Pressure Transmitter
DR3401



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WARNING!

- Select the appropriate pressure transmitter with regard to scale range, performance and specific measurement conditions prior to installing and starting the instrument.
- Open pressure connections only after the system is without pressure!
- Please make sure that the pressure transmitter is only used within overload threshold limit at all times.
- Observe the ambient and working conditions outlined in section 2 “Specification”.
- Ensure that the pressure transmitter is only operated in accordance with the provisions, i.e. as described in the following instructions.
- Do not interfere with or change the pressure transmitter in any other way than described in these operating instructions.
- Take precautions with regard to remaining media in removed pressure transmitter. Remaining media in the pressure port may be hazardous or toxic!
- Have repairs performed by the manufacturer only.

Our company keeps the modification right for the update of product technology and technics. If anything is changed, no more information will be noticed. Please pay attention to the latest version.

1. General information

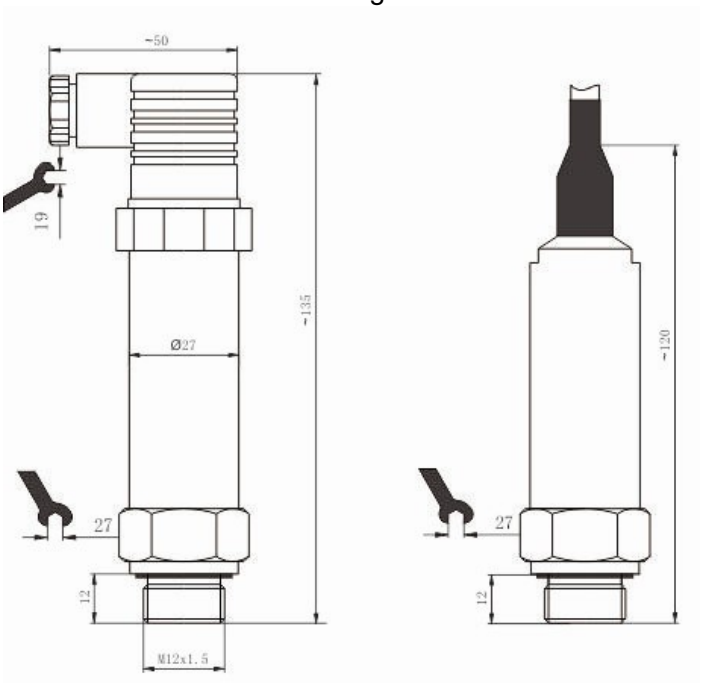
DR3401 pressure transmitter, it is made up by building-in OEM pressure sensor with good stability & reliability and high accuracy circuit board into the stainless-steel housing. The prevailing pressure is measured at the sensor element through the deformation of a diaphragm. By supplying power, this deformation of the diaphragm is converted into an electrical signal. The output signal from the pressure transmitter is amplified and proportional to the prevailing pressure.

2. Specification

Pressure Range：- 0.1…0~0.01…100MPa
Overpressure： 2 times FS or 110MPa (Min. value is valid)
Pressure Type： Gauge, Absolute or Sealed
Accuracy：±0.5%FS ±1.0%FS
Long-term Stability：≤±0.3%FS/year
Zero Temperature Drift：0.03%FS/℃ (≤100kPa)， 0.03%FS/℃(＞100kPa)
FS Temperature Drift： 0.03%FS/℃ (≤100kPa)， 0.02%FS/℃(＞100kPa)
Compensation Temperature Range：0~50℃
Operation Temperature：-30~70℃
Storage Temperature： -40~70℃
Power Supply：12~28VDC
Signal Output：4~20mA(2-wire) 0/1~5/10VDC (3-wire)
Resistance：≤(U-12) / 0.02Ω ≥10kΩ
Pressure Port： M20×1.5 Male with Waterline Seal

3. Construction and Outline dimension

3.1 Construction Material：
Housing：Stainless Steel 304
O-Ring：Viton
Cable：Φ7.5mm Polyethylene Special Cable
Plug Housing：Plastic
3.2 Construction and Mounting Dimension：



Pressure Port

4. Unpacking, Storage and Shipment Enclosed

4.1 Unpacking

Caution：
Be sure unpacking carefully, and prevent damaging instruments or accessories. Pay attention to the housing jacket and rubber bushing of transmitter cable.

4.2 Enclosed

The transmitter should be enclosed when out of factory：

Pressure Transmitter	1
Special Plug	1（due to the order）
Production Manual	1
Production Qualification Certificate	1

4.3 Storage

The transmitter should be stored in dry ventilate room, ambient temperature -40~70℃ and the relative humidity≤85%, no corrosive substance in the room.

5. Installation

WARNING!
Observe the working conditions in accordance with chapter 2 “Specifications”.

WARNING!
Forbid using sharp objects to touch the product diaphragm through the pressure port!
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CAUTION!
Prior to commissioning, the pressure transmitter must be subjected to a visual inspection.
Leaking fluid is indicative of damage.
Only use the pressure transmitter if it is in perfect condition with respect to safety.

5.1 Checking and Installation

(1) Please be sure the liquid static pressure brought at the operation place will not exceed the transmitter measurement range；

(2) Please be sure the measuring liquid is compatible with the construction material；

(3) The protection cap protects the internal diaphragm from damage.

