

Technical Specification

Electrical Conductivity Sensors - EC250, EC350 & EC1200

Description

The Greenspan Analytical Electrical Conductivity Sensors provide highly accurate conductivity measurements in a wide range of hydrological applications.

Exceptional reliability and chemical resistance are guaranteed by the state of the art toroidal measuring system. Advanced microprocessor technology provides highly accurate temperature compensated measurements..

Accuracy

Field conductivity measurements in ionised solutions have traditionally been fraught with inaccuracy due to temperature and electrode effects. The Greenspan Analytical EC Sensor substantially eliminates these conventional sources of error. A larger sized toroidal sensor element uses the free ions in solution as a conductive path between two shielded ferrite transformer cores. This system eliminates errors caused by electrode degradation. An advanced compensation algorithm in the on-board microprocessor substantially reduces system non-linearity and temperature drift errors.

EC250 Features

- Toroidal sensing technology eliminates electrode corrosion effects guaranteeing long life and reduced field service.
- On-board temperature measurement and microprocessor controlled temperature compensation and linearisation ensure highly accurate readings in demanding conditions.
- Sensor can be field calibrated with Greenspan Analytical's user-friendly state of the art graphical calibration software.
- Separate conductivity and temperature outputs deliver raw conductivity or on-board normalisation of conductivity to 25°C.

EC350 Features

- A complete, self-contained electrical conductivity measurement and data logging system.
- Storage of measured data within the sensor for long periods.
- Easy configuration of logging parameters and uploading of logged data.
- Automatic transfer of data to a central office simply by attaching a data modem and mobile phone.
- Improved linearity and accuracy through the use of microprocessor based compensation.
- Facility to set alarm conditions which can trigger additional measuring equipment.
- Lithium battery pack option for fully self-contained operation.
- Compact sensor body eliminates the added deployment costs of a separate data logger.

With all the features of a conventional data acquisition system in one compact package, the Greenspan Analytical 300 Series intelligent sensors provide the most cost-effective solution available today where combined measurement and data collection functions are required.



Specification	Model EC250	Model EC350	Model EC1200
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 Other ranges are available to order. A calibration charge applies to non-standard ranges.		
Linearity	Temperature 0.2%, EC 0.2%	Same as EC250	Same as EC250
Temperature accuracy	0.2°C	Same as EC250	Same as EC250
EC accuracy, normalised to 25°C	1% FS @ 25°C	Same as EC250	Same as EC250
EC accuracy, non-normalised	0.7% FS @ 25°C	Same as EC250	Same as EC250
Outputs	EC: 4-20mA, 0-2.5V, or 0-1V Temperature: 4-20mA, 0-2.5V, or 0-1V	RS232	SDI-12
Supply voltage	10 - 14V Reverse polarity protected Surge protected to 2kV	Same as EC250	Same as EC250
Warm up / reading time	1 sec	Same as EC250	Same as EC250
Dimensions	Length 442mm OD 47mm (Stainless Steel or Delrin)	Same as EC250 Optional battery pack adds extra 260mm to length	Same as EC250
Weight	1.76kg (Stainless Steel) 950g (Delrin)	Same as EC250	Same as EC250
Wetted materials	316 Stainless Steel, Delrin, Acrylic	Same as EC250	Same as EC250
Cable	12 core Polyurethane sheathed	12 core Polyurethane sheathed	Same as EC250
Software supplied	ECFA	AQUAGRAPH, SMARTCOM	N/A

Applications

- STP aeration tanks
- Borehole observations
- Tidal and estuarine studies
- Effluent monitoring
- River and stream measurement



Logging parameters and schedules are set up using Greenspan Analytical's easy to use graphical software package, Smartcom, which runs on IBM compatible PCs.

Graphical representation of data can be made using Greenspan Analytical's AquaGraph software. The software makes graphing your data simple and allows data to be exported in different formats.

Integrated Installation and Technical Support

The correct choice of sensor is essential to the long-term success of an installation. Professional commissioning and dedicated technical support is equally important. Greenspan Analytical offers the reassurance of integrated expert field advice, via its affiliation with sister technical services company Greenspan.

Greenspan is intimately familiar with Greenspan Analytical's complete range of sensors and analysers, with numerous successful installations throughout the world.

Greenspan Analytical and Greenspan can offer customers real value by packaging the supply of instruments with installation, commissioning, technical support and even data acquisition into a complete 'turnkey' solution.