CD80 Chlorine Dioxide Analyzer

ELECTRO-CHEMICAL DEVICES

Features	Benefits
• Panel Mounted System Plumb and Play Design	• Complete System, Easy Installation, Ready to Use
• Amperometric Design	• No Expensive Reagents
• Automatic Flow Control	• Eliminates Pressure Regulators and Rotameters
• T80 Transmitter Capability	• Dual Measurements, Single parameter or Dual parameter Displays, MODBUS RTU, Spray Cleaner (optional for fouling applications)
• Compliant with EPA Method 334.0	

Model CD80
Chlorine Dioxide Analyzer

Description

The CD80 is a panel mounted, ready to use Chlorine Dioxide Analyzer. It is designed to monitor free chlorine in drinking water, rinse water, cooling water or other fresh water samples from 0.05 – 20 ppm chlorine as the standard range or 0.01 - 5.00 ppm with the low range sensor. The CD80 is compliant with EPA method 334.0 for measuring drinking water.

The CD80 features a plug and play design that incorporates a flow control device, a chlorine dioxide sensor, optional pH sensor and the T80 analyzer/controller conveniently mounted on a PVC panel. Connect the sample and drain lines, connect the power and outputs and it is ready to use. Factory calibrated, calibration is accomplished by DPD comparison.

Chlorine Dioxide (ClO_2) exists as a gas in solution, it does not dissolved like other chlorine compounds and is therefore not affected by the pH of the solution. ClO_2 is approximately 10 times more soluble than chlorine in water but it is extremely volatile and can be easily removed from dilute aqueous solutions with minimal aeration. Chlorine Dioxide diffuses through the PTFE membrane of the sensor and is reduced to chloride ion by the addition of electrons from the cathode. Silver from the anode is then oxidized to silver chloride. The electrons released from the gold cathode and the electrons accepted on the silver anode result in a current flow which is proportional to the chlorine dioxide concentration in the medium.

Temperature affects the ClO_2 permeability of the PTFE membrane, increasing the temperature increases the output of the sensor about 4% per C˚. The chlorine flow cell includes a temperature sensor that allows the T80 analyzer to perform automatic temperature compensation of the measurement

The T80 is 110-240 VAC or 24 VDC powered and allows either parameter to be graphically displayed with user defined Line, Bar or Guage style graphs. The standard configuration has (2) 4-20 mA outputs, (3) alarm relays and MODBUS RTU.

Amperometric chlorine sensors are flow sensitive, the minimum required flow by the sensor is 0.5 ft/sec, above this value the output is virtually flow independent. A “Constant head” Flow control Device (CFD) maintains the optimum flow past the sensor over a wide range of incoming sample flow rates. The minimum flow required for the CFD is 10 gal/hr and the maximum flow is 80 gal/hr with the sample going to drain at atmospheric pressure.

The Auto Clean option includes a solenoid actuated spray cleaner that uses either 30 psi process water or air. An easily adjusted timer controls the period and duration of the cleaning cycle.

CD80 Chlorine Dioxide Analyzer

Specifications

Sensor and Flow Train

Sensor

Polarographic, Gold/Silver, PTFE membrane, Digital communiucation

Measurement Range

Chlorine: 0.05 to 20 ppm (High Range)
0.01 to 5.00 ppm (Low Range)
pH: 0 to 14 pH

Operating Temperature

0° C to 50° C (32° F to 122° F)

Min/Max Flow

38 L/hr to 300 L/hr (10 gal/hr to 80 gal/hr)

Wetted Materials

PVC, PP, PVDF, PTFE, Glass, 316 SS

Process Connections

Input ¼" barb fitting (¼"FNPT), Drain ¾" FNPT

Response Time

T90 in 2 minutes

Electrolyte Life

Up to 12 months

T80 Analyzer/Transmitter

Measurements

Chlorine: 000.0 to 999.9 ppb, ppm auto ranging
pH: 0 to 14 pH
Temperature: 0° C to 100° C (32° F to 212° F)

pH Compensation

Not needed, ClO_2 is not pH dependent

Display

128 x 64 pixels (2.75" x 1.5") LCD, Black on Grey background, Blue on White background with LED backlight

Enclosure

IP65, weatherproof, ½ DIN, (L x W x D) 5.7" X 5.7" X 3.5"

Outputs

(1) 4-20 mA for Chlorine Dioxide, set to Sensors Range
(1) 4-20 mA for pH (Optional) , set 0-14 pH

Alarm Relay Ratings

Three (3) SPDT, 1 form C, 250 VAC, 10 Amp

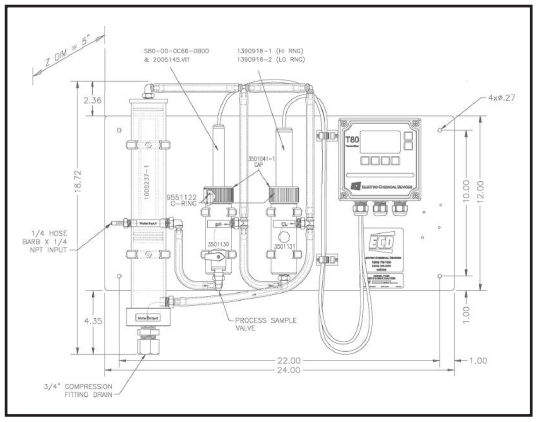
Input Power

Code -1 24 VDC (18-36 VDC @ 250 mW minimum)
Code -2 100-240 VAC, 50/60 Hz, 4W, protected with 250V, 1A, Slow Blow fuse

CE

Part No.	Model and Product Description
CD80-01-2200	Chlorine Dioxide Analyzer (CD80), complete, pH, ClO_2 0.05-20.00 ppm, 100-240 VAC
CD80-01-2210	Chlorine Dioxide Analyzer (CD80), complete, pH, ClO_2 0.05-20.00 ppm, with spray cleaner, 100-240 VAC
CD80-11-2200	Chlorine Dioxide Analyzer (CD80), complete, pH, ClO_2 0.01-5.00 ppm, 100-240 VAC
CD80-11-2210	Chlorine Dioxide Analyzer (CD80), complete, pH, ClO_2 0.01-5.00 ppm, with spray cleaner, 100-240 VAC

Part No.	Spare Parts and Accessories Description
1390920-3	Chlorine Dioxide Sensor, Std Range, 0.05 – 20.0 ppm
1390920-4	Chlorine Dioxide Sensor, Low Range, 0.01-5.00 ppm
1000256-1	Membrane Replacement Kit with electrolyte
S80-00-0C66-0B00	pH Sensor, 316L SS body with Flange, 4' cable
2005145.VIT	Replacement pH Cartridge
3501131	Chlorine Flow Cell
3501130	pH Flow Cell
3501041-1	Flow Cell Threaded Cap



Specifications subject to change without notice.

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CERTIFIED ISO9001 QUALITY SYSTEM