deviation referred to setpoint, which adjusted pressure point on rising pressure in the condition of 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			
Dielectric strength	Terminal – Terminal	: 1000 VAC/1 min			
	Terminal – Earth	: 1500 VAC/1 min			
Insulation resistance		: 100 M Ω , Min. DC500V Megger			
Humidity		: RH 0 ~ 80%			
Electrical connection (Refer to the picture) (Refer to the picture of page 3)		In the bellow picture, usually Adaptor standard is used when we have a shipment generally  Standard type : M18 X 1.5 Optional type : M20X1.5 Rubber Washer Fixing part			
Pressure connection		BSPF1/4"(PF 1/4")			
Measuring connection		$\varnothing 9$, length 10 mm, with screw plug (Test nipple integrated in metal housing $\varnothing 9$)			
Installation Instructions		Standard : Vertical installation(like below picture) According to the angle of the installation, the set point for the pressure move up or move down a little. 			
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
Weight	193.5g

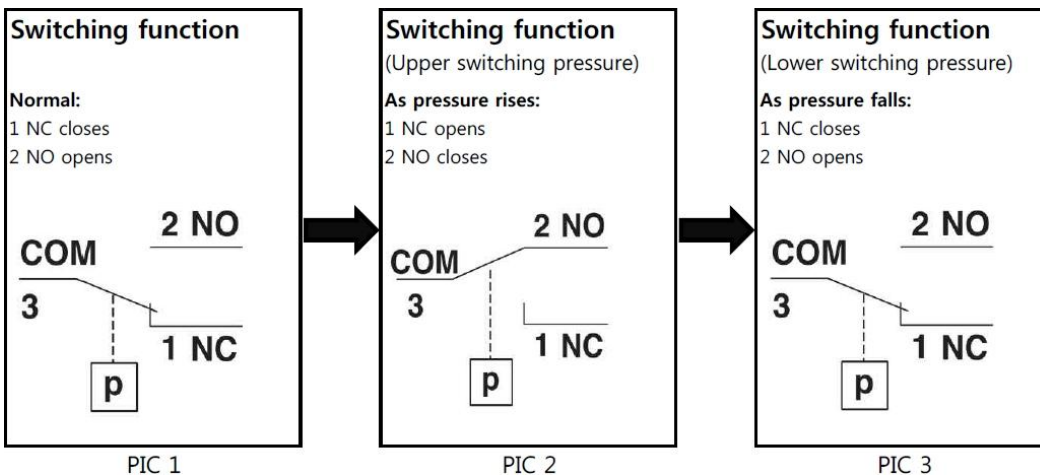
SCHEMATIC 1

Definition of switching difference Δp

The switching difference Δp is the pressure difference between the upper and lower switching pressures.



SCHEMATIC 2

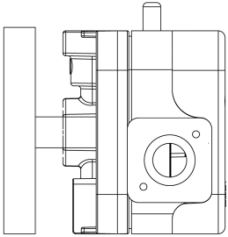
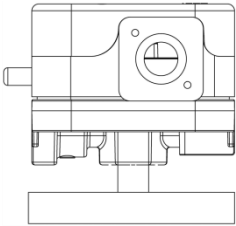
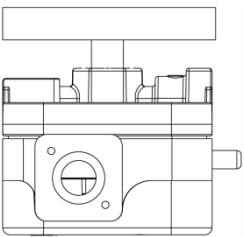
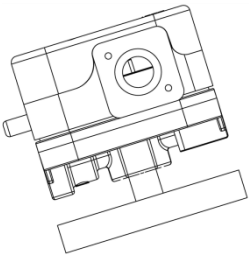


Notice

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

1. Only use silicone tube which have been sufficiently cured
2. Vapors 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.
3. 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.
4. In case of high humidity or aggressive gas components (H₂S), we recommend using a pressure switch with gold contact.
5. Closed-circuit current monitoring is recommended under difficult operating conditions.
6. Do not use at the lower than the minimum setting pressure

Installation position

	Standard installation position if a different installation position is used, pay attention to the changed operating points
	When installed horizontally, the pressure switch switches at the higher pressure.
	When installed horizontally overhead, the pressure switch switches at the lower pressure.
	When installed in an intermediate installation position, the pressure switch switches at the higher pressure.

