Online Conductivity Indicating Controller Transmitter
MS CD 09



FEATURE

- Advanced Embedded Microcontroller Based Design
- Panel Mounting
- Easy Front Key Calibration
- LED Display
- 4 to 20 mA DC Isolated Output
- RS 485 Isolated Output (Optional)

DESCRIPTION

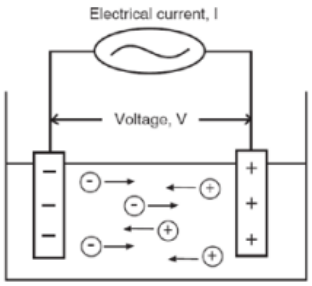
It is an economical meter for online measurement of specific Conductivity of solution using a Conductivity cell for R.O plant or D.M plant applications. It enables to measure the Conductivity without manual balancing and specific Conductivity is read directly on a digital panel. This is available in panel mounting facility in compact size.

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

Range	: 20.00µS/cm, 200.0µS/cm, 2000µS/cms, 20.00mS/cm, 200.0mS/cm (Specify while ordering)
Resolution	: 0.01µS/cm,0.1µS/cm,1µS/cm, 0.01mS/cm, 0.1mS/cm
Accuracy	: ± 1% of F.S
Display	: 4 digit Dual red LED Display (Upper Display for Cond. & Lower for Set Value)
Calibration	: Single point manual Calibration
Calibration Slope	: ± 30% of Display Reading
Cell Constant	: 1.0 Cell constant, ± 10% with ½ " BSP threading
Current O/P	: 4-20mA D.C, Fully Isolated
Relay O/P	: Two Relay O/P (potential free Contact of 5 Amp Max.)
Control Setting	: Two Set Point with High & Low Value Setting
Environment	: 5 to 50°C.
Power Requirement	: 230V A.C +/-10%, 50Hz single phase
Dimension & Weight	: 96 x 96 x 65 mm (Grey ABS Cabinet), 400grams for Inst. Only (Approx.)

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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 & looks may vary

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