Sanitary Pressure Transmitter

Model : **P425 (Circular Connector)**
P426 (DIN Connector)
P427 (Flying Leads)
P428 (General Head)

WISE SENSOR

Advantages

- Pressure transmitter for corrosive environments
- High corrosion resistant stainless steel diaphragm (316LSS)
- Measuring ranges from 3000mmH2O to 50kgf/cm2
- Shock and vibration resistant
- 3A certificated suitable SIP and CIP

Applications

- Process control and monitoring in corrosive environments
- Bio-chemical and pharmaceutical industry
- Dairy and food industry

P425

P426

P427

P428

Descriptions

P420 series pressure transmitter has been designed as an advanced device for measuring pressure of corrosive and viscous liguids in industrial applications.
They incorporate a fully temperature compensated piezoresistive silicon sensor with great accuracy, excellent long term stability, very low temperature drift, and a strong, duable flush mounted diaphragm The diaphragm specifically designed to meet 3A standard.
The transmitter are available as absolute and relative types with either 2-wire current or 3-wire voltage output. The pressure to be measured acts through thin corrosion resistant stainless steel 316L diaphragm. The pressure transmitter medium is sillicon 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

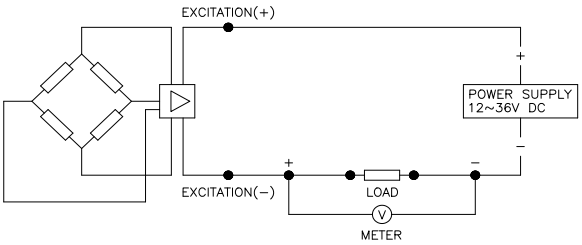
Input				
Technology	Piezoresistive high precision silicon pressure sensor			
Pressure ranges	0~0.3 to 50kgf/cm2 relative pressure			
	0~1 to 50kgf/cm2 absolute pressure			
Pressure reference	Gauge, absolute, vacuum and compound			
Overload	3x full scale without damage			
Output				
	Current output		Voltage output	
Electrical connection type	2-wire technique		3 or 4-wire technique	
Full scale output signal	20mA	±0.25%	5V	±0.25%
Zero measured output	4mA	±0.03%	1V	±0.03%
	Other signals available on request			
Electrical Specification				
Excitation voltage	24V DC(12~36V DC)			
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			
Adjustment	±10% FSO/zero and span (Fixed value by default)			
Performance Specification				
Accuracy	≤ ±0.3% FSO			
Non-linearity	±0.100% FSO typical			
Repeatability	±0.015% FSO typical			
Pressure hysteresis	±0.010% FSO typical			
Long term stability	±0.3% FSO over 6 month			
Cutoff frequency(-3 d B)	≤2KHz			
Reference temperature	25 ℃			
Operating temperature range	-20~60 ℃			
Storage temperature range	-40~70 ℃			
Thermal sensitivity shift	≤±0.5% FSO in reference to 25°C typical			
Thermal zero shift	≤±0.2% FSO in reference to 25°C typical			
Thermal hysteresis	≤±0.1% FSO in reference to 25°C typical			
Physical Specification				
Process connection	1 , 1.5 , 2 Tri-clamp connection			
	Other connections available on request			
Process media	Gases and liquids compatible with stainless steel 316			
Materials	Diaphragm : Stainless steel 316L			
	Housing (Body) : Stainless steel 304			
	Process connection : Stainless steel 316			
	Terminal head for P428 Model : Aluminium Die-casting (ALDC)			
Enclosure rating	IP65			
Weight	Approx. (350g)			

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

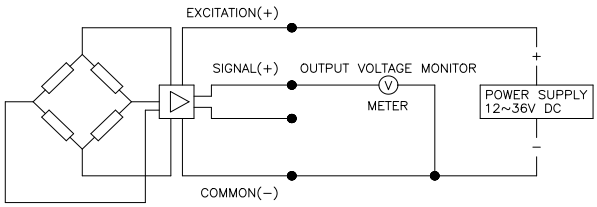
② Vented gauge units must breathe dry, non - corrosive gases.

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

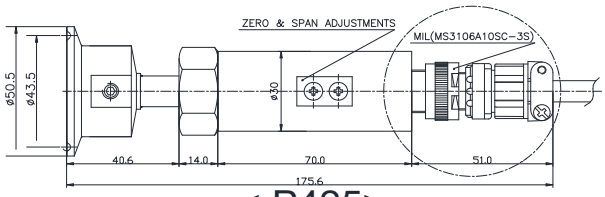
System connection for 2-wire transmitter



System connection for 3-wire transmitter



Dimension (mm)



