



SUBMERSIBLE SMART pH/ISE/Redox SENSOR

WITH DATA LOGGING



FEATURES

- RS485/RS232 interface
- Small diameter
- 65,000+ records / non-volatile
- 316 stainless steel, Viton®, Delrin® and Teflon® construction
- Polyethylene, polyurethane and FEP Teflon® cable options
- Solution ground for excellent noise protection
- Long-term sensor stability
- MODBUS® protocol
- Easy export to spreadsheets & databases

DESCRIPTION

The AquiStar® TempHion™ Smart Sensor is a submersible water quality sensor and datalogger capable of measuring pH, specific ions, redox, and temperature. Each unit comes with one thermistor based temperature element plus up to four pH, ISE, or redox elements. The TempHion™ Smart Sensor records, operates on low power, and comes with easy-to-use software with powerful features.

Several TempHions, or a combination of TempHions and other INW Smart Sensors, can be networked together and controlled from one location, either directly from a single computer or via a WaveData® Wireless Data Collection System.

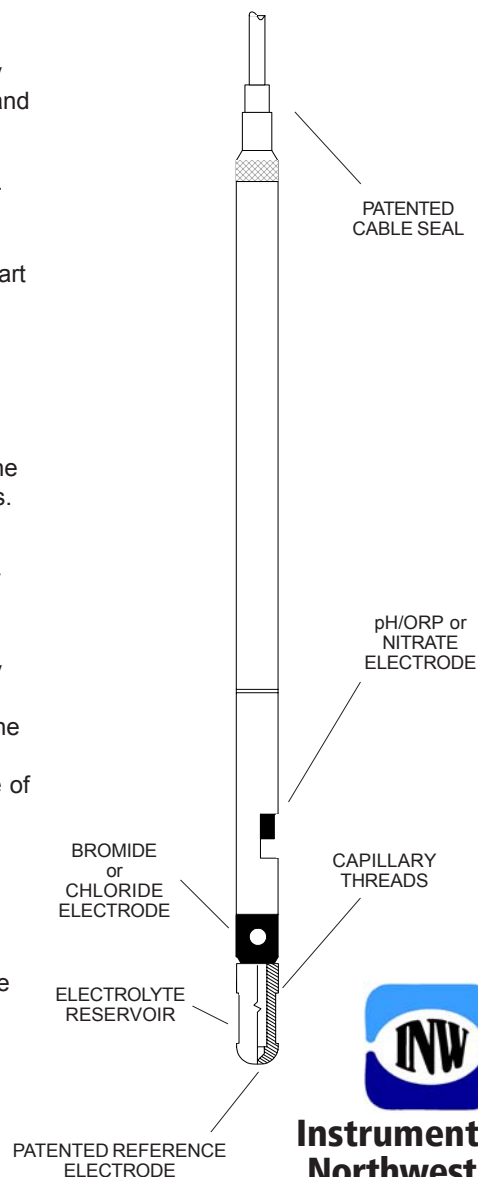
OPERATION

The TempHion™ Smart Sensor is powered internally with two AA alkaline batteries or with an auxiliary power supply for data intensive applications. The unit is programmed using a laptop or desktop Windows® based computer via its RS485/RS232 adaptor and INW's Aqua4Plus software. Once programmed, the unit will measure and collect data on a variety of time intervals.

The internal processor in the TempHion™ Smart Sensor allows for easy calibration, using the calibration utilities in INW's Aqua4Plus. Once calibrated, this calibration data is stored in non-volatile memory within the Smart Sensor. When data is collected, this calibration information is applied to the data, resulting in highly accurate readings at a wide range of temperatures.

APPLICATIONS

The TempHion™ can be used for precise single- or multi-well tracer tests, saltwater intrusion tracking, tidal influence studies, wastewater treatment discharge and pH monitoring. Its patented reference electrode provides long-term stability for continuous or intermittent monitoring making unattended insitu pH testing possible, without frequent calibrations or service.



