

**Thermo Scientific AquaSensors  
AnalogPlus series for challenging  
process applications**

**Product Specifications**

## **Thermo Scientific AquaSensors AnalogPlus Toroidal Conductivity Sensors**



### **Applications**

- Chemical production
- Metal finishing
- Semiconductors
- Pulp & paper
- Food processing
- Pharmaceuticals
  - Chemical concentration control
  - Leak detection in heat exchangers
  - Acid and caustic dilution
  - Wet chemical scrubbers
  - Cooling towers
  - Plating bath control
  - Parts cleaning & rinsing
  - Pickling bath control
  - Waste streams
  - Black, white, or green liquor
  - Pulp bleaching
  - Vegetable rinsing
  - Chemical peeling
  - Sanitization (CIP)

### **AquaSensors AnalogPlus™ Toroidal Conductivity Sensor**

- Toroidal conductivity sensor designed for continuous use in the most demanding industrial applications
- 0 to 2 S/cm measurement range with 1  $\mu$ S/cm resolution
- Offered in PEEK for high temperature / sanitary applications
- Offered in CPVC for wide measurement range at the price of many two-electrode sensors
- For use with AV88 universal analyzer

### **Engineering Specifications**

1. The toroidal conductivity sensor shall have a diameter of 1.5 inches. It will have 1  $\mu$ S/cm resolution and will measure up to 2 S/cm at 25°C. The sensor body will have a tightly controlled wall thickness to prevent cracking with heating and cooling cycles.
2. The sensor shall have wrench flats to facilitate mounting, and shall be constructed of a material with exceptional chemical resistance and mechanical strength. This material shall enable the sensor to be installed in metal fittings without leakage usually caused by heating and cooling cycles when dissimilar materials are threaded together.
3. The sensor shall have 3/4 inch NPT threads to mount into a standard 2 inch union mounting, 2 inch ball valve or immersion hardware assembly. Tri-clamp sanitary mounting also available.
4. The built-in electronics of the sensor shall be completely encapsulated and O-ring sealed for protection from moisture and humidity.
5. The sensor shall have an integral temperature sensor to automatically compensate measured values for changes in process temperature.
6. The sensor shall be Thermo Scientific AquaSensors AnalogPlus Toroidal Conductivity.

## Thermo Scientific AquaSensors AnalogPlus Toroidal Conductivity Sensor

- Global support — with experience that comes from supporting our customers for over 35 years throughout the world, our water quality specialists and customer support teams offer a quick, thorough and professional response to any problem encountered.
- Focus on user benefits — we work closely with you to define your needs, and ensure you are using the monitor in a way that improves your bottom line. For more information, contact your local water quality specialists or visit: [www.thermo.com/processwater](http://www.thermo.com/processwater).

### Toroidal Conductivity Sensor Specifications

<b>Measurement System Performance<sup>†</sup></b>	<b>Range:</b> 0 to 2,000,000 µS/cm (2 S/cm) <b>Resolution:</b> 4.5 significant digits <b>Accuracy:</b> 0.1% of reading
<b>Operational Environment</b>	<b>PEEK Sensor Head</b> <b>Temperature Range:</b> -5 °C to 200 °C <b>Maximum Pressure:</b> 200 psig @100 °C <b>Maximum Flow Rate:</b> 10 ft/second  <b>CPVC Sensor Head</b> <b>Temperature Range:</b> -5 °C to 75 °C <b>Maximum Pressure:</b> 100 psig @ 75 °C <b>Maximum Flow Rate:</b> 10 ft/second
<b>Construction</b>	<b>Sensor Material:</b> PEEK or CPVC <b>Temperature Element:</b> PT1000 <b>O-rings:</b> Viton® <b>Weight:</b> 0.5 lbs
<b>Approvals</b>	Meets CE requirements for heavy industrial use

<sup>†</sup>Note: Typical at 25°C with 20 feet of cable.

### Toroidal Conductivity Sensor Ordering Information

Part No.	Description
<b>ST-b-u-m</b>	<b>Conductivity Sensor</b>
<b>Body Material (b)</b>	2 = CPVC 3 = PEEK
<b>Cable Length (u)</b>	1 = 10 feet 2 = 20 feet 3 = 30 feet
<b>Mounting Options (m)</b>	B = 2" Sanitary Tri-clamp C = 3/4" NPT



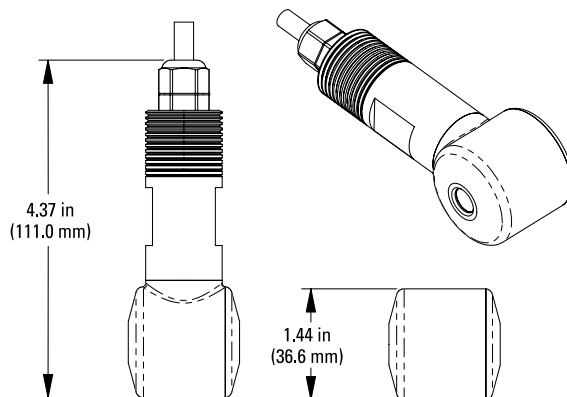
#### Thermo Scientific AV88 Universal Analyzer

Connects to any AnalogPlus sensor using plug-in module. 2 line display and 7 key navigation. Data reporting with up to 2 current outputs. 2 Form C relays. Digital communications.

### Accessories Ordering Information

Part No.	Description
<b>Local Display Interface</b>	
<b>AV88</b>	Universal Analyzer; 1/4 DIN, Outputs, Relays, Digital Communications Options
<b>Conductivity Solutions - 500 mL bottles</b>	
<b>SOL1000</b>	1000 µS/cm Calibration Solution
<b>SOL2000</b>	2000 µS/cm Calibration Solution
<b>SOL5000</b>	5000 µS/cm Calibration Solution
<b>Mounting Hardware</b>	
<b>MH3032-T</b>	2 Inch Union Mounting, CPVC
<b>MH3031-T</b>	2 Inch Union Mounting, 316 Stainless Steel
<b>MH1172-T</b>	2 Inch Ball Valve, Low Pressure, CPVC
<b>MH1171-T</b>	2 Inch Ball Valve, Low Pressure, 316 Stainless Steel
<b>MH1182-T</b>	2 Inch Ball Valve, High Pressure, CPVC
<b>MH1181-T</b>	2 Inch Ball Valve, High Pressure, 316 Stainless Steel
<b>MH1261-T</b>	Sanitary Mount, 316 SS, 2 inch Tri-clamp Tee
<b>MH1242-T</b>	Hand Rail Mounting Assembly, Swivel/Immersion, PVC
<b>MH3083-T</b>	1 Inch Immersion Mounting with Junction Box, PVC (7 foot extension is standard)

Consult factory for available sensor mounting options.



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S-ASAPTORO-E 1108 RevA