

The **C**ELLGUARD **T**RACE (UBM-1048) system provides effective string battery monitoring for 24 V or 48 V battery applications.

It is designed to monitor stationary batteries in a variety of applications, including:

- Telecommunications
  - Wireline (OSP)
  - Wireless
- · Fire and security alarm systems
- Broadband
- · Switching and control systems

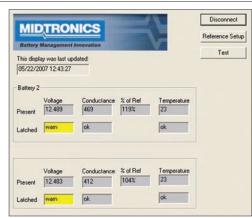
Using easy-to-install kelvin connections, the **CellGuard Trace** measures individual 12-volt jar conductance, voltage and temperature every 24 hours and warns or alarms when any measured parameter crosses a preset threshold.

This approach provides for early warning of battery degradation, enabling individual jars to be removed from the string prior to full string degradation or system failure.

#### **Features:**

- Continuous monitoring of batteries for improved system reliability and cost effective maintenance
- Identifies infant mortality of batteries that can go undetected until the first maintenance check
- Utilizes field proven Conductance Technology for reliable battery analysis
- Simplified installation procedure and economical design allow for systemwide deployment





Sample display



**TECHNOLOGY** 





# **CELLGUARD**<sup>™</sup> **TRACE**24 Volt or 48 Volt Battery String Monitor

# **Specifications**

## **Battery Interface**

Battery Voltage—

Cellguard Trace interfaces to individual batteries (part of a string) having the following nominal voltages:

- Two 12-volt batteries (24 Vdc string, + or Ground)
- Four 12-volt batteries (48 Vdc string, + or Ground)

#### **Battery Terminal Connections—**

Cellguard Trace battery cabling connects to the battery via ring terminals. Each post will require 1 connection, for a total of 2 connections per battery.

#### Fused Battery Cabling—

Cellguard Trace battery cabling contains in-line fuses of sufficient current rating to support normal system operation and capable of blowing upon the occurrence of an adverse situation such as due to a short or other high current draw.

#### **Battery Temperature Monitor Connections—**

**C**ELLGUARD **T**RACE temperature cabling is a 2-wire interface per battery. The cable connects to the negative post of the battery via one ring terminal.

#### **C**ELLGUARD **T**RACE Functional Specifications

#### System Measurements—

**C**ELLGUARD **T**RACE measures the following:

- Battery conductance
- · Battery DC voltage
- · Battery temperature

#### Alarm Thresholds—

	Minor	Major
Conductance	70% of the Reference Value	60% of the Reference Value
Voltage Low	11.400 Vdc	10.500 Vdc
Voltage High	15.000 Vdc	16.000 Vdc
Temperature Low	-4°C (24.8°F)	-20°C (-4°F)
	50°C (122°F)	60°C (140°F)

Baseline conductance reference values will be determined for each battery model. CellGuard Trace provides a temperature compensated percent of reference between 0-35 degrees Celsius (32-95 degrees Fahrenheit). The percentage of reference is compensated 0.7% per degree Celsius away from 25°C. Below 25°C the percent of reference increase and above 25°C the percent of reference decreases.



# CELLGUARD TRACE Performance Specifications

#### **Battery Conductance Range—**

100 s < Siemens < 4,000 s for 12-volt batteries

#### **Battery Voltage Range—**

 $10.500 \, \text{V} < \text{V} < 15.000 \, \text{V}$  (12-volt battery) Note: Cellguard Trace is capable of reading above this range.

#### Battery Temperature Measurement Range— -20°C (-4°F) < T < 70°C (158°F)

#### String Voltage—

21 V < V < 31 V for 24-volt operation 42 V < V < 62 V for 48-volt operation

## **Monitor System Level Requirements**

#### Module Power Source—

**C**ELLGUARD **T**RACE is powered by the batteries under test

#### Module Dimensions—

9 1/2 in x 3 in x 1 1/4 in

#### Module Environment Requirements—

**C**ELLGUARD **T**RACE operates over the environment ranges of:

- Operating Temperature: -20°C (-4°F) to 70°C (158°F)
- Operating Humidity: 0-95% non-condensing



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