

# Pressure Transmitter

Committed to process automation solutions

## Datasheet



## SUP-P300

SUP-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.

## Product advantage

- The physical volume small, the weight is small;
- Work in the causticity environment;
- That product installs the convenience simple and direct;
- The whole stainless steel seals completely the structure,have the very high anti- to flap to pound at the function with anti.

## 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.

## Features

SUP-P300 pressure transmitter for general industrial applications is not only notable for its compact design, but it also offers excellent at an extremely competitive price. The modular design of the device allows combining a variety of process connections, pressure ranges and electrical connection variants, covering virtually all industrial application requirements.

### Highlights

- (1) DIN connector type
- (2) M12 connector type
- (3) Cable connector type

Fully welded pressure measuring cell with  
AISI 316L stainless steel diaphragm  
Accuracy, terminal based: 0.5%  
temperature at zero point:  $\pm 0.03\% \text{FS}/^{\circ}\text{C}$   
Measuring range: -1...0-2...1000bar  
Ingress protection up to IP65



### Applications

Oil industry paper industry chemical industry and so on.

### Options and variants



**P300G:** Pressure transmitter  
Fins with cooling

**PX300:** Pressure transmitter  
with digital display

**P350:** Hygienic Pressure  
transmitter with flat film

**P400:** Pressure transmitter  
with Shell protection

## Technical Data

The following data is provided for general applications. If you require data that is more relevant to your specific application, please contact us.

| MEASURE SYSTEM:   |                                                                 |
|-------------------|-----------------------------------------------------------------|
| Application Range | Measurement of gauge and absolute pressure in gases and liquids |
| Measuring Range   | -1...0-2...1000bar                                              |

| TECHNICAL PERFORMANCE     |                                                         |
|---------------------------|---------------------------------------------------------|
| Pressure Type             | Gauge pressure absolute pressure sealing pressure       |
| Power Supply              | 12VDC 24VDC 12-36VDC                                    |
| Signal Output             | 4-20mA 0-20mA 0-5V 1-5V 0-10V RS485                     |
| Zero Drift                | ±0.03%FS°C                                              |
| Accuracy                  | ±0.5%FS°C, 0.3%FS optional                              |
| Thermal Sensitivity Drift | ±0.03%FS°C                                              |
| Long Term Stability       | ≤0.2%FS°C one year                                      |
| Frequency Response(-3dB)  | 5kHz~650kHz                                             |
| Ingress Protection        | IP65                                                    |
| Pressure Connection       | G1/4, G1/2, 1/2NPT, 1/4NPT, M20*1.5etc.(optional)       |
| Measure Medium            | Gas, water, oil etc. (non-explosion-proof area)         |
| Electrical Connections    | DIN connector type, M12 connector, cable connector type |
| Time Response             | <10ms                                                   |
| Weight                    | Min, 400g (depending on model)                          |

**MATERIALS:**

|            |                          |
|------------|--------------------------|
| Housing    | 304/316L stainless steel |
| Fill Fluid | Silicon oil              |

**WETTED PARTS:**

|                      |                                                       |
|----------------------|-------------------------------------------------------|
| Pressure Port        | Stainless steel 304 / AISI 316L                       |
| Separating Diaphragm | Stainless steel 304/ AISI 316L                        |
| Sealing              | FKM(medium temperature $\leq$ +200°C/392°F);EPDM; NBR |

**VOLTAGE SUPPLY:**

| Output Signal | Power Supply Standard | Option   |
|---------------|-----------------------|----------|
| 4-20 mA       | 12VDC                 | 12-36VDC |
| 0-20 mA       | 24VDC                 | 12-36VDC |
| DC 0-5V       | 24VDC                 | 12-36VDC |
| DC 1-5V       | 24VDC                 | 12-36VDC |
| DC 0-10V      | 24VDC                 | 12-36VDC |

