

# TempHion™ Submersible Smart pH/ORP Sensor

WITH DATA LOGGING



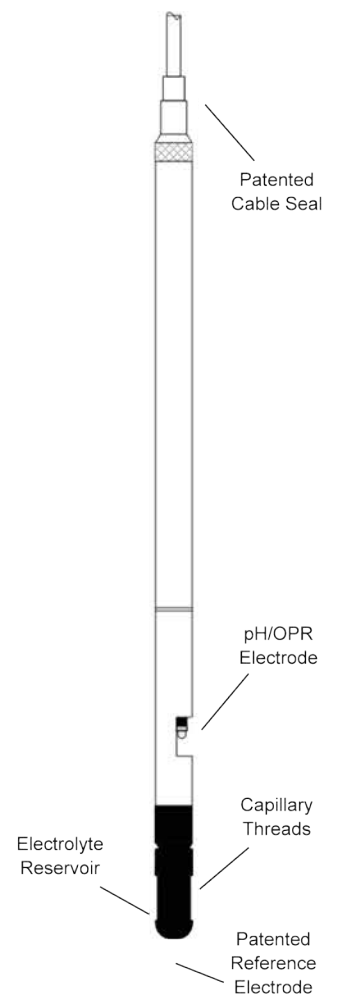
## APPLICATIONS

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

## 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*

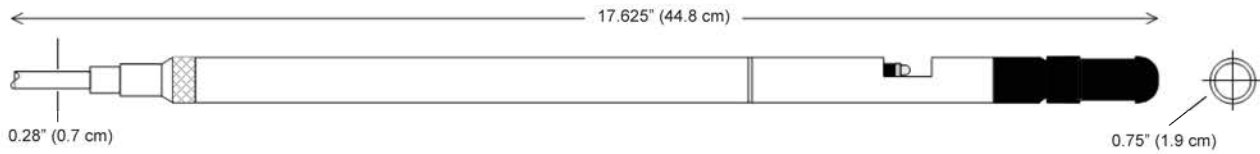


True data, measure by measure

1-800-PRO-WELL  
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# TempHion™ Submersible Smart pH/ORP Sensor



## GENERAL

<b>Length</b>	17.625" (44.8 cm)
<b>Diameter</b>	0.75" (1.9 cm)
<b>Weight</b>	0.85 lb. (0.4 kg)
<b>Body Material</b>	Delrin® & 316 stainless steel or titanium
<b>Wire Seal Material</b>	Viton® and PTFE/FEP
<b>Submersible Cable</b>	Polyurethane, polyethylene, or FEP
<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>	2mv, 1 temp
<i>Range</i>	± 1200mV
<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 (optional)</b>	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>	2x1.5V AA alkaline <sup>2</sup>
<b>Auxiliary Power</b>	12VDC - Nominal 6-15VDC - Range
<b>Exp. Alkaline Battery Life</b>	18 months at 15m 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 / -538mV to 260mV
<i>ORP</i>	± 1200mV
<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

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