

LABORATORY CHARGE ANALYZER MODEL ECA2100



BENEFITS

Optimize the Wet End Process

- Quantify Level of “Anionic Trash”
- Identify Charge Variability
- Test Compatibility of Furnish with Additives
- Optimize Additive Feed Rates
- Maximize Fiber and Filler Retention
- Eliminate Deleterious Matter in Whitewater
- Reduce Frequency of Breaks
- Improve Machine Runnability

STANDARD FEATURES

- Large Graphical Display
- 10mL to 200mL Sample Capacity
- Magnetic Stirrer Included
- Interfaces With Automatic Titrator
- Onscreen Display of Titration Curve
- Accompanying LabTrac Software
- RS-232 Connection to PC

APPLICATIONS

- › Tissue
- › Specialty
- › Fine Paper
- › Linerboard
- › LWC
- › Newsprint

MEASUREMENT PRINCIPLE

The instrument uses streaming current technology to produce a measurement of electrokinetic charge (ionic & colloidal) using a sample obtained from various points in the process (Headbox, Coated Broke, Machine Chest, Tray Water, etc.). The measurement cell of the ECA consists of a reciprocating teflon piston in a probe assembly. Particles and dissolved materials are attracted to the surfaces of the probe by Van Der Waals forces. Ions of both an Anionic and Cationic Charge surround these particles. The motion of the piston generates shear forces, which causes these ions to migrate. Electrodes in the probe measure the flow of ions, inherently defined as an electrical current. The current is electronically processed and displayed on the touchscreen as the **STREAMING CURRENT VALUE (SCV)**. Charge demand is determined with polyelectrolyte titration to the isoelectric point.

Pulp and Paper / Wet End Analyzer

6991 Peachtree Industrial
Boulevard, Building 600
Norcross, GA 30092
USA

PH: 770.449.6233
US: 800.442.8722
FX: 770.447.0889

The ECA 2100 allows the operator to test the real-time charge neutralization effects of process additives as they are dosed into a sample. It can also be used to determine the charge demand of a sample. Charge demand is quantified by adding a polymer of opposite charge to the sample until the SCV equals zero (neutral), which is defined as the isoelectric point. Addition of the polymer (or process additive) can be achieved by manual or automatic titration. The SCV can be displayed as a function of time on the touchscreen. Whether in the form of a graph or data table, this increases the operator's understanding of the titration in real time.

Benefits

The ECA 2100 gives quantitative information about:

- ▶ Compatibility of sample with additives
- ▶ Quantity of anionic charges
- ▶ Optimum dosage rates of process chemicals

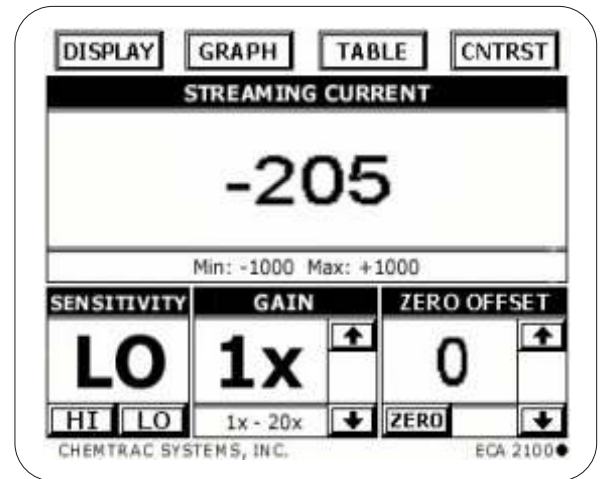
ECA2100 Charge measurements can help:

- ▶ Optimize dosage rates
- ▶ Determine efficiency of additives.
- ▶ Evaluate (proof test) an application for online charge measurement and control.

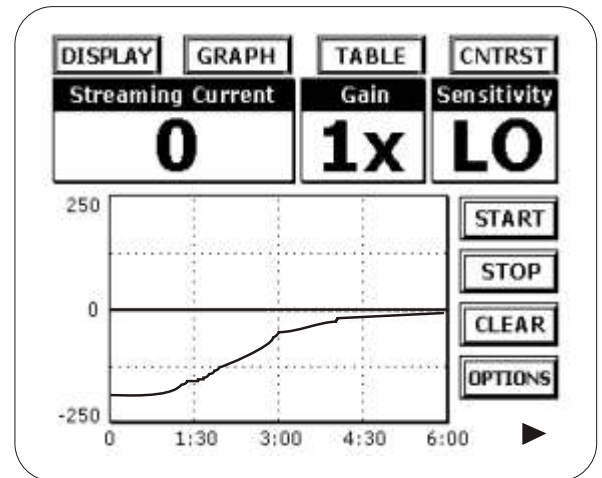
Specifications

| | |
|---------------|---|
| Principle | Streaming Current and isoelectric titration |
| Display | -1000 to +1000 |
| Sensitivity | <1ppm (low alkalinity / low conductivity) |
| Sample Volume | 10 - 200 ml |
| Power | 110 VAC 60 hz, 220 VAC 50hz, optional |
| Output Signal | -1.0 to +1.0 Volts |
| Dimensions | 8" W x 8"D x 18"H |
| Weight | 15 lbs. |

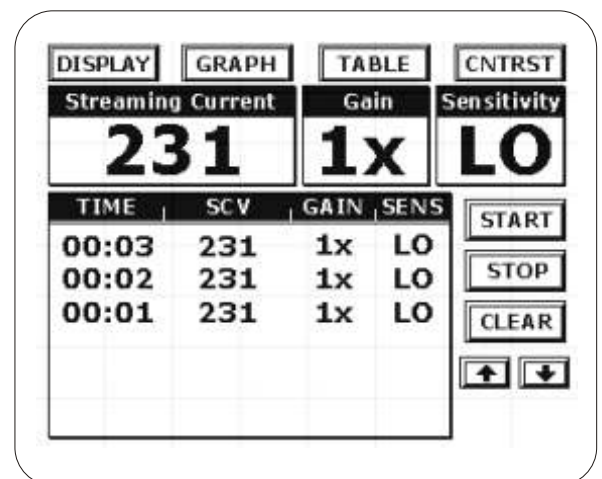
Touchscreen Display:



Touchscreen Graph:



Touchscreen Table:



Chemtrac Systems, Inc.
Represented By