

Pressure transmitter P300 series Datasheet



Datasheet

Pressure transmitter

P300

P300 Series pressure transmitter is kind of device based on pressure layer, which inside expert integrate circuit can transform sensor milli-volt signal to standard far distance transmission current signal, and it can be directly joined with computer joint clip, control instrument ,aptitude instrument or PLC etc. conveniently. The series' product is applied extensively in the professions, such as the industry process control, petroleum, chemical engineering and metallurgy etc. Carry the distance delivers and can adopt electric current exportation method.

Applications

- Dyeing industry
- Air tightness test
- HVAC
- Water supply
- Agricultural irrigation
- Food industry
- Mud measurement
- Vacuum equipment
- Medical equipment

Features

- Compact structure and easy installation
- Advanced Diaphragm/Oil Filled Isolation Technology
- High stability, high reliability
- Anti-vibration, anti-radio frequency interference.
- 316L stainless steel isolation diaphragm structure.
- High precision, all stainless steel structure.
- Micro amplifier, voltage, current, RS485 signal output.
- Wide range with multiple pressure measurement
- Vibration and shock resistance.



P300

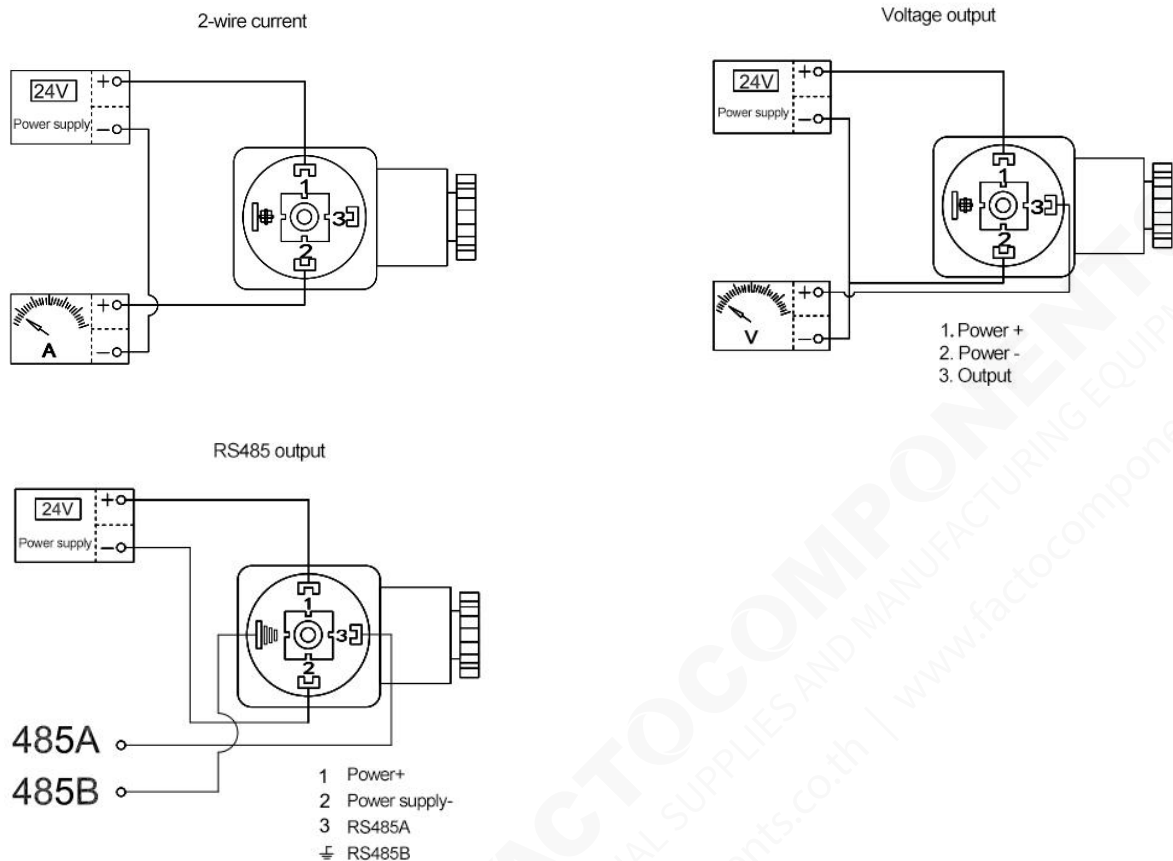
Principle

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. P300 is diffused silicon type pressure transmitter.