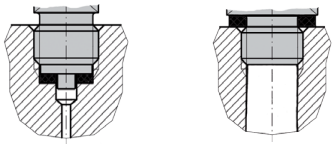
(4) Remove the protection cap only just before installation and absolutely avoid any damage to the diaphragm during installation as well.

(5) When mounting the instrument, ensure that the sealing faces of the instrument and the measuring point are clean and undamaged. Screw in or unscrew the instrument only via the flats using a suitable tool and and the prescribed torque. Do not use the case as working surface for screwing in or unscrewing the instrument.

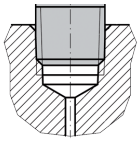
(6) Connect the instrument to earth via the pressure connection.

5.2 Sealing method

Parallel threads:Seal the sealing face with flat gasket.



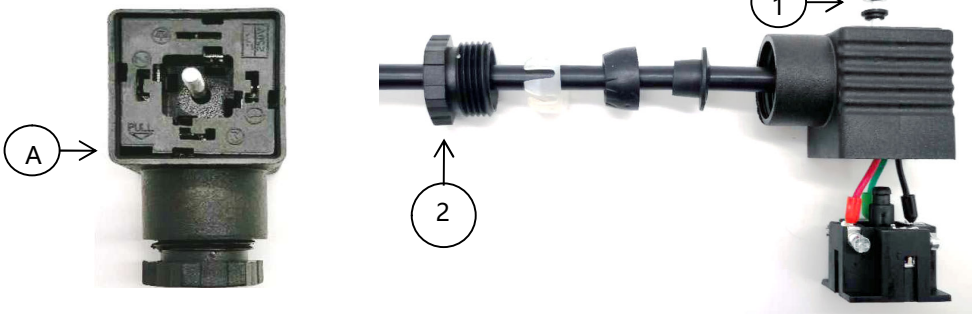
fande 、R and PT):Wrap threads with sealing material (e.g. PTFEtape).



The max. torque depends on the mounting point (e.g. material and shape).

5.3 Electric Connection

CAUTION!
Improper mounting
The seal of the angle housing will be damaged.
▶ Do not try to push the terminal block out using the screw hole or the cable gland



Via the mounting hole (A), lever the terminal block out of the angle housing .

Loosen the screw ①，Loosen the cable gland ②，Plug assembly and cable connection according to the assembly method and product wiring definition.

CAUTION!
Wiring error
The wiring error causes the transmitter circuit is damaged or destroyed.
▶ Please check the connection definition of the product label carefully.

Pin definitions are as follows：

Pin	3-wire	2-wire
1	+V	+V
2	GND	+OUT
3	+OUT	null

The electric definitions of cable are as follow：

Cable	3-wire	2-wire
Red	+V	+V
Black	+OUT	+OUT
White	GND	null

6. Operation, Maintenance and Failure Identification

6.1 Operation

The user could operate the transmitter without any adjustment.

Please check the installation and make sure the correct electric connection before operation. Then connect the power and operate.

6.2 Maintenance

Transmitter does not need regular maintenance. However, please pay attention to the following items for better operation.

(1) Please check the cable connection often and make sure the cable connection reliably and no aging.

(2) Please clean diaphragm cavity according to the measuring media. (take care!)

(3) Please do not pull the cable violently or press the diaphragm with sharp or hard metal, etc.

(4) Please be sure the vented tube connected with the atmosphere unobstructed. Please do not jam the vented tube to prevent make additional error.

6.3 Failure Identification

If the transmitter is failure, such as no output or output unstable, act. Please shut the power first, then check if the installation and cable connection conform to manual, power voltage is correct or not, vented tube is unobstructed or not and the system works well or not. If something is abnormal, please try to get rid of the failure. If the failure cannot be dealt with, please contact with our company promptly.

7. Cleaning, Dismounting, Return and Disposal

7.1Cleaning

CAUTION!

Unsuitable cleaning agents

Cleaning with unsuitable cleaning agents may damage the instrument and the product label

▶ Do not use any aggressive cleaning agents.

▶ Do not use any hard or pointed objects.

▶ Do not use any abrasive cloths or sponges.

Suitable cleaning agents：Water、Conventional dishwashing detergent

Cleaning the instrument

a. Depressurise and de-energise the pressure transmitter.

b. Wipe the instrument surface using a soft, damp cloth.

7.2 Dismounting

WARNING!

Transmitters are used in hazardous environments such as toxic, harmful, high temperature and high pressure.

Please follow the relevant rules of operation.
There wearing protective equipment necessary.

a. Depressurise and de-energise the pressure transmitter.
b. Disconnect the electrical connection.
c. Unscrew the pressure transmitter with a spanner using the spanner flats.

7.3 Return



Strictly observe the following when shipping the instrument:
All instruments delivered to Fandesensor must be free from any kind of hazardous substances (acids, bases, solutions, etc.) and must therefore be cleaned before being returned.

When returning the instrument, use the original packaging or a suitable transport packaging.

7.4 Disposal

Incorrect disposal can put the environment at risk.

Dispose of instrument components and packaging materials in an environmentally compatible way and in accordance with the country-specific waste disposal regulations.