

GL840 SERIES

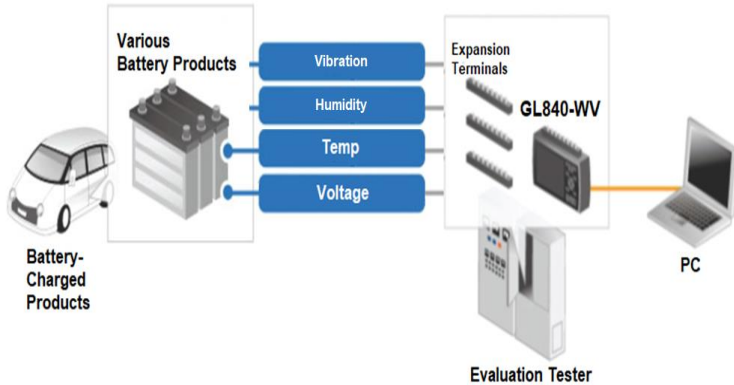
DataLOGGER



Application Note: Battery Performance Measurement Using GL840 Logger

Application Image

GL840-WV Monitors Battery Voltage, Temp, Vibration, Room Humidity, and Current

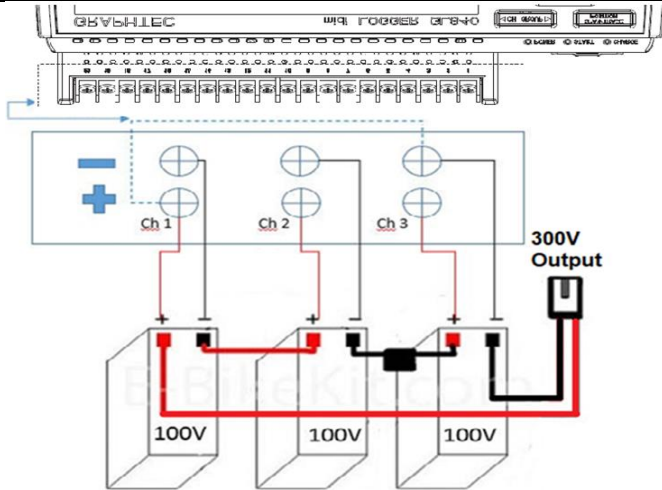


Battery Research & Development for consumer and industrial use is on the rise. Standards for battery safety testing has increased the need for test equipment that can be used to perform various test profiles simultaneously such as voltage and temperature. Standards for battery and other energy-storage devices include UN/DOT 38.3, IEC 62133, and UL 2054. These requirements help ensure the safe transport & operation of batteries. To comply, companies are required to document test results based on a variety of test parameters such as voltage, thermal, vibration, shock, pressure, humidity and so on.

Typically, batteries are subjected to test sequences that can include life cycle testing, discontinuity testing and storage life testing to name a few. The Graphtec GL840 multichannel data logger offers isolated channel measurements to help ensure safe measurements when measuring cell stacks. The GL840 series offers a direct input up to 110V with varying channel isolation ratings depending on model. The channel to channel isolation offered in the GL840-WV is 600V while the model GL840-M has channel to channel isolation of 60V. The GL840-WV is also the more accurate model.

The GL840-M and GL840-WV offer direct sensor inputs using optional sensors for humidity, 0-100%RH (B-530) and tri-axial acceleration up to 10G (GS-3AT).

Maximum Cell Voltage up to 110V on GL840-WV



Key Features Implementing GL840-WV for Battery Monitoring Application

- Differential Input allows stacked voltage cell monitoring for voltage testing.
- Monitor and log Temp (T/C) for overcharges.
- mA/A Current Measurement available with current probes/transducers.
- DIN Rail mountable. (Mount option B-570).
- Expandable Up to 200 Channels.

Input Specification for GL840-WV (B-565) and GL840-M (B-564)

| Withstand Voltage & Accuracy | | GL840-WV | GL840-M |
|------------------------------|---------------------------------|-------------------------------------|----------------|
| Voltage | CH (±) Input Voltage range | 20 mV to 110V | 20 mV to 110V |
| | Max Voltage (Input-GND) | 300Vp-p | 60Vp-p |
| Temp. | Thermocouple | R, S, B, K, E, T, J, N, W (WRe5-26) | |
| | RTD (Resistance Temp. Detector) | PT100 (IEC751), PT1000 (IEC751) | |
| Accuracy | Voltage | ±(0.05% of FS + 10µV) | ± 0.1% of F.S. |
| | Temperature | ± 1.1 °C | ± 1.55 °C |

