
Explosion Proof Type Pressure Transmitter with Local Display

**Model : P700 (Stainless steel silicon cell, Standard head)
P710 (Stainless steel silicon cell, Miniature head)
P700C (Capacitive ceramic cell)**



Advantages

- High precision pressure transmitter with local display for industrial applications
- Measuring ranges from 500mmH₂O to 350 kgf / cm²
- Advanced piezoresistive silicon or capacitive ceramic measuring cell
- Excellent accuracy and long term stability
- Extremely high proof pressure
- LED 4 digit display with 4~20mA 2-wire current output signal
- Explosion proof "Ex d IIC T6"

Applications

The P700 series pressure transmitter is ideal for measurements which require a local display and a need to communicate with remote data acquisition equipment in industrial applications. The 2-wire 4 to 20mA signal can be transmitted over great distance with negligible loss of accuracy.

- Standard hydraulic and pneumatic
- Regulation system of transmission line of LPG and LNG
- Machine tools and water treatment
- Flow control and water treatment
- Oil and off-shore industry
- Equipments for chemical and petrochemical industry
- Automation system and plant engineering
- Liquid level measurement

Descriptions

P700 series pressure transmitter with local display is a signal conditioned, media-isolated pressure transmitter that can be used for a wide variety of applications. The transmitter offers the convenience and easy installation of an LED display with the full capabilities of a highly accurate 4~20mA 2-wire system design. The 2-wire 4 to 20mA output signal can be transmitted over great distances with negligible loss of accuracy. The stainless steel surfaces make it compatible with a wide variety of gases and liquids and can be protected from harsh environment. They are 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 resistances 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.



P700 / P700C



P710

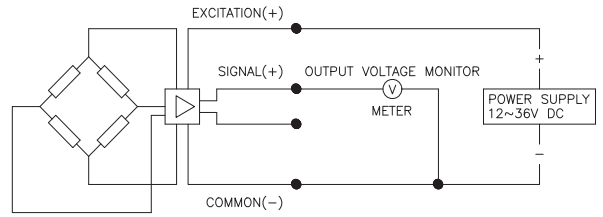
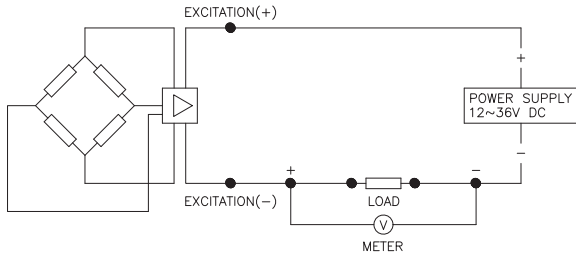
Specification

Input		
Model	P700 / P710	P700C
Technology	Piezoresistive silicon pressure sensor	Capacitive ceramic pressure sensor
Pressure ranges	0~0.05 to 350 kgf / cm ² relative pressure	0~500mmH ₂ O to 70 kgf / cm ² relative
	0~1 to 350 kgf / cm ² absolute pressure	0~1 to 70 kgf / cm ² absolute
Pressure reference	Gauge, absolute, vacuum and compound	
Overload	3x full scale without damage	6x full scale without damage
Output		
Current output signal	4~20mA DC 2-wire technique	
Voltage output signal	1~5V DC 3-wire technique	
	Other signals available on request	
Local display	LED 4 digit	
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	
Response time (10~90%)	≤ 2 milliseconds	1 milliseconds
Adjustment	± 10% FSO / zero and span	± 20% FSO / zero and span
Performance Specification		
Accuracy	≤± 0.25% FSO	≤± 0.2% FSO
Non-linearity	± 0.100 FSO typical	± 0.15% FSO
Repeatability	± 0.015 FSO typical	± 0.10% FSO
Pressure hysteresis	± 0.010 FSO typical	± 0.10% FSO
Long term stability	± 0.3% FSO over 6 month	Max. annual error ± 0.10% FSO
Cutoff frequency (-3 d B)	≤ 2KHz	
Reference temperature	35°C	25°C
Operating temperature range	-40~125°C	-40~125°C
Compensated temperature range	0~82°C	-20~82°C
Thermal sensitivity shift	≤± 0.2% FSO in reference to 35°C typical	≤± 0.05% FSO
Thermal zero shift	≤± 0.2% FSO in reference to 35°C typical	≤± 0.1% FSO
Thermal hysteresis	≤± 0.1% FSO in reference to 35°C typical	≤± 0.1% FSO
Physical Specification		
Process connection	PT1/4", PT3/8", PT1/2" male thread	
	PF1/4", PF3/8", PF1/2" male thread	
	Other connections available on request	
Process media	Compatible with stainless steel 316	Ceramic Al ₂ O ₃ , 96%
Materials wetted by process	Diaphragm : stainless steel 316L	
	Housing : Aluminum Die-casting	
	Gasket O-ring : Viton (HNBR, CSM, etc.)	
Enclosure rating	IP65	
Explosion protection	Ex d IIC T6 (P700 / P710)	
Influence of mounting position	Under 0.5 kgf / cm ² , mounting vertically	Not critical
Weight	Approx. 802g (P700 / P700C), 600g (P710)	
Options	Sealed diaphragm with thread connection	
	Sealed diaphragm with flange mounting	
	Siphon tube	
	Sealed diaphragm with capillary	

Note : If it is installed in explosive atmosphere, the covers should be kept tight when circuit alive.

