

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

¼" PF(F)

Process connection

¼" NPT(F)

½" 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

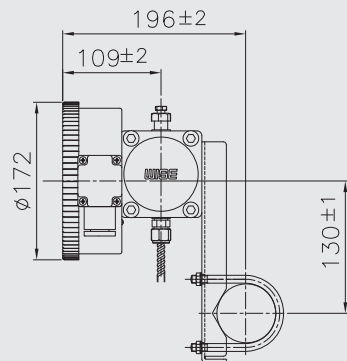
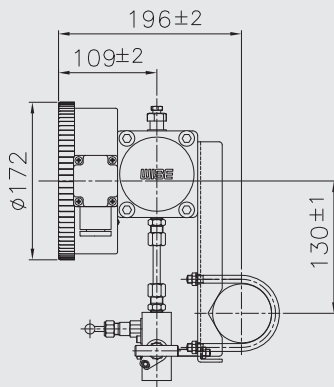
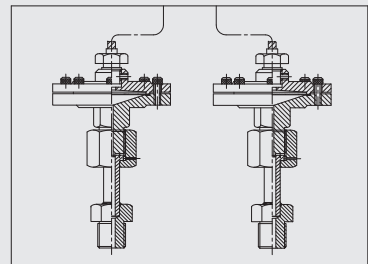
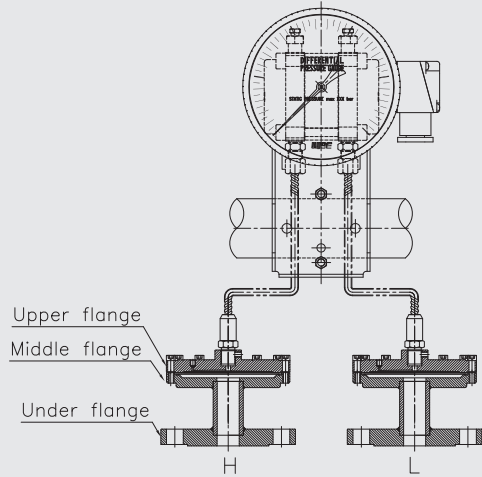
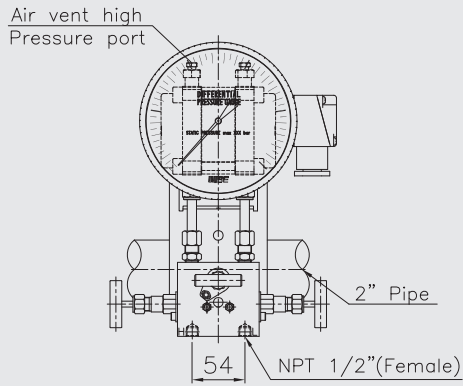
1	2	3	4	5	6	7	8	9	10
P641	1	D	4	C	D	H	XXX	1	0

Sample
ordering code

P64X : Type of mounting

Code:(D) P640

Code:(D) P640(Remote seal)



Pressure unit and range table

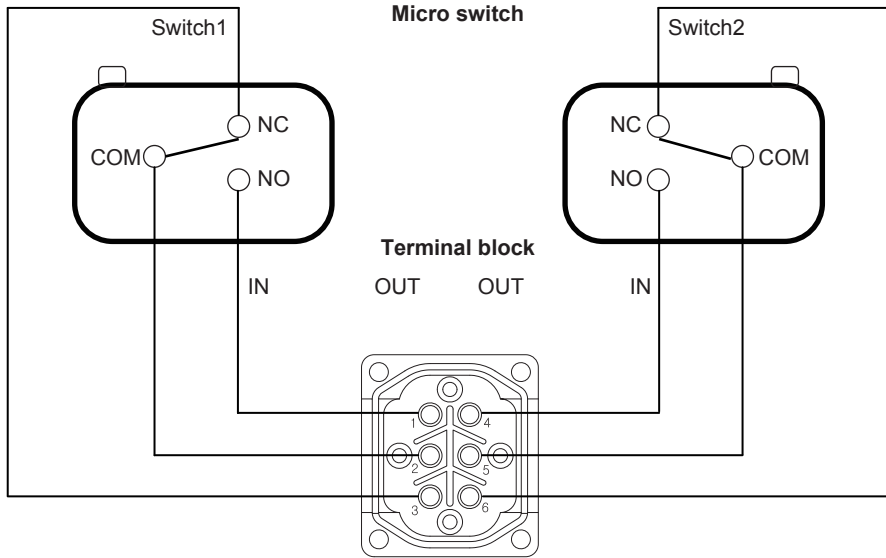
Range and code	Unit and code				Model
	J : kPa	S : mbar	H : bar	I : MPa	
118	0 ~ 25	0 ~ 250	X	X	P641
121	0 ~ 40	0 ~ 400	X	X	
125	0 ~ 60	0 ~ 600	X	X	
041	0 ~ 100	X	0 ~ 1	0 ~ 0.1	
133	0 ~ 160	X	0 ~ 1.6	0 ~ 0.16	
042	0 ~ 200	X	0 ~ 2	0 ~ 0.2	
134	0 ~ 250	X	0 ~ 2.5	0 ~ 0.25	
044	0 ~ 400	X	0 ~ 4	0 ~ 0.4	P642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

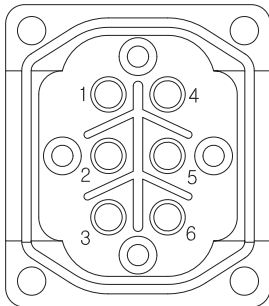
Rated voltage	Resistance load (A)		Inductive load (A)	
	NC	NO	NC	NO
125 V AC	5		3	
250 V AC	3		2	
8 V DC	5		5	4
14 V DC	5		4	4
30 V DC	4		3	3
125 V DC	0.4		0.4	0.4
250 V DC	0.2		0.2	0.2

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