
Explosion Proof Pressure Transmitter

Model : P119P129 (Explosion Proof Head)

WISE
SENSOR

Advantages

Explosion Proof transmitter for industrial applications

- Extremely corrosion resistant
- Rugged piezoresistive measuring cell
- Shock and vibration resistant
- Zero and span adjustments
- Optimal accuracy
- Measuring ranges
 - Ceramic sensor : 0.5 ~ 500 bar
 - Silicon sensor : 0.1 ~ 350 bar
 - Silicon high pressure sensor : 400 ~ 1000 bar



P119P129

Applications

The transmitters can be used for a wide range of applications in process control, automatic machinery and hydraulic or pneumatic system design.

- Standard hydraulic and pneumatic equipments
- Process control
- Machine tools and automatic machinery
- Monitoring systems
- Servo valves and drives
- Chemical and petrochemical industry
- Air and gas compressors
- Loading and brake systems

Certificate

Ex d IIC T6 (IP65)

Descriptions

P119P129 series pressure transmitter 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 static pressure. The built-in measuring ceramic or silicon cell is highly corrosion resistant, stable and has an excellent price / performance ratio. Thanks to their high natural frequency and the rugged construction, the P119p129 transmitter withstands high shock and vibration. The transmitters are available as absolute and relative pressure types with either 2-wire current or 3-wire voltage output.

The pressure to be measured acts without transmitting liquid fill on a stable, corrosion resistant ceramic or silicon measuring cell. Piezoresistive resistors are attached to the cell and connected in a Wheatstone bridge configuration. The output signal of this bridge is converted into a standardized current or voltage output signal.

Specification

Input			
Technology	Piezoresistive ceramic or silicon pressure sensor		
Pressure ranges	Ceramic sensor : 0~0.5 to 0~500bar absolute or gauge pressure		
	Silicon sensor : 0~0.1 to 0~350bar absolute or gauge pressure		
	High pressure Silicon sensor : 0~400 to 0~1000bar absolute or gauge pressure		
Pressure reference	Gauge, absolute, vacuum and compound		
Overload	Ceramic sensor : 1.5x full scale without damage		
	Silicon sensor : 3x full scale without damage		
	High pressure Silicon sensor : 3x full scale without damage		
Output			
	Unamplified		Unamplified
Electrical connection type	2-wire technique		3 or 4-wire technique
Full scale output signal	20mA	±0.5%	5V ±0.5%
Zero measured output	4mA	±0.05%	1V ±0.05%
	Other signals available on request		
Electrical Specification			
	ceramic cell	silicon cell	High pressure silicon cell
Excitation voltage	24V DC (12~36V DC)		
Load resistance max @ 24V	500 Ω at 24V		
Influence of excitation	0.01% FSO/V		
Power ripple	≤500mV P-P		
Reverse polarity	Protected		
Shock resistance	≤20g	No change in performance after 10Gs for 11ms	
Vibration		0.1G (1m/s/s) maximum	
Response time(10~90%)	1.5ms	≤2 milliseconds	
Adjustment	±10% FSO/zero and span		
Performance Specification			
Accuracy	≤±0.5% FSO	≤±0.25% FSO	≤±0.5% FSO
Linearity, Hysteresis & Repeatability	±0.2% FSO typical	±0.125% FSO typical	±0.320% FSO typical
Stability	±0.3% FSO/a @25°C	±0.3% FSO over 6 month	±0.1% FSO over 6 month
Cutoff frequency(-3 d B)	≤2kHz		
Reference temperature	25°C	35°C	
Operating temperature range	-40~125°C		
Compensated temperature range	0~70°C	0~82°C	-20~82°C
Thermal sensitivity shift	≤±0.015%/°C typical	≤±0.2% FSO in reference to 35°C typical	
Thermal zero shift	≤±0.02% FSO/°C typical	≤±0.2% FSO in reference to 35°C typical	
Thermal hysteresis		≤±0.1% FSO in reference to 35°C typical	
Physical Specification			
	ceramic cell	silicon cell & High pressure silicon cell	
Process connection	PT1/4 , PT3/8 , PT1/2 male thread		
	PF1/4 , PF3/8 , PF1/2 male thread		
	Female thread & other connections available on request		
Process media	Gases and liquids compatible with ceramic Al2 O3, 96%	Gases and liquids compatible with Stainless steel 316L	
Materials wetted by process	Diaphragm : Ceramic Al2 O3, 96%		
	Housing : Stainless steel 316		
	Gasket O-ring : Viton (HNBR, CSM, etc.)		
Enclosure rating	IP65		
Explosion protection	Ex d IIC T6		
Influence of mounting position	Not critical		
Weight	Approx. (560g)		
Options	Cooling Fin		
	Siphon tube		

