ELECTRO-CHEMICAL DEVICES

CD80 Chlorine Dioxide Analyzer

The CD80 Chlorine Dioxide Analyzer provides continuous, online monitoring of chlorine dioxide to support disinfection control and water quality applications. Designed for municipal and industrial environments, the CD80 offers dependable performance, flexible integration, and a compact, panel-mounted design for ease of installation.

Features & Benefits

Panel Mounted System, Plug 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 Displays
- MODBUS RTU
- Spray Cleaner (optional for fouling applications)

Compliant with EPA Method 334.0

Consult our Technical Support staff for additional configuration options at +1-714-695-0051 or email: sales@ecdi.com

Description

The Model CD80 is a panel mounted, ready to use Chlorine Dioxide Analyzer.

It is designed to monitor chlorine dioxide in drinking water, rinse water, cooling water or other fresh water samples from 0.005 – 20.00 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
- Chlorine Dioxide Sensor
- Optional pH Sensor
- T80 Analyzer/Controller

All which are conveniently mounted on a PVC Panel.

Connect the sample/drain lines, power, 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 dissolve 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 transmitter is 110-240 VAC or 24 VDC powered and allows either parameter to be graphically displayed with user defined:

- Line
- Bar
- or Gauge Style Graphs

The standard configuration has :

- (2) 4-20 mA Outputs
- (3) Alarm Relays
- MODBUS RTU

Amperometric Chlorine Sensors are flow sensitive. The **minimum flow required** by the sensor is, 0.5 ft/sec

Above this value, the output is virtually flow independant.

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 **maxiumum flow allowed** 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 of process water or air.

An easily adjusted timer controls the period and duration of the cleaning cycle.

Consult our Technical Support staff for additional configuration options at +1-714-695-0051 or email: sales@ecdi.com

