Pressure Transmitter with Digital Switch
Model : P800S (General Head)
P800 (Explosion Proof Head)

WISE SENSOR

Advantages
- High precision micro-processor based digital pressure switch/transmitter for industrial applications
- Adjustable switch points allow the user to obtain various pressure settings for each of the 2 switches and span
- Measuring ranges from 0.2 to 350kgf/cm²
- Advanced piezoresistive silicon measuring cells
- Excellent accuracy and long term stability
- 4 digit LED local display
- 2switching points with analog output signal
- Measuring range turn down maximum 10 : 1

P800S / P800

Applications
The High precision micro-processor based digital pressure switch with analog output signal can be used for a wide range of applications in process control, automatic machinery and hydraulic or pneumatic system design.
- Chemical, petrochemical, food and drug process control
- Hydraulic and pneumatic equipments
- Machine tools and automatic machinery
- LPG and LNG transmission control and storage tank monitoring
- Engine monitoring and control
- Vacuum pump and injection molding machine Functions

Certificate
Ex d IIC T6 (IP65) (P800 only)

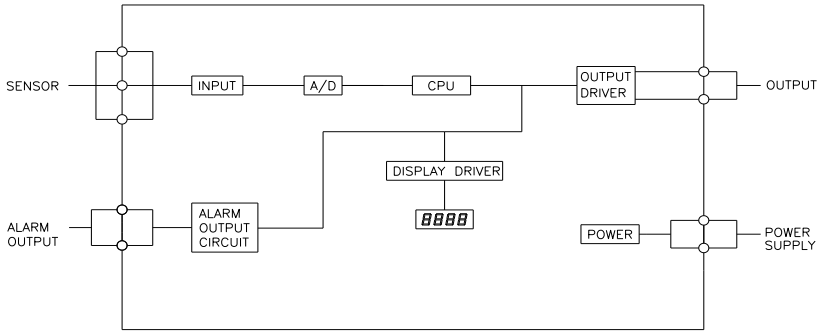
Descriptions
P800 Series micro-processor based digital pressure switch is ideal for applications that require highly accurate process control and monitoring. The P800S/P800 with its built-in piezoresistive pressure measuring cell. a 4-digit digital display.
2 switching points, 4~20mA analog output signal and a front function keys, offer the user all the advantages of a modern electronic pressure measurement. External adjustments allow the user to set the pressure ranges, switch points, deadband and zero or span calibration, etc. It has a water resistant, stainless steel housing for complete protection from harsh environment and its 4~20mA current output is ideal for remote monitoring of both primary and secondary process variables. It has been designed as an advanced device for measuring pressure of gases and liquids in industrial applications. It is extremely versatile and suitable for measuring dynamic or static pressure. The pressure to be measured acts through thin corrosion resistant stainless steel 316L diaphragm on a silicon measuring element. The pressure transmitting medium is silicon oil. The measuring element contains diffused piezoresistive resistors which are connected into a Wheatstone bridge. The output signal of this bridge is temperature compensated and converted into a standardized current or voltage output signal.

Specification

Input		
Model	P800 / P800S	P800 / P800S
Technology	High precision silicon sensor	High pressure silicon sensor
Pressure ranges	0 ~ 0.05 to 350kgf/cm² relative pressure	0~400 to 1000 bar relative pressure
	0 ~ 1 to 350kgf/cm² absolute pressure	0~400 to 1000 bar absolute pressure
Pressure reference	Gauge, absolute, vacuum and compound	
Overload	3x full scale without damage	3x full scale without damage (4x burst pressure)
Output		
output signal	2 switching points	
	4~20mA current output	
	2 switching points with analog output(4-20mA)	
	Other signal available on request	
Local display	LED 4 digit	
Electrical connection type	Other signals available on request	
Electrical Specification		
Excitation voltage	24V DC(12~36V DC), 85~260V AC(optional)	
Load resistance max @ 24V	500Ω at 24V	
Influence of excitation	0.01% FSO/V	
Power ripple	≤500mV P-P	
Reverse polarity	Protected	
Shock resistance	No change in performance after 10Gs for 11ms	
Vibration	0.1G (1m/s/s) maximum	
Response time(10~90%)	≤2 milliseconds	
Switching current	Maximum 1.2A	
Range turn down	Max. 10 : 1	
Performance Specification		
Accuracy	≤ ±0.25% FSO	≤ ±0.5% FSO
Non-linearity	±0.100 FSO typical	±0.250% FSO typical
Repeatability	±0.015 FSO typical	±0.020% FSO typical
Pressure hysteresis	±0.010 FSO typical	±0.050% FSO typical
Long term stability	±0.3% FSO over 6 month	±0.1% FSO over 6 month
Cutoff frequency(-3 d B)	≤2KHz	
Reference temperature	25 ℃	25 ℃
Operating temperature range	-20~60°C	-20~60°C
Storage temperature range	-40~70 ℃	-40~70 ℃
Thermal sensitivity shift	≤ ± 0.2% FSO in reference to 35℃ typical	≤ ± 0.05% FSO
Thermal zero shift	≤ ± 0.2% FSO in reference to 35℃ typical	
Thermal hysteresis	≤ ± 0.1% FSO in reference to 35℃ typical	
Physical Specification		
Process connection	PT1/4 , PT3/8 , PT1/2 male thread	
	PF1/4 , PF3/8 , PF1/2 male thread	
	Other connections available on request	
Electrical connection	PT1/2" female	
Process media	Gases and liquids compatible with stainless steel 316	
Materials	Diaphragm : stainless steel 316L	
	Housing and process connection : stainless steel 316	
	Terminal head : Aluminium Die-casting (ALDC)	
	Gasket O-ring : Viton (HNBR, CSM, etc.)	Not applicable
Enclosure rating	IP65	
Explosion protection	Ex d IIC T6 (Only P800)	
Influence of mounting position	Under 0.5kgf/cm2, mounting vertically	Not critical
Weight	Approx. (950g)	
Options	Sealed diaphragm with thread connection	
	Sealed diaphragm with flange mounting	
	Siphon tube	
	Sealed diaphragm with capillaty	

