High Pressure Transmitter

Model : **P135 (Circular Connector)**
P136 (DIN Connector)
P137 (Flying Leads)
P138 (General Head)

WISE SENSOR

Advantages

- High pressure transmitter for industrial applications
- All stainless steel 316 construction
- Measuring ranges from 400 to 1000 bar
- Advanced piezoresistive silicon measuring cell
- Excellent accuracy and long term stability
- 300% proof pressure
- 400% burst pressure
- Various choice of electrical connection

P135

P136

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
- Machine tools and automatic machinery
- Oil and off-shore industry
- Equipments for chemical and petrochemical industry

P137

P138

Descriptions

P130 series pressure transmitter is a signal conditioned media-isolated high precision pressure transmitter that can be used for a wide variety of applications. The transmitter has a water resistant, stainless steel housing for complete protection from harsh environments. Its 4~20mA current output is ideal for remote monitoring of both primary and secondary process variables.
It 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 dynamic or static pressure. 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 through thin corrosion resistant stainless steel 316L diaphragm on a silicon measuring element. The pressure transmitting medium is silicon 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

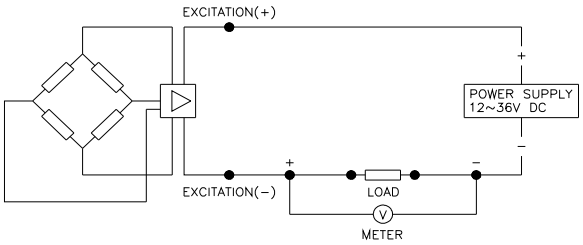
Input				
Technology	Piezoresistive high pressure silicon sensor			
Pressure ranges	0~400 to 1000 bar relative pressure			
	0~400 to 1000 bar absolute pressure			
Pressure reference	Gauge, absolute, vacuum and compound			
Overload	3x full scale without damage (4x burst pressure)			
Output				
	Unamplified		Unamplified	
Electrical connection type	2-wire technique		3 or 4-wire technique	
Full scale output signal	20mA	±0.05%	5V	±0.05%
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			
Performance Specification				
Accuracy	≤ ±0.5% FSO			
Non-linearity	±0.250% FSO typical			
Repeatability	±0.020% FSO typical			
Pressure hysteresis	±0.050% FSO typical			
Long term stability	±0.1% FSO over 6 month			
Cutoff frequency(-3 d B)	≤2KHz			
Reference temperature	25 ℃			
Operating temperature range	-20~60 ℃			
Storage temperature range	-40~70 ℃			
Thermal hysteresis	≤±0.05%Span			
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			
Materials	Diaphragm : Stainless steel 316L			
	Housing and process connection : stainless steel 316			
	Terminal head for P138 Model : Aluminium Die-casting (ALDC)			
Enclosure rating	IP65			
Influence of mounting position	Not critical but 0.1 to 0.5bar should be mounted vertically			
Weight	Approx. (270g)			
Options	Cooling Fin			
	Siphon tube			

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

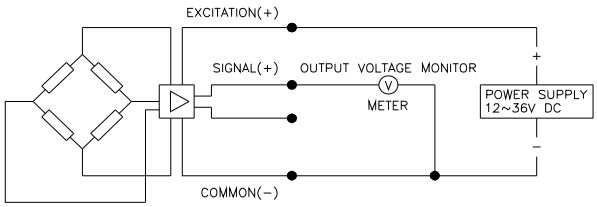
② Vented gauge units must breathe dry, non - corrosive gases.

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

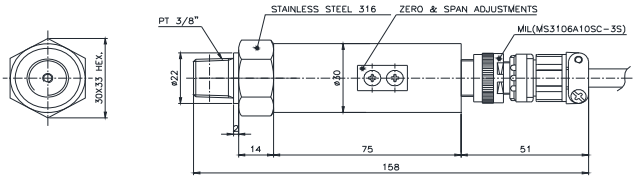
System connection for 2-wire transmitter

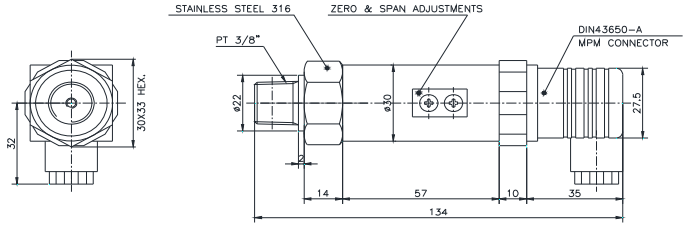


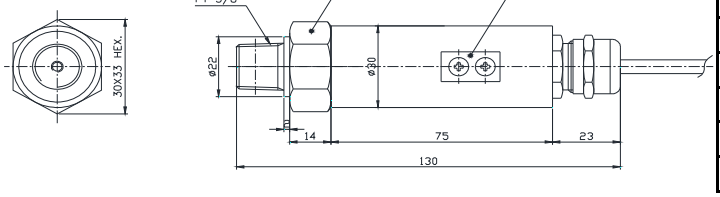
System connection for 3-wire transmitter

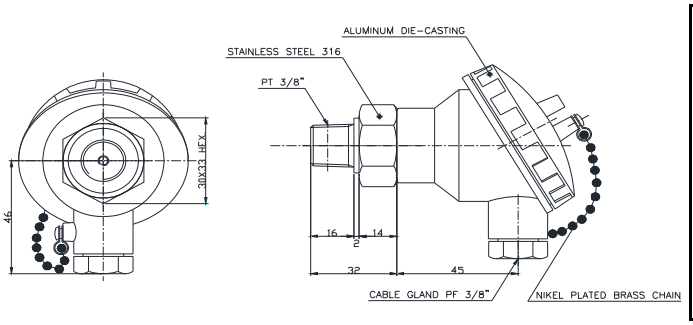


Dimension (mm)









Electrical connection

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 -
GND	Shielded	Shielded	Shielded

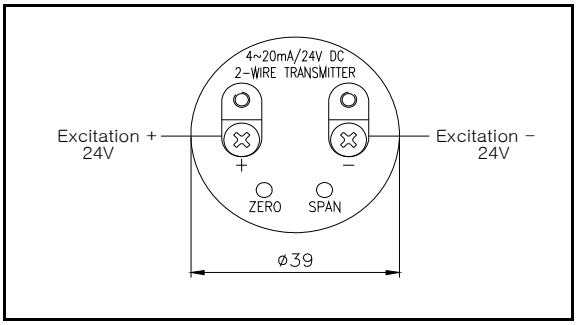
DIN connector

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

General head



Ordering Information

High Pressure Transmitter

1. Base model

P135	Circular Connector
P136	DIN Connector
P137	Flying lead(1.5m cable)
P138	General 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

H	±0.5% F.S.O

7. Measuring range

01	0 ~ 400 bar
02	0 ~ 600
03	0 ~ 700
04	0 ~ 800
05	0 ~ 900
06	0 ~ 1000
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 P136 and P137)
B3	0~10V, DC, 3-wire output (Only available P136 and P137)

10. Option

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

P136	R	M	T	2	H	01	K	A1	N	Sample ordering code

Specifications subject to change without notice