TELEDYNE
ANALYTICAL INSTRUMENTS
A Teledyne Technologies Company

(주)엠씨마스터스
MC Masters
Measurement & Control

Model
TCA-220
Total Chlorine Analyzer

FEATURES

- Panel Mounted System Plumb and Play Design
- Automatic pH Compensation
- Automatic Flow Control
- LXT-220 Analyzer Capability with the choice of multiple Contacts and Outputs

BENEFITS

- Complete System, Easy Installation, Ready to Use
- No Expensive Reagents
- Eliminates Pressure Regulators and Rotameters
- Dual Measurements
  24VDC or 110/220 VAC Power
  XY Graphical Plot
  Optional PID Control Output

TCA-220 Total Chlorine Analyzer

The Model TCA-220 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. The TCA-220 features a plug and play design that incorporates a flow control device, a pH sensor, a chlorine sensor and the LXT-220 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. Calibration is accomplished by DPD comparison.

Total Chlorine is the combined amount of Free Chlorine, Chloramine, Organic and Bound Chlorine in the sample. The TCA 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 TCA sensor has a microporous 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 use of the pH sensor provides accurate compensation for samples between pH 4 and pH 12 and eliminates the need for an expensive sample conditioning system to control the pH of the solution. The LXT-220 allows either parameter to be graphically displayed with user defined ranges 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 control Device (CFD) maintains the optimum flow by 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.

SPECIFICATIONS

Sensor and Flow Train

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

Measurement Range
Chlorine: 0.05 to 20 ppm
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 fittng, Drain ¾” barb fittng

Response Time
T90 approximately 2 minutes

Electrolyte Life
Up to 3 months

Electronics

Measurements
Chlorine: 0.05 to 20 ppm
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 7

Outputs
4-20 mA for Total Chlorine; 800 ohm@24 VDC
Optional: additional 4-20 mA output and PID output

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

Alarm Relay Ratings
(2) SPDT 230 VAC/5A or 30 VDC/5A resistive max.
Optionally up to (8) Relays

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Warranty
Instrument is warranted for one year against defects in material or workmanship

NOTE: Specifications and features will vary with application. The above are established and validated during design, but are not to be construed as test criteria for every product. All specifications and features are subject to change without notice.

ISO 9001:2008 - QMS