



WIRED BATTERY MONITORING SYSTEM

The CELLGUARD™ wired battery monitoring system delivers economical, yet highly accurate and reliable remote health analysis of stationary batteries in applications with high electromagnetic noise. Utility personnel are provided with continuous 24/7 monitoring of key battery performance indicators to help enable proactive maintenance, ensure battery performance, and deliver uninterrupted uptime when it matters the most.



ENSURE
UPTIME



24/7
MONITORING



WIRED
COMMUNICATION

HIGHLIGHTS & TECHNOLOGY

All key battery health indicators are tracked, displayed and communicated to provide visibility to any potential change in the performance characteristics and expectations of each battery within the critical power system.

One battery sensor module per battery is capable of monitoring internal resistance, voltage, and temperature, delivering a comprehensive battery state of health analysis.

One string sensor module per string, in conjunction with a string current transducer provides monitoring of the string voltage, current, and ambient temperature.

Battery sensor modules are hard-wired for uninterrupted communication, perfect for applications where high electromagnetic noise is present.

Provides internal resistance testing and performance trending.

Battery level temperature monitoring will alert the user to thermal runaway.

The control module records critical performance elements including alarms and discharge events.

The battery sensor module draws just 3mA from the battery resulting in a negligible impact on the battery's overall capacity.

Alarm parameters and thresholds are managed through the control module which also delivers real-time system data through the web-based CELLTRAQ data management software.

APPLICATIONS



DATA CENTERS



CRITICAL POWER



POWER UTILITIES



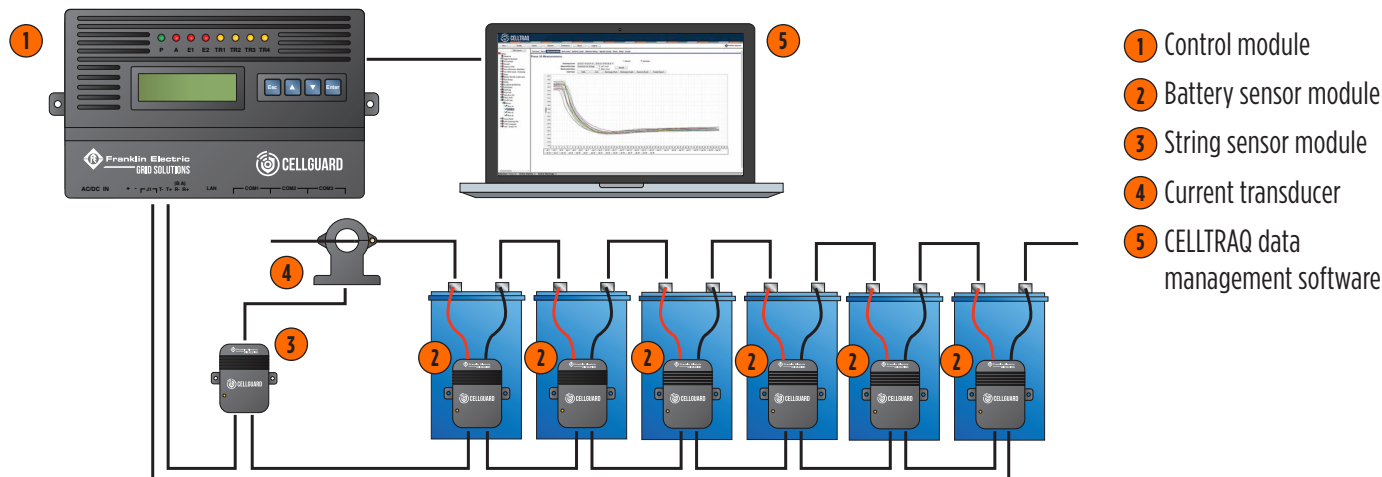
TELECOMM



TRANSPORTATION



SYSTEM COMPONENTS



SPECIFICATIONS

Environmental

- Operating temperature: -10°C to 50°C
- Humidity: 5% to 95%

Monitoring Capability

- Maximum batteries on a single String: 150
- Control module string maximum: 6
- Control module battery maximum: 360

Battery Types

- 1.2V, 2V, 6V, 12V (capacity less than 3000AH)

