Explosion Proof Pressure Transmitter(Explosion Proof Head)

Model : P119 : General Purpose Pressure Transmitter
P129 : High Precision Pressure Transmitter

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 ~ 600 bar
  - General Silicon sensor : 0.1 ~ 500 bar
  - High Precision Silicon sensor : 0.1 ~ 350 bar
  - High Pressure Silicon 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 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.

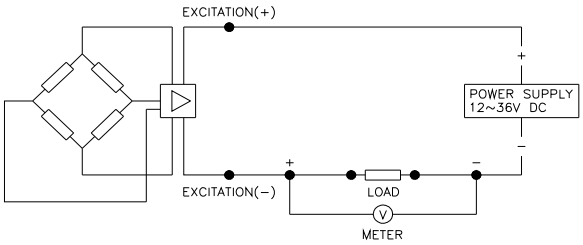
Specification

Input								
Technology	Piezoresistive silicon pressure sensor							
Pressure ranges	Ceramic sensor : 0~0.5to 0~600bar absolute or gauge pressure							
	General silicon sensor : 0~0.1 to 0~500bar absolute or gauge pressure							
	High precision 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							
	General silicon sensor : 2x full scale without damage							
	High precision silicon sensor : 3x full scale without damage							
	High pressure silicon sensor : 3x full scale without damage							
Output								
	P119				P129			
	Ceramic sensor		General silicon sensor		High precision silicon sensor		High pressure silicon sensor	
	Unamplified							
Electrical connection type	2, 3, 4-wire technique							
Full scale output signal	20mA (or 5V)	±0.5%	20mA (or 5V)	±0.1%	20mA (or 5V)	±0.05%	20mA (or 5V)	±0.05%
Zero measured output	4mA (or 1V)	±0.05%	4mA (or 1V)	±0.1%	4mA (or 1V)	±0.03%	4mA (or 1V)	±0.03%
	Other signals available on request							
Electrical Specification								
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	No change in performance after 10Gs for 11ms							
Vibration	0.1G (1m/s/s) maximum							
Response time(10~90%)	≤2 milliseconds							
Adjustment	±10% FSO/zero and span							
Performance Specification								
	Ceramic sensor		General silicon sensor		High precision silicon sensor		High pressure silicon sensor	
Accuracy	≤±0.5% FSO		≤±0.5% FSO		≤±0.25% FSO		≤±0.5% FSO	
Linearity, Hysteresis & Repeatability	±0.2% FSO typical		±0.3% FSO typical		±0.125% FSO typical		±0.320% FSO typical	
Stability	±0.3% FSO/a @25℃		±0.3% FSO/a @25°C				±0.1% FSO @25°C	
Cutoff frequency(-3 d B)	≤2kHz							
Reference temperature	25°C							
Operating temperature range	0~60°C		0~60°C		-20~60°C		-20~60°C	
Storage temperature range	-20~70°C		-20~70°C		-40~70°C		-40~70°C	
Thermal sensitivity shift	≤ ±0.015%/℃ typical		≤±0.3% FSO/25°C typical		≤±0.2% FSO/25°C typical		≤ ± 0.1% FSO /25℃ typical	
Thermal zero shift	≤ ±0.02% FSO/typical							
Thermal hysteresis								
Physical Specification								
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 Stainless steel 316L							
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.)							
Enclosure rating	IP65							
Explosion protection	Ex d IIC T6							
Influence of mounting position	Not critical							
Weight	Approx. (560g)							
Options	Cooling Fin							
	Siphon tube							

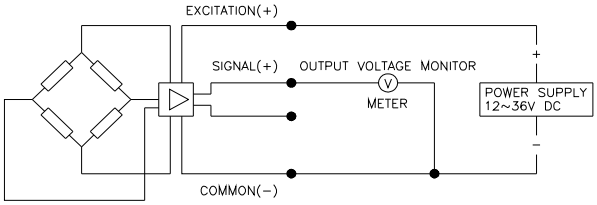
Note : ① Vented gauge units must breathe dry, non - corrosive gases.