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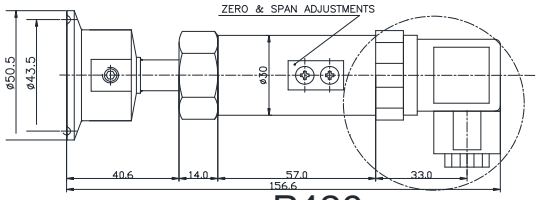

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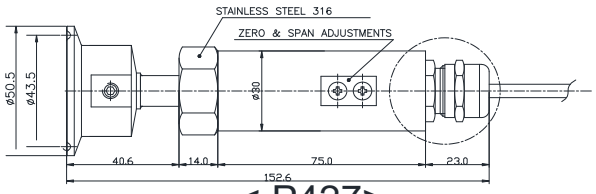

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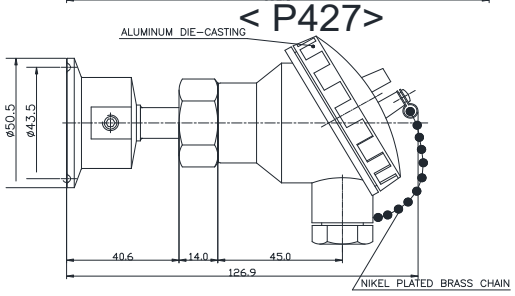

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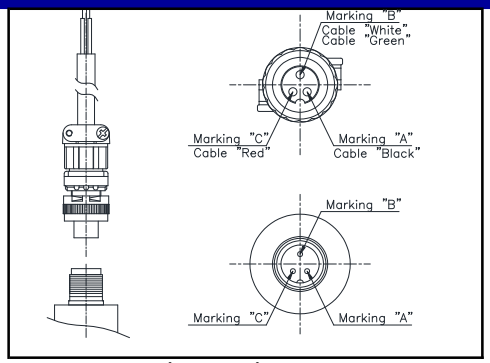
Electrical connection



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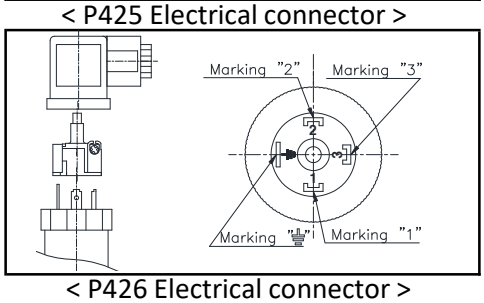

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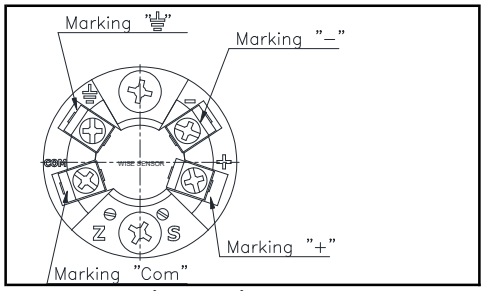

< P428 Electrical connector >

- Wiring diagrams

E : Excitation
S : Signal
C : Common

	System / Conn.	Wire 2	Wire 3	Wire 4
P425	Red	E +	E +	E +
	Black	E -	C -	E -
	Green		S +	S +
	White			S -
	GND	Shielded	Shielded	Shielded
P426	1	E +	E +	E +
	3	E -	C -	E -
	4		S +	S +
	GND	Shielded	Shielded	S -

	System / Conn.	Wire 2	Wire 3	Wire 4
P427	Red	E +	E +	E +
	Black	E -	C -	E -
	Green		S +	S +
	White			S -
	GND	Shielded	Shielded	Shielded
P428	+	E +	E +	E +
	-	E -	C -	E -
	Com		S +	S +
	GND	Shielded	Shielded	S -

Ordering Information

Sanitary Pressure Transmitter

1. Base model

P425	Circular Connector
P426	DIN Connector
P427	Flying lead(1.5m cable)
P428	General Head

2. Pressure reference

R	Relative pressure
A	Absolute pressure

3. Process connection type "1"

M	Male thread
F	Female thread
N	Not required

4. Process connection type "2"

T	PT thread as standard
N	NPT thread
S	PF thread
C	Clamp mounted
F	Flange mounted
X	Other process connections available on request

5. Process connection size

1	1"
2	1.5"
3	2"
X	Other units available on request

6. Accuracy

H	±0.3% F.S.O (high precision silicon sensor)

7. Measuring range

01	0 ~ 0.3 kg/cm²
02	0 ~ 0.5
03	0 ~ 1
04	0 ~ 2
05	0 ~ 5
06	0 ~ 10
07	0 ~ 20
08	0 ~ 35
09	0 ~ 50
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 / 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	0~5V, DC, 3-wire output (Only available P426 and P427)
B3	0~10V, DC, 3-wire output (Only available P426 and P427)

10. Option

N	None options
X	Other accessories available on request

P428	R	M	F	1	H	01	K	A1	N	Sample ordering code

Specifications subject to change without notice