Insulation

- 2000 VAC

Weight

- Control module: 0.3 Kg
- Battery sensor module: 75 g
- String sensor module: 80 g

Controller Module Communication Interfaces

- Serial Comm. Port: RS485 Modbus/RTU
- RJ45 Ethernet Comm. Port: SNMP, Modbus/TCP
- RJ22 Module Comm. Port: COM1-COM3 UART

Measurement & Accuracy

Component	Range	Accuracy
String voltage	20 to 800V	+/- 0.5%
Battery voltage	1.2V, 2V, 6V, 12V	+/- 0.1%
Battery resistance	50 to 65535uΩ	+/- 2%, 1uΩ
Battery temperature	-5°C to 99.9°C	+/- 1°C
String current	0 to 1000A	+/- 2%
Ambient temperature	-5°C to 99.9°C	+/- 1°C

Power Requirements

- Control module: 85 to 264VAC, 110 to 370VDC (48VDC Optional), 15W
- Battery sensor module: < 13mA (1.2V, 2V) or 7mA (6V, 12V) from battery
- String sensor module: 10.8 to 13.8VDC, 2W, power from control module

Approvals & Certifications

- EMC Certification: EN61326-1:2013, EN61326-2-1:2013
- Safety Certification: EN61010-1:2010, UL61010-1:2013
- CE

Reliability

- Auto reboot trigger: built-in WDT
- MTBF: 100,000 hours



DIMENSIONS

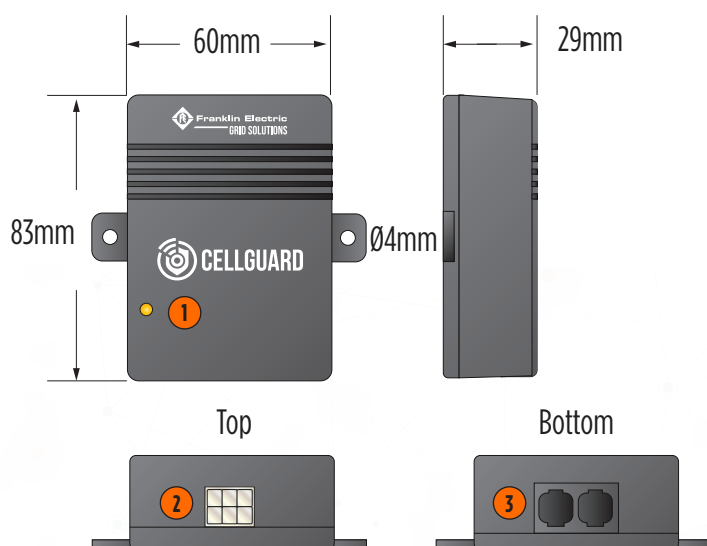
CONTROL MODULE



Control Module Components

- 1 Alarm indicator lights
- 2 Power input
- 3 Power output
- 4 Dry contact
- 5 Upload port
- 6 LAN port
- 7 Communication ports
- 8 LCD display

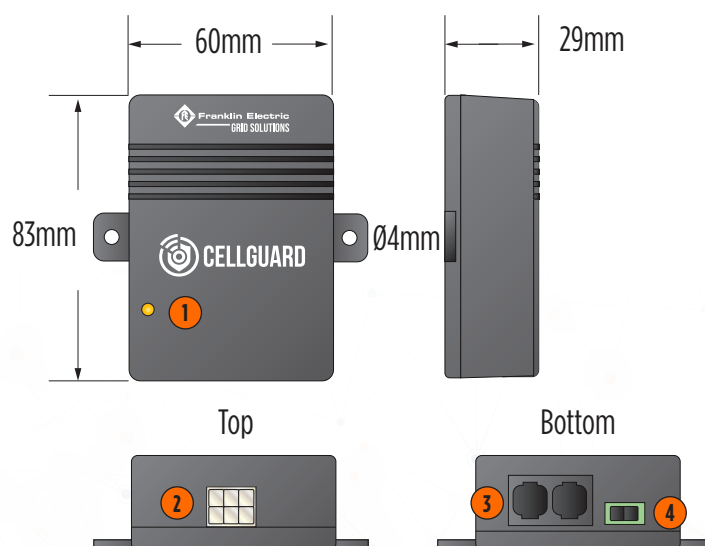
BATTERY SENSOR MODULE



Battery Sensor Components

- 1 Indicator light
- 2 Battery connection port
- 3 Communication port

STRING SENSOR MODULE



String Sensor Components

- 1 Indicator light
- 2 Battery sensor connection port
- 3 Communication port
- 4 Power input



