



Celltron START



Celltron START+

## Celltron START™ & START+™

### Generator/Starting Battery Analyzer

**Celltron START & START+ provide quick and accurate state-of-health decisions on batteries used in generator and fleet truck applications.**

#### START

- For accurately testing CCA-rated starting batteries in generator applications
- The latest technology innovation in batteries requires specialized test algorithms for accurate testing. Choose from algorithms for standard or spiral design
- Provides test decision and voltage
- Reverse polarity notification
- Also tests starting batteries in fleet truck applications

#### START+

- Multiple battery test algorithm and test memory for a fast and easy analysis of multiple battery systems connected in parallel, series, or series-parallel configurations
- Advanced heavy-duty battery test algorithm designed for decisiveness and accurate testing of heavy-duty batteries and packs up to 3500 CCA
- Interactive Starting & Charging System Test algorithm for both 12- and 24- volt system analysis
- Test memory and printing provide a complete test record in seconds, including multiple battery tests
- Includes time-saving quick test making preventative maintenance a reality
- Tests 6- and 12- volt commercial batteries from 100-1700 CCA
- Tests 1-4 batteries in parallel as a pack or individually
- Tests discharged batteries down to 1-volt
- Gives a decision - no user interpretation required
- Conductance test advantages: Safe, Fast, Simple, Portable, and Productive, using patented technology



# Celltron START™

## Specifications:

### CTS-400

**Applications:**

Tests 6 and 12 volt Start (auto, commercial, AGM, and Marine) batteries

**Operating Range:**

100-1700 CCA

**Power Requirements:**

Uses power of battery under test or replaceable 9-volt battery

**Voltmeter:**

0.9-30 volts DC @ +/- .05VDC

**Display:**

LCD Graphics Display

**Languages:**

English

Spanish

French Canadian

**Temperature Compensation:**

Tester prompted

**Operating Temperature:**

0 to 120 F / -18C to 50C

**Housing Material:**

Acid resistant ABS plastic

**Dimensions:**

9" x 4" x 2.5"

230mm X 102mm x 65mm

**Weight:**

16oz. / 427 grams

### CTS-700

**Applications:**

6- and 12-volt Start (commercial and automotive batteries)

12- and 24-volt charging system diagnostics

**Power Requirements:**

Uses the power of the battery under test or an internal 9 volt battery

**Operating Ranges:**

6- and 12-volt individual batteries

• 100-1700 CCA

**12- and 24-Volt Battery Systems:**

• 100 - 3500 CCA

**Voltmeter:**

0.9 - 32 volts DC, +/- 0.5 VDC

**Display:**

The display is 1 7/16" x 2 5/8" (37mm x 67mm) 2 Line, 16 Character LCD

**Temperature Compensation:**

Tester Prompted

**Operating Temperature:**

0° F to 120° F / -18° C to 50° C

**Test Leads:**

15' dual conductor Kelvin clamps

**Housing Material:**

Acid-resistant ABS plastic

**Dimensions:**

W 9" x L 4" x H 2.5"

(230 mm x 102 mm x 65 mm)

**Weight:**

1 lb. / 427g

**Carrying Case:**

Heavy-duty molded plastic

**Option:**

Midtronics Thermal Printer

## Conductance Technology

Conductance describes the ability of a battery to conduct current. It is a measurement of the plate surface available in a battery for chemical reaction, which determines how much power the battery can supply. High relative conductance is a reliable indication of a healthy battery, while conductance declines as the battery deteriorates.

Years of laboratory and field test data have determined that battery conductance is an indicator of battery state-of-health showing a linear correlation to a battery's timed-discharge capacity test result. If conductance can be measured, discharge capacity can be predicted, giving a reliable predictor of battery end-of-life.

Other testing alternatives like voltage and specific gravity testing are not predictive. Timed discharge testing is very time-consuming and expensive, and impedance testing does not correlate directly and linearly with discharge capacity. Thus, conductance testing is a very effective and economical battery management tool.

## Conductance Technology Industry Approvals and Recommendations:

- IEEE Standards 1188 and 484
- EPRI (Electrical Power Research Group)
- Guide for Testing Stationary Batteries International Telecommunications Energy Conference
- Bellcore T1Y1
- Presentation for American National Standards Institute
- International Lead Zinc Research Organization
- Battery Council International

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