

Thermo Scientific AquaSensors AnalogPlus

Toroidal conductivity sensor

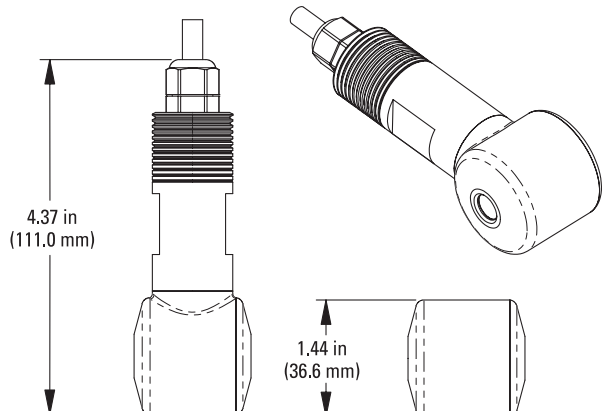
Thermo Scientific™ AquaSensors AnalogPlus™ series for challenging process applications.

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 μ 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

Markets/Applications

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



Engineering Specifications

1. The toroidal conductivity sensor shall have a diameter of 1.5 inches. It will have 1 μ 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 $\frac{3}{4}$ 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.

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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.thermoscientific.com/processwater.

AnalogPlus Toroidal Conductivity Sensor Specifications

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

[†]Note: Typical at 25 °C with 20 feet of cable



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.

Toroidal Conductivity Sensor Ordering Information

Part No.	Description
ST-b-u-m	Conductivity Sensor
Body Material (b)	2 = CPVC 3 = PEEK
Cable Length (u)	1 = 10 feet 2 = 20 feet 3 = 30 feet
Mounting Options (m)	B = 2" sanitary tri-clamp C = ¾" NPT

Accessories Ordering Information

Part No.	Description
Local Display Interface	
AV88	Universal analyzer; ¼ DIN, outputs, relays, digital communications options
Conductivity Solutions—500 mL Bottles	
SOL1000	1000 $\mu\text{S/cm}$ calibration solution
SOL2000	2000 $\mu\text{S/cm}$ calibration solution
SOL5000	5000 $\mu\text{S/cm}$ calibration solution
Mounting Hardware	
MH3032-T	2 inch union mounting, CPVC
MH3031-T	2 inch union mounting, 316 stainless steel
MH1172-T	2 inch ball valve, low pressure, CPVC
MH1171-T	2 inch ball valve, low pressure, 316 stainless steel
MH1182-T	2 inch ball valve, high pressure, CPVC
MH1181-T	2 inch ball valve, high pressure, 316 stainless steel
MH1261-T	Sanitary mount, 316 stainless steel, 2 inch tri-clamp tee
MH1242-T	Hand rail mounting assembly, swivel/immersion, PVC
MH3083-T	1 inch immersion mounting with junction box, PVC (7 foot extension is standard)

Consult factory for available sensor mounting options.



Thermo Fisher Scientific
Water Analysis Instruments
Chelmsford, MA USA
Quality Management System
Registered to ISO 9001

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