ORDERING INFORMATION

CONTROL MODULE



Model	Description
CGBC-600-WD	CELLGUARD™ wired battery monitoring control module, LCD Display, 120 volts AC power, manages 6 strings maximum, 300 cells on one string maximum, 360 cells on a module maximum
CGBC-648-WD	CELLGUARD™ wired battery monitoring control module, LCD DISPLAY, 48 volts DC power, manages 6 strings maximum, 300 cells on one string maximum, 360 cells on a module maximum

Note: A system (consisting of one control module, multiple battery sensors, and one or more string sensor modules) is capable of monitoring one serial string or multiple parallel strings.

BATTERY SENSOR MODULES



Model	Description
CGS3-02V-WD	CELLGUARD™ wired battery monitoring battery sensor module for 2V batteries
CGS3-06V-WD	CELLGUARD™ wired battery monitoring battery sensor module for 6V batteries
CGS3-12V-WD	CELLGUARD™ wired battery monitoring battery sensor module for 12V batteries
CGS3-1V-WD	CELLGUARD™ wired battery monitoring battery sensor module for Ni-Cad

Note: All battery harnesses, interconnect cables, and tabs are ordered separately.

STRING SENSOR MODULES



Model	Description
CGVTC3-600-WD	CELLGUARD™ wired battery monitoring string sensor module with ambient temperature sensor, 600V maximum, includes current transducer

Included in the Kit

- Temperature/Current (TC) Module
- Current Transducer
- Interconnect Return Cable, 8 meter, with RJ22 plugs
- Spare RJ22 plugs (qty 18)
- Interconnect Cable, 30 cm, with RJ22 plugs
- Current Transducer Cable with Temperature Sensor

SENSOR MODULE ADDRESS MODIFIER



Model	Description
CGS3-AMM-WD	Sensor module address modifier



BATTERY HARNESSES



Model	Description
CGS3-25BH-WD	CELLGUARD™ wired battery harness, 25 cm
CGS3-50BH-WD	CELLGUARD™ wired battery harness, 50 cm
CGS3-80BH-WD	CELLGUARD™ wired battery harness, 80 cm

BATTERY INTERCONNECT CABLES



Model	Description
CGS3-30CBL-WD	CELLGUARD™ wired battery interconnect cable, 30 cm, with RJ22 plugs
CGS3-70CBL-WD	CELLGUARD™ wired battery interconnect cable, 70 cm, with RJ22 plugs
CGS3-100CBL-WD	CELLGUARD™ wired battery interconnect cable, 100 cm, with RJ22 plugs
CGS3-800CBL-WD	CELLGUARD™ wired battery interconnect cable, 8 m, with RJ22 plugs
CGS3-RJ22-WD	CELLGUARD™ spare RJ22 plugs (qty 100)

BATTERY TABS



8 Packs

8 packs of battery tabs are included with CELLGUARD™ Wired Battery Monitoring systems at no cost, however, quantities must be specified upon ordering.

Model	Description
429-0000015	CELLGUARD™ wired battery tab, 8 mm, U-type (qty 8)
429-0000016	CELLGUARD™ wired battery tab, 6.5 mm, Ring (qty 8)
429-0000017	CELLGUARD™ wired battery tab, 8 mm, Ring (qty 8)
429-0000018	CELLGUARD™ wired battery tab, 10 mm, U-type (qty 8)

50 Packs

Model	Description
CGS3-BT6-WD	CELLGUARD™ wired battery tab, 6.5 mm, Ring (qty 50)
CGS3-BT8-WD	CELLGUARD™ wired battery tab, 8 mm, Ring (qty 50)
CGS3-BT10-WD	CELLGUARD™ wired battery tab, 10 mm, U-type (qty 50)