

# Indicating type differential pressure switch with bellows element

## Model: P640 series

Spec. sheet no. PD06-02

### Service intended

The P640 series are designed to measure differential pressure from 25 kPa to 2.0 MPa at Max.working pressure 10 MPa and have electrical contact. A set of two stainless steel bellows mounted on a force balance allows direct reading of the actual differential pressure.



### Nominal diameter

150 mm

### Accuracy

±1.0 % of full scale

±1.5 % of full scale

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

0 ~ 25 kPa to 0 ~ 0.25 MPa (P641 model)

0 ~ 0.4 MPa to 0 ~ 2.0 MPa (P642 model)

### Max. working pressure (Static pressure)

Max. 10 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 (316L SS), Monel and Hastelloy-C

### Element

Bellows

Stainless steel (316L SS), Monel and Hastelloy-C

### Case and cover

ALDC12.1, Black painted

Screwed type

### Window

Safety glass

### Dial

White aluminium with black graduations

### Filling liquid for differential cell

Silicone oil

### Pointer

Black painted aluminium alloy (Zero adjustable)

### Contact

Contact rating : AC 250 V 3 A / 125 V 5 A

DC 250 V 0.2 A / 125 V 0.4 A / 30 V 4 A

Dielectric strength : AC 500 V / MIN

Type : Micro contact, One and two SPDT

### Conduit connection

3/4" PF(F)

### 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

### Option

- Remote seal - Not available with less than 40 kPa of differential pressure range
- Mounting bracket with 316SS for 2" pipe
- 3-way manifold valve (316SS, Monel)
- 5-way manifold valve (316SS, Monel)

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**1. Base model**

- P641** Differential pressure indicating switch with bellows element  
(0 ~ 25 kPa to 0 ~ 0.25 MPa)
- P642** Differential pressure indicating switch with bellows element  
(0 ~ 0.4 MPa to 0 ~ 2.0 MPa)

**2. Switch form**

- 1 High alarm contact differential pressure switch
- 2 High and low alarm contact differential pressure switch
- 3 Low alarm contact differential pressure switch
- 4 Two high alarm contact differential pressure switch
- 5 Two low alarm contact differential pressure switch

**3. Type of mounting**

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

**4. Accuracy**

- 3 ±1.0 % of full scale (Optional)
- 4 ±1.5 % of full scale (Standard)

**5. Process connection**

- C** ¼" NPT(F)
- E** ½" NPT(F), only at 3-way and 5-way manifold valve

**6. Mounting bracket**

- D** Standard bracket
- E** 304SS mounting bracket
- F** 316SS mounting bracket
- W** Wall mounting bracket (316SS)
- N** None

**7. Unit**

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

**8. Range**

- XXX** Refer to pressure unit and range table

**9. Element and flange material**

- 1 316L SS
- 2 Monel
- 3 Hastelloy-C

**10. Option**

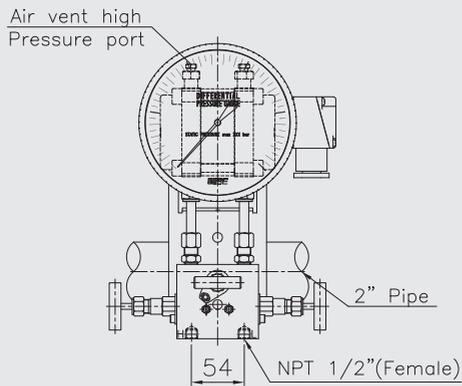
- 0 None
- 1 Manifold valve
- 8 ½" or ¾" NPT(F) conduit connection

1	2	3	4	5	6	7	8	9	10
P641	1	D	4	C	D	H	XXX	1	0

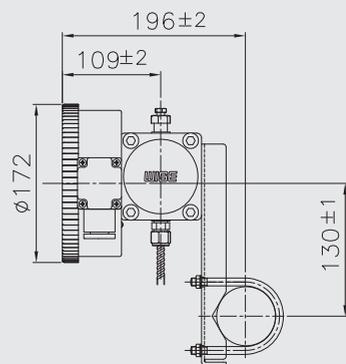
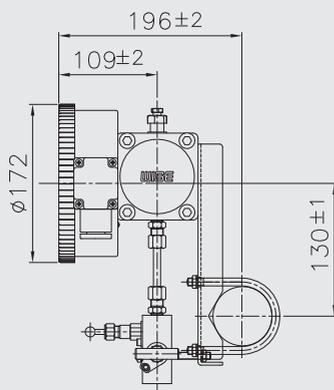
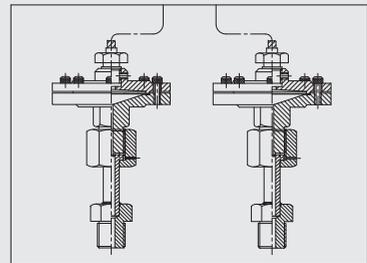
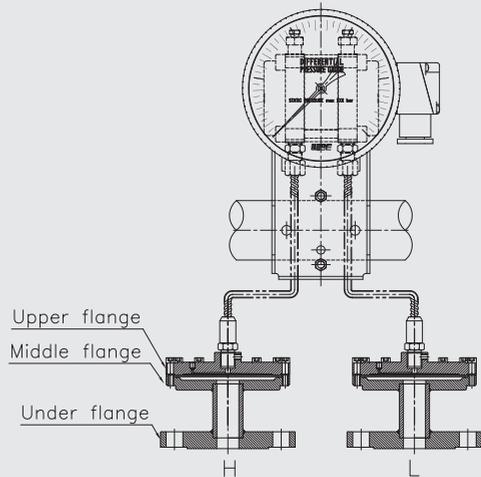
Sample  
ordering code

