
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 kgf / cm²
 - Silicon sensor : 0.1~350 kgf / cm²

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



P119P129

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.

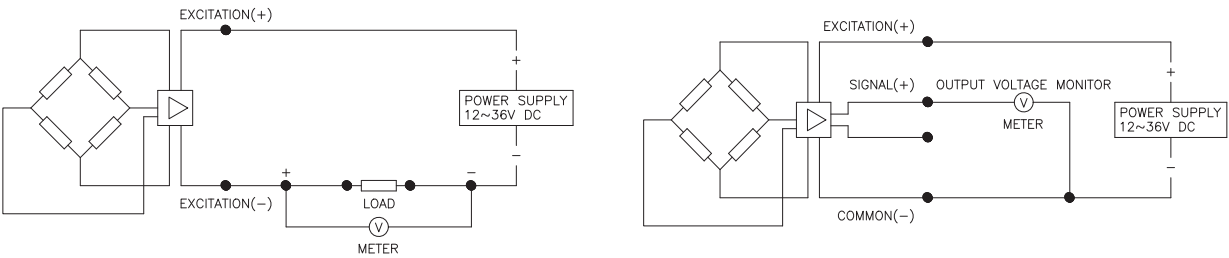
Specification

Input				
Technology	Piezoresistive ceramic or silicon pressure sensor			
Pressure ranges	Ceramic sensor : 0~0.5 to 0~500 kgf / cm ² absolute or gauge pressure			
	Silicon sensor : 0~0.1 to 0~350 kgf / cm ² 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			
Output				
	ceramic cell		silicon cell	
Electrical connection type	2-wire technique		3 or 4-wire technique	
Full scale output signal	20mA	± 0.5%	5V	± 0.05%
Zero measured output	4mA	± 0.05%	1V	± 0.03%
	Other signals available on request			
Electrical Specification				
	ceramic cell		silicon cell	
Excitation voltage	12~36V DC		12~36V DC	
Load resistance max @ 24V	500Ω at 24V		500Ω at 24V	
Influence of excitation	0.01% FSO / V		0.01% FSO / V	
Power ripple	≤ 500mV P-P		≤ 500mV P-P	
Reverse polarity	Protected		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		± 10% FSO / zero and span	
Performance Specification				
Accuracy	≤± 0.5% FSO		≤± 0.25% FSO	
Linearity, Hysteresis & Repeatability	± 0.2% FSO typical ± 0.125% FSO typical			
Stability	± 0.3% FSO / a @25°C		± 0.3% FSO over 6 month	
Cutoff frequency(-3 d B)	≤ 2kHz		≤ 2kHz	
Reference temperature	25°C		35°C	
Operating temperature range	-40~125°C		-40~125°C	
Compensated temperature range	0~70°C		0~82°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			≤± 0.2% FSO in reference to 35°C typical	
Physical Specification				
	ceramic cell		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%		Diaphragm : Stainless steel 316L	
	Housing : Stainless steel 316			
	Gasket O-ring : Viton (HNBR, CSM, etc.)			
Enclosure rating	IP65			
Explosion protection	ExdIICT6			
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

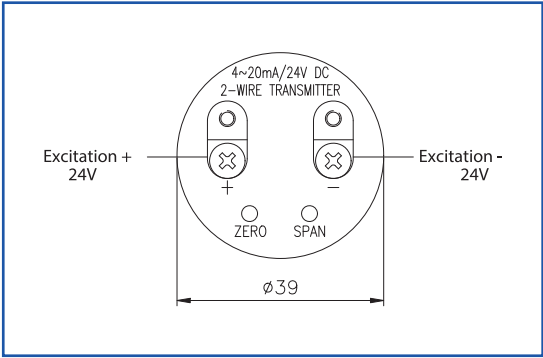
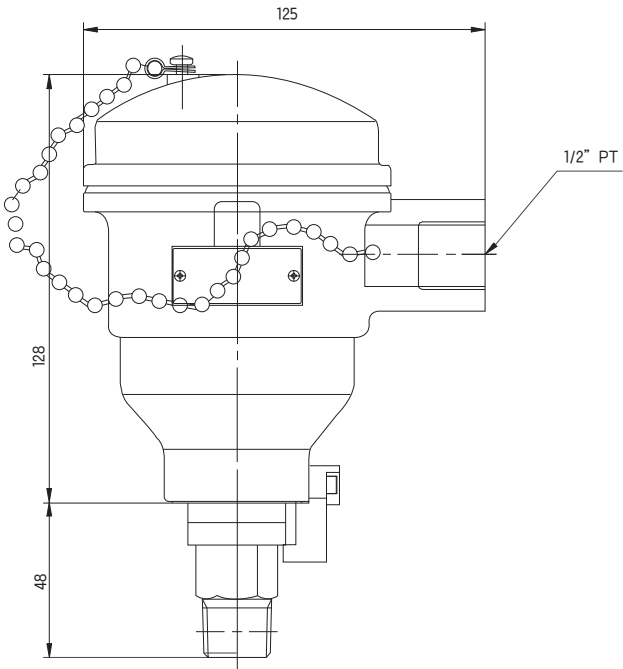
System connection for 2-wire transmitter

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)

7. Measuring range

01								0~0.5 kgf / cm ² , bar	0~0.05 Mpa
02								0~1 kgf / cm ² , bar	0~0.1 Mpa
03								0~2 kgf / cm ² , bar	0~0.2 Mpa
04								0~5 kgf / cm ² , bar	0~0.5 Mpa
05								0~10 kgf / cm ² , bar	0~1 Mpa
06								0~20 kgf / cm ² , bar	0~2 Mpa
07								0~35 kgf / cm ² , bar	0~3.5 Mpa
08								0~50 kgf / cm ² , bar	0~5 Mpa
09								0~100 kgf / cm ² , bar	0~10 Mpa
10								0~200 kgf / cm ² , bar	0~20 Mpa
11								0~350 kgf / cm ² , bar	0~35 Mpa
12								0~500 kgf / cm ² , bar (Only available silicon cell)	0~50 Mpa (Only available silicon cell)
xx								Other calibration ranges available on request	

8. Unit

K								Calibration in kgf / cm ²
A								Calibration in Mpa
B								Calibration in bar
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