

# Total Battery Management

## Micro Celltron<sup>®</sup>

**Battery Conductance Tester**

**PREVENT DANGEROUS AND COSTLY TRAIN SLOW DOWNS & STOPPAGES DUE TO ETD BATTERY FAILURE**



- Test ETD batteries in the field or in the maintenance shop.
- Safe, menu-driven device can be used by rail yard personnel.
- Versatile - test ETD batteries as well as communication equipment back up batteries (up to 2000 ah)
- Double-connectorized Micro Celltron battery test cable is designed to plug into a mating connector on ETD battery pack to determine battery health.
- Individually tests each of two batteries inside ETD battery pack.
- Measures individual cell and overall string health and voltage.
- Quick, simple, safe & accurate operation.
- Consistent, repeatable on-line testing without discharge to batteries.
- Tests 2-volt through 12-volt batteries.
- Stores up to 252 consecutive test results and overall string statistics.
- Provides advanced warning of potential battery failures.
- Test each cell in under 10 seconds and entire string of batteries in *just minutes*.
- Helps prioritize battery replacements for more cost-effective system management.
- Tests both battery cell and intercell strap integrity.
- No external power source needed.
- Portable IR wireless printing and data transfer to PC laptop.
- User-definable battery reference number storage and fault thresholds.

## CTM-ETD

**End of Train Device Battery Tester**



## UNIQUE CONDUCTANCE TECHNOLOGY

All Midtronics battery testing and monitoring products are based on the measurement of conductance.

Using conductance, Midtronics has engineered battery testers that provide the fastest, safest, and easiest test method available for accurately determining a battery's true state of health. In addition, technology pioneered by Midtronics allows for an enhanced condition test method that accurately compensates for low battery charge.

The patented technology is proven and accepted worldwide. Maintenance standards and practices identify conductance testing as a valid and accurate method of determining battery condition: IEEE Standards 1188 and 484; EPRI (Electrical Power Research Group) Guide for Testing Stationary Batteries; International Telecommunications Energy Conference, since 1992; Bellcore T1Y1 Presentation for American National Standards Institute; International Lead Zinc Research Organization; Battery Council International.

Testing data and technical papers are available upon request.

Midtronics' experience comes from more than a decade of field testing, working with customers and applications across all industries.

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## Battery Conductance Tester

### Specifications:

**Model Number:**

CTM-ETD (Kit, provided with connectorized ETD application cable, DuraProbes, IR temperature sensor and IR palm printer)

**Applications:**

Tests individual lead acid cells or monoblocs (up to 12 volts) in any common configuration

**Operating Range:**

100 - 6,000 Mhos/Siemens, single cell  
100 - 10,000 Mhos/Siemens, multiple cell  
Ranging approximately from 5 Ah to 2000 Ah  
1.0 volt to 15 volts DC  
For larger batteries - consult Midtronics

**Test Data Storage:**

Up to 252 consecutive test results can be stored internally

**Printing / PC Data Capability:**

- Portable IR printer included in CTM-ETD test kit; test data can be printed for on-site records
- Accessory IR receiver with cable & Windows compatible software for data downloading to PC

**Accuracy:**

± 2% across test range

**Voltmeter Resolution:**

10mV DC

**User Programmable Functions:**

- Preset values for up to 31 battery types
- Low voltage alarm setting
- Low conductance warning
- Low conductance failure
- Day/date/time (USA/international)
- Test mode (push button/auto start)

**Special Features:**

- Impact resistance tested
- Connection interfaces tested for durability and endurance
- No-Ox grease petroleum product resistance

**Calibration:**

Auto-calibration prior to every test, no future calibration required

**Connectorized Test Cable Options:**

- Connectorized ETD application cable
- Dual contact clamps
- Dual contact probes
- Custom cables by quotation

**Power Requirements:**

One 9V alkaline battery

**Temperature Compensation Range:**

0°C to 35°C  
Keyed by operator

**Storage Temperature:**

-29°C to 70°C .95% relative humidity

**Over Voltage Protection:**

Fused protection to 60 volts DC  
Reversed polarity protection

**Housing Material:**

Sulfuric acid resistant ABS plastic

**Tester Dimensions:**

9" x 4" x 2.5"  
230 mm x 102 mm x 65 mm

**Case Dimensions:**

19" x 15.5" x 5"  
750 mm x 610 mm x 200 mm

**Tester Weight:**

1 lb. / 500 grams

**CTM-ETD Test Kit Shipping Weight:**

9.5 lbs. / 4 kg

QS - 9000  
CERTIFIED

**MIDTRONICS**

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