

# Datalogging Water Quality Sensor

## **AquiStar® TempHion™ Submersible Smart pH/ORP Sensor with Datalogging**

The TempHion™ is a submersible water quality sensor and datalogger that comes with powerful, easy-to-use Aqua4Plus software. Each unit includes a pH/ORP element as well as one thermistor-based temperature element.

With a patented reference electrode, the TempHion™ provides long-term stability for continuous or intermittent monitoring – making unattended in-situ pH testing possible without frequent calibrations or service.

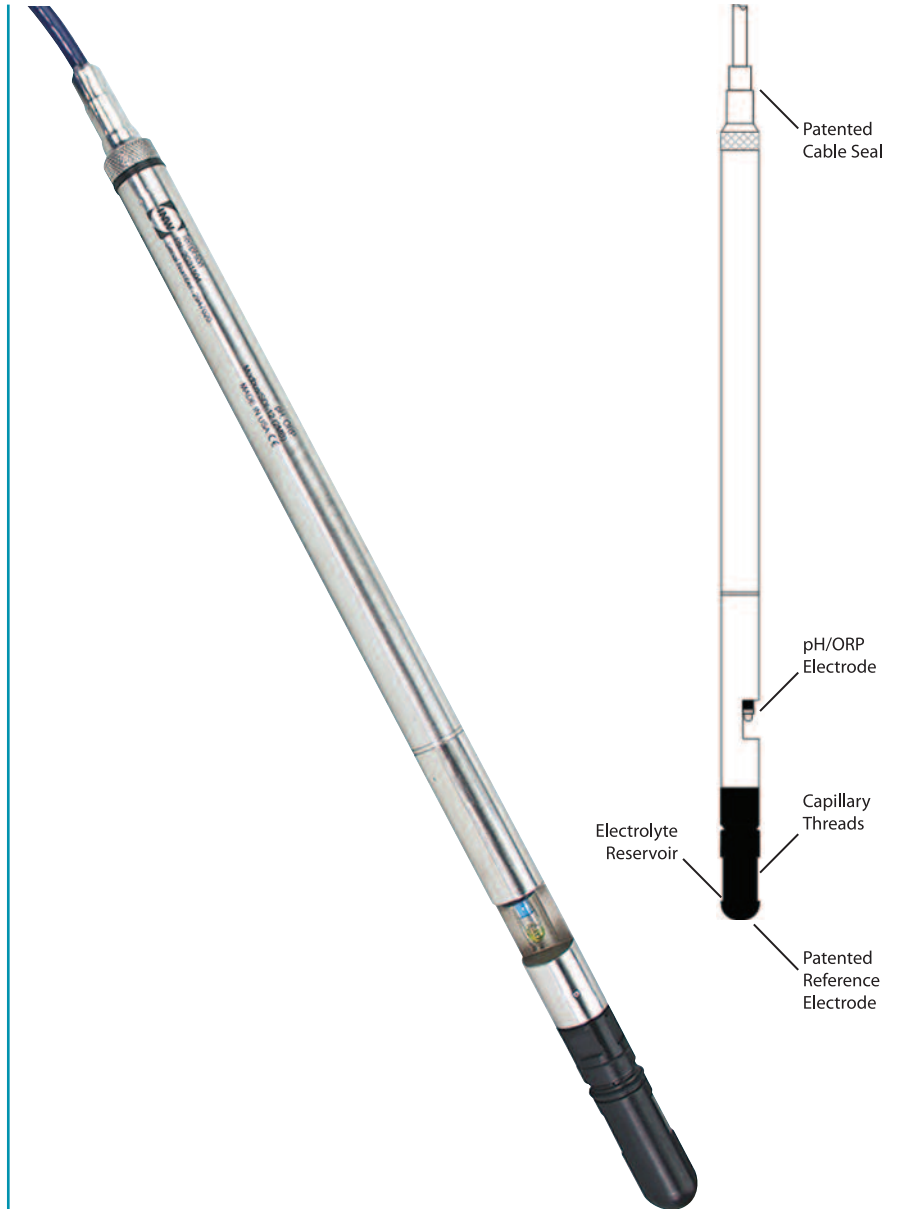
### FEATURES

- **Measures and records pH, ORP, temperature, and time**
- **Low power**  
*field replaceable AA batteries*
- **Modbus® RTU (RS485) and SDI-12 interface**  
*great flexibility*
- **Measure pH at up to 150 PSI**
- **Patented reference electrode**  
*6-month sensor stability\**
- **Solution ground**  
*for excellent noise protection*
- **Small diameter**  
*0.75" (1.9 cm)*
- **200,000 record non-volatile memory**  
*no data loss in the event of a power failure*
- **Wireless connectivity**  
*radios and/or cellular*
- **Free, easy-to-use software**