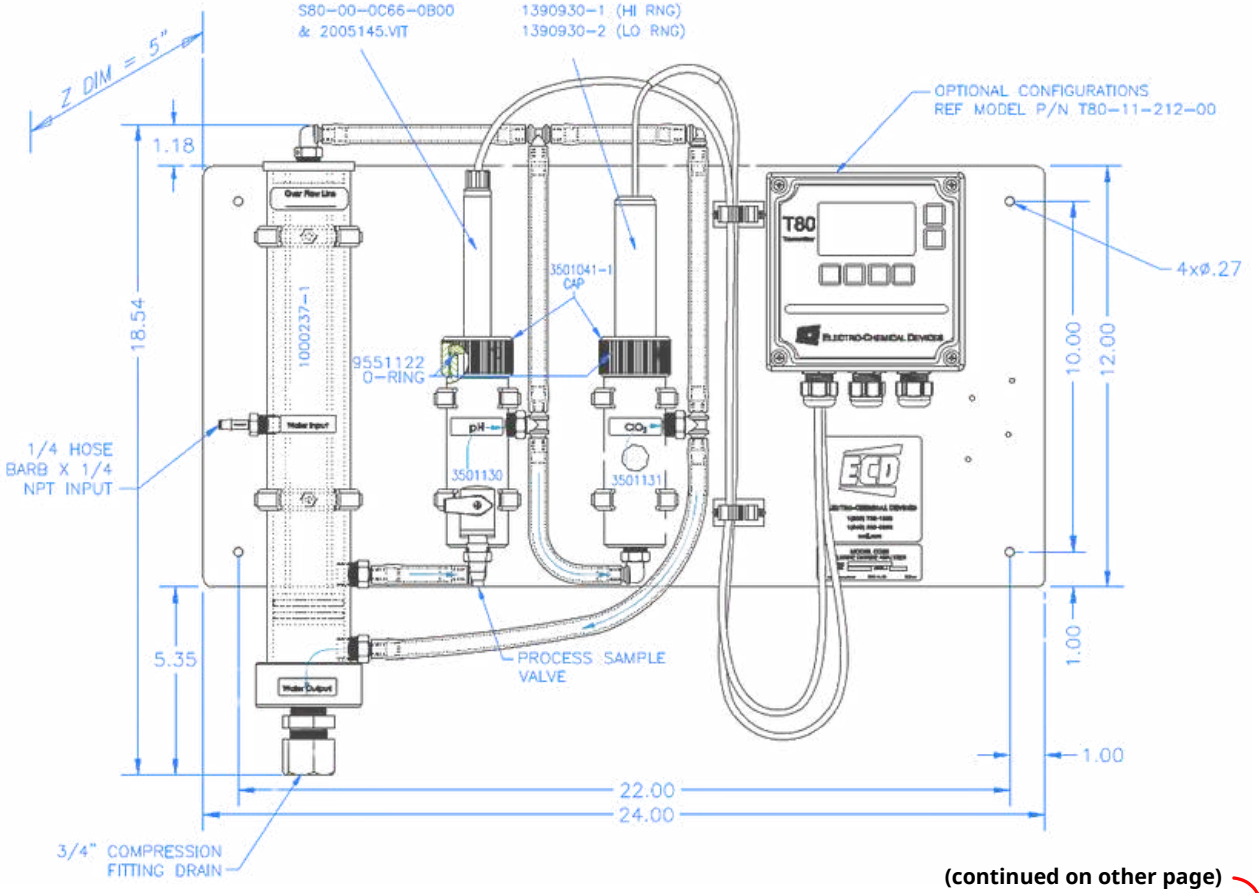
Specifications

Sensor and Flow Train

Sensor	• Polarographic • Gold-Cathode • PFTE Membrane • Silver-Halide Anode • Digital Communication
Measurement Range	**Chlorine:** 0.05 to 20.00 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 Fitting
Response Time	T90 approximately 2 minutes
Electrode Life	Up to 12 Months
Dimensions	

T80 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	ClO_2 is not pH dependant
Display	128 x 64 pixels (2.75" x 1.5") **LCD**: Black on Grey background **LED**: Blue on White background w/ LED Backlight
Enclosure	• IP65 • ½ DIN (5.7" x 5.7" x 3.5") (L x W x D) • Weatherproof
Outputs	(1) 4 - 20 mA for Chlorine Dioxide (Set to Sensor Range) (1) 4 - 20 mA for pH (Optional) (Set 0 - 14 pH)
Alarm Relays Ratings	(3) SPDT, 1 Form C, 250 VAC, 10 Amp
Input Power	**Code -1:** 24 VDC (18-36 VDC @ 250 mW min.) **Code -2:** 100-240 VAC, 50/60 Hz, 4W,Protected w/ 250V, 1A, Slow Blow Fuse



(continued on other page)

Order Information

A	B	C	D	E	F	Sample Order
CD80	0	1	2	2	00	CD80-01-2200

Ⓐ CD80 Analyzer
Ⓑ 0.05 to 20 ppm Chlorine Dioxide (Standard)
Ⓒ S80 pH Sensor with Flow Cell and 2nd Channel T80 Analyzer
Ⓓ 110-250 VAC
Ⓔ (2) 4-20 mA Output, 3 Configurable Relays (Modbus)
Ⓕ No Spray Cleaner / Standard Constant Head Flow

A. Model CD80

Part No.

CD80	Chlorine Dioxide Analyzer, Panel Mounted, Constant Head Flow Controller, Chlorine Dioxide Sensor, Flow Cell , pH Sensor, Flow Cell (2), 4-20 mA, 3 Relays

B. Sensor Type and Range

Part No.

0	0.05 to 20.00 ppm Chlorine Dioxide (Standard)
1	0.01 to 5.00 ppm Chlorine Dioxide

C. pH Sensor

Part No.

0	No pH Sensor
1	S80 pH Sensor with Flow Cell and 2nd Channel T80 Analyzer

D. Power Supply

Part No.

1	24 VDC
2	110-250 VAC (Standard)

E. Outputs

Part No.

2	(2) 4-20 mA output, 3 Configurable Relays (Modbus)
3	(2) 4-20 mA output, 3 Configurable Relays (HART)

F. Spray Cleaner / Constant Head Flow

Part No.

