# HIGH TEMPERATURE PRESSURE TRANSMITTER

## Introduction

The pressure-sensitive core of the high-temperature pressure transmitter adopts a high-performance silicon piezoresistive pressure-filled core, and the internal ASIC converts the millivolt signal of the sensor into a standard voltage, current or frequency signal, which can be directly connected to computer interface cards, control instruments, intelligent meters or PLCs. The transmission distance can be carried out by current output. It has a small size, light weight, all stainless steel sealing structure, which can work in corrosive environments. The product is easy and simple to install, has very good vibration and shock resistance, and is widely used in process control, aviation, aerospace, automotive, medical equipment, HVAC and other fields.

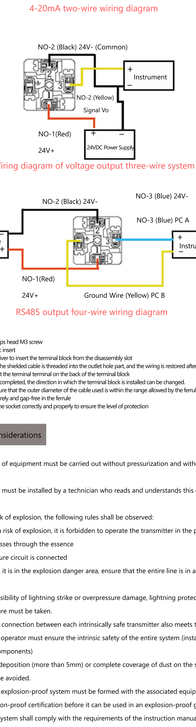
## Parameter

| | |
|---|---|
| Output signal: | 4~20mA ,0~10V,0-5V,1-5V,RS485-MODBUS |
| Range range: | -0.1～0～100MPa |
| Pressure type: | Gauge pressure, Absolute pressure, Seal pressure |
| Power supply: | DC 12~36V (DC24V default) |
| Compensation temperature: | -10~70℃ |
| Working temperature: | -40~350℃ |
| Response time: | ≤10mS |
| Storage temperature: | -40~125℃ |
| Zero temperature drift: | 0.15%FS |
| Sensitivity temperature drift: | 0.15FS |
| Overload pressure: | 150%FS |
| Mechanical vibration: | 20g (20～5000Hz) |
| Shock: | 100g (11ms) |
| Comprehensive accuracy: | 0.2, 0.5 class optional |
| Long-term stability: | 0.2% FS/year |
| Insulation: | 100Ω/250V DC |
| Material: | Shell low copper aluminum alloy; Internal sensor 316L |
| Media compatible: | Various liquids or gases compatible with stainless steel |
| Features: | Digital display; Support networking applications; Digital compensation and nonlinear correction are used<br>positive technology; High sensitivity; High precision; Reliable performance and low availability Pressure, medium pressure and high pressure rich pressure range. |

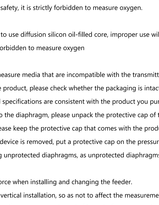
# Selection

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | | | | | | | QDW90A-2 |
| | Measuring Range | | | | | | -0.1～0～100MPa ,For example: 0-1Mpa |
| | | Pressure Way | | | | | G: Gauge pressure A：Absolute pressure S:seal pressure |
| | | | Power Supply | | | | 12-36VDC,DC24V,DC12V |
| | | | | Output Signal | | | O1:4-20mA O2:0-5V O3:0-10V O3:RS485 etc |
| | | | | | Precision | | P1:0.5%FS；P2：0.25%FS; P3:0.2%FS |
| | | | | | | Thread | G1:M20*1.5; G2:G1/2; G3:G1/4; G4:M14*1.5<br>G5:NPT1/4; G6:PT1/4; G7:NPT1/2; G8:G1/4 |
| QDW90A W | G | V | O1 | P1 | G1 | | EG:QDW90A-W-G-V-O1-P1-G1 |

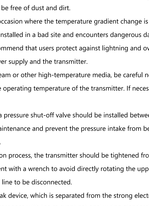
# Size




# Wiring




4-20mA two-wire wiring diagram




Wiring diagram of voltage output three-wire system




RS485 output four-wire wiring diagram

(1) Unscrew the Phillips head M3 screw
(2) Unplug the plastic inert
(3) Use a flat screwdriver to insert the terminal block from the disassembly slot
(4) After prying out, the shielded cable is threaded into the outlet hole part, and the wiring is restored after wiring according to the wiring diagram at the terminal terminal on the back of the terminal block
(5)After the wiring is completed, the direction in which the terminal block is installed can be changed.
(6)the user must ensure that the outer diameter of the cable used is within the range allowed by the ferrule. Also make sure that the cable is securely and gap-free in the ferrule
(7)Be sure to install the socket correctly and properly to ensure the level of protection

## Installation Considerations

> warning!

