

Explosion Proof Type Pressure Transmitter with Local Display

Model : P700 (Stainless steel silicon cell, Standard head)
P710 (Stainless steel silicon cell, Miniature head)
P710 (Stainless steel silicon cell + Gold plated, Miniature head)



Advantages

- High precision pressure transmitter with local display for industrial applications
- Measuring ranges from 500mmH₂O to 350bar ($\pm 0.25\%$ of FS)
- Measuring ranges from 400bar to 1000bar ($\pm 0.5\%$ of FS)
- Advanced piezoresistive silicon cell
- When selecting options for the P710, you can choose a gold-plated model that is compatible with hydrogen.
- Excellent accuracy and long term stability
- Extremely high proof pressure
- LED 4 digit display with 4~20mA 2-wire current output signal

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, water treatment and flow control
- Oil and off-shore industry
- Equipments for chemical and petrochemical industry
- Automation system and plant engineering
- Liquid level measurement
- hydrogen applications. (when the P710 option is selected)

Certificate

Ex db IIC T6 Gb (IP65)

Descriptions

P700/P710 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



P710 / P710 (Gold plated)

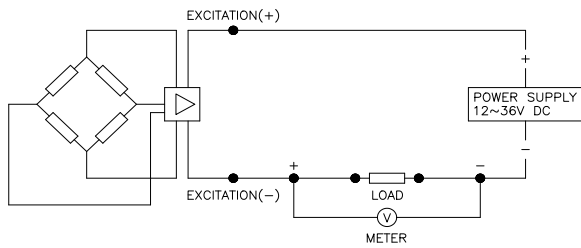
Specification

Input			
Model	P700 / P710 (General pressure)	P700/P710 (High pressure)	P710 (Gold pated option)
Technology	High precision silicon sensor	High pressure silicon sensor	Gold Plated Diaphragm
Pressure ranges	Relative : 0 ~ 0.05 to 350kgf/cm ²	0~400 to 1000 bar	Relative : 0 ~ 0.05 to 1000kgf/cm ²
	Absolute : 0 ~ 1 to 350kgf/cm ²		Absolute : 0 ~ 1 to 1000kgf/cm ²
Pressure reference	Gauge, absolute, vacuum and compound		
Overload	-1 ~ 0 to ≤70kPa : 3x full scale 100kPa ~ 16MPa : 2x full scale ≥ 25MPa (250bar) : 1.5x full scale		
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		
Adjustment	±10% FSO/zero and span		
Performance Specification			
Accuracy	≤ ±0.25% FSO	≤ ±0.5% FSO	≤ ±0.3% FSO
Non-linearity	±0.100 FSO typical	±0.250% FSO typical	±0.200% FSO typical
Repeatability	±0.015 FSO typical	±0.020% FSO typical	±0.030% FSO typical
Pressure hysteresis	±0.010 FSO typical	±0.050% FSO typical	±0.030% FSO typical
Long term stability	±0.3% FSO Per year	±0.1% FSO Per year	±0.3% FSO Per year
Cutoff frequency(-3 d B)	≤2KHz		
Reference temperature	25 °C		
Operating temperature	-20~60°C	-20~80°C	-20~70°C
Storage temperature	-40~70 °C	-40~80 °C	-40~70 °C
Thermal sensitivity shift	≤ ± 0.2% FSO in reference to 30°C typical		
Thermal zero shift	≤ ± 0.2% FSO in reference to 30°C typical		
Thermal hysteresis	≤ ± 0.1% FSO in reference to 30°C typical		
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	Gas and Liquids Compatible with stainless steel 316		hydrogen
Materials	Diaphragm : stainless steel 316L		316L stainless steel housing with about 3μm gold plating on the diaphragm
	Housing and process connection : stainless steel 316		
	Terminal head : Aluminium Die-casting (ALDC)		
	O-ring : Viton(HNBR,CSM,etc.)		Only weld
Enclosure rating	IP65		
Explosion protection	Ex db IIC T6 Gb		
Influence of mounting position	Under 0.5kgf/cm2, mounting vertically		
Weight	Approx. 802g (P700) , 600g (P710)		
Options	Sealed diaphragm with thread connection		
	Sealed diaphragm with flange mounting		
	Siphon tube		
	Sealed diaphragm with capillary		
	316L stainless steel housing with about gold plated (Only P710)		

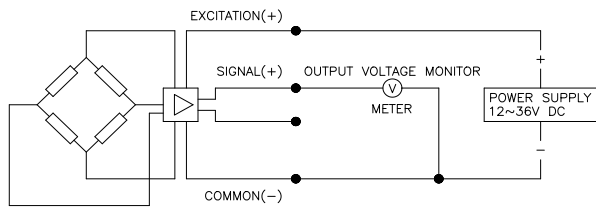
Note : If it is installed in explosive atmosphere, the covers should be kept tight when circuit alive.

