

# Weatherproof type pressure switch

## Model: P945 series

Spec. sheet no. PD09-05

### Service intended

P945 diaphragm type pressure switch can be used in a variety of process lines. Internal micro switch is operated by pressure of various fluids such as atmospheric pressure and water pressure. The pressure sensing part is a piston actuated assembly.



### Fluid

Gas and oil

### Repeatability

±1.0% of adjustable range

### Adjustable range (mbar, kPa, bar, MPa)

2 kPa to 15 MPa

### Dead band

Fixed

One SPDT : Approx. 5% adjustable range

Two SPDT : Approx. 10% of adjustable range

### Working temperature

Ambient : -20 ~ 65°C

Fluid : Max. 100°C

### Degree of protection

EN60529/IEC529/IP65



## Standard features

### Pressure connection

Stainless steel (316SS)

### Element material

Stainless steel (316SS)

### Case and cover

ALDC 12.1

Silver gray painted

### Contact

Micro contact type

One SPDT

Two SPDT

DPDT

### Contact rating

■ AC 125 V / 250 V, 15 A

DC 125 V, 0.5 A for resistance load

■ AC 125 V / 250 V, 15 A

DC 125 V, 0.05 A for inductive load

### Conduit connection

3/4" PF (F)

### Process connection

3/8", 1/2" PT, NPT and PF

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**1. Base model**

**P945** Weatherproof type pressure switch  
(Only single setpoint)

**2. Deadband**

**F** Fixed

**3. Switch form**

- 1** One SPDT
- 2** Two SPDT (Only single setpoint)

**4. Process connection**

- C** 1/4"
- D** 3/8"
- E** 1/2"

**5. Connection type**

- B** PF
- C** PT
- D** NPT
- E** NPT (F)

**6. Unit**

- H** bar
- I** MPa
- J** kPa
- S** mbar

**7. Setting range**

**XXX** Refer to pressure range table

**8. Process connection and element material**

- 3** 316SS and 316L SS
- V** 316SS and Viton

**9. Options**

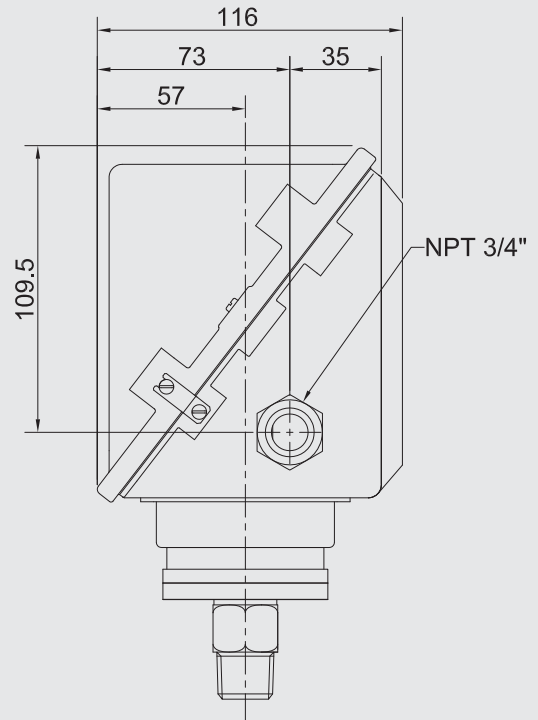
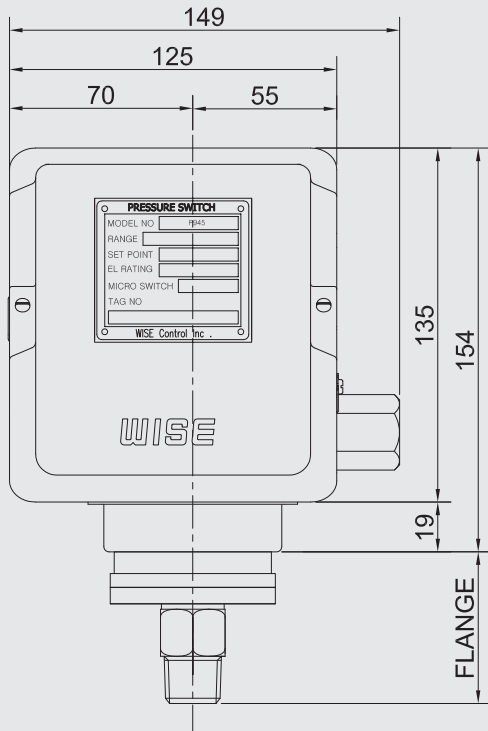
- 0** None
- 1** Mounting bracket
- 2** Diaphragm seal
- 4** 1/2" or 3/4" NPT (F) conduit connection

