
Flush Diaphragm Pressure Transmitter

Model : P510 Series(Ceramic Diaphragm)
P520 Series(Stainless steel Diaphragm)



Advantages

- Flush diaphragm with ceramic or stainless steel
- Measuring ranges from 1 to 50kgf/cm² for P510 series and 0.2 to 35kgf/cm² for P520 series
- Shock and vibration resistant
- Zero and Span adjustable



P515



P516

Applications

The transmitters are specially designed for pressure measurement in sticky, high viscous liquids.

- Process control for food and beverage industry
- Tank level measurement
- Chemical and petrochemical industry
- Equipment and machinery for paint, ink, resin and dough process
- Cosmetic and pulp industry
- Pharmaceuticals



P527



P528

Descriptions

Flush mounted pressure transmitters are perfectly suitable for measuring static pressure in sticky and high viscous liquids in industrial applications. They incorporate a fully temperature compensated piezoresistive ceramic sensor which is corrosion resistant, and a strong, durable flush mounted diaphragm. The transmitters are available as absolute and relative pressure types with either 2-wire current or 3-wire voltage output. The versatile process connections including thread, flange and clamp mounting are available by customer requirement.

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

Specification

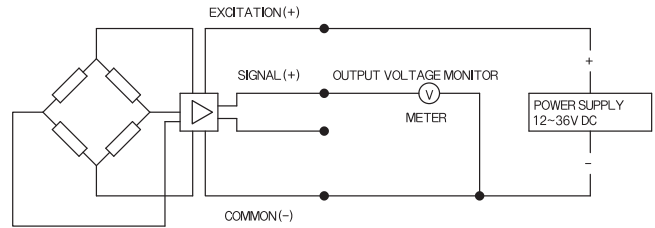
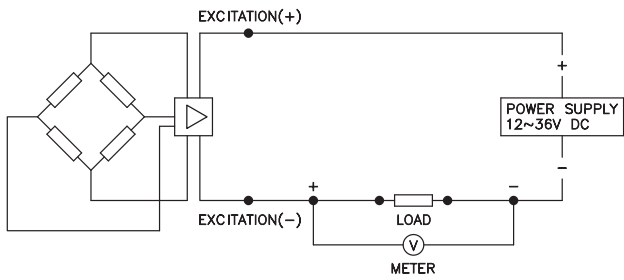
Input		
Model	P510 Series	P520 Series
Technology	Piezoresistive ceramic pressure sensor	Piezoresistive silicon pressure sensor
Pressure ranges	1 to 50kgf/cm ² relative	0~0.1 to 35kgf/cm ² relative
	0~1 to 50kgf/cm ² absolute	0~1 to 35kgf/cm ² absolute
Pressure reference	vacuum Gauge, absolute compound	
Overload	1.5x full scale without damage	3x full scale without damage
Output		
Un-amplified	2.0~3.3m V/V	5.0mm V/V
Amplified	4~20mA current(2-wire)	
	1~5V voltage(3 or 4-wire)	
	Other output signal available on request	
Electrical Specification		
Excitation voltage	12~36V DC	
Load resistance max@24V	500 Ω at 24V	
Influence of excitation	0.01% FSO/V	
Power ripple	\leq 500mV P-P	
Reverse polarity	Protected	
Shock resistance	\leq 20g	\leq 10g
Response time	1.5ms	\leq 2 milliseconds
Adjustment	\pm 10% FSO/zero and span	\pm 10% FSO/zero and span
Performance Specification		
Accuracy	$\leq \pm$ 0.5% FSO	$\leq \pm$ 0.25% FSO
Linearity,Hysteresis & Repeatability	\pm 0.2~0.4% FSO typical	\pm 0.05% FSO typical
Stability	\pm 0.3% FSO/a @25°C	\pm 0.15% FSO/a @35°C
Cutoff frequency(-3 d B)	\leq 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	$\leq \pm$ 0.015%/ °C typical	$\leq \pm$ 0.05% FSO typical
Thermal zero shift	$\leq \pm$ 0.02% FSO/ °C typical	$\leq \pm$ 0.1% FSO typical
Physical Specification		
Process connection	PF3/4", male thread as a standard	
	Other connections available on request	
Process media	Gases and liquids compatible with	
Materials of Diaphragm	Ceramic Al ₂ O ₃ , 96%	
Housing	Stainless steel 316	
Gasket O-ring	Viton, HNBR, Teflon	
Enclosure rating	IP65	
Influence of mounting position	Not critical	Under 0.5kgf/cm ² , mounting vertically
Weight	Approx.(157g)	

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.

