Datasheet

2088 shell high temperature digital pressure transmitter

SUP-PX400G

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Imported high precision and high stability pressure sensitive chips are selected for diffused silicon pressure transmitter. Sensitive chips are fabricated by advanced micro-mechanical etching process, which forms Wheatstone bridge by diffusing four high-precision resistors with temperature compensation on silicon wafers. Because of piezoresistive effect, there are some changes on the resistance values of the four bridge arm resistance, so as to make the bridge unbalanced, and then the sensor outputs an electric signal corresponding to the change of pressure. The output electric signal is compensated by amplification and non-linear correction circuit, which generates voltage and current signals which correspond linearly to the input pressure.

Applications

- Industrial process control
- Petroleum industry
- Chemical industry
- Paper industry
- Metallurgy

2088 shell high-temperature digital pressure transmitter

Features

- Compact structure and easy to install.
- Advanced diaphragm/oil-filled isolation technology.
- High stability and reliability.
- Seismic resistance and anti-radio frequency interference.
- 316L stainless steel isolation diaphragm structure.
- High precision, all stainless steel structure.
- Micro-amplifier, voltage and current signal output.
- Strong anti-interference and long-term stability.
- Variety of process connections are available.
- Wide range of measurement.
- Anti-vibration and anti-impact.

Principle

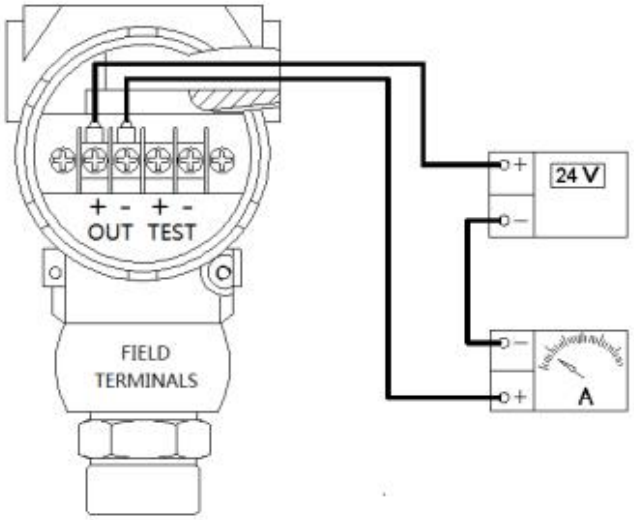
Pressure Transmitter are devices that convert the mechanical force of applied pressure into electrical energy. This electrical energy becomes a signal output that is linear and proportional to the applied pressure. And a transmitter sends signals in milliamps (mA). At present, various types of pressure sensors, such as diffused silicon, capacitive, silicon sapphire, ceramic thick film, metal strain electric type are widely used in various industries. SUP-P300 is diffused silicon type pressure transmitter.

Parameters	
Power Supply	12V~32V（(4~20) mA ，with display）
	10V~32V（(4~20) mA+RS485，with display）
	9V~32V（(4~20) mA，without display）
Output	(4~20)mA;(1~5)V;(0~10)V;(0~5)V;RS485
Accuracy	0.2%、0.25%、0.5%
Measurement range	-0.1…0…60Mpa
Pressure type	Gauge pressure, adiabatic pressure and sealed pressure
Compensation temperature	-10℃～70℃
Working temperature	-20℃~85℃
Medium temperature	-20℃~85℃
Storage temperature	-40℃~85℃
Zero-point temperature drift	±0.3%FS/10℃
Sensitivity temperature drift	±0.3%FS/10℃
Overload pressure	(0.035~10)MPa (150%FS) ； (10~60)MPa (125%FS)
Long-term stability	±0.2%FS/year
Response time	RS485 output≤100ms（up to 90％FS）
	Current and Voltage output≤10ms（up to 90％FS）
Insulation	20MΩ/250VDC
Ingress protection	IP65
Load Resistance	(U-9V)/0.02A

