



TOC and TC analysis made easy

Continuous on-line

TOC/TC measurement

using ultraviolet

(UV)-promoted,

low-temperature oxidation

- Easy Programming
- High Efficiency Reactor
- Enhanced Detector
- Flexible Four-Motor Pump System
- Advanced Dual Calibration

The Zancha TOC

The Zancha TOC combines proven TOC analysis methodology with simple operation and easy maintenance to produce accurate, reliable TOC measurements. The Zancha TOC uses UV-promoted, persulfate oxidation to convert organic carbon compounds to CO₂, which is then measured using a non-dispersive infrared detector to determine the total organic carbon in the sample stream. User friendly programming makes setup and operation of the Zancha TOC simple and quick. Advanced dual gas and liquid calibration capabilities assure accurate results. Innovative design and quality provide accuracy, reliability, and easy maintenance.

- Offers standard features, providing flexibility to customer's needs.
- Meets EPA and ASTM standard methods for TC/TOC determination as well as ISO and CEN international standards.
- Equipped with Easy Programming, High Efficiency UV Reactor Enhanced NDIR Detector, Flexible Four-Motor Pump System and Advance Dual Calibration.
- Built-in reagent timer alerts the operator of upcoming chemical requirements.
- Auto-cal and cleaning cycles.
- Advance hydraulics system provides measurement for full-scale ranges from 10 mg/L to 10,000 mg/L.
- Optical 2-stream meeting EPA drinking water compliances.

Accuracy, Dependability and Reduced Maintenance

Advanced design and quality assures you of accuracy, the highest reliability, and easy, low-cost maintenance. The Zancha TOC was engineered with rugged, reliable components throughout. Programmable, automatic cleaning and calibration cycles help assure accurate, trouble-free operation. Easily accessible components make routine maintenance a snap. Up to eight programmable relays can provide a remote indication of system operation and report trouble conditions. A fail-safe shutdown feature prevents damage, should a malfunction occur. The result is high on-line efficiency for your TOC measurement.



Zancha Associates, Inc. General Information

Zancha Associates, Inc. (ZAI) is a service company based in the Pittsburgh, Pennsylvania area. Since 1982, ZAI has been committed to Sales, Testing, and Servicing of process instrumentation on-line, TC/TOC analyzers and monitoring combustible gases. Additionally we are the leaders in Waste Water Treatment Analysis. This includes: process, waste water treatment, outfalls, air, LEL, and charging systems.

ZAI Specializes in the following:

Air Quality Monitors, Analyzer Sampling Systems, Combustible Gas Monitors, On-Stream Liquid Analyzers, Gas Analyzers, Water and Wastewater Instrumentation, and Water Quality Monitors

Services offered by ZAI: Start-up, training of personnel, emergency service, in-house repair of electronics, reconditioning of existing instrumentation and a full line of all parts.

Zancha TOC Specifications

| Operation | Characteristic |
|--------------------------------|--|
| Function: | Total Organic Carbon (TOC) or Total Carbon (TC) |
| Operation Principle: | Ultraviolet-promoted, sodium persulfate oxidation. Non-dispersive infrared detection |
| Organic Measurement Ranges: | Five full-scale ranges between 10 and 10,000 mg/L carbon. Specify. |
| Data Handling: | EIA/TIA-232E and CCITT V.28 Serial (unidirectional) |
| Electrical Output: | Programmable, user-selectable 4-20mA or 0-20mA current loop into 1000 ohms maximum |
| Alarms: | Two programmable alarm levels driving up to 8 programmable Type C* relays |
| Programmable Outputs: | Up to 8 customer programmable outputs on Type C* relays (4 relays are standard). Can be programmed to output any combination of 18 system parameters (includes the two alarms) |
| Display: | 4-line, 20 character/line backlit display |
| Power Requirements: | 115± 10% VAC, 50/60 Hz, 2 Amps maximum, 230W 230± 10% VAC, 50/60 Hz, 1 Amp maximum, 230W |
| Operating Ambient Temperature: | >0°C to 50°C |
| Calibration: | 2 point liquid, 2 point gas, manual and automatic |

Performance Characteristics**

| | |
|-----------------------------|--|
| Response Time: | Less than 8 minutes to T ₉₀ at 100 mg/L configuration TOC |
| Repeatability: | ±1% full scale |
| Drift: | ±1% of full scale over 72 hours without calibration at 20°C |
| Temperature Stability: | Less than 2% of full scale drift over ambient range of 10°C to 30°C without liquid calibration |
| Inorganic Carbon Removal: | > 95% removal when TIC equals full scale TOC with standard TIC scrubber |
| Accuracy (% of full scale): | ±1.5% for TOC concentrations ranging from 0% to 75% of full scale ±2.5% for TOC concentrations ranging from 75% to 100% of full scale |

Sample Requirements

| | |
|-----------------------------------|--|
| Inlet Pressure: | Atmospheric to 3PSIG (1.00 – 1.21 Barr) |
| Drain Pressure: | Gravity drain, vented to atmosphere |
| Suspended Solids: | PA2 or PA3 Sample Preparation/Filter System required where particle size exceeds 200 µm. 3% maximum concentration of suspended solids by volume. Oxidation rate is dependent on constituency |
| Flow Rate of Sample through unit: | 35 ml/min. maximum at 60 Hz |
| Carrier Gas | Compressed, dry air containing < 3mg/L CO ₂ . Consumption: Less than 750 cc/min. at 30PSIG |
| Reagents: | 1.5M NaS ₂ O ₈ (sodium persulfate) & 10% v/v H ₃ PO ₄ (phosphoric acid) both in deionized water Consumption: 5.2 gallons (20 liters)/month each |

Physical Characteristics

| | |
|--|--|
| Enclosure: | NEMA 4, IP 65 |
| External Dimensions: (excludes mounting feet) | Height: 30" (76cm) nominal Width: 24" (61cm) nominal Depth: 22" (56cm) nominal |
| Weight: | 160lbs. (72.6kg) nominal |
| Shipping Weight: | 220lbs. (99.8kg) nominal |

*Each Type C relay consists of 1 single pole, double throw (SPDT) isolated contact closure.

Each relay output board rated at 0.5A @ 24VDC/240VAC due to circuit board current carrying limitations.

**All performance specifications have been verified in a laboratory environment. Specifications involving TOC were tested using potassium biphthalate. Specifications involving TIC were tested using sodium carbonate. Actual field performance may vary.

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