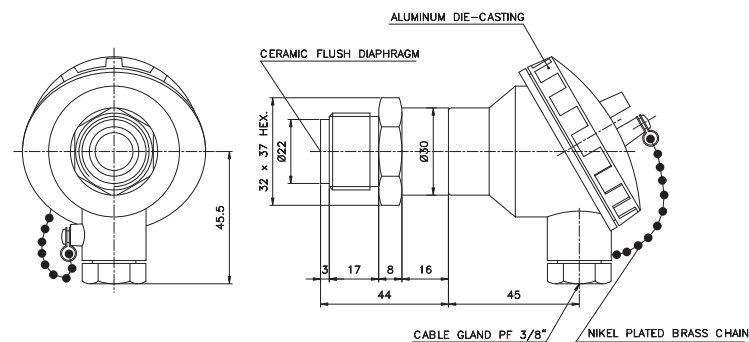
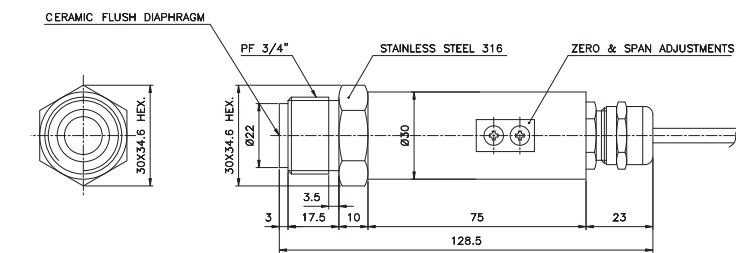
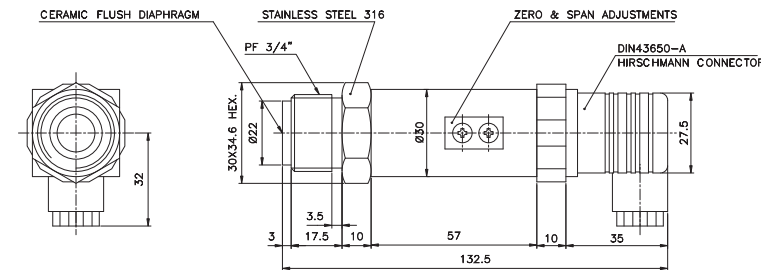
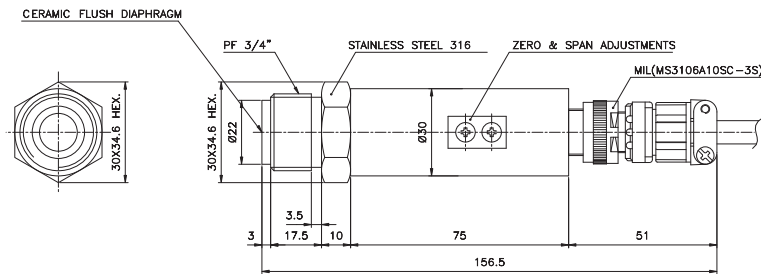
③ Connector version is vented through the removed pin, cable versions are vented through a vent tube inside the cable sleeve

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



Dimension(mm)

Electrical connection



E : Excitation
S : Signal
C : Common

Circular connector

System Color	2-Wire	3-Wire	4-Wire
Red	E +	E +	E +
Black	E -	C -	E -
Green		S +	S +
White			S -
⌚	Shielded	Shielded	Shielded

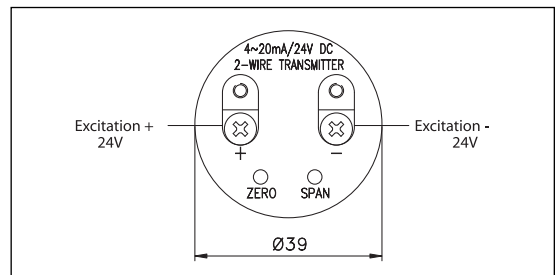
DIN connector

System Color	2-Wire	3-Wire	4-Wire
1	E +	E +	E +
2	E -	C -	E -
3		S +	S +
⌚	Shielded	Shielded	S -

Flying lead

System Color	2-Wire	3-Wire	4-Wire
Red	E +	E +	E +
Black	E -	C -	E -
Green		S +	S +
White			S -
⌚	Shielded	Shielded	Shielded

General head



Ordering Information

Flush Diaphragm Pressure Transmitter

P515										Ceramic Diaphragm	Circular Connector
P525										Stainless Steel Diaphragm	
P516										Ceramic Diaphragm	DIN Connector
P526										Stainless Steel Diaphragm	
P517										Ceramic Diaphragm	Flying Lead
P527										Stainless Steel Diaphragm	
P518										Ceramic Diaphragm	General Head
P528										Stainless Steel Diaphragm	
	R									Relative pressure	
	A									Absolute pressure	
		M								Male thread	
		F								Female thread	
			T							PT thread	
			F							PF thread(standard)	
			X							Other process connections available on request	
				1						3/4" (standard)	
				2						1"	
				X						Other units available on request	
					H					Accuracy $\pm 0.25\%$ FSO	
					S					Accuracy $\pm 0.5\%$ FSO	
						01				Measuring range 2000mmH ₂ O	
						02				3500	
						03				5000	
						04				1	
						05				2	
						06				5	
						07				20	
						08				35	
						09				50	
						xx				Other calibration ranges available on request	
							K			Calibration in kgf/cm ²	
							A			Calibration in MPa	
							B			Calibration in bar	
							P			Calibration in psi	
							X			Other units available on request	
							A1			4~20mA, DC, 2-wire output	
							A2			4~20mA, DC, 4-wire output	
							B1			1~5V, DC, 3-wire output	
							B2			0~5V, DC, 3-wire output	
							B3			0~10V, DC, 3-wire output	
							N			None options	
							X			Other accessories available on request	

P516	R	M	F	1	S	05	K	A1	N	Sample ordering code
------	---	---	---	---	---	----	---	----	---	----------------------

Specifications subject to change without notice