



CTD3100
Conductivity, Temperature,
Depth Sensor



Description

The Greenspan CTD3100 Conductivity, Temperature and Depth Sensor provides a complete self contained measurement and data logging system for a wide range of environmental water monitoring applications. The sensor utilises a reliable and robust toroidal sensor for conductivity measurement and a ceramic capacitance sensor for depth sensing.

Temperature is measured using a highly accurate and stable thermistor. Multi-point linearity and temperature calibration over the full operating ranges ensures stable, repeatable and accurate readings in the field.

The internal data logger allows long term data collection at remote sites, as well as options for remote telemetry connection. The sensor can be fitted with an external cable, or with an on-board battery pack for true stand alone operation. Other cable options can provide serial output in SDI12 format for connection to external data logger or process controller.

The sensor is ideal for use in hydrographic and environmental water monitoring applications, including tidal and estuary monitoring. A durable acetal body with double O ring design ensures suitability for the harshest environment applications.

The CTD3100 sensor is easy to configure and operates using the supplied Smartcom software.

Features

- Conductivity measurements via Toroidal Sensor
- Storage of raw EC, temp and normalised EC to 25 degrees
- Low power usage enables long term remote operation
- Internal data logger for collection of data during critical events
- Telemetry options via mobile phone, radio and satellite
- SDI12 cable adaptor unit for connection into data logger or controller.

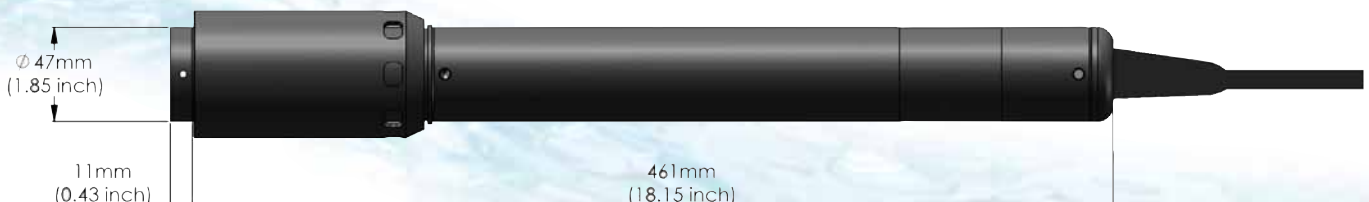
Benefits

- Can be installed in active waters (acidic or salty conditions)
- Reliable and robust sensor ensures minimal field visits for maintenance
- Suitable for marine applications and waterways with high sediment loads
- Easy to configure logger – quick retrieval of data
- Graphical and tabular display – export to spreadsheet format.

Applications

- Monitoring of streams and rivers, lakes and urban waterways
- Salinity surveys and groundwater monitoring
- Water supply storages including stratification studies
- Intermediate and final effluent treatment monitoring
- Tidal, estuary and oceanographic monitoring.

Dimensions



CTD3100 Specification

Measurement technique	EC - Toroidal conductivity Depth – ½” ceramic capacitance transducer Temp – Stainless steel thermistor
Standard EC ranges available	0-1000µS/cm, 0-2000µS/cm, 0-5000µS/cm, 0-10000µS/cm, 0-20000µS/cm, 0-60000µS/cm, 0-70000µS/cm
Standard Pressure ranges available	Gauge 2.5, 5, 10, 20, 40, 75, 100m Absolute 20, 40, 75, 100m
Other Ranges available	Yes – Calibration charge may apply – refer sales office
Sensor Outputs	Internal Data Logger – serial data via Smartcom software Optional adaptor provides SDI12 serial output (3 wire)
Overall Accuracy (combined linearity, hysteresis and repeatability)	EC +/- 1% full scale range Temp +/- 0.2°C Depth +/- 0.1% full scale range
Long term stability	0.2% full scale per annum
Resolution	EC - 1 µS/cm, Temp - 0.05°C, Depth - 0.001m
Normalisation	Normalised to 25°C
Cable type	Polyurethane sheathed cable, OD 8mm, with 3mm vent tube, moulded entry, HS7 connector
Cable lengths	10, 20, 30, 50, 100, 150m (32, 65, 100, 165, 325, 490 ft)
Power supply	8 to 30Vdc (at sensor), or on-board battery pack (option)
Power ESD protection	2000 volts
Current consumption	Sleep <0.2mA, logging 50mA, communicating 30mA
Sensor warm up time	2 seconds
On-board battery pack (option)	Housing screws to sensor size (OD x L) 47mm x 250mm
Battery capacity	9 x Lithium AA (3.6Volt) – Total capacity 5.2Ah @ 10.8v
Typical field life (battery pack)	Over 6 months remote operation @ 1hr data logging.
Internal data logger	Non-volatile, battery backed RAM with real time clock
Memory size	2Mb capacity, with user selectable wrap function
Measuring units	User definable
Data storage	250,000 readings. (Typically 5 minute data for >12 months)
Logging frequency	User selectable from 1 second up to once per day
Averaging alarms,	User selectable via supplied Smartcom software
Operating temperature	0-50°C
Depth rating (water column)	100m
Storage temperature	-5°C - +60°C
Weight	950g plus cable weight (665g per 10m length)
Dimensions (L x OD)	472mm x 47mm (18.58” x 1.85”)
Wetted materials	UPVC, acetal, 316 passivated stainless steel, polyurethane, viton

Optional Extras and Accessories

- Moulded cable (specify required length above)
- On-board battery pack (includes housing and battery pack)
- SDI12 Adaptor (connects to end of sensor cable for serial output to logger)

How to Order

The following information will be required:

- Model CTD3100
- Sensor EC full scale range (µS/cm)
- Pressure sensor type – Gauge or Absolute
- Sensor depth full scale range (m)
- Cable length (m)
- Specify battery pack or any other options.



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