② Connector version is vented through the removed pin, cable versions are vented through a vent tube inside the cable sleeve

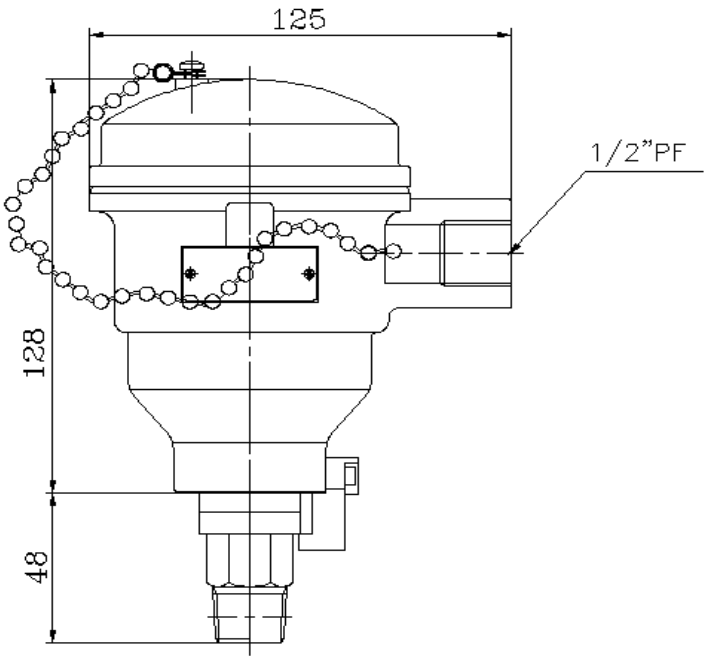
System connection for 2-wire transmitter



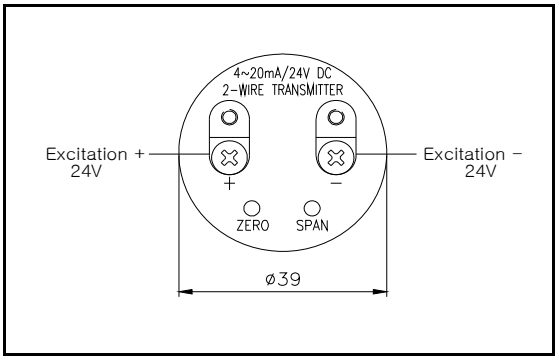
System connection for 3-wire transmitter



Dimension (mm)



Electrical connection



Ordering Information

Explosion Proof Pressure Transmitter

1. Base model

P119P129	Explosion Proof Head

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)

C	±0.5% F.S.O (with General ceramic cell) for P119
G	±0.5% F.S.O (with General silicon cell) for P119
S	±0.25% F.S.O (with High pressure silicon cell) : for P129
H	±0.5% F.S.O (with High pressure silicon cell) for P129

7. Measuring range

01	0 ~ 0.5 bar (Only available Ordering code 6. "C", "G", "S")
02	0 ~ 1 (Only available Ordering code 6. "C", "G", "S")
03	0 ~ 2 (Only available Ordering code 6. "C", "G", "S")
04	0 ~ 5 (Only available Ordering code 6. "C", "G", "S")
05	0 ~ 10 (Only available Ordering code 6. "C", "G", "S")
06	0 ~ 20 (Only available Ordering code 6. "C", "G", "S")
07	0 ~ 35 (Only available Ordering code 6. "C", "G", "S")
08	0 ~ 50 (Only available Ordering code 6. "C", "G", "S")
09	0 ~ 100 (Only available Ordering code 6. "C", "G", "S")
10	0 ~ 200 (Only available Ordering code 6. "C", "G", "S")
11	0 ~ 350 (Only available Ordering code 6. "C", "G", "S")
12	0 ~ 400 (Only available Ordering code 6. "C", "G", "H")
13	0 ~ 500 (Only available Ordering code 6. "C", "G", "H")
14	0 ~ 600 (Only available Ordering code 6. "C", "H")
15	0 ~ 700 (Only available Ordering code 6. "H")
16	0 ~ 800 (Only available Ordering code 6. "H")
17	0 ~ 900 (Only available Ordering code 6. "H")
18	0 ~ 1000 (Only available Ordering code 6. "H")
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

Specifications subject to change without notice