INDUSTRIAL CONDUCTIVITY SENSOR

The conductivity industrial series of electrodes are specially used for the measurement of conductivity in a number of industries.

Electrodes in conductivity cells are constructed of a conductive material, such as graphite, stainless steel, or platinum. An AC voltage is applied between the outer 2 electrodes, this induces an ionic current in the solution. The ionic current is proportional to the concentration of ions in the water body. This current is measured to give the conductivity measurement.

Applications

Continuous monitoring of conductivity in

- Pure water plants
- Ultra-pure water plant
- Thermal power plant
- Sewage treatment industry
- Seawater purification industry
- Water treatment etc.

Features

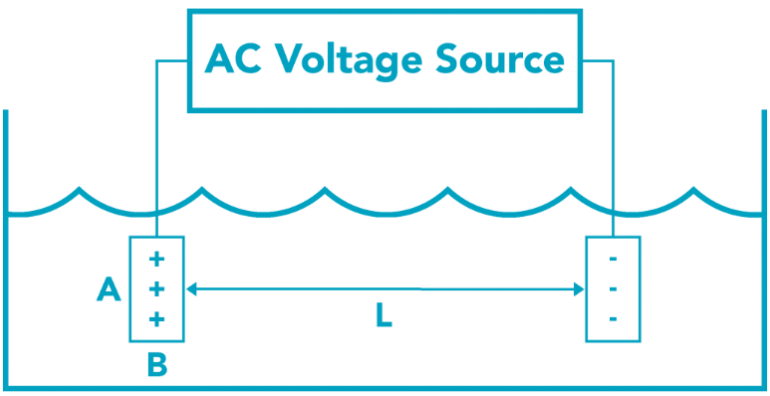
- Has a double-cylinder structure and the titanium alloy material, which can be naturally oxidized to form the chemical passivation.
- Its anti-infiltration conductive surface is resistant to all kinds of liquid except fluoride acid.
- The temperature compensation components are: NTC2.252K, 2K, 10K, 20K, 30K, PTl00, PTl000, etc. which are specified by the user.
- K=10.0 or K=30 electrode adopts a large area of platinum structure, which is resistant to strong acid and alkaline and has strong anti-pollution capacity; it is mainly used for on-line measurement of the conductivity value in the special industries, such as the sewage treatment industry and the seawater purification industry.
- Working temperature up to 0~60 °C.

Cell constant

Selection of correct cell constant is vital for accurate readings. Cell constant (k) is directly proportional to the distance separating the two conductive plates and inversely proportional to their surface area.

K = L/a, where a(area) = A x B.

Specific conductivity = Measured conductivity (G) * Cell Constant (k)



- Low concentration solutions, electrodes are closer to allow for a stronger signal to be read. Hence, cell constant is also reduced to 0.1 or even 0.01.
- High conductivity solutions, a longer path length (higher cell constant) of 10 or 100 typically produces a more accurate readings.

TGI German Technologies

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Compression-type **Pipe thread-type** **K=10.0/30.0** **Compression-type electrode**

Technical Specification

Cell constant	Compressive strength	Measuring range	Connection	Material	Application
0.01	0.6MPa	0~20μS/cm 0~20 MΩ	• Pipes • hoses • flanged pipes, Diameter: Φ6, Φ8, Φ14 mm.	SS316L/ Titanium Alloy	Power Plant Water Treatment Industry
0.1	0.6MPa	0~200μS/cm	• Pipes • hoses • flanged pipes, Diameter: Φ6, Φ8, Φ14 mm.	SS316L /Titanium Alloy	Power Plant Water Treatment Industry
1.0	0.6MPa	0~2000μS/cm	½ or ¾ NPT	SS316L/ Titanium Alloy and Platinum	Water Treatment Industry
10.0	0.6MPa	0~20000μS/cm	½ or ¾ NPT	Polysulfone and Platinum	Sea water/ water Treatment Industry
30.0	0.6Mpa	30~600mS/cm	¾ NPT	Polysulfone	Acid cleaning

Type of electrode must be specified upon purchase based on installation method.