

Explosion proof type indicating pressure switch (125 mm)

Model: P990 series

Spec. sheet no. PD09-12

Service intended

P990 series explosion proof type indicating pressure switches are micro contact type. It is suitable to be used with corrosive fluid and it can measure a high pressure. Dead band is fixed.



Nominal diameter

125 mm

Accuracy

Indicator : ± 1.0 % of full scale

Switch setting : ± 3 % of full scale

Repeatability

± 1.0 % of adjustable range

Adjustable range (MPa, kPa, bar)

-0.1 ~ 0 to -0.1 ~ 2 MPa

0 ~ 0.1 to 0 ~ 40 MPa

Switch differential

Fixed, less than 6 ~ 15 % of full scale

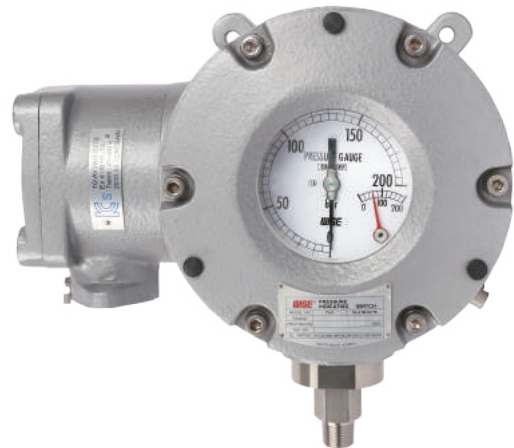
Working temperature

Ambient : -20 ~ 65 °C

Fluid : Max. 100 °C

Temperature effect

Accuracy at temperature above and below the reference temperature (20 °C) will be effected by approximately ± 0.4 % per 10 °C of full scale



Standard features

Element

C type bourdon tube,

Helical type bourdon tube

Case and cover

ALDC12.1

Silver gray painted aluminium

Setpoint adjustment

External

Contact

Micro contact type

One SPDT or Two SPDT

Contact rating

SPDT contact rating

AC 125 V / 250 V, 15 A

DC 125 V, 0.4 A for resistance load

DC 125V, 0.03 A for inductive load

Conduit connection

$\frac{3}{4}$ " PF (F)

Process connection

$\frac{3}{8}$ ", $\frac{1}{2}$ " PT, NPT and PF

Certificates

KCS Ex d IIB+H₂ T₆

WISE[®]

1. Base model**P990** Explosion proof type indicating pressure switch**2. Nominal diameter (mm)****5** 125**3. Mounting****B** Bottom connection, surface, case mounting plate**4. Alarm type**

- 1** High alarm
- 2** High and low alarm
- 3** Low alarm
- 4** Two high alarm
- 5** Two low alarm

5. Process connection

- D** $\frac{3}{8}$ "
- E** $\frac{1}{2}$ "

6. Connection type

- B** PF
- C** PT
- D** NPT

7. Unit

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

8. Range**XXX** Refer to pressure unit and range table**9. Dial color**

- 3** 2 color
- 7** 3 color

10. Option

- 0** None
- 1** Accessories

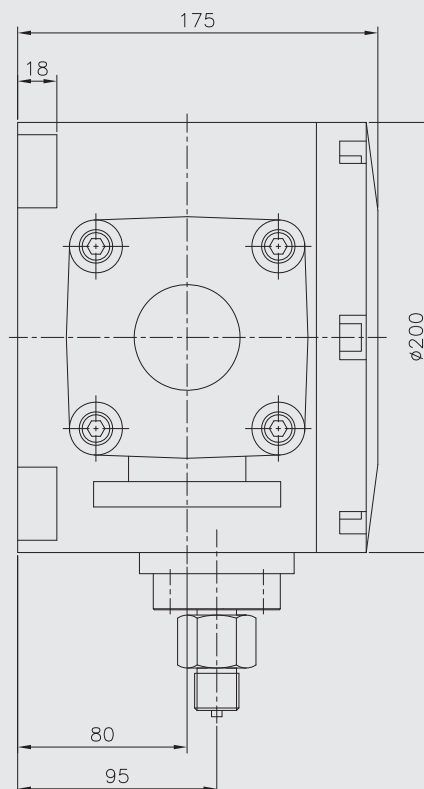
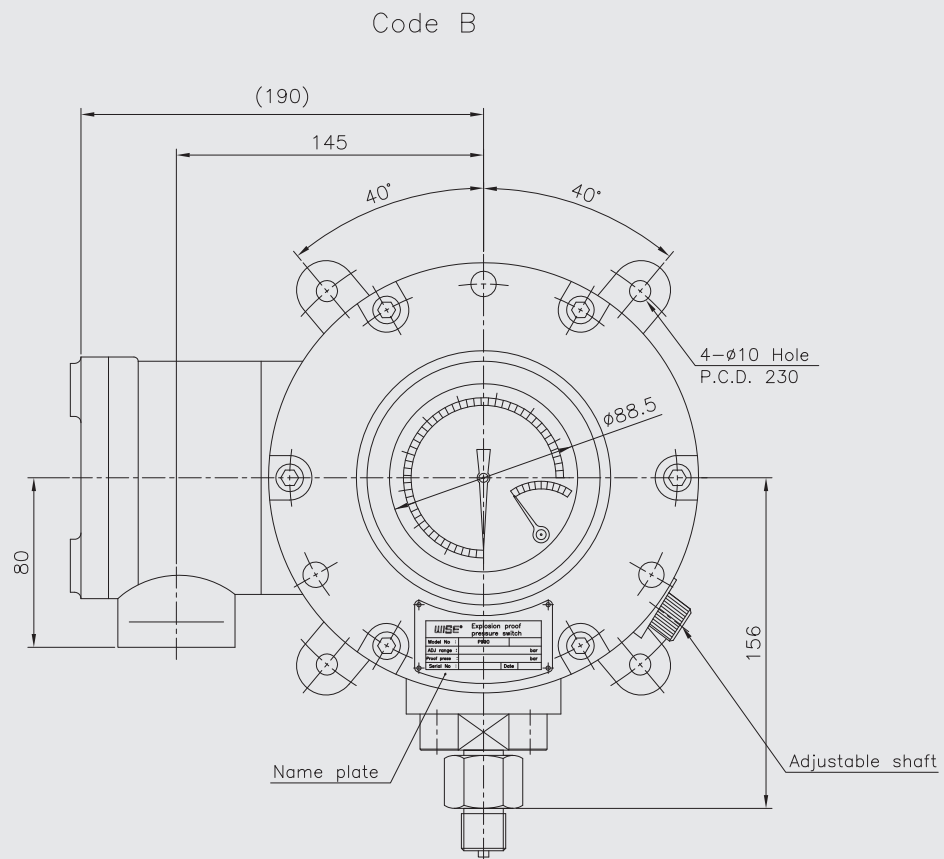
Sample ordering code

