

# Differential pressure gauge with Electrical contact

## Model: P601, P602

Spec. sheet no. PD06-01

### Service intended

P601 to P602 series are designed to measure differential pressure from 5 kPa to 1.5 MPa at Max. working pressure up to 5 MPa.

P601 to P602 series are designed to control and alarm for differential pressure, providing right time to replace air and sludge filter during the process.

### Nominal diameter

100 and 160 mm

### Accuracy

±1.0% of full scale

±1.5% or ±1.6% of full scale

### Scale range (MPa, kPa, bar)

0~30 kPa to 0~50 kPa

0~0.1 MPa to 0~1.5 MPa

### Max. Working pressure (Static pressure)

5 MPa

### Working temperature

Ambient : -20~65°C

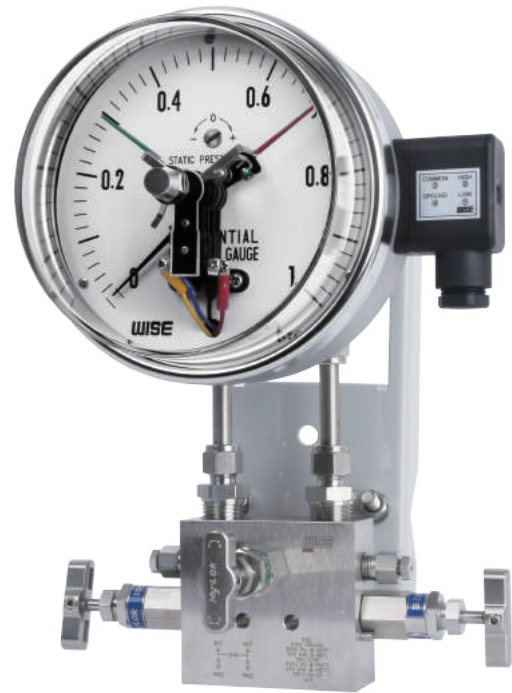
Fluid : Max. 100°C

### Degree of protection

EN60529/IEC529/IP65

### Temperature effect

Accuracy at temperature above and below the reference temperature (20°C) will be effected by approximately ±0.5% per 10°C of full scale



## Standard features

### Pressure connection

Stainless steel (316SS)

### Element

Single Bellows

Stainless steel (316L SS)

### Case

Stainless steel (304SS)

### Cover

Stainless steel (304SS)

Bayonet type

### Window

Polycarbonate

### Dial

White aluminium with black graduations

### Conduit connection

M20 x 1.5P

### Contact

Contact rating: AC 230 V 0.12 A / 110 V 0.24 A

DC 220 V 0.1 A / 110 V 0.2 A

### Pointer

Black painted aluminium alloy

### Process connection

1/4" NPT(F)

1/2" NPT(F) at 3-way and 5-way manifold valve

### Standard accessories

Mounting bracket for 2" pipe  
mounting with silver gray finished steel

### Optional

- Remote seal
- Mounting bracket with 316SS for 2" pipe mounting
- 3-way manifold valve (316SS, Monel)
- 5-way manifold valve (316SS, Monel)

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## Main order

## Ordering information

## 1. Base model

- P601** Electrical contact type pressure gauge (Single contact)  
**P602** Electrical contact type pressure gauge (Dual contact)

## 2. Nominal diameter (mm)

- 4** 100  
**6** 160

## 3. Type of mounting (Refer to mounting type &amp; Dimension)

- D** Bottom connection, mounting bracket for 2" pipe

## 4. Accuracy

- 3** ±1.0% of full scale  
**4** ±1.5% or ±1.6% of full scale

## 5. Contact function

- 1** High alarm, normal open contact (Only P601)  
**2** Low and High alarm (Only P602)  
**3** Low alarm, normal close contact (Only P601)  
**4** Two High alarm (Only P602)  
**5** Two Low alarm (Only P602)

## 6. Mounting bracket

- D** Standard bracket  
**E** 304SS mounting bracket  
**F** 316SS mounting bracket  
**W** Wall mounting bracket (316SS)

