

# TempHion® T-3 SUBMERSIBLE WATER QUALITY SENSOR



## DESCRIPTION

INW's TempHion® is a submersible water quality sensor that provides accurate and stable water quality measurements. All sensors come equipped with temperature, one interchangeable specific ion electrode (bromide or chloride), and either a pH or redox module. Its signal conditioning provides two amplified mV outputs and one thermistor output. The updated cable harness design is the state of the art in cable sealing by providing redundant-sealing. Stainless steel, Delrin®, Viton® and Teflon® construction increases corrosion resistance. Easy factory recalibration and servicing available.

## OPERATION

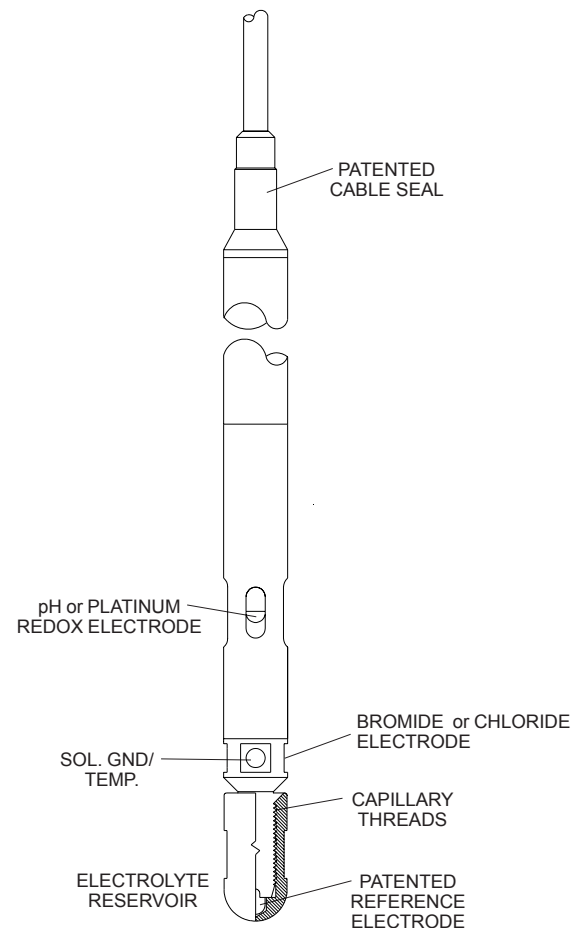
The T-3 requires 5 ma of 8-24 Volt power and provides an output measurable with pH/mV meters and many data loggers. The temperature sensor is a 30k ohm thermistor which is directly measurable with Orion® pH meters or Campbell Scientific dataloggers. The signal-conditioned pre-amplified output allows for long cable runs in submerged applications in wells, streams, and pipes with minimal noise and transient effects.

## APPLICATIONS

The TempHion® may 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 water quality measurement and testing possible (without additional calibrations or service).

## FEATURES

- Measures temperature, pH or redox and either chloride or bromide
- Pre-amp mV signal circuit board with solution ground
- Double-sealing
- Modular design
- Submersible to 250'
- Small diameter
- Long-term sensor stability



T-3 Features

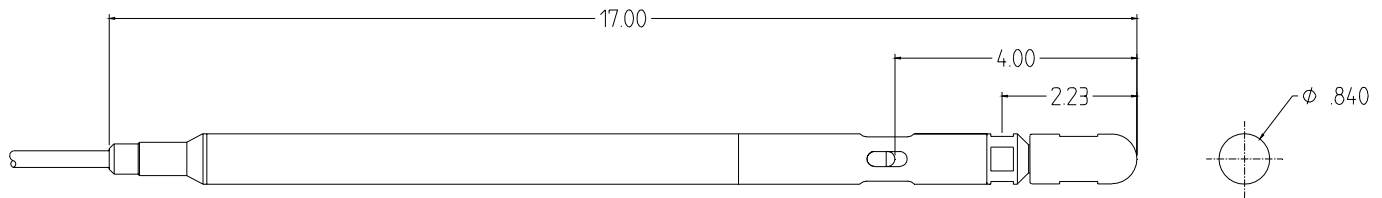


**INSTRUMENTATION  
NORTHWEST, INC.**

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

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## DIMENSIONS AND SPECIFICATIONS



### HOW TO ORDER

- Pick one interchangeable specific ion (chloride, nitrate or bromide).
- Select one interchangeable pH or redox module.
- Specify cable length.
- Contact INW for a full list of accessories.

TEMPHION 3	
4T851	TempHion® T-3 with pH/chloride/temperature
4T852	TempHion® T-3 with pH/bromide/temperature
4T855	TempHion® T-3 with redox/chloride/temperature
4T856	TempHion® T-3 with redox/bromide/temperature
TEMPHION CABLE	
6E540	9-Conductor, PU Cable
6E542	9-Conductor, HDPE Cable
6E543	9-Conductor, FEP Teflon® Cable
MISCELLANEOUS	
4N120	Orion® 250A Meter
4N125	Orion® 290A Meter
4T300	Adapter for mV and Orion® Meters
4T301	mV to 4-20 mA adapter (one temp and one mV channel)
4N370	TempHion reference electrolyte - Standard
4N302	Application Kit for Campbell Scientific dataloggers

Information in this document is subject to change without notice.

### MECHANICAL TRANSMITTER

<b>Body Materials</b>	Delrin® and 316 stainless steel
<b>Seal Material</b>	Viton® and Teflon®
<b>Reference Electrode</b>	Patented capillary liquid junction with Ag/AgCl electrode
<b>Reference Electrolyte</b>	High concentration salt solution no heavy metals & non-contaminating
<b>Thermistor</b>	30K Ohm
<b>pH Electrode</b>	General purpose glass
<b>Bromide Electrode</b>	Solid State
<b>Chloride Electrode</b>	Solid State
<b>Nitrate Electrode</b>	Solid State
<b>Redox</b>	Platinum
<b>Accuracy (typical)</b>	± 5% of reading or .02 pH units
<b>Long Term Stability</b>	< 10% over 12 months in laboratory conditions
<b>Weight</b>	1 lb.

### CABLE

<b>Standard Cable</b>	9-conductor shielded cable with polyurethane jacket
<b>Weight</b>	4 lbs. per 100 feet

### ELECTRICAL

<b>Temperature</b>	30K Ohm thermistor; no amplification required
<b>pH/redox circuit</b>	1-1 amplification with input noise filtration
<b>Specific Ion circuit</b>	1-1 amplification with input noise filtration
<b>Power Supply</b>	8-24 DC Volts
<b>Typical Current Consumption</b>	2.3mA

\*Reverse polarity protected

## INSTRUMENTATION NORTHWEST, INC.



### Sales and Service Locations

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