1	2	3	4	5	6	7	8	9	10
P990	5	B	1	D	B	H	XXX	3	0



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P990 : Type of mounting



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.

Dead band

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

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).

Range table

Range and code	Unit and code		
	H : bar	I : MPa	J : kPa
026	-1 ~ 0	-0.1 ~ 0	-100 ~ 0
040	0 ~ 0.5	0 ~ 0.05	0 ~ 50
041	0 ~ 1	0 ~ 0.1	0 ~ 100
042	0 ~ 2	0 ~ 0.2	0 ~ 200
043	0 ~ 3	0 ~ 0.3	0 ~ 300
044	0 ~ 4	0 ~ 0.4	0 ~ 400
045	0 ~ 6	0 ~ 0.6	0 ~ 600
047	0 ~ 10	0 ~ 1	0 ~ 1,000
050	0 ~ 15	0 ~ 1.5	X
051	0 ~ 20	2	X
052	0 ~ 25	0 ~ 2.5	X
054	0 ~ 35	0 ~ 3.5	X
055	0 ~ 50	0 ~ 5	X
057	0 ~ 70	0 ~ 7	X
058	0 ~ 100	0 ~ 10	X
059	0 ~ 150	0 ~ 15	X
062	0 ~ 250	0 ~ 25	X
064	0 ~ 350	0 ~ 35	X
065	0 ~ 400	0 ~ 40	X
027	-1 ~ 1	-0.1 ~ 0.1	-100 ~ 100
028	-1 ~ 2	-0.1 ~ 0.2	-100 ~ 200
029	-1 ~ 3	-0.1 ~ 0.3	-100 ~ 300
030	-1 ~ 4	-0.1 ~ 0.4	-100 ~ 400
031	-1 ~ 6	-0.1 ~ 0.6	-100 ~ 600
032	-1 ~ 10	-0.1 ~ 1	-100 ~ 1,000
033	-1 ~ 15	-0.1 ~ 1.5	-100 ~ 1.5 MPa
034	-1 ~ 20	-0.1 ~ 2	-100 ~ 2 MPa

X : Not Available

Micro contact

General

The micro contact has a large switching capacity with high repeat accuracy. The contact mechanism is a crossbar type with gold alloy contacts, which ensures highly reliable operations for micro loads.

Characteristics

Item	Micro switch
Operating speed	0.01 mm to 1 m/s
Mechanical operating frequency	240 operations/min
Insulation resistance	100 MΩ 1 min at 500 VDC
Contact resistance	0.015 Ω max
Shock resistance	100 m/sec ² max
Ambient temperature	-25 ~ 80 °C
Ambient humidity	35 ~ 85 % RH

Specifications

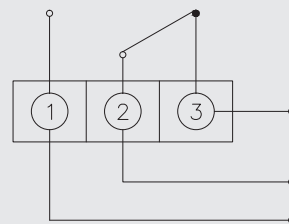
Rated voltage	Non inductive load (A)				Inductive load (A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 V AC	15		3	1.5	15		5	2.5
250 V AC	15		2.5	1.25	15		3	1.5
8 V DC	15		3	1.5	15		5	2.5
30 V DC	2		2	1.4	1		1	1
125 V DC	0.4		0.4	0.4	0.03		0.03	0.03
250 V DC	0.2		0.2	0.2	0.02		0.02	0.02

SPDT switching element

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

One SPDT

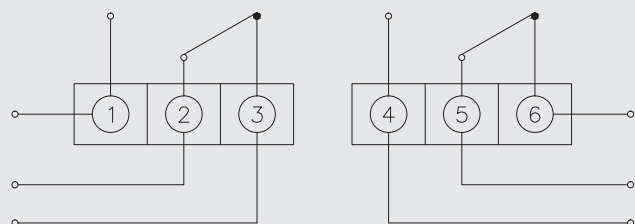
Pressure reach the upper or lower limit setpoint, circuit closed and opened.



①:NO ②:COM ③:NC

Two SPDT

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



①,④:NO ②,⑤:COM ③,⑥:NC

NO : Normal open
NC : Normal close