1	2	3	4	5	6	7	8	9
P945	A	1	C	B	H	XXX	3	0

Sample  
ordering code

## P945 : Type of mounting

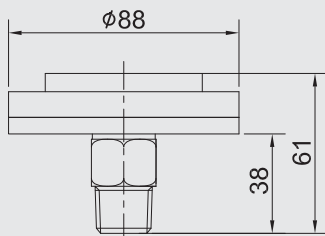
Model : P945-A



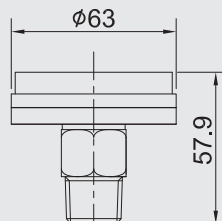
Low Pressure Range  
0.3~14 kpa

Middle Pressure Range  
1~20 bar

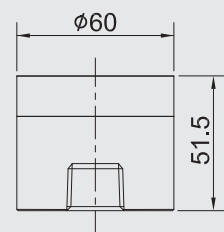
High Pressure Range  
20~200 bar



Type A



Type B



Type C

## Pressure switch

A bi-stable electro mechanical device than actuates/deactuates one or more electrical switching element at a predetermined discrete pressure upon rising or falling.

## Adjustable range

The span of pressure between upper and lower limits within which the pressure switch can be adjusted to actuate/deactuate. It is expressed for increasing pressure.

## Setpoint

That discrete pressure at which the pressure switch is adjusted to actuate/deactuate on rising or falling pressure. It must fall with the adjustable range and be called out as increasing.

## Deadband

The difference in pressure between the increasing set point and the decreasing set point.

## Proofpressure (Pmax)

The maximum input pressure that can be continuously applied to the pressure switch without causing permanent change of set point, leakage or material failure.

## Burst pressure

The maximum input pressure that can be continuously applied to the pressure switch without causing leakage or catastrophic material failure. Permanent change of set point may occur, or the device may be rendered inoperative.

## Repeatability

The ability of a pressure switch to successively operate at a set point that is approached from a starting point in the same direction and returns to the starting point over three consecutive cycles to establish a pressure profile.

The closeness of the measures set point values is normally expressed as a percentage of full scale (maximum adjustable range pressure).

## Pressure range table

Code	Adjustable setting range		Dead band		Pmax	Frange size (mm)	Burst range	
			One SPDT Setpoint	Two SPDT Setpoint				
	bar	kPa	bar		bar	bar	bar	MPa
929	0.003 ~ 0.07	0.3 ~ 7	Within 5% adjustable range	Within 10% adjustable range	10	88 ~ 98	35	3.5
933	0.027 ~ 0.15	2.7 ~ 15						
938	0.045 ~ 0.3	4.5 ~ 30						
941	0.075 ~ 0.5	7.5 ~ 50						
949	0.09 ~ 0.6	9 ~ 60						
942	0.12 ~ 0.8	12 ~ 80			20	63	70	7
902	0.15 ~ 1	15 ~ 100						
903	0.3 ~ 2	30 ~ 200						
904	0.45 ~ 3	45 ~ 300						
906	0.9 ~ 6	90 ~ 600						
908	1.5 ~ 10	0.15 ~ 1 MPa			50	60	170	17
911	2.25 ~ 15	0.225 ~ 1.5 MPa						
912	3 ~ 20	0.3 ~ 2 MPa						
914	4.5 ~ 30	0.45 ~ 3 MPa						
916	7.5 ~ 50	0.75 ~ 5 MPa						
923	8.5 ~ 70	0.85 ~ 7 MPa	100		200	20		
919	10.5 ~ 100	1.05 ~ 10 MPa						
926	15.5 ~ 150	1.55 ~ 15 MPa						
					50	400	40	

Code	Resistance load		Inductive load	
	NC	NO	NC	NO
125 V AC		15 (10)		15 (10)
250 V AC		15 (10)		15 (10)
480 V AC		10		10
8 V DC		15		15
14 V DC		15		10
30 V DC		2		1
125 V DC		0.4		0.03
250 V DC		0.2		0.02

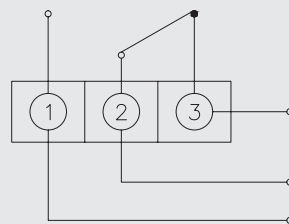
### SPDT switching element

Single-pole, double throw (SPDT) has three connection : C-common, NO-normally open and NC-normally closed, which allows the switching element to be electrically to the circuit NO or NC state.

### DPDT switching element

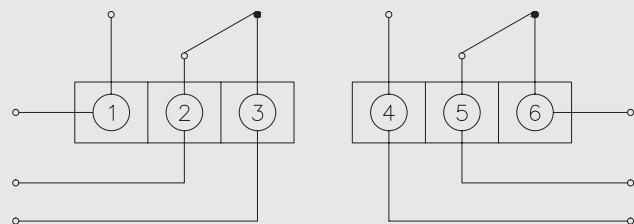
Double-pole, double throw (DPDT) is two SPDT switching elements operated by a common lever assembly so simultaneous actuation / deactuation occurs at both the increasing and the decreasing set point. Two independent electrical circuits can be switched, i.e. one AC and one DC.

Pressure reach the upper or lower limit set point, circuit closed and opened.



①:NO ②:COM ③:NC

Pressure reach the upper or lower limit set point, two circuit simultaneous closed and opened.



①,④:NO ②,⑤:COM ③,⑥:NC

NO : Normal open  
NC : Normal close