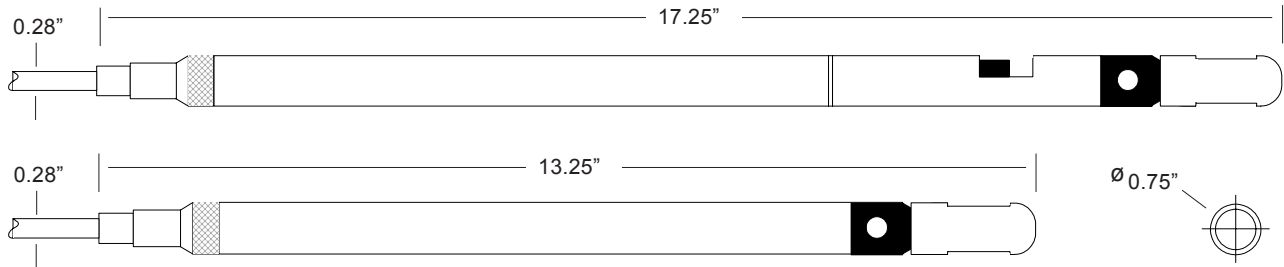
**Instrumentation
Northwest, Inc.**

1-800-776-9355
<http://www.inwusa.com>



SUBMERSIBLE SMART pH/ISE/Redox SENSOR

DIMENSIONS AND SPECIFICATIONS



ORDERING INFORMATION

TEMPHION SMART SENSOR			
3C390	Bromide Version	3C394	pH/ORP Version
3C391	Nitrate Version	3C389	pH/ORP/Bromide Version
3C392	Chloride Version	3C397	pH/ORP/Chloride Version
TEMPHION CABLE TYPES			
6E540	9-Conductor, PU Cable		
6E542	9-Conductor, HDPE Cable		
6E543	9-Conductor, FEP Teflon® Cable		
ACCESSORIES			
3P902	2" well seal adapter	3P904	4" well seal adapter
6E517	Cable strain relief kit	6E520	200' capacity reel
3B847	Communication kit (RS232/RS485 adapter, interface cable, and Aqua4Plus Software Media Kit)		
4N370	INW's TempHion reference electrolyte - 1 oz.		
4N369	Optimum F reference electrolyte - 60 mL (for Nitrate sensor)		
4N105	Calibration Kit - stand, beaker, measuring cup, and pipette		
BUFFERS AND STANDARDS			
4N304	pH 4 Buffer packets (20 per package)		
4N307	pH 7 Buffer packets (20 per package)		
4N310	pH 10 Buffer packets (20 per package)		
4N311	pH 4 Buffer (1 liter bottle)		
4N312	pH 7 Buffer (1 liter bottle)		
4N313	pH 10 Buffer (1 liter bottle)		
4N398	Nitrate Calibration Standard, 0.1 M NO ₃ ⁻ (475 mL bottle)		
4N508	Bromide Calibration Standard, 0.1 M NaBr (475 mL bottle)		
4N505	Chloride Calibration Standard, 0.1 M NaCl (475 mL bottle)		
4N506	Chloride Calibration Standard, 100 ppm (475 mL bottle)		
4N507	Chloride Calibration Standard, 1000 ppm (475 mL bottle)		

Information in this document is subject to change without notice.

MECHANICAL

Body Materials	Delrin® and 316 stainless steel
Seal Material	Viton® and Teflon®
Reference Electrode	Patented capillary liquid junction with Ag/AgCl electrode
Reference Electrolytes	TempHion no heavy metals & non-contaminating
Thermistor	30K Ohm
pH Electrode	General purpose glass
Bromide Electrode	Solid State
Chloride Electrode	Solid State
Nitrate Electrode	Membrane
Redox Electrode	Platinum Ring
CABLE	
Standard Cable	9-cond. shielded cable with polyurethane jacket
Weight	4 lbs. per 100 feet

OPERATING SPECIFICATIONS

pH	
Accuracy	± 0.2 pH units
Resolution	0.001 units
ISE	
Accuracy (typical)	± 5% of reading
Resolution	0.1 ppm
Redox	
Accuracy (typical)	± 5% of reading
Resolution	0.1mVH
Temperature	
Accuracy	± 0.5°
Resolution	0.1° C

Recommended Operating 0° C to 40° C

Temperature Range

Contact factory for extended temperature ranges

POWER SUPPLY

Internal	2 AA Alkaline Batteries
Auxiliary	6 - 13 VDC, 15 mA

Instrumentation Northwest, Inc.



Sales and Service Locations

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