## 7. Unit

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

## 8. Range

- 041** 0~0.1 MPa  
**042** 0~0.2 MPa  
**043** 0~0.3 MPa  
**044** 0~0.4 MPa  
**045** 0~0.6 MPa  
**047** 0~1 MPa  
**050** 0~1.5 MPa  
**518** 0~30 kPa, Not available with remote seal type  
**040** 0~50 kPa

## 9. Conduit connection

- 0** None (STD M20X1.5P)  
**2** NPT 1/2"(F)  
**4** NPT 3/4"(F)  
**Z** Other

## 10. Options

- 0** Standard (2" mounting bracket)  
**1** Accessories (3-way manifold valve)  
**2** Accessories (5-way manifold valve)

## Sample ordering code

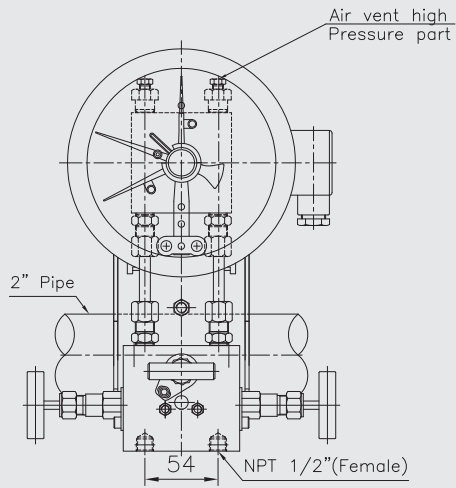
1	2	3	4	5	6	7	8	9	10
P601	4	D	3	1	D	H	041	0	0



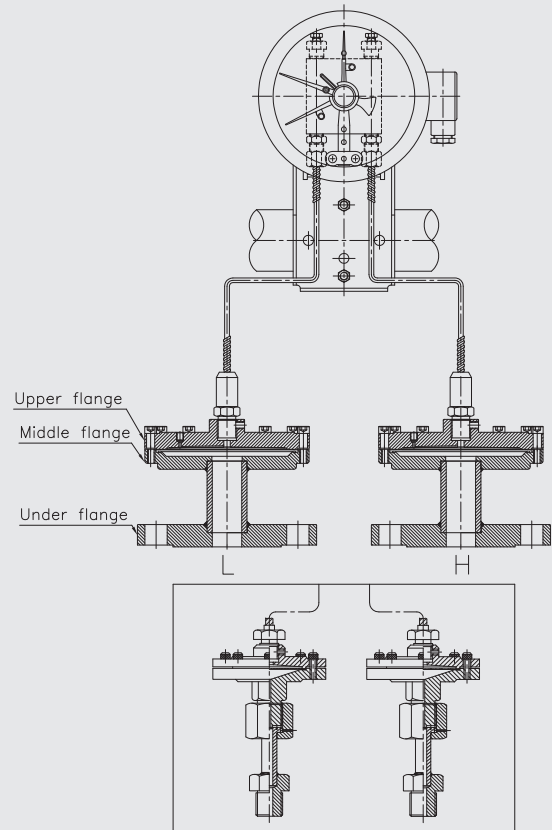
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## P601, P602 : Type of mounting

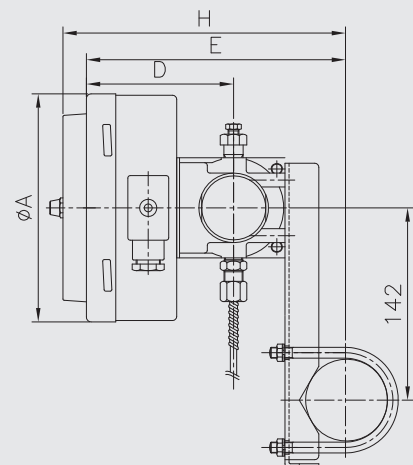
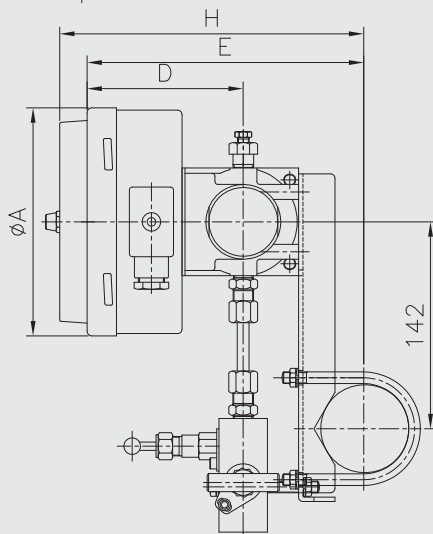
Code : P601, P602



