TDS Indicator Cum Transmitter
MS TDS 18



Total Dissolved Solids(TDS) Indicator Transmitter

FEATURE

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

DESCRIPTION

Total Dissolved solids, smaller than 2 microns, refer to any minerals, salts, metals, in the form of molecules, atoms, cations or anions dissolved in water. Total dissolved solids (TDS) comprise inorganic salts (principally calcium, magnesium, potassium, sodium, bicarbonates, chlorides and sulfates) and some small amounts of organic matter that dissolve in water.
The TDS concentration is the sum of all filterable substances in water that can be determined gravimetrically. However, in most cases, TDS is primarily comprised of ions. TDS is mainly used in the studies of water quality in the natural bodies of water, including surface and ground sources.

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

Why Measure Total Dissolved Solids?

TDS in drinking water can originate from natural sources, urban run-off, municipal and industrial waste, chemicals used in treating water and the actual plumbing infrastructure.

While TDS is not considered a primary pollutant, it is an indicator of water quality. The USEPA secondary water quality standard for TDS concentration is 500 mg/L to ensure drinking water palatability. High levels of dissolved solids in drinking water can affect the taste causing it to be bitter or salty. High levels of TDS can also lead to scaling and corrosion in any application but especially in boilers and cooling water.

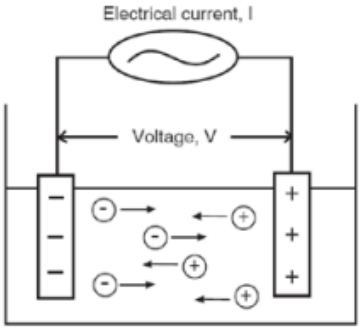
102 Chinmay 1103A 10 Lakaki Road Model Colony Shivajinagar Pune Maharashtra 411016 INDIA +91 (0) 9922200377 | +91 (0) 9850041801
info@MicroSetindia.com | sales@MicroSet.co.in www.MicroSetindia.com | www.MicroSet.co.in

PRINCIPLE

TDS is basically measurement of conductivity and indicated with multiplying factor of 0.5 to 0.68. 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. TDS 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	: Single range 0 – 2000 ppm (Specify)
Measuring Accuracy	: ±1% of full Scale in all ranges count @30ºC

Indication	: 3.5 digit LED display
Calibration	: 1 Point Soft Key
Cell Assembly	: Cell with ½” BSP threading
Power Requirement	: 230VAC±10%, 50 Hz single phase
Retransmission Output	: 4 to 20 mA Isolated - Optional
Size	: 96 x 96 x 80 mm
Environment	: 0 to 50ºC

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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✉ info@MicroSetindia.com | sales@MicroSet.co.in 🌐 www.MicroSetindia.com | www.MicroSet.co.in