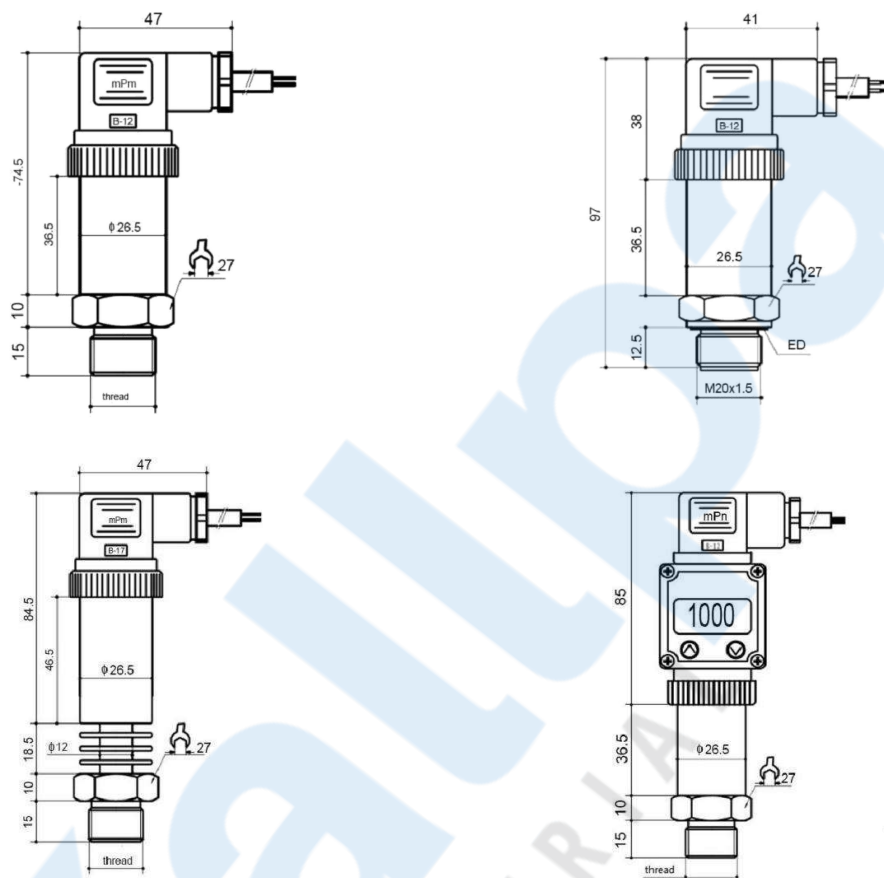
## OUTPUT SIGNAL:

| Signal Type     | Signal          |
|-----------------|-----------------|
| Current(2-wire) | 4-20mA          |
| Voltage(3-wire) | 0-5V 1-5V 0-10V |

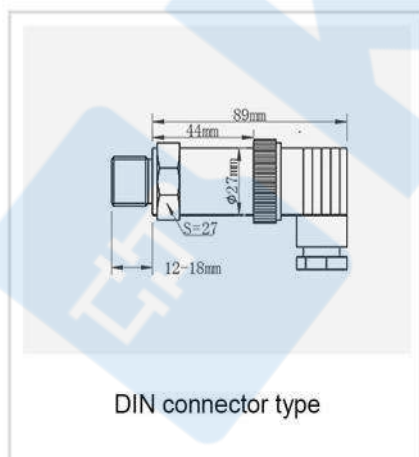
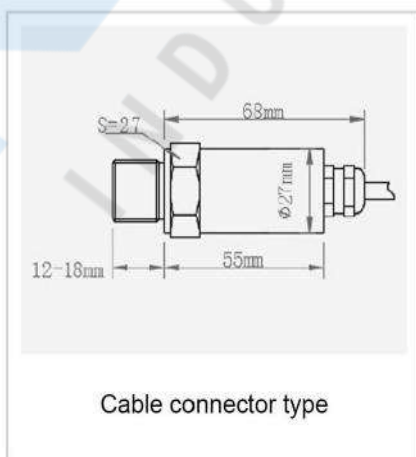
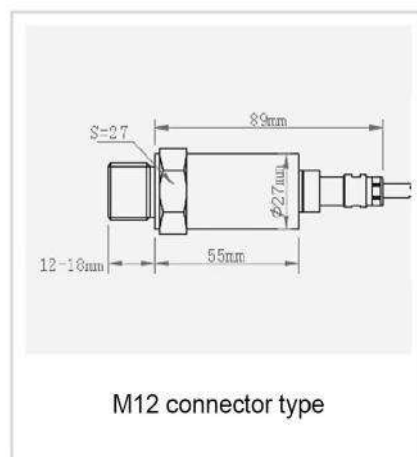
## OPERATING CONDITIONS:

|                     |                                               |
|---------------------|-----------------------------------------------|
| Temperature         | -20...+80°C/-4...+176°F                       |
| Nominal Temperature | -40...+85°C/-40...+185°F                      |
| Ambient Temperature | -40...+100°C/-40...+212°F                     |
| Storage Temperature | PN≤40 bar /580 psi: -40...+125°C/-40...+257°F |
| Medium Temperature  | PN≥60 bar /870 psi: -25...+125°C/-13...+257°F |
|                     | With cooling fins (optional) :                |
|                     | PN≤40 bar /580 psi: -40...+125°C/-40...+257°F |
|                     | PN≤40 bar /580 psi: -40...+125°C/-40...+257°F |

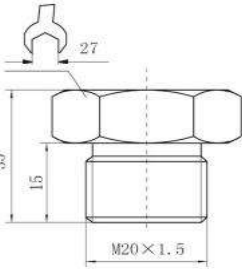
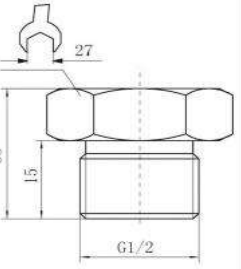
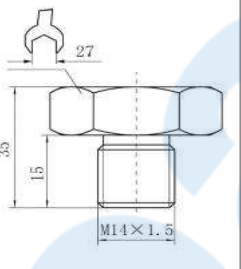
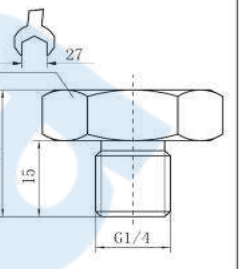
## SIZE CHART:



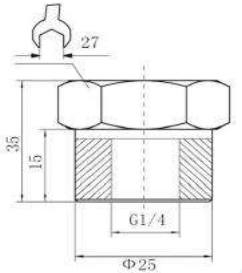
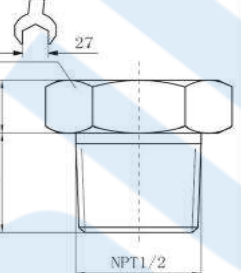
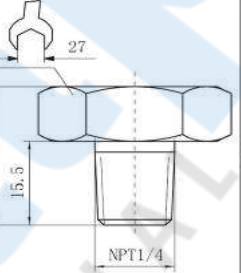
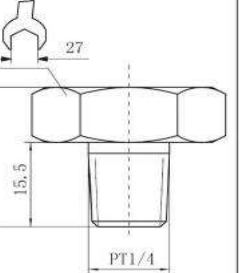
## CONNECTOR TYPE:



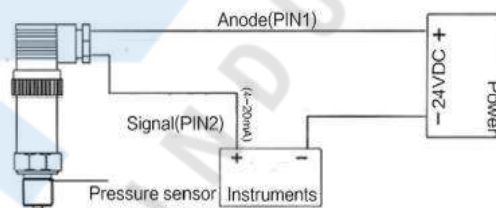
## PROCESS CONNECTION:

| Thread                 | M20×1.5                                                                           | G1/2                                                                              | M14×1.5                                                                            | G1/4                                                                                |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Size chart<br>unit: mm |  |  |  |  |
| No.                    | C1                                                                                | C2                                                                                | C3                                                                                 | C4                                                                                  |