DIMENSIONS

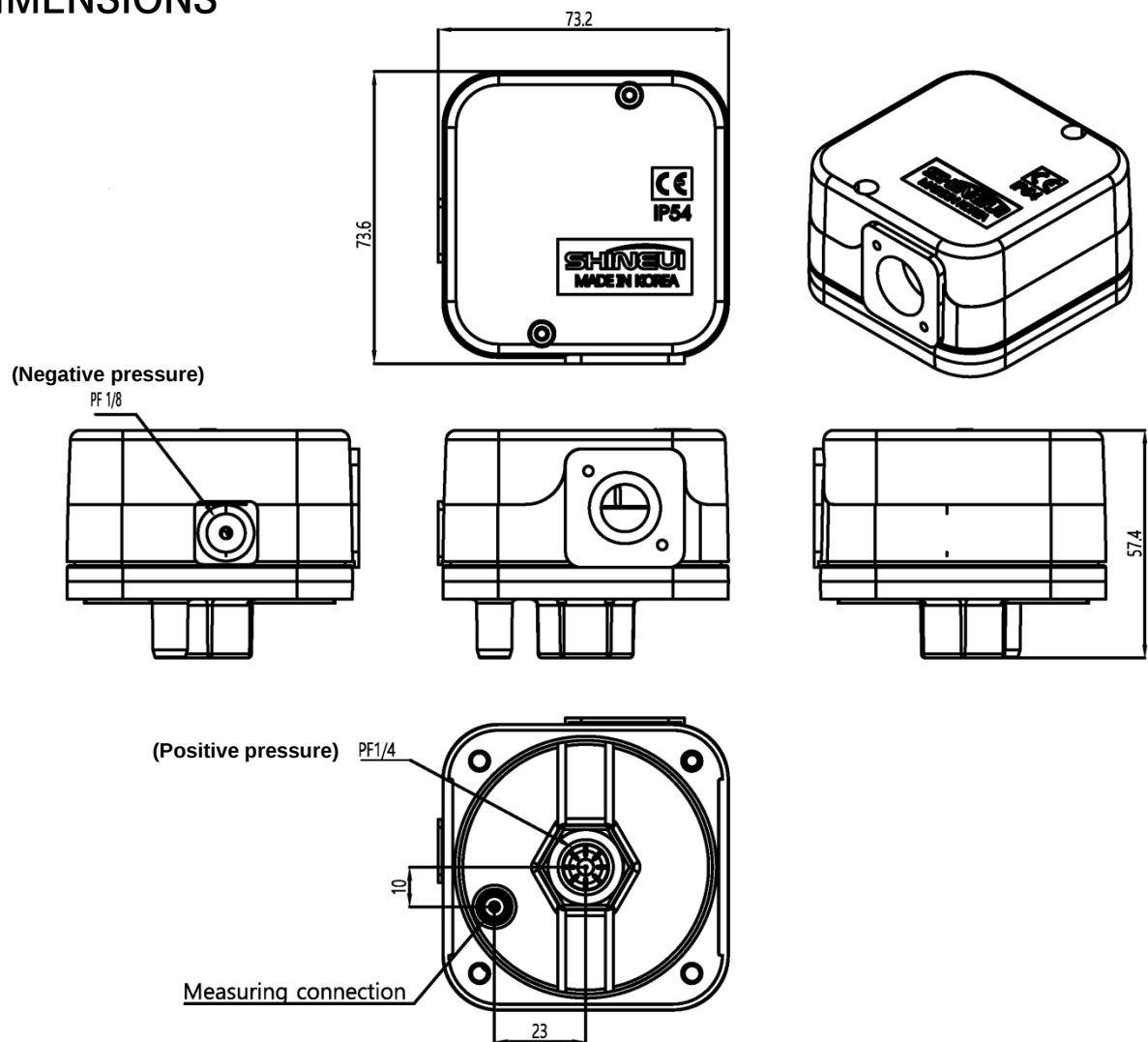


Fig 1. Air pressure switch (V)

The specifications and dimensions can be changed without warning

Dimensions for reference only