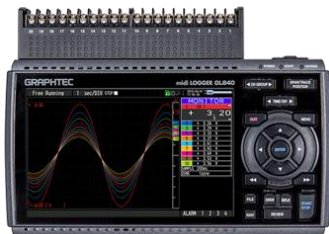
B-530 Humidity Sensor



GS-3AT Accelerometer



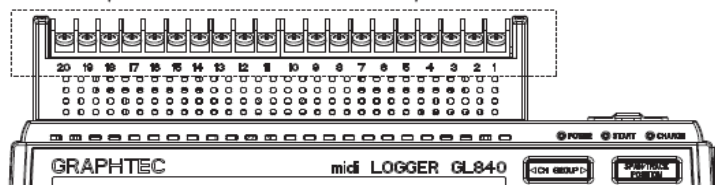
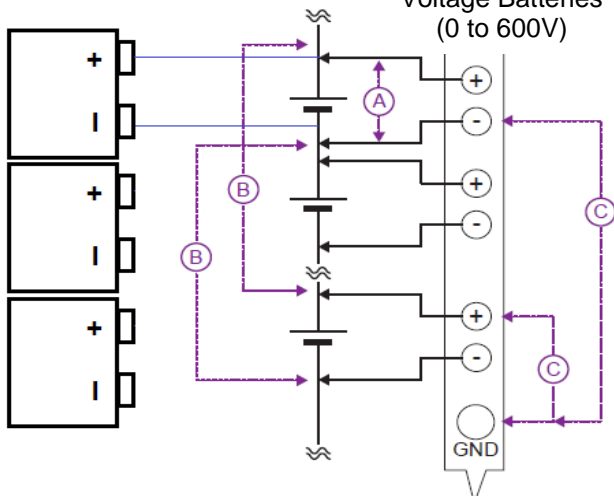
GL840-WV (High Voltage) Model



- High Voltage
- High Accuracy

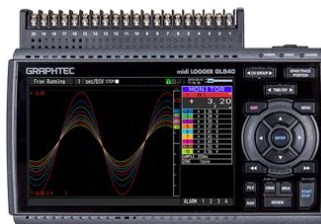
MSRP: \$2,645

Suitable for High Voltage Batteries (0 to 600V)



- < A. Between +/- terminals >
Maximum input voltage :
60Vp-p (Range of 20mV to 2V) and 110Vp-p (Range of 5V to 100V)
- < B. Between input terminal/input terminal >
Maximum input voltage : 600Vp-p
- < C. Between input terminal/GND >
Maximum input voltage : 300Vp-p
Withstand voltage : 2300VACrms at 1 minute

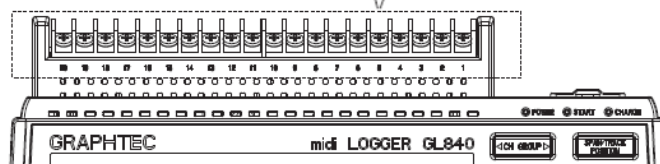
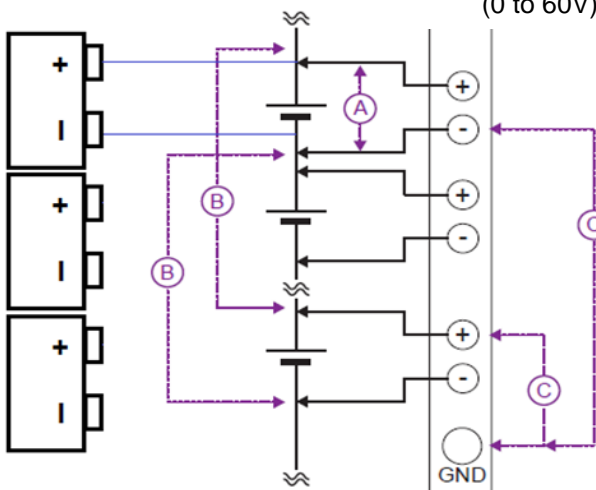
GL840-M (Standard) Model



- Low Voltage
- Low Cost

MSRP: \$2,450

Suitable for Low Voltage batteries (0 to 60V)



- < A. Between +/- terminals >
Maximum input voltage :
60Vp-p (Range of 20mV to 2V) and 110Vp-p (Range of 5V to 100V)
- < B. Between input terminal/input terminal >
Maximum input voltage : 60Vp-p
Withstand Voltage: 350Vp-p at 1 minute
- < C. Between input terminal/GND >
Maximum input voltage: 60Vp-p
Withstand voltage : 350VACrms at 1 minute