RESIDUAL CHLORINE ANALYZER
HydroACT 300

STANDARD FEATURES

- Capable of accepting up to three measurements including: Free Chlorine, “Zero” Free Chlorine, Total Chlorine, Chlorine Dioxide, Ozone, pH & Temp, ORP, TSS/NTU, DO, SCM, Conductivity, UV254 Organics, Chlorite, Particle Couner, and Biofilm
- Membrane-covered three-electrode amperometric Free and Total Chlorine sensors
- Automatic temperature compensation
- Eventlogging
- Capable of providing up to three analog outputs, four relays, and two digital inputs
- Isolated inputs and outputs

OPTIONAL FEATURES

- pH compensation (free chlorine sensor)
- Low flow detector
- PID control capability
- Modbus communiction (RTU or TCP) or PROFIBUS

BENEFITS

- No reagents or moving parts
- Appropriate for compliance reporting
- Easy set up and maintenance
- Intuitive menu and programming functions
- Reduced pH dependency
- Low purchase and ownership cost

APPLICATIONS

Water Treatment
- Online disinfection monitoring
- Disinfection dosage control

Swimming Pools

Paper Machine System Microbial Control

Legionella Control

Food Washing

DESCRIPTION

The HydroACT 300 Residual Chlorine Analyzer can measure free chlorine, total chlorine, chlorine dioxide, or pH, and is appropriate for compliance reporting following USEPA Method 334.0. Using a membraned-covered three-electrode amperometric sensor for chlorine measurment, Chemtrac's probe design incorporates a long-lasting electrolyte solution which significantly reduces pH dependency. Because the HydroACT 300 has no moving parts and does not require any reagents or buffers, cost of ownership is low and maintenance is simple. The HydroACT 300 is available with up to three chlorine sensor inputs or one chlorine sensor input and one pH with Temp. sensor input, reducing the overall cost per sample point. Additional measurements such as Ozone, ORP, DO, and Conductivity are also available as sensor options.

Residual Chlorine

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GENERAL SPECIFICATIONS

Analyzer

Power Options:	100-240 VAC, or 12 VDC
Display:	LCD Backlit 128x64 graphical
Sensor Options:	Free Cl, “Zero” Free Cl, Total Cl, Cl Dioxide, Ozone, pH with Temperature, ORP, SCM, DO, TSS/NTU, UV254 Organics, Conductivity, Chlorite, Biofilm, Particle Counter
Sensor Inputs:	Up to 3 (pH w/ Temp probe requires 2 inputs)
Digital Inputs:	Up to 2 (e.g. low flow switch)
4-20mA Outputs:	Up to 3 (750 ohm load) PID option will utilize 1 output
Relays:	Up to 4 (250 VAC, 8A / 30 VDC, 8A)
Comms Options:	Modbus (RTU, TCP) or PROFIBUS
System Log:	20 events
Enclosure:	Nema 4X / IP65
Dimensions:	7.6” W x 6.3” H x 4.1” D (193 mm W x 161 mm H x 103 mm D)
Weight:	2.2 lbs (1 kg)

Chlorine Sensor Probe (Free or Total)*

Type:	Membrane-covered amperometric three-electrode system
Measured:	Free residual chlorine or total residual chlorine
Probe Ranges:	0.01 - 2, 0.01 - 5, 0.01 - 10, or 0.01 - 20 mg/L 0.01 - 200 mg/L (Free residual chlorine only)
Resolution:	0.01 mg/L (ppm)
Reproducibility:	±5%
Stability:	-2% per month (without calibration)
Working Electrode:	Gold cathode
Counter Electrode:	Stainless steel anode
Reference Electrode:	Silver/silver halide
Flow Rate:	15 to 60 L/hr.
Temperature Range:	> 41° up to < 113° F (> 5 up to < 45° C)
Temperature Compensation:	Automatically by integrated thermistor (ATC)
pH Range:	pH 4 - pH 9 (Free), pH 4 - pH 12 (Total)
Permissible Over-Pressure:	7.25 psi (0.5 bar)
First Polarization Time:	120 min.
Re-Polarization Time:	30 min.
Zero-Point Adjustment:	Not necessary
Calibration:	Manual using DPD
Housing Material:	PVC, silicone, polycarbonate, stainless steel
Dimensions:	Diameter approx. 0.98 in., length 6.89 in.
Replacement Intervals	
Membrane:	Annually (Approx.) depending on water quality
Electrolyte:	3 - 6 months
Interferences:	Ozone and chlorine dioxide. Surfactants are partially tolerated

*Not suitable for measuring or controlling for dechlorination
Recommended to have a Free Chlorine residual of at least 0.10 ppm at all times

Chlorine Dioxide Sensor Probe

Type:	Membrane-covered amperometric two-electrode system
Measured:	Chlorine dioxide
Probe Ranges:	0.01 - 0.5, 0.01 - 2, 0.01 - 5, 0.01 - 10, or 0.01 - 20 mg/L (ppm)
Resolution:	0.01 mg/L (ppm)
Repeatability:	< 1%
Working Electrode:	Gold cathode
Counter Electrode:	Anode: combined reference and counter electrode of silver/silver halogenide
Flow Rate:	15 to 60 L/hr
Temperature Range:	> 41° up to 122° F (> 5° up to 50° C)
Temperature Compensation:	Automatically by integrated thermistor (ATC)
pH Range:	pH 1 - pH 11
Permissible Over-Pressure:	14.5 psi (1 bar)
First Polarization Time:	60 min.
Re-Polarization Time:	30 min.
Zero-Point Adjustment:	Not necessary
Calibration:	Manual using analytic determination
Housing Material:	PVC, silicone, polycarbonate, stainless steel
Dimensions:	Diameter approx. 0.98 in., length 6.89 in.
Replacement Intervals	
Membrane:	Annually (Approx.) depending on water quality
Electrolyte:	3 - 6 months
Interferences:	Ozone

pH with Temperature Sensor Probe (requires 2 inputs)

Type:	Combined reference, and measuring electrode
Reference Type:	Patented electrochemically active solid polymer junction
pH Range:	0-14
Slope:	95-102%
Pressure Range:	0 - 145 psi (0 - 10 bar)
Long Term Stability (drift):	< 0.01 pH/hour
Reproducibility:	< 0.01 pH
Impedance:	pH Glass <200 MOhm
Solid State:	<200 KOhm
Response Time:	95% of step pH2 to pH12 < 5 sec
Temperature Range:	32° - 212° F (0° - 100° C)
Wetted Surface:	pH Glass - Red Polymer - PVDF Body - Viton 0 rings
Cable:	Low noise Coaxial + 4 wires 6.5 ft. (2 m) Special order up to 32.8 ft. (10 m)
Shelf Life:	12 months
Temperature Compensation:	Automatically by integrated thermistor PT100 (ATC)
Estimated Life:	12 - 24 months (application dependent)