



EC-1550 Electrical Conductivity Sensor



APPLICATIONS

- River/ stream water quality
- Irrigation runoff water quality
- Salinity studies
- Estuary monitoring
- Waste water quality monitoring
- Aquaculture

FEATURES

- SDI-12 and 4-20mA output
- Non-contact measurement means no corrosion
- Outputs raw EC and temperature
- Long term stability
- 3 Year warranty



TECHNICAL SPECIFICATIONS

RANGES	0-500, 1000, 2000, 5000, 10000, 20000, 40000, 75000 $\mu\text{S}/\text{cm}$. Temperature compensated & uncompensated units available.
TEMPERATURE	0 to 50°C output 0 to 30°C compensation
ACCURACY	EC $\pm 2\%$ of full scale over 10-90% of range Temperature $\pm 0.2^\circ\text{C}$
TYPE	Toroidal
OUTPUT	EC and Temperature: SDI 12 Digital Output; Raw 4-20mA EC & Temp. Output (uncompensated, 3 wire current loops, 100 Ω max)
ENCLOSURE	Delrin, epoxy plastic, rated to IP68
POWER SUPPLY	9-30 volts unregulated 2mA sleep mode, <50mA plus loop current during reading
SURGE PROTECTION	On power supply and 4-20mA signal lines, SDI-12 lines
CONNECTIONS	Direct cable entry (specify length on order), up to 200m Waterproof connector socket (mating connector plug sold separately)

“Unlike contact-type conductivity sensors, toroidal measurement results in very good long term stability”



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OPERATION PRINCIPLE

The measurement of the ability of water to carry an electrical current is an indication of the amount of mineral salts in solution. This ability is derived from the presence of charged ion particles, and to a lesser extent, ionization of water itself. Electrical conductivity is nonspecific for a particular salt and all salts present in the solution contribute. The model EC1550 sensor measures conductivity using a pair of magnetically coupled toroid transformers while the solution being measured forms the 'core' of the transformer pair. The more conductive the water is, the better the magnetic coupling. This is a non-contact measurement method and is immune to the effects of electrode deterioration.

The EC1550 is designed for measuring electrical conductivity of liquids at remote locations. It is specifically suited for low power water quality applications where access and site visits are limited. Unlike conventional electrode based cells, the encapsulated toroid design requires very little maintenance, ensuring many years of accurate data collection without recalibration and without deterioration of metals. With all wetted parts made from non metallic materials, the sensor can be employed to measure in difficult and often corrosive liquids such as seawater and sewerage. An integrated temperature sensor, used for temperature compensation, is configured to provide a separate temperature output.

DIMENSIONS (mm)

