

## Product Description

The Greenspan Analytical Conductivity/ Temperature/ Dissolved Oxygen/ pH sensor provides numerous technical features: -

- Toroidal conductivity sensing technology that eliminates electrode corrosion effects, guaranteeing long life and reduced field service.
- On-board microprocessor controlled temperature compensation and linearisation delivering accurate conductivity data normalised to 25 °C. Alternatively, raw conductivity data may also be provided.
- Innovative, optically isolated signal conditioning electronics ensure true and accurate pH readings at all times.
- Field proven gel-filled double junction pH electrode provides long-term accuracy.
- Patented diffusion rod sensor technology providing excellent linearity and repeatability.
- Sensor design requires no moving parts, ensuring long term reliable field operation and low power consumption.
- A response time ( $T_{90}$ ) of 60 minutes is achievable by the sensor when deployed in minimum flow conditions of 1 metre per minute.
- Software calibration allows users to quickly and accurately recalibrate the sensor. Easy to use Greenspan calibration software runs on a portable PC.



**CS304 / CS4-1200 Specifications**

Parameter	Range		
EC	0 to 1,000, 2,000, 5,000, 10,000, 20,000, 40,000, or 70,000 $\mu\text{S/cm}$		
pH	2 to 12		
Temp	0 to 50 °C		
DO	0 to 200% Sat or 0 to 20ppm		
Channel	Linearity	Accuracy	Temperature Stability
EC	+/- 0.2% FS		
Normalised		+/- 1% FS @ 25 °C	+/- 0.35% @FS
Non-Normalised		+/- 0.7% FS @ 25 °C	+/- 0.5% @ FS
pH	+/- 0.1 pH	+/- 0.2 pH (0 - 50 °C)	
Temperature		+/- 0.2 °C	
Dissolved Oxygen			
ppm	+/- 0.2 ppm	+/- 0.3ppm (5 - 35 °C)	
% Sat	+/- 1% FS	+/- 2% FS (0 - 50 °C)	
DO Response Time $T_{90}$	60 mins		
minimum flow 1 metre/min			
Quiescent current		30 $\mu\text{A}$ - 60mA	
Supply Voltage		10 - 14V	
Warm up time to stable reading		6 seconds	
Memory		0.5Mb (Upgradeable to 1Mb)	
Data storage		Over 21,000 readings for each measured parameter	
Operating temperature		0 to 50 °C	
Storage temperature		-5 to 60 °C	
Software calibration		Allows users to reset zero and adjust full scale	
Output		RS232 or SDI-12	
Wetted materials		Delrin, ceramic, passivated 316 Stainless Steel, acrylic, Viton	
Vented cable		12 core polyurethane sheathed cable with internal 3mm vent tube	
Software supplied		SmartCom: Allows users to set up logging schedules and alarm levels. Aquadrop: Graphical data presentation software	
Length x Diameter		590 x 65mm	
Weight (Delrin Body)		2.26 kg	
Weight (S/S Body)		3.22 kg	
Optional battery pack		275mm x 47mm	
	12 months unattended logging @ 15 minute intervals		

