Conductivity TDS Indicating Controller with Sensor

MS CD TDS 18





FEATURE

- Microcontroller Based Design
- Auto Ranging
- Conductivity or TDS Indication selection by key
- Easy Front Key Calibration
- Setpoint with decimal point selection
- LED Display

DESCRIPTION

Conductivity of water allows measuring ionic constituents of all types of water including surface water, process water in water supply and treatment plants.

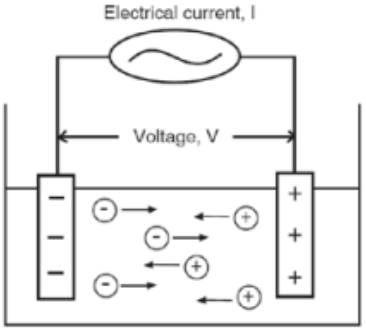
PRINCIPLE

Conductivity is the ability of a solution, a metal, or a gas - in brief all materials to pass an electric current. In solutions the current is carried by cations and anions whereas in metals it is carried by electrons. How well a solution conducts electricity depends on a number of factors :

- Concentration of ions
- Mobility of ions
- Valence of ions
- Temperature

All substances possess some degree of conductivity.

In aqueous solutions, the level of ionic strength varies from the low conductivity of ultrapure water to the high conductivity of concentrated chemical samples. Conductivity may be measured by applying an alternating electrical current (I) to two Electrodes immersed in a solution and measuring the resulting voltage (U). During this process, the cations migrate to the negative Electrode, the anions to the positive electrode and the solution acts as an electrical conductor.



The resistance of the solution (R) can be calculated using Ohm's law as shown below. The resistance unit is [Ohms] or [Ω].

$$R = U/I$$

Where:

U = voltage [V]
I = current [A]
R = resistance of the solution [Ω]

The conductance (G) is defined as the reciprocal of the electrical resistance (R) of a solution between two electrodes. It is measured in Siemens [S] which equals [Ω^{-1}].

TECHNICAL SPECIFICATION

Conductivity TDS Indicating Controller

Range (Auto Ranging)	: Conductivity : 0-20.00 µS/cm, 200.0 µS/cm, 2000 µS/cm TDS : 0-10.00 ppm, 100.0 ppm, 2000 ppm (With 0.50 parameter Selected by Keypad)
Resolution	: 0.01, 0.1, 1 for both Conductivity & TDS
Accuracy	: ± 1% of Full Scale
Display	: 4 Digits Red LED Display
Calibration (for Cond. only)	: Single Point Manual Calibration
Calibration Slope	: ± 30% of Display Reading
TDS Factor	: Factory Def. 0.49
Relay O/P	: 1 No, (2 Amp / 230 VAC Rating)
Power Requirement	: 230 V AC ±10%, 50Hz Single Phase
Environment	: 5 to 50°C
Dimension	: 96 x 96 x 65mm (Grey ABS Cabinet)
Weight	: 400 grams for Inst only (Approx)

With

Conductivity TDS Sensor

MOC of Sensor Body	: Delrin
MOC of Electrode	: SS 316
Operating Temp.	: 60°C Max
Operating Pressure	: 2.5 Bar
Process Connection	: ½” BSPM and ¾” BSPM
Cable	: Integral 4 Meter
Flow Cell (Optional)	: MOC: PVC
	Connection for Inlet/Outlet : ¼” BSPF, Sensor : ½” BSPF

APPLICATION

Water Treatment Plant (WTP)	Wastewater Treatment Plant (WWTP)
Effluent Treatment Plant (ETP)	Sewage Treatment Plant (STP)
RO Water Plant	Power Plant
Hydroponics	Chemical Industry
Textile Industry	Paper & Pulp
Beverages / Food Industry	Pharma Industry
Scrubber Application	Pigment Industry
Steel Industry	Aqua Culture

Note : Due to continuous improvement in product, specifications & appearance may vary

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