EAGLE EYE POWER SOLUTIONS

DC Load Bank Specifications

1. Summary

This document describes the specific requirements for a DC load bank. Discharge data measured, displayed and recorded by a load bank should include:

- String Voltage
- Discharge Current
- Discharge Capacity
- Discharge Time
- **Optional:** Cell/Unit Voltage

2. System Composition

The load bank requires the following components unless stated as optional:

Load Bank Body	Resistive load bank utilizes PCB firmware to control MOSFET switches to create an electrical load which will be applied to the battery system, to mimic a typical operational load.
Discharge Cables	Insulated cables used to carry load current from load bank to battery string.
Voltage Test Leads	Leads for measuring total voltage of the battery string.
COM Terminal	Terminal for wireless communication between PC, load bank, and DACs (if applicable).
USB to RS-232 Cable	Cable used to connect from RS-232 port on COM terminal to PC's USB serial port.
Data Management Software	Software used to view, manage and analyze discharge test information.

AC Power Cord	Provides power to the unit at 110/220 VAC, 50/60 Hz.
Wireless Antennas	Antennas used for wireless communication between COM terminal, load bank, and DACs (if applicable).
Grounding Cable	Cable used to create connection to ground from the load bank.
CT Clamp (Optional)	Measures load current, for assistive or external discharge testing.
DAC Package (Optional)	DAC units used to measure/monitor cell voltages (1.2V, 2V, 6V, 12V).

3. Load Bank Capabilities

3.1 The load bank measures, displays, and records the following discharge parameters:

- String Voltage
- Discharge Current
- Discharge Capacity
- Discharge Time
- **Optional:** Cell/Unit Voltage

3.2 Overall string voltage, discharge current, cell/unit voltage (if applicable), and test time are displayed in real-time during discharge, and may be viewed onscreen or by using the provided software.

3.3 Adjustable settings for auto shut-down of discharge are available, based on user-defined cutoff parameters for string voltage, discharge capacity, discharge time, and cell/unit voltage. Continued discharge available when certain cells reach cutoff voltage value.

3.4 Software allows the user to view discharge test data live (wirelessly) and after the test is completed (via USB transfer). It also allows for the creation of customized test reports, which provide test criteria, string/cell information, lists of weakest cells, discharge graphs, time stamps, and test notes.

3.5 Built in thermal cut-off and automatic overload protection. Safe circuits avoid damage to battery when testing. Circuit breakers prevent damage to the load bank's internal components.

3.6 Parallel and assistive discharge features allow for multiple units to perform combined discharges at current ratings higher than a single load bank can provide. External discharge feature allows for displaying of discharge values coming from separate external loads.

4. Hardware Performance

4.1 The load bank draws less than 9A of AC current to power the unit.

4.2 Optional DACs are powered by the batteries they connect to, drawing 30mA at 8V.

4.3 Internal storage of test data, up to 16MB.

4.4 Data is transmitted wirelessly by RF signals at a frequency of 433M Hz.

5. Technical Specifications

Battery Types:	VRLA, VLA, NiCad
Cell Voltage:	Compatible with 1.2V*, 2V, 6V, 12V Cell/Unit types
Discharge Current Range:	Single Load: 12 – 600A Parallel Load: 24 – 1200A
Discharge Voltage Range:	Range: 10 – 576V (Max) Voltage Steps: 12V, 24V, 36V, 48V, 80V, 125V, 240V, 380V, 480V
Accuracy:	Discharge Current: 1 – 2%* Voltage: 0.5% – 0.8%
Resolution:	Discharge Current: 0.1 A or 0.5% Voltage: 0.001 V
Sampling Interval:	5 seconds – 1 minute
Alarms:	Internal Audible Alarm
Data Transfer:	USB, Wireless
Display:	Backlit LCD
Operating Environment:	0 – 40 °C (32 – 104 °F)
Power Requirements:	110/220 VAC 50/60 Hz DC (from connected batteries)
Safety Standard:	CE Market, EMC Standard

6. Warranty

12 months