System connection for 2-wire transmitter

System connection for 3-wire transmitter



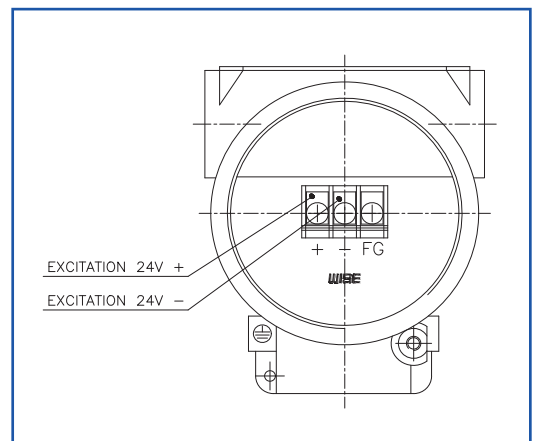
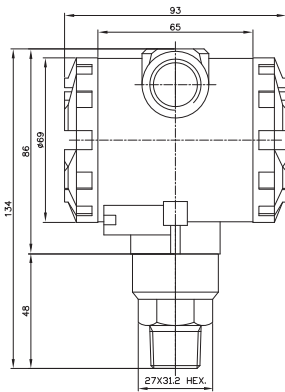
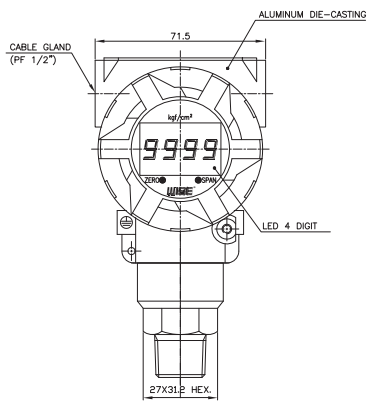
Dimension (mm)

Electrical connection

P700 Front View

P700 Side View

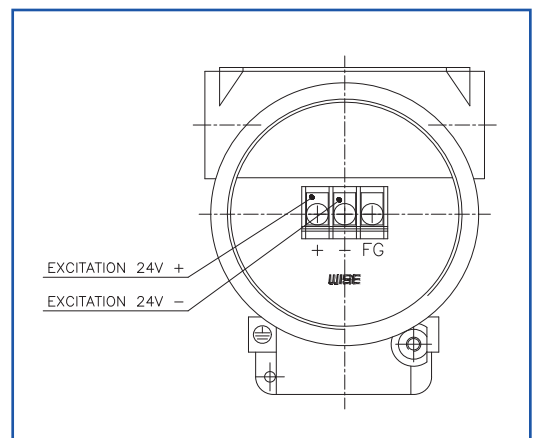
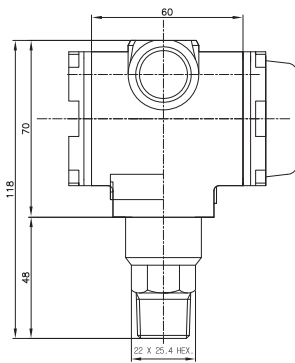
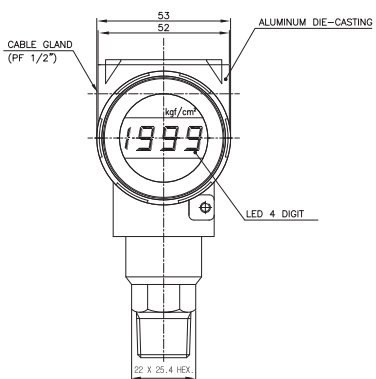
P700 Terminal Block



P710 Front View

P710 Side View

P710 Terminal Block



Ordering Information

Explosion Proof Type Pressure Transmitter with Local Display

1. Base model

P700										Piezoresistive silicon sensor (Standard head)
P710										Piezoresistive silicon sensor (Miniature head)
P700C										Capacitive ceramic sensor (Standard 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
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										± 0.25% F.S.O (with silicon cell)
K										± 0.2% F.S.O (with ceramic cell)

7. Measuring range

01										0~500 mmH ₂ O
02										0~700 mmH ₂ O
03										0~1000 mmH ₂ O
04										0~2000 mmH ₂ O
05										0~5000 mmH ₂ O
06										0~1 kgf / cm ² , bar 0~0.1 Mpa
07										0~2 kgf / cm ² , bar 0~0.2 Mpa
08										0~5 kgf / cm ² , bar 0~0.5 Mpa
09										0~10 kgf / cm ² , bar 0~1 Mpa
10										0~20 kgf / cm ² , bar 0~2 Mpa
11										0~35 kgf / cm ² , bar 0~3.5 Mpa
12										0~50 kgf / cm ² , bar 0~5 Mpa
13										0~100 kgf / cm ² , bar 0~10 Mpa
14										0~200 kgf / cm ² , bar 0~20 Mpa
15										0~350 kgf / cm ² , bar 0~35 Mpa
xx										Other calibration ranges available on request

8. Unit

M										Calibration in mmH ₂ O
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

C										4~20mA, DC, 2-wire output
V										1~5V DC, 3-wire output
X										Other signal available on request

10. Option

N										None options
T										Sealed diaphragm with thread
F										Sealed diaphragm with flange mounted
C										Sealed diaphragm with capillary
S										Siphon tube
X										Other accessories available on request

P700	R	M	T	2	H	01	K	C	N	Sample ordering code
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Specifications subject to change without notice