

S10 & S17 Sensors



The ECD
6 Point Advantage



ELECTRO-CHEMICAL DEVICES



What are the S10 & S17 Sensors?

❖ Universal Sensor Design that includes:

- A Wide Range of Sensing Elements
- Temperature Sensor
- Signal Conditioner
- Durable $\frac{3}{4}$ " OD body

❖ The S10 (~10" long)

- Immersion Style Sensor
- Insertion Style Sensor

❖ The S17 (~17" long)

- Valve Insertable Retractable Design





What is the 6 Point Advantage?



1. Multiple Measurement Parameters
2. Application Specific Sensor Cartridges
3. Easily replaceable Sensor Cartridges
4. Multiple Process Fittings
5. Multiple Housing Materials
6. Built In Signal Conditioning



What is the 6 Point Advantage?



1. Multiple Measurement Parameters

- pH/ORP
- Specific Ion
- Dissolved Oxygen
- Conductivity
- Resistivity

2. Application Specific Sensors

- Rugged or General Purpose pH glass Bulbs
- Double or Triple Junction Reference
- Radel or PEEK body material



What is the 6 Point Advantage?



3. Easily Replaceable Sensor Cartridges

- Change out a Cartridge in less than 2 Minutes

4. Multiple Process Connections

- 316 Stainless Steel, 3/4" MNPT Compression Fitting, Sanitary Flange, 1" FP Ball Valve
- KYNAR, 3/4" or 1" MNPT Compression Fitting
- Polypropylene, 3/4" or 1" MNPT Compression Fitting



What is the 6 Point Advantage?



5. Multiple Housing Materials

- 316 Stainless Steel (standard)
- Titanium
- Hastelloy
- PVDF (KYNAR)
- Polypropylene

6. Built in Signal Conditioning

- Measurement Specific Modules
- Noise Free Signal Transmission for Hundreds of Feet
- Allows connection to other Manufacturers Instruments



pH and ORP Electrode Cartridges

- ❖ 2005145 General Purpose
 - Radel body, Double Junction
 - Waste Effluent to Potable Water
- ❖ 2005005 High Temperature
 - Radel Body, Triple Junction
 - HT, Extreme pH, S⁻² Resistant
- ❖ 2005066 Chemically Resistant
 - PEEK Body, Triple Junction
 - Solvent and Oxidizer Resistant
- ❖ 2005167 ORP (Redox)
 - PEEK Body, Double Junction
 - Aquariums to Plating Baths





Specific Ion and Dissolved Oxygen

❖ Specific Ion Electrodes

- Double Junction Reference
- Ammonium, Bromide, Calcium (Hardness), Chloride, Cyanide, Fluoride, Potassium, Sodium, Sulfide, Silver

❖ Dissolved Oxygen Electrodes

- Galvanic : Lead/Silver
- Acidic Fill for minimal CO₂ interference
- Over One Years Life in most aerobic Applications





Conductivity and Resistivity Cartridges

- ❖ Both Styles are Contacting Conductivity Measurements
- ❖ Cartridges are Optimized for certain ranges
- ❖ Conductivity Cartridges
 - Closed End Style
 - Low Range: $1\mu\text{S}$ - $20\mu\text{S}$
 - High Range: $50\mu\text{S}$ – 20mS
- ❖ Resistivity Cartridges
 - Open End Style
 - Range: $2\text{M}\Omega$ – $50\text{M}\Omega$





Toroidal Conductivity (non-contacting)

- ❖ Two Toroidal shaped magnets are embedded in the PVDF housing.
- ❖ No Metals contact the Solution
- ❖ Toroidal sensors use Induction to determine the conductivity.
 - The magnets are coupled through the conductivity of the surrounding solution.
 - The degree of Induction is proportional to the Conductivity.
- ❖ Range: 0.5 mS – 1 S (1000 mS)





CSX Series, HT/HP Conductivity Sensors

❖ CSX1

- High Temperature, 230° C
- High Pressure, 660 psig
- Class I, Div I & II Aluminum Junction Box
- ¾" NPT, 316 SS and Ceramic insulator

❖ CSXS

- Temperature, up to 150° C
- Pressure, up to 225 psig
- ¾" MNPT, Tri Clover Flange, Variable Insertion Length
- 316 SS housings with Ryton, PVDF or Teflon insulators



Accessories

- ❖ Flow Cells, ½" NPT through
 - PVC
 - KYNAR
 - 316 SS
- ❖ Insertion Fittings
 - ¾" or 1" MNPT Compression
 - Tri Clover Flange
 - 25 mm Port Fitting
- ❖ pH Calibration Buffers
- ❖ Conductivity Standards
- ❖ ORP Calibration Solution
- ❖ PVC Spray Cleaning Nozzle
- ❖ Handrail Mounting Kit
 - Immersion Tube
 - 2" mounting Clamps





ELECTRO-CHEMICAL DEVICES

Contact ECD

For over 30 years Electro-Chemical Devices (ECD) has been a recognized leader in industrial process instrumentation:

Liquid analytical sensors, controllers, transmitters, analyzers and electrodes.

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