

What is the principle and application of pressure transmitters?

Detail Introduction :

What is the principle and application of pressure transmitters?

What is the principle and application of pressure transmitters?

The principle of the **pressure transmitter** is different according to the measuring diaphragm.

Common ones are **ceramic capacitive pressure transmitters**, **ceramic piezoresistive pressure transmitters**, and **diffused silicon piezoresistive pressure transmitters**.



1. A high-precision circuit on the measuring diaphragm converts this tiny deformation to be proportional to the pressure. A highly linear voltage signal, proportional to the excitation voltage, is converted into an industry-standard 4-20mA current signal or a 1-5V voltage signal using a dedicated chip.



2. Since the measuring diaphragm adopts a standard integrated circuit containing linearity and temperature compensation circuits, it can achieve high precision and stability. The loosening circuit adopts a special two-wire chip, which can ensure the output of the two-wire 4-20mA current signal, which is convenient for on-site wiring.



3. The pressure head of the **pressure transmitter** acts directly on the measuring diaphragm. The surface of ceramic capacitor diaphragm, ceramic piezoresistive diaphragm, or diffused silicon piezoresistive diaphragm causes slight deformation of the diaphragm.



4. **Pressure transmitters** are the most commonly used **sensors** in industrial applications. They are widely used in water conservancy and hydropower, railway transportation, intelligent buildings, production control, aerospace, military, petrochemical, oil wells, electric power, ships, machine tools, pipelines, and other industries.