

Pressure Sensor for Air/Water/Oil, 4-20mA/0-5V/RS485 Output

ATO-PRES-P300

Pressure sensors ATO-PRES-P300 use a high-performance silicon piezoresistive pressure core as core element. The internal ASICs convert the mV signal into a standard current signal (4-20mA/0-20mA), voltage signal (0-5V/1-5V/0-10V) or RS485 signal. Pressure sensor with stainless steel sealing structure has small size, light weight, high anti-vibration and anti-shock performance, measuring range -0.1~100MPa/ -1~1000bar/ -14~14503psi, medium temperature -40~+60°C (-40~+140°F), good for air/water/oil pressure measurement.



Applications

- Hydraulic/Pneumatic Systems
- Energy and Water Management
- Measurement and Process Control
- Pumps and Compressors
- Automotive Test Systems
- Machine Building
- Medical Equipment
- Aerospace

Features

- Measuring range: -0.1~100MPa (-1~1000bar/-14~14503psi)
- Output signal: 4-20mA, 0-20mA, 0-5V, 1-5V, 0-10V, RS485
- Accuracy: $\pm 0.5\%FS$, $\pm 0.3\%FS$
- Power supply: DC 12V, DC 24V, DC 12-36V
- Electrical connection: DIN connector type, direct lead wire type, M12 circular connector type
- Thread of pressure connection: G1/4, G1/2, 1/4NPT, 1/2NPT, M14*1.5, M20*1.5
- Protection class: IP65
- Measuring medium: Air, water, oil (non-explosion proof area)
- Pressure type: Gauge pressure (standard), absolute pressure, sealed pressure

Specifications:

Model	ATO-PRES-P300
Weight	0.4kg
Measuring range *	-0.1~100MPa (-1~1000bar/-14~14503psi)
Pressure type	Gauge pressure (standard), absolute pressure, sealed pressure
Measure medium	Air, water, oil (non-explosion proof area)
Power supply *	DC 12V, DC 24V, DC 12-36V
Output signal *	2 wire: 4-20mA, 0-20mA
	3 wire: 0-5V, 1-5V, 0-10V
	RS485
Accuracy *	±0.5%FS, ±0.3%FS
Zero temperature drift	±0.03%FS/°C
Sensitivity temperature drift	±0.03%FS/°C
Long term stability	≤0.2%FS/year
Overload pressure	200%FS
Frequency response (-3dB)	5kHz~650kHz
Electrical connection *	DIN connector type, direct lead wire type, M12 circular connector type
Thread of pressure connection *	G1/4, G1/2, 1/4NPT, 1/2NPT, M14*1.5, M20*1.5
Response time	<10ms
Operating temperature	-40~+80°C (-40~+176°F)
Medium temperature	-40~+60°C (-40~+140°F)
Material	Housing: 304 stainless steel
	Fill fluid: Silicon oil
	Pressure port: 304 stainless steel, or 316L stainless steel (customizable)
	Separating diaphragm: 304 stainless steel, or 316L stainless steel (customizable)
	Sealing: FKM (medium temperature ≤ +200°C/+392°F), EPDM, NBR
Cable length	2m
Protection class	IP65

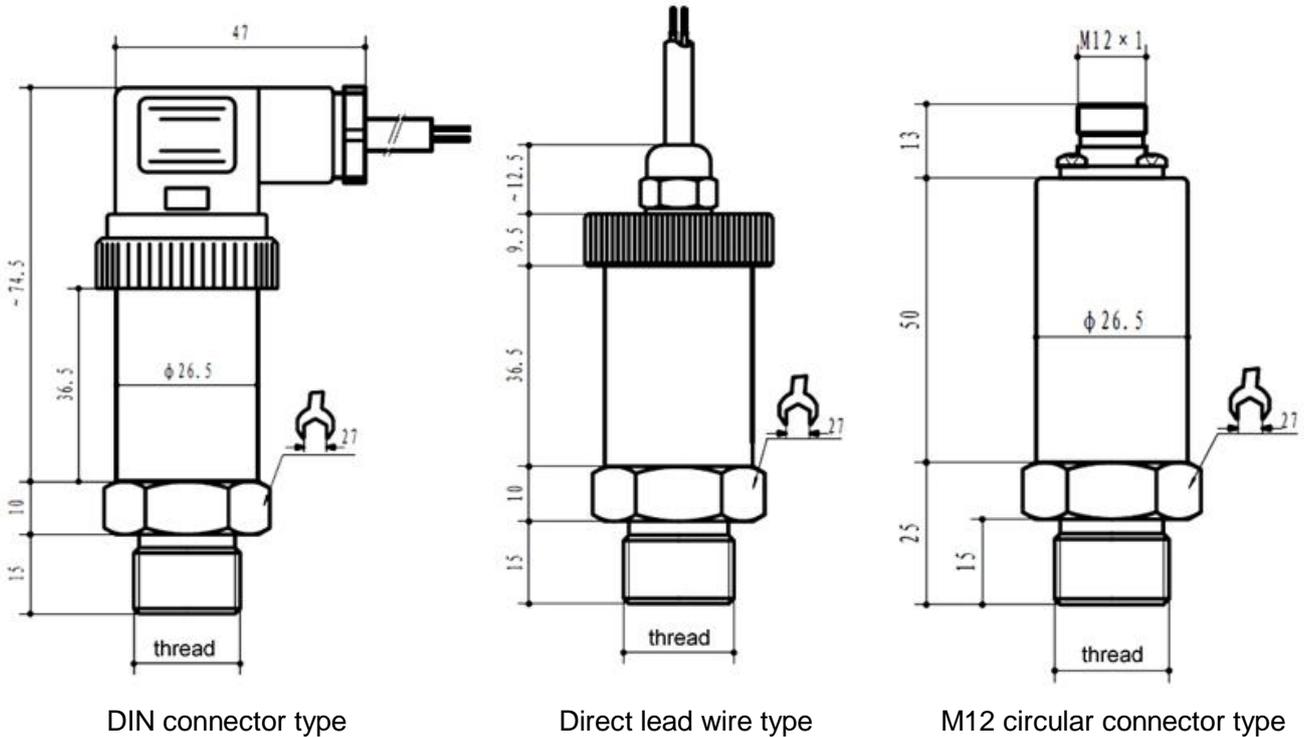
Note: * indicates the general parameters used for quick selection in our online shop. If you want to customize other parameters, please contact our customer service staffs.