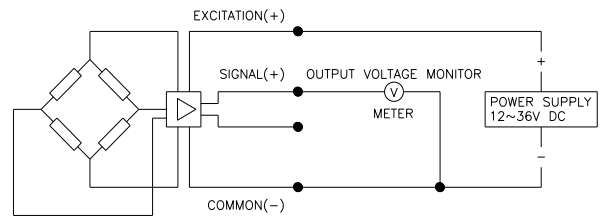
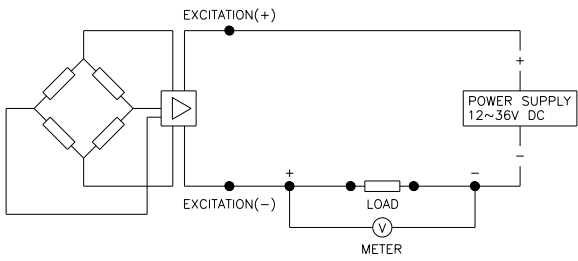
Note : ① Cable version : 1.5m standard length, 4-wire, shielded with integral vent tube

② Vented gauge units must breathe dry, non - corrosive gases.

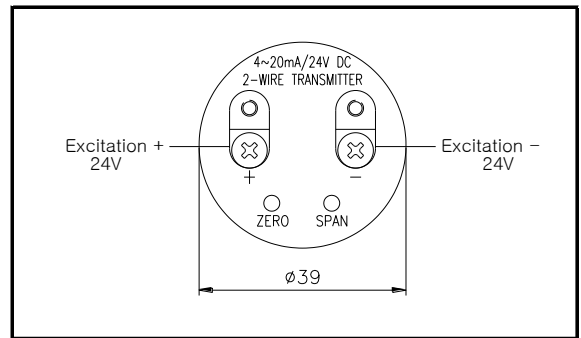
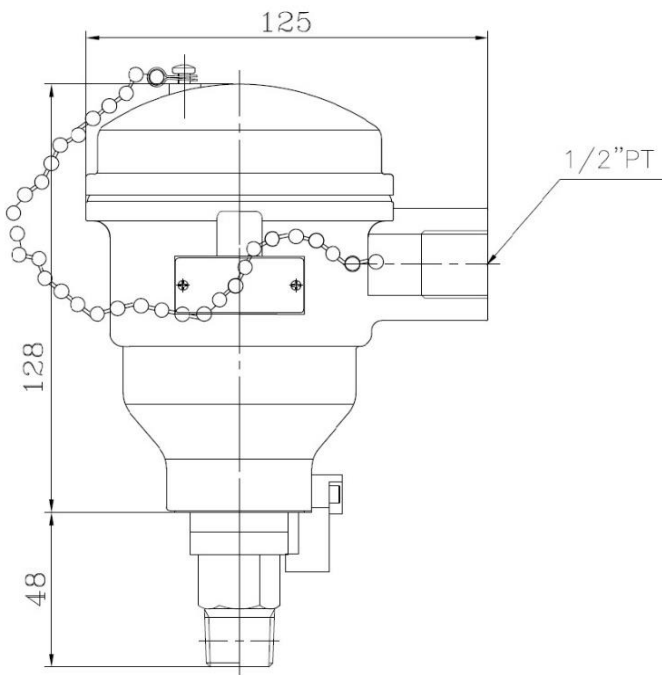
③ Connector version is vented through the removed pin, cable versions are vented through a vent tube inside

the cable sleeve

System connection for 2-wire transmitter **System connection for 3-wire transmitter**



Dimension (mm) **Electrical connection**



Ordering Information

Explosion Proof Pressure Transmitter

1. Base model

P119P129										Explosion Proof Head
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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 (Sensor type)

S										±0.25% F.S.O (with Silicon cell)
C										±0.5% F.S.O (with Ceramic cell)
H										±0.5% F.S.O (with High pressure silicon cell)

7. Measuring range

01										0 ~ 0.5 bar
02										0 ~ 1
03										0 ~ 2
04										0 ~ 5
05										0 ~ 10
06										0 ~ 20
07										0 ~ 35
08										0 ~ 50
09										0 ~ 100
10										0 ~ 200
11										0 ~ 350
12										0 ~ 400 (Only available Ceramic sell & High pressure silicon cell)
13										0 ~ 500 (Only available Ceramic sell & High pressure silicon cell)
14										0 ~ 600 (Only available High pressure silicon cell)
15										0 ~ 700 (Only available High pressure silicon cell)
16										0 ~ 800 (Only available High pressure silicon cell)
17										0 ~ 900 (Only available High pressure silicon cell)
18										0 ~ 1000 (Only available High pressure silicon cell)
xx										Other calibration ranges available on request

8. Unit

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 / Electrical connection type

A1										4~20mA, DC, 2-wire output
A2										4~20mA, DC, 4-wire output
B1										1~5V, DC, 3-wire output
B2										1~5V, DC, 4-wire output

10. Option

N										None options
C										Cooling Fin
S										Siphon tube
X										Other accessories available on request

P119P129	R	M	T	3	S	02	K	A1	N	Sample ordering code
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Specifications subject to change without notice