

TURBIDITY SENSORS

MODELS TS100 & TS300

The Stevens-Greenspan Turbidity Sensors provide accurate and precise turbidity readings over a range of adverse environmental conditions.

An innovative optical system provides accurate measurements even at low turbidities, while the advanced optical surface treatment resists fouling.



Make more accurate turbidity measurements with Stevens-Greenspan's state of the art turbidity sensor

TS100

The Stevens-Greenspan Turbidity Sensor offers a unique combination of superior features:

- n Highly sensitive system based on array of high gain infrared optics provides excellent accuracy at low turbidities.
- n Exceptional ambient light rejection is achieved with infrared transmission modulation.
- n Advanced polymer coating of optical system resists fouling and minimizes field maintenance requirements.
- n Digital temperature compensation technology ensures stable performance over a wide temperature range.

The Stevens-Greenspan turbidity sensor design is based upon an infrared emitter and receiver module and an electronic detection and measurement unit. The optical system transmits an infrared beam of 860nm and detects the backscatter intensity to determine turbidity.

Stevens-Greenspan Reliability

Experience has shown that the major factor in accurate continuous monitoring of turbidity is the cleanliness of the optical lens. Stevens-Greenspan has coated the lens with a state of the art polymer to reduce any material or growth adhering to the optical face, thus prolonging the interval between site visits.

Stevens-Greenspan Accuracy

Accurate and stable turbidity readings are ensured through the use of Stevens-Greenspan's advanced filtering techniques to eliminate interfering light sources. Both the optical geometry and infrared wavelength conform to ISO 7027 "Method by measurement of attenuated radiation". Temperature compensation is achieved with a sophisticated digital sampling technique to respond instantly to possible temperature induced errors.

Stevens-Greenspan turbidity sensors have been used for effluent monitoring, river and stream measurements, estuaries and runoff studies, forestry and catchment monitoring.

A 316-grade stainless steel tube with o-ring sealed delrin end fittings provides the TS100 and TS300 with the ruggedness required for the most demanding measurement environments. For particularly harsh or corrosive environments, the TS100 and TS300 can be supplied with a complete Delrin body.



RELIABILITY • ACCURACY

Log accurate turbidity measurements cost-effectively with Stevens-Greenspan's versatile intelligent turbidity sensor

TS300

Stevens-Greenspan's Intelligent Turbidity Sensor model TS300 is a complete, self-contained turbidity measurement and data logging system. The TS300 adds sophisticated and versatile data acquisition, control and communications capabilities to Stevens-Greenspan's standard TS100 Turbidity Sensor. Standard features of the TS300 include:

- n Storage of measured data within the sensor for long periods.
- n Easy configuration of logging parameters and uploading of logged data.
- n Automatic transfer of data to a central office simply by attaching a data modem and mobile phone.
- n Improved linearity and accuracy through the use of microprocessor based compensation.
- n Facility to set alarm conditions which can trigger additional measuring equipment.
- n Lithium battery pack option for fully self-contained operation.

The added features of the TS300 are accommodated within the same **compact sensor body** used for the TS100. A separate data logger and weatherproof housing are not required, eliminating the added deployment costs normally associated with providing a remote data logging capability. Simplified wiring means easier installation and maintenance also.

Sophisticated **communication features** in the TS300 make remote site logging of water turbidity easier than ever. In combination with an external data modem and mobile phone, the TS300 enables remote uploading of logged data and re-programming of logging schedules. In addition, the TS300 can respond to user-programmed **alarm conditions** by triggering an associated sensor or by calling one of four preset phone numbers with a user-programmed alarm message.

The TS300 provides an output to trigger a water sampler where EPA legislation regulates maximum turbidity levels in catchments.

The TS300 can be powered using either external batteries (via the sensor cable) or with Stevens-Greenspan's **optional lithium battery pack**, which can be fitted as an extension to the sensor body, making a fully self-contained measurement and logging system.

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

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

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



Specifications

Model TS100

Model TS300

Standard ranges available	0–100 NTU 0–250 NTU 0–500 NTU 0–1000 NTU Other ranges available on request	
Linearity	±2%	±2%
Temperature compensation	0–50°C	0–50°C
Supply voltage	9–27V • Reverse polarity protected • Surge protected to 2kV	same as TS100
Quiescent current	80mA	30µA–110mA
Warm up time to stable reading	2 secs	1 sec
Outputs	4–20mA 0–1V 0–2.5V	RS232
Dimensions	length 10.8in (275mm) 1.8in (45mm) OD Stainless 1.9in (48mm) OD Delrin	same as TS100 optional battery pack adds extra 10.25in (260mm) to length
Weight	15oz (425g) Delrin 19.6oz (555g) Stainless	16.6oz (470g) Delrin 21.2oz (600g) Stainless
Wetted materials	316 stainless steel, Delrin, acrylic	same as TS100
Software supplied	AQUAGRAPH, SMARTCOM	

Standard configuration

- Sensor calibrated to standard ranges
- Anti fouling polymer over lens
- Cable to requested length and terminated with data connector and tinned copper wires
- 4–20 mA output

Options

- A complete Delrin body can be provided for use in corrosive water
- Other ranges
- Voltage output

Technical Support When You Need It

The correct choice of sensor should be supported by professional advice to ensure long term success in the field. **Stevens-Greenspan Technical Services** is dedicated to customer support and provides assistance in the selection, installation, deployment and commissioning of sensors with a full range of training and consulting services.

A full technical support and field advice service can be accessed by calling Stevens at 880 452 5272.

All Stevens-Greenspan products are designed, developed and manufactured in Australia, can be supplied at short notice and can be customized to meet most requirements.

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