CE certification applies only to P700 2-wire products

System connection for 2-wire transmitter

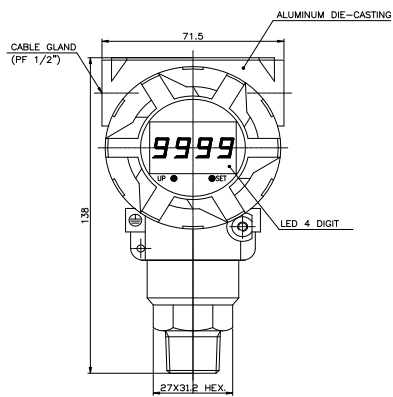


System connection for 3-wire transmitter

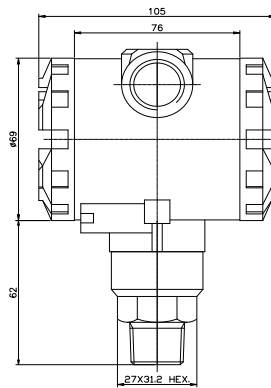


Dimension (mm)

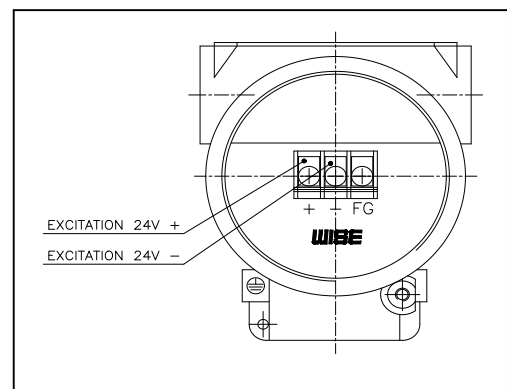
P700 Front View



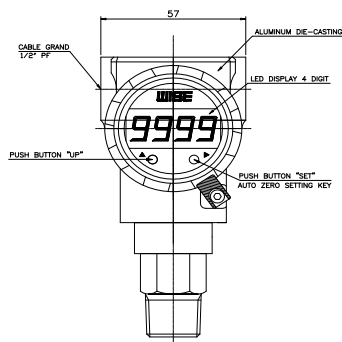
P700 Side View



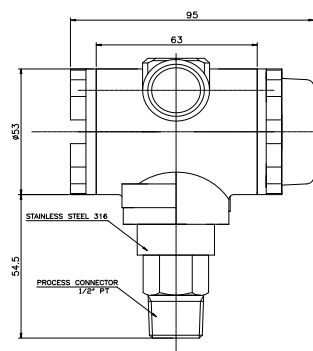
P700 Terminal Block



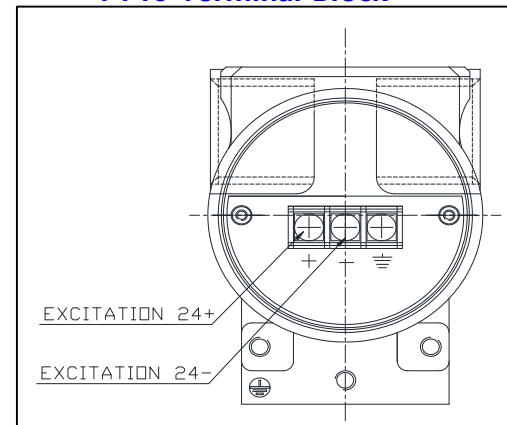
P710 Front View



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)
P710	Piezoresistive silicon silicon cell + Gold plated (Miniature 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 high precision silicon cell)
K	±0.5% F.S.O (with high pressure silicon cell)
G	±0.3% F.S.O (pressure silicon cell + Gold plated)

7. Measuring range

01	0 ~ 500 mmH ₂ O
02	0 ~ 1000
03	0 ~ 5000
04	0 ~ 1 kg/cm ²
05	0 ~ 2
06	0 ~ 5
07	0 ~ 10
08	0 ~ 20
09	0 ~ 50
10	0 ~ 100
11	0 ~ 200
12	0 ~ 350
13	0 ~ 400 bar (Only available to Accuracy code "K", "G")
14	0 ~ 600 (Only available to Accuracy code "K", "G")
15	0 ~ 700 (Only available to Accuracy code "K", "G")
16	0 ~ 800 (Only available to Accuracy code "K", "G")
17	0 ~ 900 (Only available to Accuracy code "K", "G")
18	0 ~ 1000 (Only available to Accuracy code "K", "G")
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
P	Calibration in psi
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
G	pressure silicon cell + Gold plated
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

Specifications subject to change without notice