Standard Measuring Range Conversion:

kPa	bar	psi	MPa	bar	psi	MPa	bar	psi
0~10	0~0.1	0~1.5	0~0.6	0~6	0~87	0~20	0~200	0~2900
0~20	0~0.2	0~3	0~1	0~10	0~145	0~30	0~300	0~4351
0~50	0~0.5	0~7	0~1.6	0~16	0~232	0~40	0~400	0~5801
0~100	0~1	0~14	0~2.5	0~25	0~362	0~50	0~500	0~7252
-100~0	-1~0	-14~0	0~6	0~60	0~870	0~60	0~600	0~8702
-100~100	-1~1	-14~14	0~10	0~100	0~1450	0~100	0~1000	0~14503

Dimension Diagram:

Unit: mm.



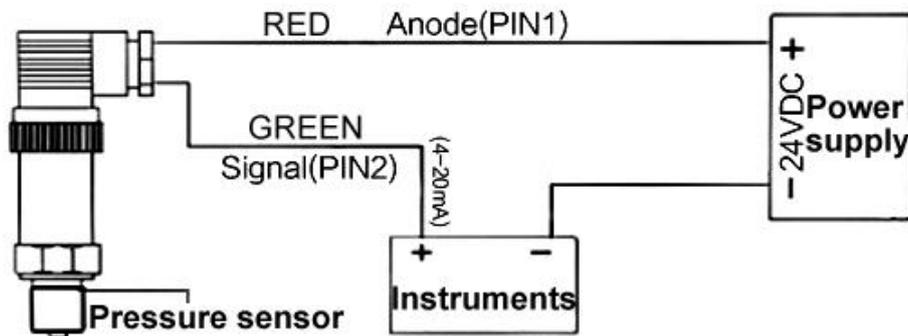
DIN connector type

Direct lead wire type

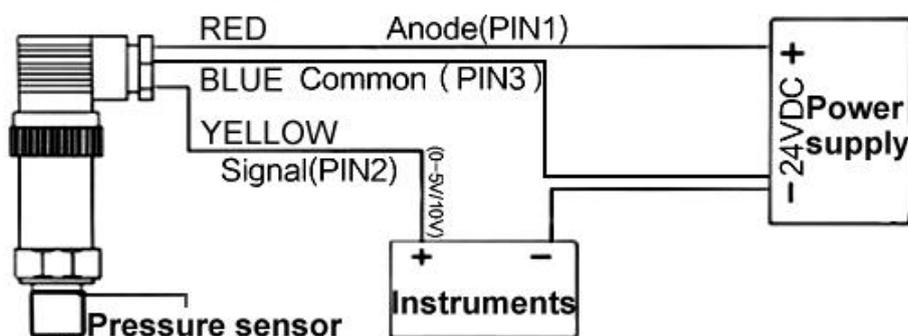
M12 circular connector type

Wiring Diagram:

2-wire current output wiring



3-wire voltage output wiring



Installation

1. ATO pressure sensor should be installed as far as possible in the place where temperature fluctuation is small, while avoiding vibration and shock.
2. The pressure sensor can be directly installed at the measuring point. Connection threads: M20*1.5 or 1/2NPT. Flange interfaces of various specifications for special purposes.
3. Pressure transducer is suitable for measuring the pressure of various general corrosive liquids and gas. Transducers 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 sensor, attention should be paid to that the strong corrosive or superheated media should not contact the sensor, 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 sensor should not exceed the limit. When used for steam measurement, the pressure pipes should be filled with water to prevent the sensor from contacting directly with the steam.

Notes

1. The cap must be tightened by hand, and the connection hole must be sealed with suitable seals to prevent water accumulation in the shell.
2. The pressure sensor shall not be loosened at the sealing joint and must be kept reliable.
3. Sensors must be used according to specifications, and different types cannot be interchanged.
4. Pressure transducer range can be reduced, but the upper limit of range must not be exceeded 1.5 times of the range.

Warranty

1. The pressure transducer is used in a medium without corrosion to silicon and stainless steel (or aluminum alloy).
2. The maximum pressure of the measured system may not exceed the rated value of 150% FS at the moment of instantaneous occurrence.
3. The back end of the pressure transducer should not be in contact with conductive, corrosive liquids or gases.
4. It is not possible to insert a sharp object into the pressure input hole in order to prevent damage to the core.
5. The water can't enter the back-end lead of the sensor.
6. When using, please strictly follow the precautions, otherwise the consequences are at your own risk.