

SYSTEMS

CA8-TP/TN Analyzer

COLORIMETRIC ANALYZING FOR TOTAL PHOSPHATE & NITROGEN

FEATURES

- ☐ Simple
 - Easy Installation
 - User Friendly Menu Structure Touchscreen Interface
 - Easy Process Configuration
- ☐ Reliable
 - Epoxy Powder Coated
 - Rugged Cold Rolled Steel Cabinet
 - Two separate Compartments (Electronics . Hydraulics)
 - Loss of Sample . Low Reagent Alarms
- ☐ Cost Effective
 - Low Maintenance
 - Adjustable Cycle Time to minimize Reagent usage

BENEFITS

- ☐ TP: 0.1 to 10 mg/L
TN: 0.1 to 50 mg/L
- ☐ Long term stability
- ☐ Less reagent consumption, greatly increase the replace interval of reagents.
- ☐ Precision instrumentation components, innovative analysis design and reagent ensures high repeatability, it can reach 3%.
- ☐ It is automatic, unattended operation, perform automatic zero, calibrating, measuring, cleaning, and automatic restoring



DESCRIPTION

The **CA8 Series Analyzers** are a family of on-line sequential sampling analyzers that use Colorimetric technologies to perform an analysis. The analyzers can be configured to perform most colorimetric based laboratory analysis that use up to four reagents. The **CA8 Analyzers** are easy to start up and use, simply connect the sample, waste and reagent lines and then power up the Factory Calibrated analyzer. Wall mounting hardware is standard but an optional bench top stand with reagent holder is also available. Accessing information or customizing an analysis routine is easily accomplished with the simple, user-friendly menu structure and touch screen interface.

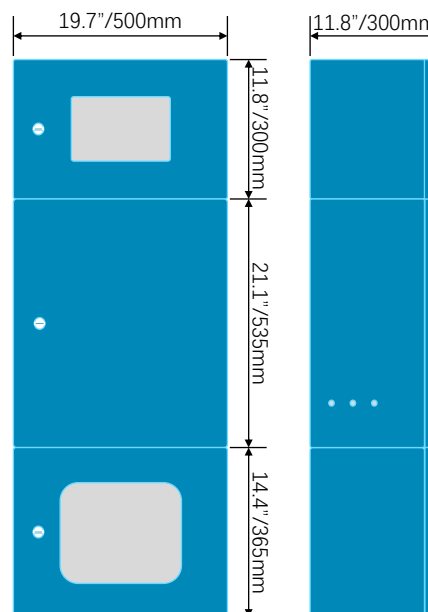
The analyzer has two separate enclosures with two lockable doors. The Top enclosure, called the ELECTRICAL enclosure, includes the main power supply, the controller PCB assembly and the touchscreen interface. The Bottom enclosure, called the LIQUIDS enclosure, includes all the components involved in the sample and reagent flow, mixing and reaction stages (sampling pump, reagent Micro Pumps and colorimetric reaction cell). Numerous analysis configurations can be programmed, depending on the accessories and the number of micro-pumps mounted in the Liquids enclosure .

The **CA8-TP/TN** are based on the measurement of color formation in the sample after the addition of reagents (Potassium persulfate). The absorbance of the solution is measured through a Quartz Reaction Cell at a specific wavelength using a long-life LED light source and a photometer. The absorbance is related to the sample concentration according to 'Lambert-Beer Law'.

The **CA8-TP/TN** make two measurements during an analysis cycle. The first measurement is of the raw sample which sets the base line for the compensation of color, turbidity and optical characteristics of the cell. The second measurement occurs after the color forming reagents have been added to the sample, mixed and adequate time has passed to allow for color formation. The concentration is calculated using the difference between the two absorbance measurements and the stored calibration information in the analyzer.

The **CA8-TP/TN** typically make a single measurement per analysis cycle, although a user defined calibration or cleaning sequence can be added to proceed the measurement every "X" number of measurement cycles. A standard sequence would consist of a drain and rinse cycle, sample acquisition, addition of reagents, mixing time, waiting period and measurement. Higher Range samples are recommended using the optional Dilution Module providing 10:1 or 50:1 dilution ratios.

The **CA8 Analyzer** home screen displays the measured parameter, the status, % reagent volumes, time and Menu choices. The on-screen HELP menu includes information on Start Up, Shut Down, Start/Stop Commands, Calibration, Function List, Programing, Maintenance and Troubleshooting. The outputs include two Alarm Relays and a 4-20 mA channel.



SPECIFICATIONS

TP: Potassium persulfate digestion, molybdenum blue colorimetric method.

TN: Potassium persulfate digestion, UV Spectrophotometry

Measuring Range: 0 to 150 ppm, 500 ppm

Accuracy: Less than $\pm 10\%$

Repeatability: $\pm 5\%$ on absorbance value with turbidity < 80 NTU

Drift: $\pm 2\%$ per month on the absorbance measurement

Measuring Interval: 1- 9999 min Adjustable

Measuring Cycle: 25 min at least

Calibration Cycle: immediately or automatically before measuring

Power Supply: 110-220VAC, 50-60 Hz, 80 VA

Operating Temp.: 5-50°C

Operating Humidity: <85% RH (No Condensation)

Analog output: 4-20 mA

Alarms: 2 configurable relays

Digital Interface: RS485 Modbus

Reagent Consumption : Dependent on the specific colorimetric measurement, approximately 2500 tests per liter of reagent

Maintenance cycle: Once per month, about 40 min

Cabinet: Cold rolled steel epoxy powder coated

Sample

Inlet sample pressure: Atmospheric

Outlet sample pressure: Atmospheric, waste tubing O.D. $\frac{3}{8}$ "

Sample flow for the fast loop reservoir : 100-500 ml / min

Connections: To the fast loop reservoir with flexible tubing O.D. $\frac{1}{4}$ "

Mounting: Wall mounting or with optional bench support

Specifications subject to change without notice.



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