



NUVATIONENERGY

Battery Management Solutions for
Energy Storage



Battery Management Systems • Stack Switchgear
Energy Controllers • Custom Energy Storage Solutions

NUVATION ENERGY

Over 1000 projects since 1997

- Offices in Silicon Valley, USA and Waterloo, Canada
- Electronic product design division founded in 1997
- Battery management solutions since 2008
 - High-Voltage BMS: 12-1250VDC
 - Low-Voltage BMS: 11-60VDC
 - Stack Switchgear
 - Grid Battery Controller
- Custom energy management solutions
- ESS systems design



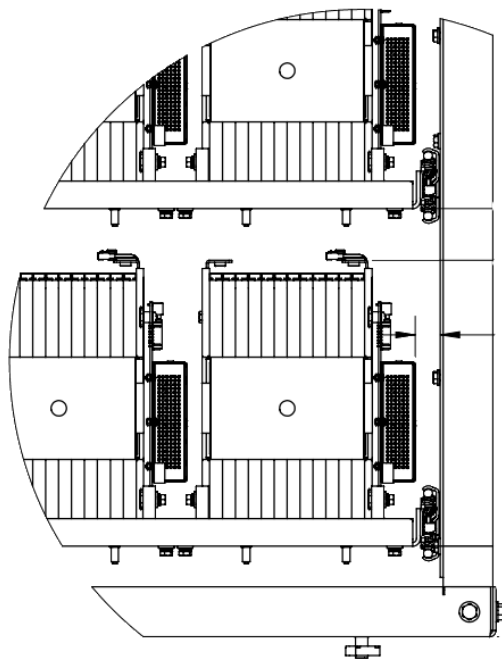
WATERLOO, ON, CA



SUNNYVALE, CA, USA

Battery Management Solutions

Cell Management



Cell Voltage



▲ MAX: 3.224 V

🔍 C11:C11

◀ AVG: 3.22 V

▶ MIN: 3.215 V

🔍 C11:C12

Temperature



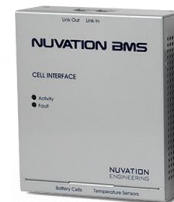
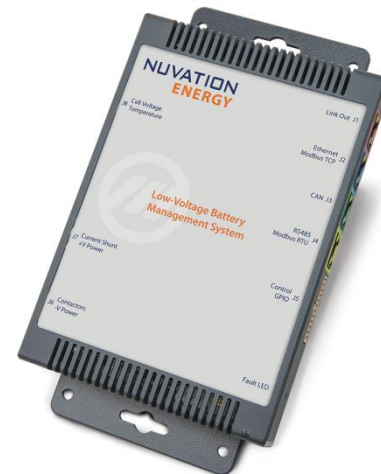
▲ MAX: 25 °C

🔍 C11:C2

◀ AVG: 20 °C

▶ MIN: 15 °C

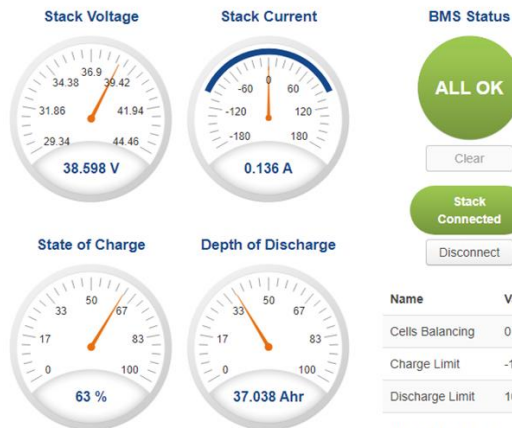
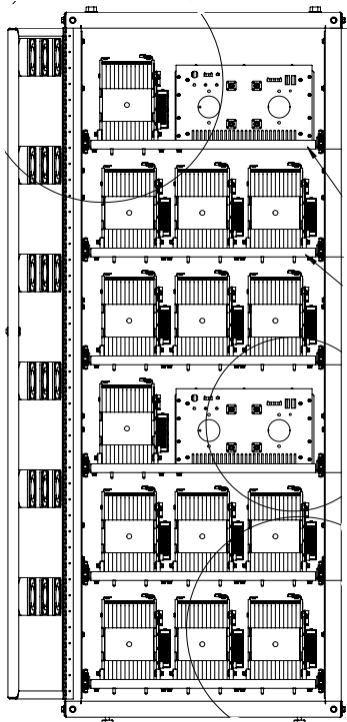
🔍 C11:C1



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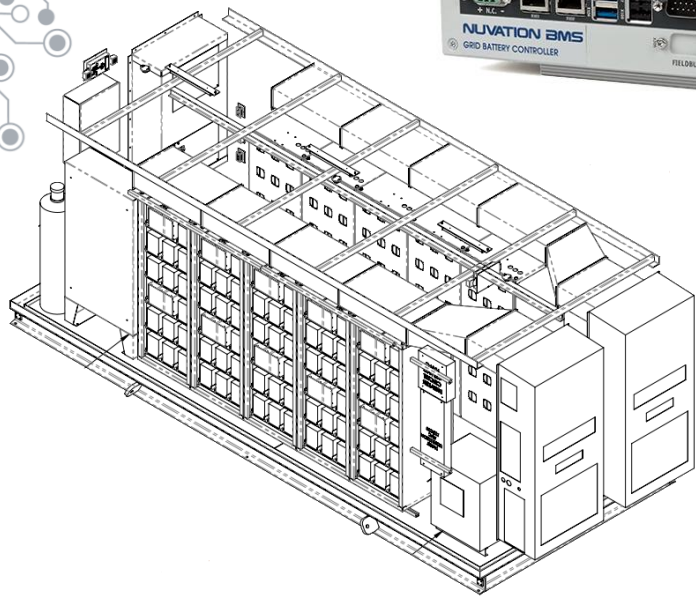
Stack Management



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ESS Management



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UL 1973 Recognized Component

FUNCTIONAL SAFETY



The Nuvation Energy High-Voltage BMS Power Interface, Stack Controller, and Cell Interface modules are UL Recognized for use in **UL 1973** and **UL 9540** certifiable energy storage systems.



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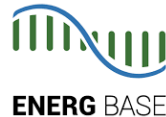
OVER 100 INSTALLATIONS WORLDWIDE



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Battery Management System Clients



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NUVATION GARAGE: TECHNOGECKO

2nd Life Hybrid ESS and Mutant EV



- Now two vehicles, added Dance Floor with pair of 14' stainless steel poles
- Vehicles split apart to get through city streets and then recombine on playa
- Spiers provided second life Nissan leaf modules
- Motive pack: 80kwhr 8 stack system of 14s8p, 52V, Nuvation Low Voltage BMS
- Plug in hybrid: onboard 100G propane tank for generator and fire effects
- Under harsh environment testing in Black Rock desert, managed charge and discharge current within temperature and voltage limits

NUVATIONENERGY

PROVIDING POWER ENGINEERING
SOLUTIONS SINCE 1997

*Accelerating
Energy Storage*



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