Parameters	
Output and power supply	(4~20)mA output (10~32)V (0~10)V output (12~32)V (0~5)V,(1~5)V,RS485 output (8~32)V (4~20)mA output with LCD 4-digit display meter (17~32)V RS485 output with 8-segment digital tube 4-digit display meter (5~28)V
Accuracy	0.2%F.S, 0.25%F.S, 0.5%F.S(Optional)
Measuring Range	-0.1MPa...0~10kPa...60MPa
Pressure Type	Gauge pressure,Absolute pressure,Sealing pressure
Temperature compensation	-10~70℃
Operating temperature	-20~85℃
Medium temperature	-20~85℃
Storage temperature	-40~85℃
Ingress Protection	IP65
Overloading pressure	0.035~10MPa(150%FS),10~60MPa(125%FS)
Zero output temperature drift	±0.3%FS/10℃
Full-Scale output temperature drift	±0.3%FS/10℃
Long-term stability:	±0.2%FS/year
Response time	Current and voltage output type pressure≤10ms (up to 90%FS); RS485 output type pressure≤100ms (up to 90%FS)
Insulation resistance	20MΩ/250VDC
Dielectric strength	50Hz, 500VAC
Load Resistance	4~20mA output: $\leq (U-10V)/0.02A$, U is the power supply voltage 4~20mA output with display: $\leq (U-14V)/0.02A$, U is the power supply voltage V output: $\geq 5k\Omega$

Wiring

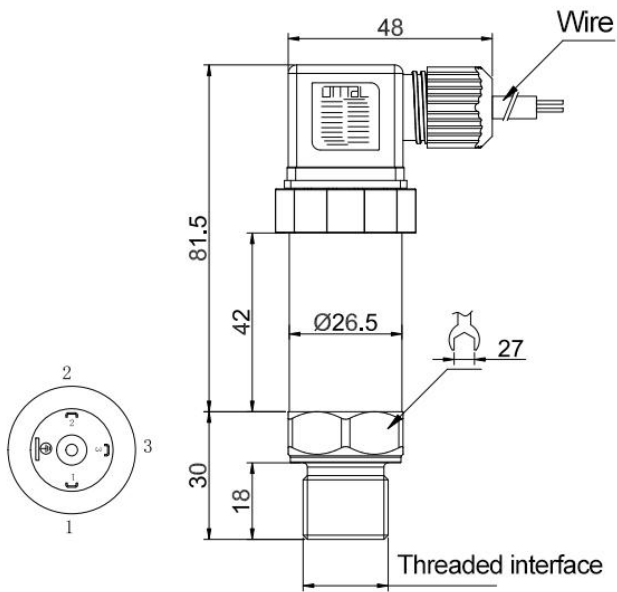
Electrical connection diagram of Herssman structure



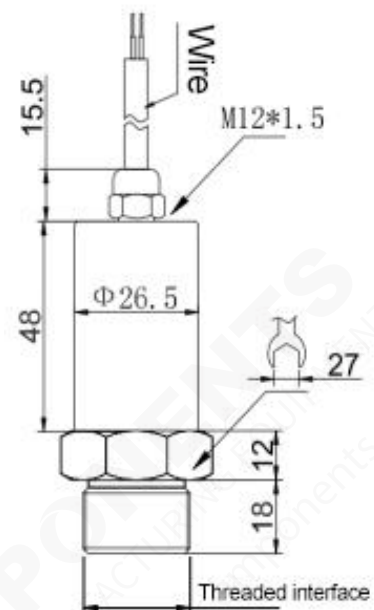
Direct lead structure electrical connection

Output	Color	Description
Current	Red	Power+
	Green	Current output
Voltage	Red	Power+
	Green	Power supply-
	Yellow	Voltage output
RS485	Red	Power+
	White	Power supply-
	Green	RS485+
	Yellow	RS485-