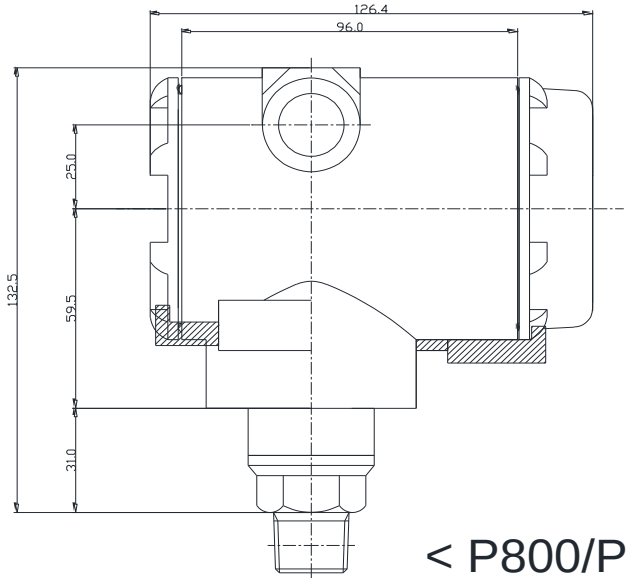
Note : If it is installed in explosive atmosphere, the covers should be kept tight when circuit alive.

System connection for digital switch



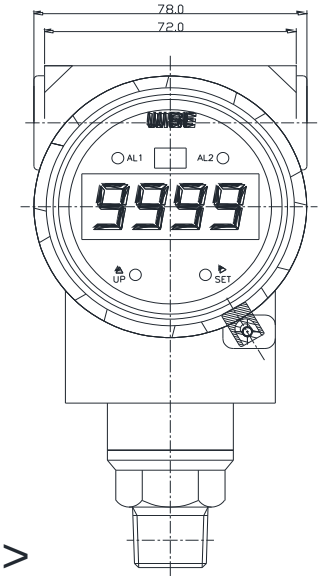
Dimension (mm)

Electrical connection



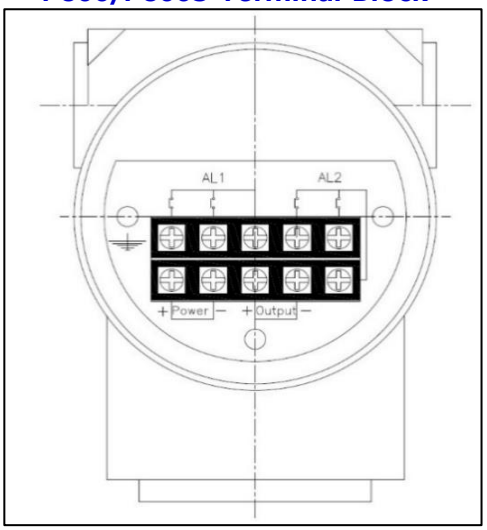
Side view

< P800/P800S >



Front view

P800/P800S Terminal Block



Ordering Information

Pressure Transmitter with Digital Switch

1. Base model

P800S	Piezoresistive silicon sensor (General head)
P800	Piezoresistive silicon sensor (Explosion proof head)

2. Pressure reference

R	Relative pressure
A	Absolute pressure

3. Process connection type "1"

M	Male thread
F	Female thread

4. Process connection type "2"

T	PT thread as standard
N	NPT thread
F	PF thread
X	Other process connections available on request

5. Process connection size

1	1/4"
2	3/8"
3	1/2"
X	Other units available on request

6. Accuracy

H	±0.25% F.S.O (with high precision silicon cell)
K	±0.5% F.S.O (with high pressure silicon cell)

7. Measuring range

01	0 ~ 2000 mmH_2O
02	0 ~ 5000
03	0 ~ 1 kgf/cm^2
04	0 ~ 2
05	0 ~ 5
06	0 ~ 10
07	0 ~ 20
08	0 ~ 35
09	0 ~ 50
10	0 ~ 100
11	0 ~ 200
12	0 ~ 350
13	0 ~ 400 bar (Only available to Accuracy code "K")
14	0 ~ 600 (Only available to Accuracy code "K")
15	0 ~ 700 (Only available to Accuracy code "K")
16	0 ~ 800 (Only available to Accuracy code "K")
17	0 ~ 900 (Only available to Accuracy code "K")
18	0 ~ 1000 (Only available to Accuracy code "K")
xx	Other calibration ranges available on request

8. Unit

M	Calibration in mmH_2O
K	Calibration in kgf/cm2
A	Calibration in Mpa
B	Calibration in bar
P	Calibration in psi
X	Other units available on request

9. Output signal

N	None output signal
R	2 switching points
C	4~20mA Current output signal
D	2 switching point with 4~20mA analog output
X	Other signals available on request

10. Power supply

D	24V DC power supply
A	24V AC power supply
U	85~260V, AC
X	Other power units available on request

11. Option

N	None options
T	Sealed diaphragm with thread (option)
F	Sealed diaphragm with flange mounting
C	Cooling Fin
S	Siphon tube
X	Other accessories available on request

P800S	R	M	T	2	H	01	K	C	DN	N	Sample ordering code

Specifications subject to change without notice