

## Pressure transmitter

## **Preface**

Thank you for purchasing Pressure transmitter. Please read this manual carefully before operating and using it correctly to avoid unnecessary losses caused by false operation.

## **Note**

- Modification of this manual's contents will not be notified as a result of some factors, such as function upgrading.

- We try our best to guarantee that the manual content is accurate, if you find something wrong or incorrect, please contact us.

- This product is forbidden to use in explosion-proof occasions.

## **Version**

U-P300-MYEN2

## Safety Precautions

In order to use this product safely, be sure to follow the safety precautions described here.



## package contents

Table 1

Serial number	name	Quantity
1	Pressure transmitter	1
2	Manual	1
3	Certificate	1

## The following safety signs are used in this manual

Table 2

signs	name	meaning
	Hazard	If not taken with appropriate precautions, will result in serious personal injury, product damage or major property damage.
	Warning	Pay special attention to the important information linked to product or particular part in the operation manual.

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## Chapter I Introduction

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.

## Chapter II Characteristics

(1) Compact structure and easy to install.

(2) Advanced diaphragm/oil-filled isolation technology.

(3) High stability and reliability.

(4) Seismic resistance and anti-radio frequency interference.

(5) 316L stainless steel isolation diaphragm structure.

(6) High precision, all stainless steel structure.

(7) Micro-amplifier, voltage and current signal output.

(8) Strong anti-interference and long-term stability.

(9) Variety of process connections are available.

(10) Wide range of measurement. It can measure absolute pressure, gauge pressure and sealing reference pressure.

(11) Anti-vibration and anti-impact.

## Chapter III Installation

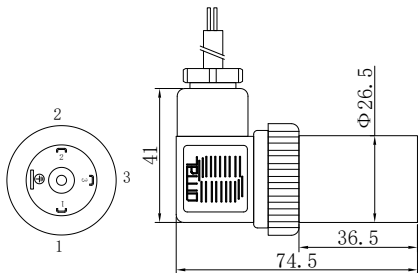


Figure 1 DIN connector type

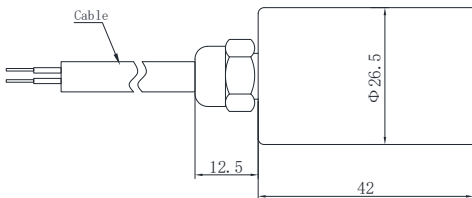


Figure 2 Cable connector type



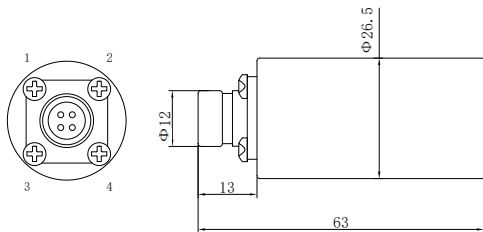


Figure 3 M12 connector type

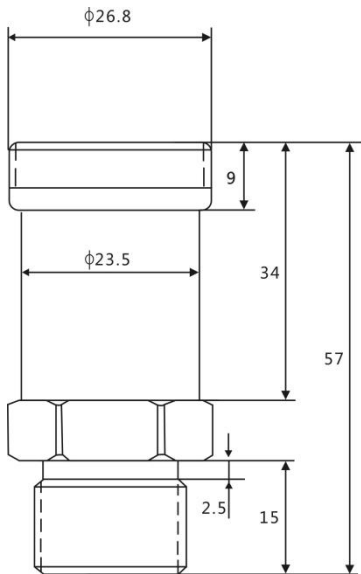


Figure 4 P310

## Chapter IV Technical parameters

(1)Power:24VDC (9~36V)

(2)Output:4~20mA;1~5V;0~10V;0~5V;RS485

(3)Accuracy: 0.3%、0.5%

(4)Measurement range:-0.1~0/0.01~60Mpa

(5)Pressure type: gauge pressure, adiabatic pressure and sealed pressure

(6)Compensation temperature:-10℃~70℃

(7)Working temperature:-20℃~85℃

(8)Medium temperature:-20℃~85℃

(9)Storage temperature:-40℃~125℃

(10)Zero-point temperature drift:±1.5%FS/10℃

(11)Sensitivity temperature drift:±1.5%FS/10℃

(12)Overload pressure:150%FS

(13)Long-term stability:±0.2%FS/year

(14)Response time:≤10ms (up to 90%FS)

(15)Insulation:100MΩ,250VDC

(16)Ingress protection:IP65

(17)Load Resistance:(V-8.5V)/0.02A

## Chapter V Electrical connection

### 5.1 Electrical connection of DIN connector type as follows

Two-Wire

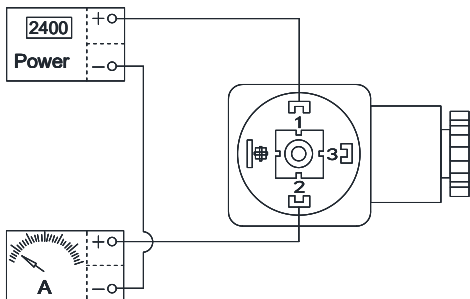


Figure 5

### Voltage output

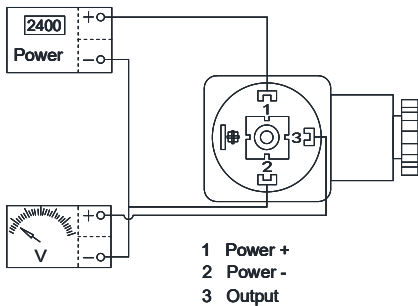


Figure 6

## RS485 output

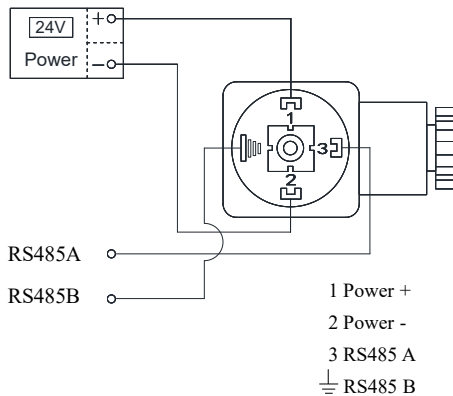


Figure 7

## **5.2 Cable connector type electrical connection**

Current:

Red Wire: 24VDC

Green Wire: Current Output

Voltage:

Red Wire: 24VDC

Green Wire: Power Supply -

Yellow Wire: Voltage Output+

RS485:

Red Wire: 24VDC

White Wire: Power Supply -

Green Wire: 485A

Yellow Wire: 485B

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## Chapter VI 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: M20X1.5 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.

## **Chapter VII Safety instructions**

(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 transmitter shall not be loosened at the sealing joint and must be kept reliable.

(3)Transmitters must be used according to specifications, and different types cannot be interchanged.

(4)Transmitter range can be reduced, but the upper limit of range must not be exceeded 1.5 times of the range.

## **Chapter VIII Cautions**

(1) The transmitter is used in a medium without corrosion to silicon and stainless steel (or aluminium 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 transmitter 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 not enter the back-end lead of the sensor.

(6) When using, please strictly follow the precautions, otherwise the consequences are at your own risk.

## **Chapter IX After-sales service**

The company promises customers that there are no defects in the material and manufacturing process of the hardware accessories provided when the instrument is supplied.

Starting from the date of instrument purchase, the company will unconditionally maintain or replace the defective products free of charge if the customer notifies the defective products during the warranty period.