## P64X : Type of mounting

Code:(D) P640



Code:(D) P640(Remote seal)



## Pressure unit and range table

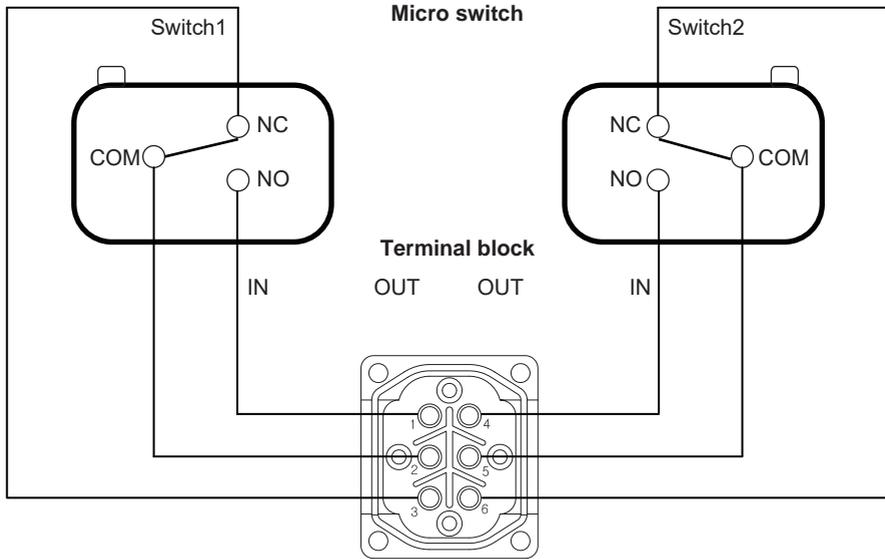
Range and code	Unit and code				Model
	J : kPa	S : mbar	H : bar	I : MPa	
118	0 ~ 25	0 ~ 250	X	X	P641
121	0 ~ 40	0 ~ 400	X	X	
125	0 ~ 60	0 ~ 600	X	X	
041	0 ~ 100	X	0 ~ 1	0 ~ 0.1	
133	0 ~ 160	X	0 ~ 1.6	0 ~ 0.16	
042	0 ~ 200	X	0 ~ 2	0 ~ 0.2	
134	0 ~ 250	X	0 ~ 2.5	0 ~ 0.25	
044	0 ~ 400	X	0 ~ 4	0 ~ 0.4	P642
045	0 ~ 600	X	0 ~ 6	0 ~ 0.6	
047	0 ~ 1,000	X	0 ~ 10	0 ~ 1	
143	X	X	0 ~ 16	0 ~ 1.6	
051	X	X	0 ~ 20	0 ~ 2	

X : Not available

## Contact rating

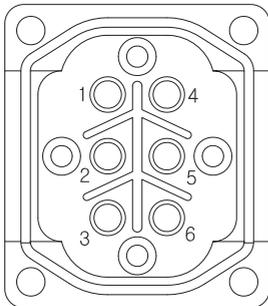
Rated voltage	Resistance load (A)		Inductive load (A)	
	NC	NO	NC	NO
125 V AC	5		3	
250 V AC	3		2	
8 V DC	5		5	4
14 V DC	5		4	4
30 V DC	4		3	3
125 V DC	0.4		0.4	0.4
250 V DC	0.2		0.2	0.2

## Terminal block arrangement



	NO	COM	NC
Switch 1	1	2	3
	NO	COM	NC
Switch 2	4	5	6

## Terminal block arrangement



### 1. High alarm (P64X1)

- ① Normal open
- ② Common
- ③ Normal close

### 2. High and low alarm (P64X2)

#### High alarm

- ① Normal open
- ② Common
- ③ Normal close

#### Low alarm

- ④ Normal open
- ⑤ Common
- ⑥ Normal close

### 3. Low alarm (P64X3)

- ① Normal open
- ② Common
- ③ Normal close

### 4. Two high alarm (P64X4)

#### No.1 High alarm

- ① Normal open
- ② Common
- ③ Normal close

#### No.2 High alarm

- ④ Normal open
- ⑤ Common
- ⑥ Normal close

### 5. Two low alarm (P64X5)

#### No.2 Low alarm

- ① Normal open
- ② Common
- ③ Normal close

#### No.1 Low alarm

- ④ Normal open
- ⑤ Common
- ⑥ Normal close

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