



Inductive Conductivity Sensor

Model:DDG-GY



Conductivity sensors are generally divided into two broad categories: contact and electromagnetic. The latter is also called non-polar, non-contact (ring) or electric induction and so on.

The advantage of the common electrode type is the price, but the defect of its "polarization" is too obvious. When a current passes through the electrode, an oxidation or reduction reaction occurs, thereby changing the composition of the solution near the electrode, causing a "polarization" phenomenon, resulting in crystallized scale on the surface of the electrode. If not cleaned in time, it will cause serious errors in conductance measurement, even Damaged, the service life is not satisfactory. Even with the high-frequency alternating current measurement, it only reduces the above-mentioned polarization phenomenon. In order to maintain measurement accuracy, it must be cleaned and calibrated regularly. Every time the sensor is cleaned or replaced, it must be shut down and interrupted, which affects efficiency. Therefore, most foreign equipment uses stepless sensors.

The measuring principle of the inductive sensor uses a pair of wire wound alloy toroids, and the probe of the sensor is completely isolated (non-contact) from the body of the process being tested. Two coils, one as the transmitter and the other as the receiver. When the transmitter coil is energized, the electrolyte solution conducts an induced current, which is proportional to the conductivity of the solution, and the receiver coil detects the magnitude of the current to determine the conductivity value of the solution. The conductivity probe is tailored to two wire wound alloy toroids in an annular mold with corrosion resistance. Because the sensor's probe is completely isolated (non-contact) from

the process being tested (liquid), frequent maintenance and maintenance is not required. Compared with the traditional electrode conductivity measurement process, ion deposition and coverage on the electrode surface are fundamentally avoided, and polarization, oil pollution or pollution problems do not affect the performance of the electrodeless sensor. The service life can be as long as 10 years.

Among them, the new generation DDG-GY series inductive conductivity sensor overcomes many difficulties of the existing sensor, and integrates the signal processing line into an embedded integrated circuit ASIC with MCU, which has all the functions of conductivity measurement and digitization. This allows the sensor to be pre-calibrated before shipment and the calibration value is permanently stored in the probe.

The low-voltage and low-power design of the probe allows the probe to be directly applied to a single 5V power supply. The typical power consumption is only 0.1W, and the minimum power can be 0.08W. If the intermittent operation mode is used, the power consumption is lower, which is convenient for portable or Application in battery equipment.

BOQU has introduced the advanced technology of "electrodeless (electromagnetic induction) conductivity sensor", which is extremely advantageous in terms of cost performance or delivery time. It has established long-term cooperative relationship with many well-known domestic enterprises and is highly praised by peers.

1.Selection table

Built-in temperature sensing element: PT-100 ;PT-1000 ; ThermistorMF5E-2.202F.

Housing material: PP ;PFA;ABS .

Range: 0~2mS/cm ;0~20mS/cm;0~200mS/cm ;

0~2000mS/cm;Customized ____ mS/cm.

Cable: standard:5meter ;customized length ____ meter.

Signal processor: built-in ;External。

Resolution:1uS; 1mS

Signal output type and working power

Voltage type,output signal:0~2000mV.

Dual power supply: $\pm 9.5V(\text{Min}) \sim \pm 12V(\text{Max})\text{dc}$ @20mA typ.

Single power supply: 5Vdc (Min :4.55Vdc ~ Max:5.25Vdc) @12mA type.

Current loop(threes wires),output signal: 4 ~ 20mA,max load500Ω.

working power: 21V(Min) ~ 26V(Max) dc @ 45mA typ.

Digital type,three types communication:TTL ;RS232;RS485

Wide voltage type: 5.25V(Min) ~ 15.5V(Max) dc @20mA typ.

Low voltage and low power type: 5Vdc(Min :4.55Vdc~Max:5.25Vdc)@15mA

type