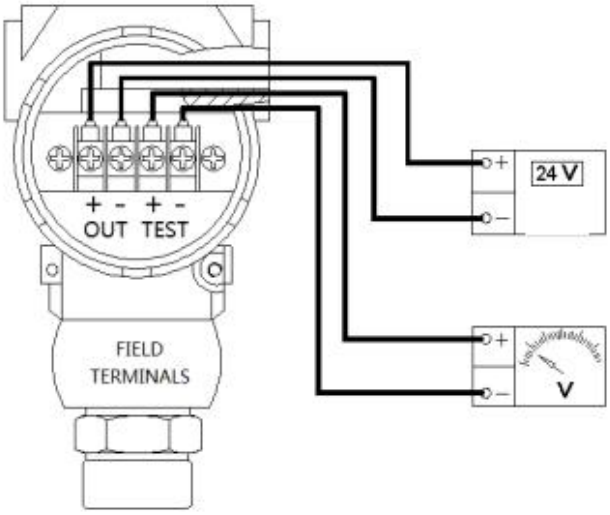
Wiring

Wiring of DIN connector type as follows:

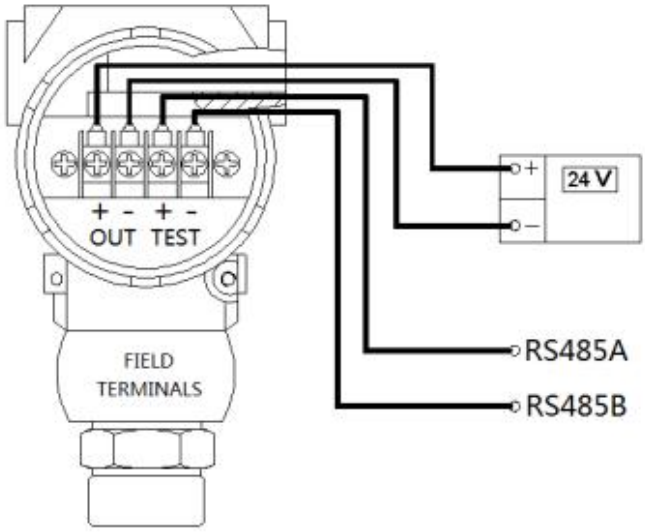
P400/P400G



Current output

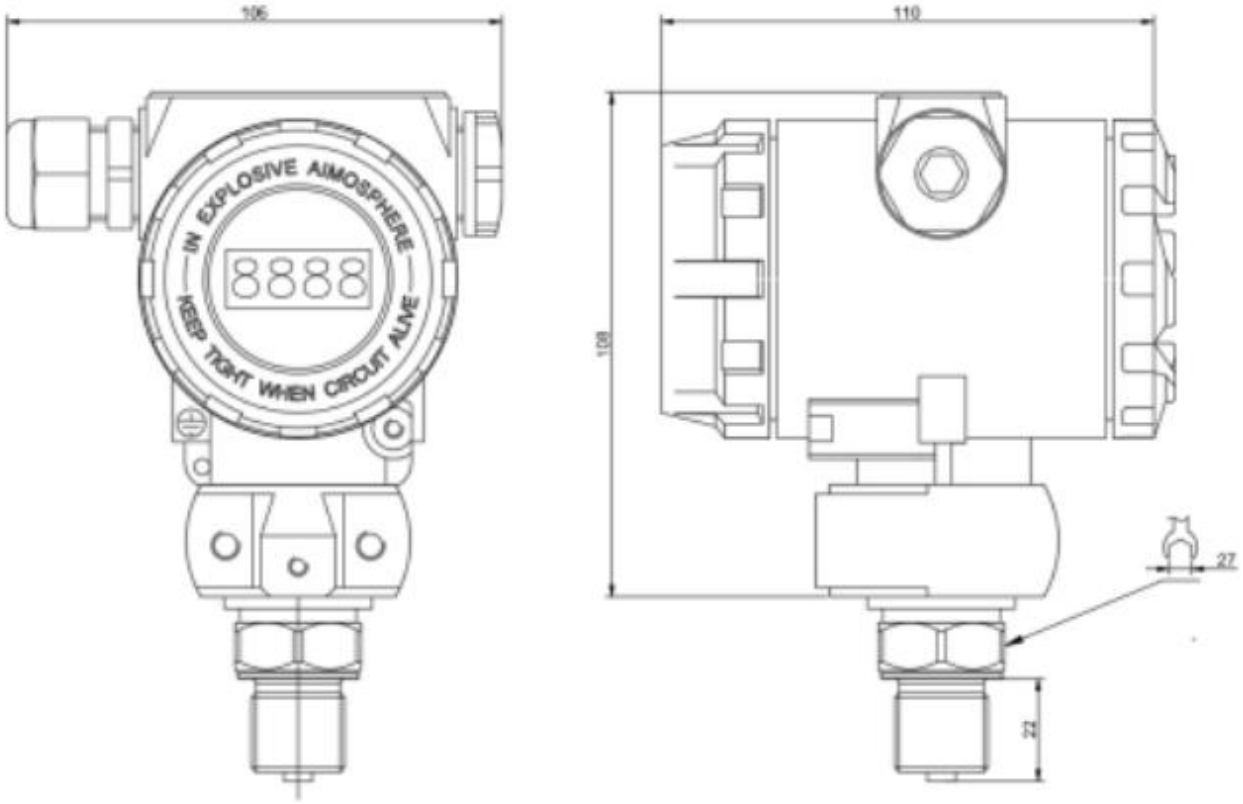


Voltage output



RS485 output

Dimension



P400 with display

Installation

(1) Pressure transmitter should be installed as far as possible in the place where temperature fluctuation is small, while avoiding vibration and shock.
(2) The pressure transmitter can be directly installed at the measuring point. Connection threads: M20*1.5 or 1/2-NPT. Flange Interfaces of various specifications for special purposes.
(3) Transmitter is suitable for measuring the pressure of various general corrosive liquids and gas. Transmitters manufactured according to explosion-proof requirements can be used in different explosive environments according to the explosion-proof grade of products, and their related equipment should also have explosion-proof function. For strong corrosive medium (such as acid, alkali) and corrosion resistant structure, the orders should be placed according to special requirements.
(4) Do not route the signal line through the conduit or the open cable with the power line, or near high-power equipment.
(5) If the pressure pipes are used in the transmitter, attention should be paid to that the strong corrosive or superheated media should not contact the transmitter, so as to prevent the sediment from precipitating in the pressure pipes, and the pressure pipes should be as short as possible. When measuring