Code : P601, P602(Remote seal)



Static pressure : 5 MPa



## Snap - action contacts

### General

Electromechanical limit switches in pointer type measuring instruments are auxiliary current switches which open or close electrical circuits at set limit values by means of a contact arm which is moved by the actual value pointer. The snap action contact is a mechanical contact for switching capacities up to 30 W 50 VA max. Contact making will be delayed and or advanced in relation to the movement of the actual value pointer. To closed the circuit, the contact pin of the movable contact arm is attracted in a jump by the permanent magnet fastened to the supporting arm shortly before the set value has been reached. Due to the retention force of the magnet, snap action contacts are more resistant against shock and vibration. The switching safety is increased by the increased contact pressure. When the circuit is opened, the magnet keeps the contact arm in its place until the restoring force of the measuring element exceeds the magnetic force, and the contact opens in a jump.

### Specifications

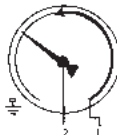

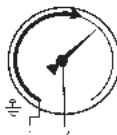

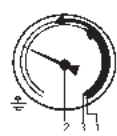


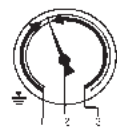

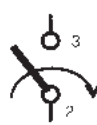
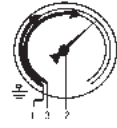
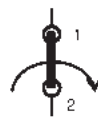

Maximum contact rating with non-inductive (ohmic) load		Electrical contacts type pressure gauge model P601, P602	
Maximum voltage		Dry gauges	
		250 V	
Current ratings	Make ratings	1.0 A	
	Break ratings	1.0 A	
	Continuos load	0.6 A	
Maximum load		30 W 50 VA	
Material of contact points		Silver-nickel alloy (80 % Ag / 20 %Ni / 10 $\mu$ m) gold-plated	
Ambient operating temperature		-20 ...+70 °C	
Max. no. of contacts		2	
Voltage test		Circuit / protective earth conductor - 2,000 vac 1 minute	
		Circuit /circuit - 2,000 vac 1 minute	

### Recommended contact ratings with ohmic and inductive load

Voltage (DIN IEC 38) DC / AC	Electrical contacts type pressure gauge model P601, P602		
	Dry gauges		
	Ohmic load		Inductive load
	DC	AC	
			cosØ > 0.7
V	mA	mA	mA
220 / 230	100	120	65
110 / 110	200	240	130
48 / 48	300	450	200
24 / 24	400	600	250

In order to ensure a high switching reliability of the contacts the switching voltage should not be below 24 V, also taking environmental influences in the long term into account.

## Contact function table

Gauge model	Wiring scheme	Contact function		Wiebrock code no.	Remark	
		1 <sup>st</sup> contact	2 <sup>nd</sup> contact			
Single contact						
1	Contact make when pointer reaches set point ( normally open - NO )			S/M-1	Normally use high alarm system	
3	Contact break when pointer reaches set point ( normally close - NC )			S/M-2	Normally use low alarm system	
Double contact - Common circuit						
4	1 <sup>st</sup> and 2 <sup>nd</sup> contact make when pointer reaches set point				S/M-11	Normally use high&hihigh alarm system
2	1 <sup>st</sup> contact break 2 <sup>nd</sup> Contact make when pointer reaches set point				S/M-21	Normally use high & low alarm system
5	1 <sup>st</sup> and 2 <sup>nd</sup> Contact break when pointer reaches set point				S/M-22	Normally use low & lolow alarm system

