

CONDUCTIVITY, TEMPERATURE & WATER LEVEL MONITORING

MODEL ECTD-40V

DATASHEET



OVERVIEW

The Encardio Rite ECTD-40V is a high-accuracy CTD (Conductivity, Temperature, Depth) sensor designed for reliable monitoring of groundwater and surface water. It measures electrical conductivity for assessing water quality, temperature through a precision thermistor, and water level or depth using a vibrating wire pressure sensor.

Engineered with a titanium enclosure for long-term durability and supplied with a factory-attached cable, the ECTD-40V is ideal for deployment in harsh environments. Paired with the Encardio Rite ESDL-30CTDB datalogger, it benefits from an in-built barometric sensor that automatically corrects depth readings for atmospheric pressure changes, ensuring consistent and accurate results without the maintenance challenges of vented systems.

The ECTD-40V is widely applied in groundwater contamination studies, aquifer recharge and recovery, saltwater intrusion and desalination monitoring, stormwater and wastewater management, wetland health assessment, and discharge monitoring in rivers and canals. Its versatility makes it a dependable choice for hydrology, environmental monitoring, and infrastructure projects.

FEATURES

- **High measurement accuracy:** Provides precise conductivity, temperature, and depth readings for reliable monitoring.
- **Titanium enclosure:** Corrosion-resistant build ensures long-term performance in harsh environments.
- **Event-based transmission:** Allows data collection triggered by defined events or remote interrogation.
- **Broad conductivity range:** Covers 5 to 120,000 $\mu\text{S/cm}$, suitable for both freshwater and saline conditions.
- **Automatic barometric correction:** Works with the ESDL-30CTDB datalogger for error-free depth readings without vent tubes.
- **Compact and robust design:** Slim form factor (\varnothing 32 mm \times 420 mm) with Kevlar-reinforced factory-attached cable.
- **Multiple communication options:** Supports GSM/GPRS, USB, and Bluetooth for flexible data retrieval and transmission.
- **Comprehensive software:** Windows-based application simplifies setup, calibration, data retrieval, and monitoring.
- **Remote alarms:** Up to three programmable alarms for water levels and battery status, with SMS alerts to 10 recipients.
- **Compact and robust design:** Slim form factor (\varnothing 32 mm \times 420 mm) with Kevlar-reinforced factory-attached cable.
- **Infrastructure data intelligence platform:** Transmit data to a local or cloud server hosting the Proqio platform for 24/7 insights. Proqio enables efficient data processing, analysis and real-time visualization. Benefit from instant alerts for critical events and automated reports, supporting informed decision-making.

SYSTEM COMPONENTS

CTD Sensor

The sensor (ECTD-40V) measures electrical conductivity for water quality, temperature through a precision thermistor, and water level using a vibrating wire pressure transducer. Built with corrosion-resistant housing and supplied with a factory-attached Kevlar-reinforced cable, it is suitable for long-term deployment in harsh environments.

Automatic Data Logging System

The ESDL-30CTDB datalogger records conductivity, temperature, and depth data, applies automatic barometric pressure correction, and stores up to two million readings. It supports flexible logging intervals, event-based data collection, and remote alarms for water levels and battery status.

Cloud Data Management (Proqio)

Data can be retrieved via GSM/GPRS telemetry, USB, or Bluetooth and seamlessly integrated into the Proqio cloud platform. The system archives data in a secure SQL database and provides global access with tabular and graphical presentations, ensuring users can monitor and manage water quality and level trends remotely.

SPECIFICATIONS

Pressure sensor type	Vibrating wire	Power supply	12 VDC nominal
Range	35, 50, 70, 100, 200 mWC	Operating supply voltage range	9.0-15.0 VDC
Accuracy	± 0.2 % fs standard	Environmental protection	IP-68 (IS-60529:2001)
Conductivity sensor	4 Electrode bulls-eye cell with cell constant of 0.42 ± 0.05	Working temperature range	0° to 60°C
Range	5-120,000 $\mu\text{S}/\text{cm}$	Storage temperature range	-30° to 75°C
Accuracy	± 0.5 % of reading + 1 $\mu\text{S}/\text{cm}$ (for 5-80,000 $\mu\text{S}/\text{cm}$) ± 1 % of reading (for 80,000-120,000 $\mu\text{S}/\text{cm}$)	Dimension ($\varnothing \times \text{L}$)	32 mm x 420 mm
Resolution	0.1 $\mu\text{S}/\text{cm}$ (for 5-80,000 $\mu\text{S}/\text{cm}$) 1 $\mu\text{S}/\text{cm}$ (for 80,000-120,000 $\mu\text{S}/\text{cm}$)	Cable	CS1302, length to be specified at the time of order.
Temperature sensor	Built in Thermistor , YSI 44005 or equivalent	Housing material	Titanium



*All specifications are subject to change without prior notice

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Dams



Mining



Tunnels



Transportation



Construction



Bridges



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Energy



Environmental Monitoring



Pipelines



Structural Health Monitoring



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