(1) The installation of equipment must be carried out without pressurization and without power supply.

> warning!

(2) The transmitter must be installed by a technician who reads and understands this operation manual.

> dangerous!

(3) To avoid the risk of explosion, the following rules shall be observed:

(1) When there is a risk of explosion, it is forbidden to operate the transmitter in the power supply state. The transmitter passes through the essence
Except when a secure circuit is connected

(2) Whether or not it is in the explosion danger area, ensure that the entire line is in an equal potential protection state.

(3) If there is a possibility of lightning strike or overpressure damage, lightning protection measures against overpressure must be taken.

(4) Ensure that the connection between each intrinsically safe transmitter also meets the intrinsic safety requirements. The operator must ensure the intrinsic safety of the entire system (installation of individual intrinsically safe components)

(5) Excessive dust deposition (more than 5mm) or complete coverage of dust on the surface of the transmitter must be avoided.

(6) The cost safety explosion-proof system must be formed with the associated equipment that has passed the explosion-proof certification before it can be used in an explosion-proof gas environment. The wiring of the system shall comply with the requirements of the instruction manual of the transmitter and the associated equipment at the same time, and the terminal shall not be connected incorrectly.

(7) Maintenance can only be carried out when the installation site confirms that no flammable gas exists

(8) The connection cable between the product and the associated equipment should be a shielded cable with an insulating sheath, and its shielding layer should be grounded in a safe place.

(3) The transmitter adopts diffusion silicon oil-filled core, which will cause explosion accidents if used improperly. To ensure safety, it is strictly forbidden to measure oxygen.

> dangerous!

(4) Change the feeder to use diffusion silicon oil-filled core, improper use will cause explosion accidents. To ensure safety, it is forbidden to measure oxygen

> warning!

(5) It is forbidden to measure media that are incompatible with the transmitter.

(6) When receiving the product, please check whether the packaging is intact, and check whether the transmitter model and specifications are consistent with the product you purchased.

(7) To avoid damage to the diaphragm, please unpack the protective cap of the box before starting to activate the device. Please keep the protective cap that comes with the product when it is shipped. Immediately after the device is removed, put a protective cap on the pressure connection. Use extreme caution when handling unprotected diaphragms, as unprotected diaphragms are very sensitive and can be easily destroyed.

(8) Do not use brute force when installing and changing the feeder.

(9) Less than 0.03MPa vertical installation, so as not to affect the measurement accuracy, other can be installed at any angle on the measurement point, if the interface size and the field interface size do not match, can be self-made replacement connector connection.

✪ In the hydraulic system, attention should be paid to the installation of the pressure interface of the equipment (convenient for gas discharge)

(1) If the pressure interface is upward or lateral when the transmitter is installed, ensure that no liquid flows in the equipment housing, otherwise moisture and dirt will block the atmospheric port near the electrical connection, and even cause equipment failure. The threaded edges of the electrical connection must be guaranteed to be free of dust and dirt.

(2) Try to install in the occasion where the temperature gradient change is small.

(3) If the transmitter is installed in a bad site and encounters dangerous damage such as lightning strike or overvoltage, we recommend that users protect against lightning and overvoltage between the distribution box or power supply and the transmitter.

(4) When measuring steam or other high-temperature media, be careful not to let the temperature of the medium exceed the operating temperature of the transmitter. If necessary, a cooling device needs to be installed.

(5) During installation, a pressure shut-off valve should be installed between the transmitter and the medium to facilitate maintenance and prevent the pressure intake from being blocked and affecting the measurement accuracy.

(6) During the installation process, the transmitter should be tightened from the hexagonal nut at the bottom of the equipment with a wrench to avoid directly rotating the upper part of the equipment and causing the connection line to be disconnected.

(7) This product is a weak device, which is separated from the strong electrical cable when wiring, and should be routed in accordance with the relevant national wiring standards (GB/T50312-2016).

(8) Ensure that the power supply voltage meets the power supply requirements of the transmitter. Make sure that the upper pressure of the pressure source is within the range of this transmitter.

(9) In the process of pressure measurement, pressure should be slowly pressurized and relieved to avoid instantly adding high pressure or falling to low pressure.

> warning!

0 When disassembling the transmitter, make sure that the transmitter is disconnected from the pressure source and power supply to avoid accidents caused by media spraying.

(2) Please do not disassemble by yourself when using, let alone touch the diaphragm, so as not to cause product damage.