TC80 Total Chlorine Analyzer

ELECTRO-CHEMICAL DEVICES

Features	Benefits
• Panel Mounted System Plumb and Play Design	• Complete System, Easy Installation, Ready to Use
• Automatic pH Compensation	• No Expensive Reagents
• Automatic Flow Control	• Eliminates Pressure Regulators and Rotameters
• T80 Analyzer Capability	• Dual Measurements, (2) 4-20 mA and (3) Alarm Relays, 24VDC or 110/220 VAC Power, Auto clean option
• Compliant with EPA Method 334.0	

Model TC80
Total Chlorine Analyzer

Description

The Model TC80 is a panel mounted, ready to use Total Chlorine Analyzer. It is designed to monitor total chlorine in drinking water, rinse water, cooling water or other fresh water samples from 0.05 – 20 ppm Cl_2 with the High Range sensor and 0.005 to 2.000 ppm with the Low Range sensor. The TC80 features a plug and play design that incorporates a flow control device, a pH sensor, a chlorine sensor and the T80 transmitter are conveniently mounted on a PVC panel. Connect the sample and drain lines, connect the power and outputs and it is ready to use. The TC80 is calibrated at the factory before shipment, additional Calibrations are accomplished by DPD comparison.

Total Chlorine is the combined amount of Free Chlorine, Chloramine, Organic and Bound Chlorine in the sample. The TC Sensor is a three electrode amperometric sensor with a Gold cathode, Silver Halide anode and 304 SS counter electrode. The Counter electrode provides a stable base potential that minimizes drift. The Total Chlorine sensor has a micro-porous membrane that allows ions to diffuse in and out of the sensor. The various chlorine species in the measured solution diffuse into the sensor and react with the acidic potassium iodide electrolyte to form iodine. The iodine is reduced at the cathode back to iodide and the current flow between the cathode and silver iodide anode is proportional to the Total Chlorine. The pH sensor provides accurate compensation for samples between pH 4 and pH 12 and eliminates the need for an expensive sample conditioning system. The T80 graphically displays both the Total Chlorine and pH allowing easy trend analysis.

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 controller maintains the optimum flow by the sensor over a wide range of incoming sample flow rates. The minimum flow required 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 solinoid actuated spray cleaner that uses either 30 psi process water or compressed air to clean the electrode surfaces. An easily adjusted timer controls the period and duration of the cleaning cycle. (shown above)

TC80 Total Chlorine Analyzer

Specifications

Sensor and Flow Train

Sensor
Amperometric, Three Electrode, Gold-Cathode/Silver-Silver Halide-Anode/ 304 SS counter electrode, Digital

Measurement Range
Chlorine: 0.05 to 20.00 ppm (High Range)
0.005 to 2.000 ppm (Low Range)
pH: 4 to 12 pH

Operating Temperature
0° C to 45° C (32° F to 113° 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, 304 & 316 SS

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

Response Time
T90 approximately 2 minutes

Electrolyte Life
Up to 6 months

T80 Transmitter

Measurements
Chlorine: 0.001 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
pH 4 - 12

Display
2.5" X 1.75" backlit LCD, 4 lines for Text & Graphical

Enclosure
NEMA 4X, LxWxD: 5.7" x 5.7" x 3.5"

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

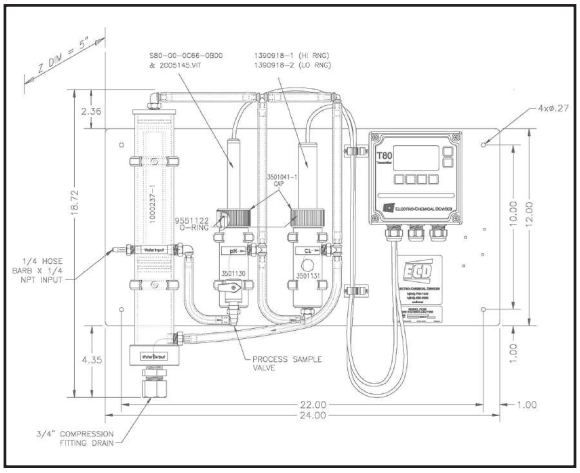
Alarm Relay Ratings
(3) SPDT 230 VAC/5A

Input Power
110/220 VAC @ 50/60 Hz
Optional 24 VDC (12 to 50 VDC) @ 0.25A

Part No.	Model and Product Description
TC80-01-2200 (HR), TC80-11-2200 (LR)	TC80, complete, panel mounted, auto pH compensation, 110/220 VAC
TC80-01-1200 (HR), TC80-11-1200 (LR)	TC80, complete, panel mounted, auto pH compensation, 24 VDC
TC80-01-2210 (HR), TC80-11-2210 (LR)	TC80, complete, panel mounted, auto pH comp, 110/220 VAC, with spray cleaner
TC80-01-1210 (HR), TC80-11-1210 (LR)	TC80, complete, panel mounted, auto pH comp, 24 VDC, with spray cleaner

(HR) = High Range,0.05-20.00 ppm
(LR) = Low Range, 0.005-2.000 ppm

Part No.	Spare Parts and Accessories Description
1391005-1	Total Chlorine Sensor (High Range)
1391005-2	Total Chlorine Sensor (Low Range)
1000248-1	Recharge Kit, (membrane and refill sol'n)
1000245-1	Membrane Replacement Kit
1000246-1	Electrolyte Refill Kit
S80-00-0C00-0C00	S80 pH Sensor, Complete
2005145.VIT	Replacement pH Cartridge
3501131	Flow Cell, Chlorine
3501130	Flow Cell, pH
1000263	Cable assembly,Total Chlorine sensor, 2 meter



Specifications subject to change without notice.

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CERTIFIED ISO9001 QUALITY SYSTEM