steam or other high temperature medium, the working temperature of the transmitter should not exceed the limit. When used for steam measurement, the pressure pipes should be filled with water to prevent the transmitter from contacting directly with the steam.

Ordering code

SUP-PX400G -G-1A-K-A1-3-L2-A-W1-PA										Description
SUP-PX400G	-	-	-	-	-	-	-	-	-	
Pressure Type	G									Gauge pressure
	A									absolute pressure
Measurement Range		1A								-100-0kPa
		1B								-100-100kPa
		1C								-100-1000kPa
		1L								0-10kPa
		1M								0-20kPa
		1N								0-30kPa
		1Q								0-50kPa
		1S								0-100kPa
		2A								0-0.6MPa
		2B								0-1MPa
		2C								0-1.6MPa
		2D								0-2.5MPa
		2E								0-4MPa
		2H								0-10MPa
		2K								0-20MPa
		2L								0-25MPa
		2M								0-30MPa
		2N								0-40MPa
		XX								other
Accuracy			K							0.5 Class
			G							0.25Class
			F							0.2 Class
Output and Power Supply				A1						Two-wire 4-20mA
				A5						RS485，24VDC
				A9						4-20mA+RS485，24VDC
				XX						other
Heat sink					3					3
					5					5
					7					7
					9					other
Thread Type						L2				M20×1.5
						G2				G1/2
						G1				G1/4
						NA				NPT1/4
						NC				NPT1/2
						L1				M14×1.5
						XX				othwe
Diaphragm and Thread Type Material							A			316LSS，304SS

		B	316LSS，316LSS
		X	other
Electrical Interface, Housing Material, and Ingress Protection		W1	M20×1.5 Cable Gland, Aluminum Alloy, IP65
Accessories		PA	Threaded Base Carbon Steel CS
		PB	304SS Thread Base
		PD	304SS Condensation Bend