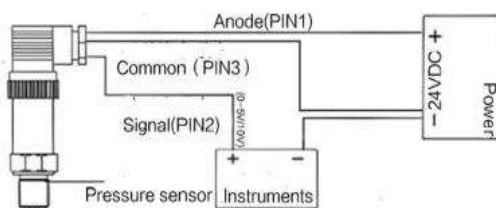
  

| Thread                 | G1/4内                                                                              | NPT1/2                                                                             | NPT1/4                                                                              | PT1/4                                                                                |
|------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Size chart<br>unit: mm |  |  |  |  |
| No.                    | C5                                                                                 | C6                                                                                 | C7                                                                                  | C8                                                                                   |

## TERMINAL ASSIGNMENT:



## Two-wire wiring diagram



## Three-wire wiring diagram

## Ordering Code

| Model                |            |   |    |     |   |      |   |   |   | Description                 |                 |                 |
|----------------------|------------|---|----|-----|---|------|---|---|---|-----------------------------|-----------------|-----------------|
|                      | -          | - | -  | -   | - | -    | - | - | - |                             |                 |                 |
| SUP-P300             |            |   |    |     |   |      |   |   |   | -                           |                 |                 |
| Pressure type        | PT1        |   |    |     |   |      |   |   |   | Gauge pressure              |                 |                 |
|                      | PT2        |   |    |     |   |      |   |   |   | Absolute pressure           |                 |                 |
|                      | PT3        |   |    |     |   |      |   |   |   | Sealed gauge pressure       |                 |                 |
| Measuring range      | R(XX - XX) |   |    |     |   |      |   |   |   | -0.1MPa...0 - 10kPa...60MPa |                 |                 |
| Accuracy             |            |   | J1 |     |   |      |   |   |   | 0.50%                       |                 |                 |
|                      |            |   | J2 |     |   |      |   |   |   |                             | 0.30%           |                 |
| Analog output        |            |   | O0 |     |   |      |   |   |   | No analog output            |                 |                 |
|                      |            |   | O1 |     |   |      |   |   |   |                             | 4 - 20mA output |                 |
|                      |            |   | O2 |     |   |      |   |   |   |                             | 1 - 5V output   |                 |
|                      |            |   | O3 |     |   |      |   |   |   |                             | 0 - 5V output   |                 |
|                      |            |   | OZ |     |   |      |   |   |   |                             | Others          |                 |
| Communication output |            |   |    | D0  |   |      |   |   |   | No communication output     |                 |                 |
|                      |            |   |    | D1  |   |      |   |   |   |                             |                 | RS485           |
| Mounting thread      |            |   |    | 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 |   |      |   |   |   | DIN connector               |                 |                 |
|                      |            |   |    | EI3 |   |      |   |   |   |                             |                 | Cable connector |
|                      |            |   |    | EI4 |   |      |   |   |   |                             |                 | M12 connector   |
|                      |            |   |    | EIZ |   |      |   |   |   |                             |                 | Others          |
| Power supply         |            |   |    |     |   | V1   |   |   |   | 24VDC                       |                 |                 |
|                      |            |   |    |     |   | V2   |   |   |   |                             |                 |                 |
| Ingress Protection   |            |   |    |     |   | IP1  |   |   |   | IP65                        |                 |                 |
|                      |            |   |    |     |   | IP2  |   |   |   |                             |                 |                 |
| Cable length         |            |   |    |     |   | CS2  |   |   |   | 2m (Standard)               |                 |                 |
|                      |            |   |    |     |   | CSXX |   |   |   |                             |                 |                 |