00	No Spray Cleaner / Standard Constant Head Flow
01	110 VAC Spray Cleaner on Chlorine Sensor / Standard Constant Head Flow
02	No Spray Cleaner / High Constant Head Flow
03	110 VAC Spray Cleaner on Chlorine Sensor / High Constant Head Flow
04	240 VAC Spray Cleaner on Chlorine Sensor / Standard Constant Head Flow
05	240 VAC Spray Cleaner on Chlorine Sensor / High Constant Head Flow

(continued on other page)

World Headquarters: 1500 North Kellogg Dr. | Anaheim, California, USA 92807
Phone: 714-695-0051 **Fax:** 714-695-0057 **Email:** sales@ecdi.com
www.ecdi.com

©Electro-Chemical Devices, 2025. All rights reserved.
Equipment and Specifications may be updated periodically to enhance performance and reliability.

Order Information

A	B	C	D	E	F	G
CD80	0	1	2	2	0	0

Sample Order

CD80-01-2200

- (A) CD80 Analyzer
- (B) 0.05 to 20 ppm Chlorine Dioxide (Standard)
- (C) S80 pH Sensor with Flow Cell and 2nd Channel T80 Analyzer
- (D) 110-250 VAC
- (E) (2) 4-20 mA Output, 3 Configurable Relays (Modbus)
- (F) No Spray Cleaner / Standard Constant Head Flow

CD80 Instruments, Parts & Accessories

Part No.	
	Accessories
1000350-1	Enclosure, Fiberglass, 24" x 24" x 7" Clear Lid (Standard Head Flow)
1000350-2	Enclosure, Fiberglass, 24" x 24" x 7" Opaque Lid (Standard Head Flow)
1000183-X	Junction Box with Spray Cleaner Solenoid on Panel (X = Specify Voltage)
1000300-1	4-20 mA USB Data Logger
	Calibration
1000040-4	Kit, Photometer Tester HCA-2, Chlorine Dioxide
9260102	Test Strip Reagent, Chlorine Dioxide (100 Test Strips)
	Spare Parts - Sensor
1390930-1	Chlorine Dioxide Sensor (Standard Range: 0.05 – 20.00 ppm)
1390930-2	Chlorine Dioxide Sensor (Low Range: 0.01 – 5.00 ppm)
1000256-1	Chlorine Flow Cell with Spray Cleaner Port (No Cap / Fittings)
1000257-1	pH Flow Cell with Spray Cleaner Port (No Cap / Fittings)
1000258-1	Sample Spigot
3501131	Solenoid for Spray Cleaner (110 VAC)
S80-00-0C66-0B00-001	Kit, O-Ring Constant Head Flow
2000197	Kit, O-Ring Constant Head Flow
	Spare Parts - System
T80-11-212-00	Chlorine Dioxide Analyzer (CD80), Instrument Only, (2) 4-20 mA output, 3 Relays, 110-250 VAC
T80-11-112-00	Chlorine Dioxide Analyzer (CD80), Instrument Only, (2) 4-20 mA output, 3 Relays, 24 VDC
3501130	pH Flow Cell with Spray Cleaner Port (No Cap / Fillings)
9370048	Sample Spigot
1000237-3	Constant Head Flow Controller with Fittings
1000237-4	Constant Head Flow Controller (High Flow with Fittings)
9350025	Solenoid for Spray Cleaner (110 VAC)
2000120	Tube Fitting Set, Complete set (9) ⅜" Fittings (1) ¼" Fitting
2000107-3	Kit, Tubing ⅜" PVC
2000107-4	Kit, Tubing ⅜" PVC with Spray Cleaner Tube
9130007	Spare Battery for USB Logger *Dangerous Goods
2000197	Kit, Constant Head Flow O-Ring
	Data Logger
1000300-1	4-20 mA USB Data Logger
9130007	Spare Battery for USB Data Logger *Dangerous Goods
	Calibration
1000040-1	Kit, Photometer Tester HCA-2 (Free & Total Chlorine)
1000040-3	Kit, Photometer Tester HCA-2 (Total Chlorine)
9260100	Test Strip Reagent (Free Chlorine) (100 Test Strips)
9260101	Test Strip Reagent (Total Chlorine) (100 Test Strips)
2010128-1	Solution Chlorine Dosing (6.6 Gal) (25 L)

Represented By:

World Headquarters: 1500 North Kellogg Dr. | Anaheim, California, USA 92807

Phone: 714-695-0051 **Fax:** 714-695-0057 **Email:** sales@ecdi.com

www.ecdi.com

©Electro-Chemical Devices, 2025. All rights reserved.
Equipment and Specifications may be updated periodically to enhance performance and reliability.