ISSUE
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TECHNOLOGY NEWS
FOR PROCESS
LIQUID ANALYSIS

ECD Tech

this issue

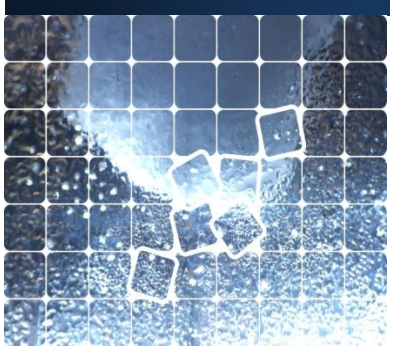
FAQ's

What is the ECD 6 Point Advantage

Electro-Chemical Devices offers a complete line of liquid analytical sensors - pH, ORP, Specific Ion, Dissolved Oxygen, Conductivity, Resistivity, Chlorine, and Turbidity. The ECD technical advantage has 6 points of design flexibility to configure the sensor to best fit your application.

ECD 6 Point Advantage

1. Multiple individual measurement parameters in the same mechanical configuration.
2. Readily available application specific sensor cartridges.
3. Long life replaceable sensor cartridges lowers the overall operation cost.
4. Various process fittings with adjustable insertion lengths.
5. Industrial housing materials for compatibility with process fluid.
6. Built-in electronic signal conditioning for noise-free signal transmission.



New Release - *Triton TR8*

Turbidity Measurement Sensor

Ideal For Surface Water, Wastewater Treatment, Industrial Water, Mixing/Dilution, Boiler Water, Cooling Water, Water Recycling, Phase Separation Processes

Designed with an innovative multi-beam optical sensor, highly intelligent electronics and self-cleaning technology, the new Triton TR8 Turbidity Analyzer sets a new standard for precise, highly reliable water quality monitoring with virtually no maintenance.

The Triton TR8 TA's sensor measures turbidity with a unique multi-beam optical assembly. The first light beam is a reference detector that compensates for changes in the LED light source caused by aging or other variables. The second light beam detects the short path length, which is best for high concentration measurement. The third light beam measures the longer path length, which is best for lower concentrations.

With its highly intelligent microprocessor-based design, the Triton TR8 TA's sensor electronics constantly adjusts turbidity signal readings versus the reference detector for superior measurement accuracy. A built-in digital filter helps to suppress potentially interfering signals while self-monitoring diagnostics assure high reliability.

The Triton TR8 TA's sensor assembly relies on a long-life near infrared LED light source (880 nm), and the 90-degree scattered light method in accordance with ISO 7027 / EN 27027. The sensor is factory calibrated in formazine, FNU (Formazine Nephelometric Units), and is plug-and-play ready for applications. Two nonvolatile memory banks are also available onboard to store user-initiated calibration data.

The highly accurate Triton TR8 TA operates over a wide measurement range with output in multiple units: 0.000 to 9999 FNU, or 0.00 to 3000 ppm, or 0.0 to 3.0 g/l, or 0 to 20 percent. The TR8 TA sensor features an error rate of less than 5 percent of reading with repeatability greater than 1% percent of reading.

The rugged Triton TR8 TA's sensor assembly features an inclined face that is oriented into the liquid flow for optimum self-cleaning, which greatly reduces plant maintenance requirements to the occasional manual sensor swiping with a soft cloth. An optional automated mechanical wiper also is available for heavy-duty service environments or for difficult-to-reach sensor locations.

Developed for rugged water treatment environments, the tough Triton TR8 TA sensor is designed to operate at ambient temperatures from -5 to 50°C (20-120°F). It withstands pressures up to a maximum of 6 bar at 25°C and 1 bar at 50°C.

The TR8 TA's controller digitally communicates with the turbidity sensor and provides a 4-20 mA output and alarm relay. The TR8 TA's controller features ECD's multi-bus architecture, with up to 4 inputs, 6 outputs and 8 SPDT relays. It includes a configurable local graphics display and HART protocol communication is available as well.

Accurate measurement of turbidity with the Triton TR8 TA is important in a wide range of surface water, municipal water and industrial water treatment applications. Turbidity is the cloudiness or haziness of a water sample, caused by suspended particles in the water that are typically clay and silt. Viruses and bacteria attach themselves to the particles and are a critical indicator of overall water quality.

ECD ELECTRO-CHEMICAL DEVICES
www.ecdi.com

ECD Application - Cooling Tower Control

Article by: Steve Rupert
Sr. Product Manager

For years, ECD has provided Cooling Tower Control Systems based on the T21 Transmitter Platform. Now this system has been designed with great simplicity and enhanced features by utilizing the flexibility and integration power of the C22 Controller Platform. This Model 2122 Cooling Tower Control System is a completely integrated system designed to control acid feed, blowdown and inhibitor feed in cooling processes. Acid feed is controlled via pH, blowdown is controlled via Conductivity (TDS) and inhibitor is fed on a user selectable timed basis. Both the period and dose time are easily configured by the user.

The Model 2122 Cooling Tower Control System features a timer based overfeed function that locks out the blowdown cycle or acid/base feed function and triggers an alarm if the acid feed or blowdown cycle proceed longer than the predetermined time. The standard outputs include two isolated 4-20 mA outputs, one for the pH signal, one for the conductivity signal and four 230 VAC 5A relays, (1) acid/base feed, (2) blowdown control, (3) biocide feed and (4) system alarm.

The standard system includes the C22 Cooling Tower Controller, the Model PHS10 pH sensor and Model CS10 conductivity sensor. The sensors are an easily serviced "insertable" design with signal conditioned outputs for a noise free signal to the C22 analyzer. Electrode cartridges for both pH and Conductivity are field replaceable. The S10 housings and guards are 316 stainless steel. The C22 analyzer is available with an optional digital input card. It can be configured to manually initiate the acid feed, biocide feed or blowdown cycle. Accessories include an external switch with an indicator lamp or a flow switch that indicates a no flow condition. The Model 2122 can be ordered as separate components, a complete system or as an assembled panel mounted system that is prewired and tested.

Model 2122

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The electrode to use for low cost applications

D10/17 Disposable Electrodes

The S10/17 initially has a higher purchase price, but replacement electrode cartridges cost less.

While the D10/17 has a lower purchase price, but the complete sensor is disposable.

The D10/17 Series Sensors extend the popular ¾" S10 and S17 product family offered by ECD. Now one can have a choice of a disposable PHD Series Sensors, PHD10 and PHD17, or the rebuildable series, S10 and S17. The D10/17 offering consists of two styles; the General Purpose Sensor housed in CPVC and the Chemical Resistant Sensor housed in KYNAR (PVDF). These sensors are optimized for a specific purpose and have only one option, 10" length or 17" length. All D10/17 sensors include the appropriate pH sensor, The SENTINEL, a solution ground, temperature compensation and a preamp all encapsulated in a ¾" OD body. The D10/17 sensors use the same process connections, gland fittings and ball valves, as any S10 and S17 sensor.

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