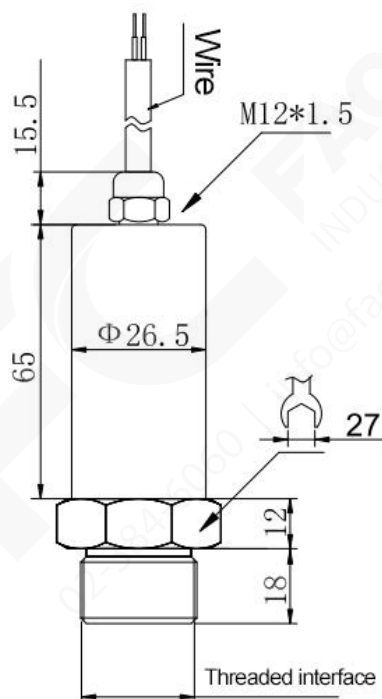
Dimensions



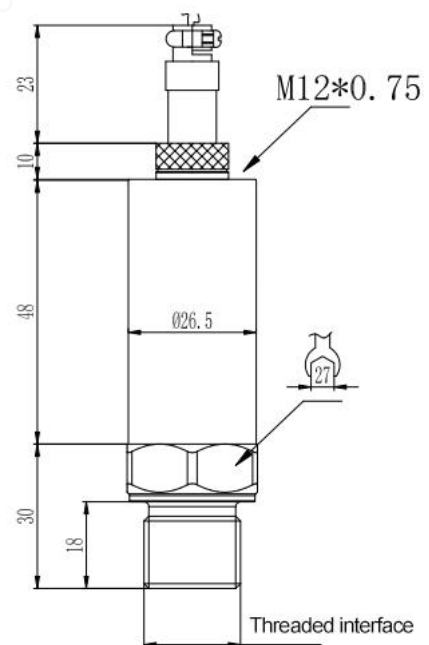
Hersman joint



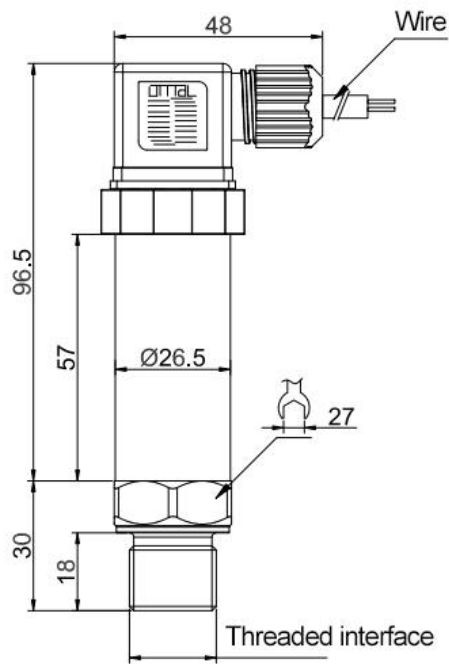
Direct lead



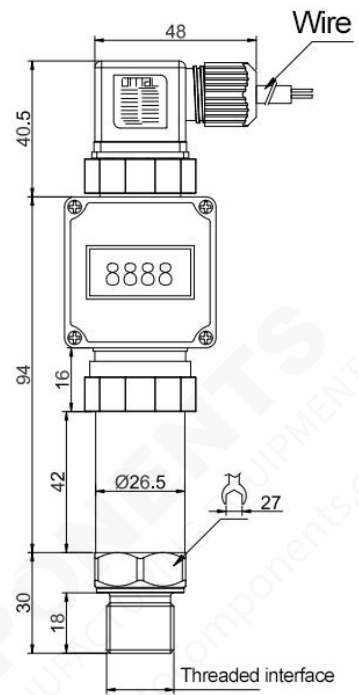
Direct lead with RS485 output



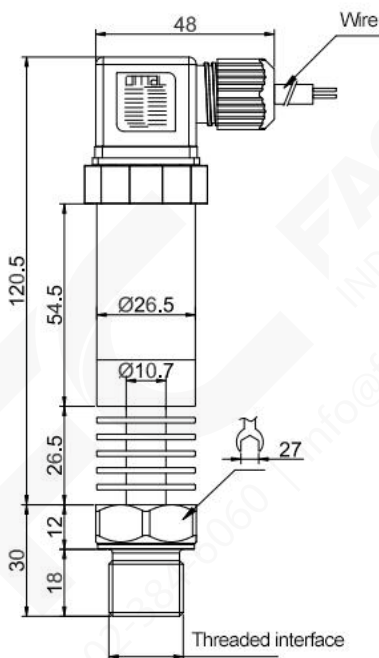
Aviation plug



Herssman joint with RS485 output



Herssman joint with display



Hessman high temperature type

Ordering code

P300-G-RT(0-1)-J3-O1-D2-I2-EI1-V1-DM1-E1-GQ1-IP1-HM1-TM1-CS2														Description
P300	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pressure Type	G													Gauge pressure
	A													Absolute pressure
	S													Sealed gauge pressure
Measuring range	RT(XX - XX)													-0.1MPa...0 - 10kPa...60MPa
Accuracy				J3										0.2%
				J4										0.25%
				J5										0.5%
Transmit output				O0										No
				O1										4~20mA output
				O2										1~5V output
				O3										0~10V output
				O4										0~5V output
				OZ1										20~4mA output
				OZ2										0.5~4.5V output
				OZ3										0.5~2.5V output
Communication				D0										No
				D2										RS485
Installation				I1										M20*1.5
				I2										G1/4
				I3										G1/2
				I4										M14*1.5
				I5										NPT1/4
				I6										NPT1/2
				IZ										Others
Electrical Interface				EI1										Herssman joint
				EI2										Herssman direct lead
				EI3										Direct lead
				EI4										Round seat aviation plug
				EI5										Square seat aviation plug
Power supply				V1										24VDC
				V5										5VDC
Ingress Protection														316L stainless steel diaphragm

Seal ring material	GQ1			Nitrile rubber seal (20℃～100℃)
	GQ2			Fluorine rubber sealing ring (-20℃～200℃)
Ingress Protection	IP1			IP65
Shell material	HM1			304(Standard)
	HM2			316L
Thread material		TM1		304(Standard)
		TM2		316L
Cable length			CS2	2m(Standard)
			CSXX	Xm

Note: Communication output and transmission output cannot be selected at the same time