\* may vary due to environmental factors

### APPLICATIONS

- **Single- or multi-well tracer tests**
- **Saltwater intrusion tracking**
- **Tidal influence studies**
- **Waste water treatment discharge**
- **pH monitoring**



**CALL GEOTECH TODAY (800) 833-7958**

**Geotech Environmental Equipment, Inc.**

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# Datalogging Water Quality Sensor



## AquiStar® TempHion™ Submersible Smart pH/ORP Sensor with Data Logging

### SPECIFICATIONS

#### General

<b>Length</b>	17.96" (45.6 cm)
<b>Diameter</b>	0.75" (1.9 cm)
<b>Weight</b>	0.85 lb. (0.4 kg)
<b>Body Material</b>	Acetal & 316 stainless steel or titanium
<b>Wire Seal Material</b>	Fluoropolymer and PTFE
<b>Submersible Cable</b>	Polyurethane, polyethylene, or ETFE
<b>Protection Rating</b>	IP68, NEMA 6P
<b>Terminating Connector</b>	Available
<b>Communication</b>	RS485 Modbus® RTU, SDI-12 (ver. 1.3)
<b>Direct Modbus Read Output</b>	32-bit IEEE floating point
<b>Millivolt Channels</b>	
<i>No. Available Channels</i>	2 mV, 1 temp
<i>Range</i>	±1200 mV
<i>Accuracy</i>	0.1% value
<i>Resolution</i>	0.1mV
<b>Reference</b>	
<i>Electrode</i>	Ag/AgCl solid-state electrode
<i>Junction</i>	Patented capillary liquid junction
<i>Electrolyte</i>	TempHion™ reference solution
<b>Operating Temp. Range</b>	-0°C to 55°C
<b>Storage Temp. Range<sup>1</sup></b>	-20°C to 80°C
<b>Maximum Depth</b>	700 ft. (210 m)   300 PSI

#### Logging

<b>Memory</b>	2MB – 200,000 records
<b>Log Types</b>	Variable, User-Defined, Logarithmic, Profiled
<b>Programmable Baud Rate</b> <i>(optional)</i>	9600, 19200, 38400
<b>Logging Rate</b>	2x/sec maximum
<b>Software</b>	Complimentary Aqua4Plus or Aqua4Push
<b>Networking</b>	32 available addresses per junction w/batching capabilities (up to 255)
<b>File Formats</b>	.xls/.csv/.a4d

#### Power

<b>Internal Battery</b>	2 x 1.5V AA Alkaline <sup>2</sup>
<b>Auxiliary Power</b>	12 VDC – <i>Nominal</i> 6-15 VDC – <i>Range</i>
<b>Expected Battery Life</b>	18 months at 15 min. polling interval <sup>3</sup>

#### Temperature

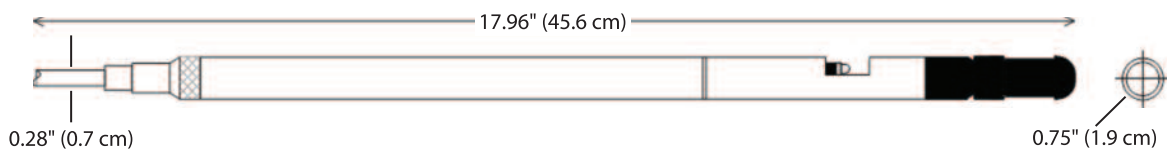
<b>Element Type</b>	30K Ohm thermistor
<b>Element Material</b>	Epoxy bead/external housing
<b>Accuracy</b>	±0.2°C
<b>Resolution</b>	0.1°C
<b>Range</b>	-5°C to 60°C
<b>Units</b>	Celsius, Fahrenheit, Kelvin

#### pH / ORP

<b>Sensor Type / Material</b>	
<i>pH</i>	Glass combination electrode
<i>ORP</i>	Platinum ring
<b>Ranges</b>	
<i>pH</i>	0-14 pH units -538 mV to 260 mV
<i>ORP</i>	±1200 mV
<b>Units</b>	pH, mV, Eh
<b>Typical Accuracy</b>	
<i>pH</i>	±0.2 pH units
<i>ORP</i>	0.1 mVH
<b>Resolution</b>	
<i>pH</i>	0.01 pH units
<i>ORP</i>	0.01 mVH units
<b>Compensated Range</b>	0°C to 40°C
<b>Calibration</b>	
<i>pH</i>	One or two point calibration w/pH buffers (7 & 4 or 10)
<i>ORP</i>	EH 1 pt. calibration
<b>Reference Solution</b>	Potassium Nitrate – (KNO <sub>3</sub> )

<sup>1</sup> Storage without batteries  
<sup>2</sup> Lithium available upon request  
<sup>3</sup> May vary due to environmental factors

Information in this document is subject to change without notice.



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