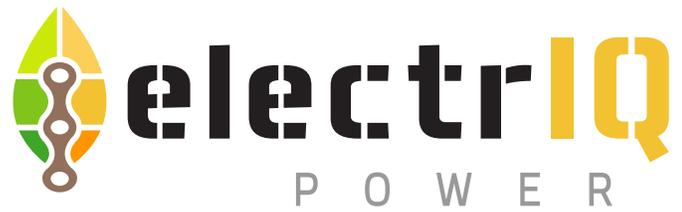




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HARDENED ENERGY STORAGE AND MANAGEMENT

The rapid growth in energy demand, the need for sustainable energy, and the susceptibility of the national grid to attack demands an increased application of energy storage for demand response, UPS, or self-generation requirements.

Mission critical systems require these energy storage systems to be secure, hardened and flexible to meet different capacity requirements.

The Stalwart IQ System employs a secure energy management application running on a hardened operating system. It is designed to operate under a wide range of physical conditions such as harsh weather, or kinetic damage such as from a bullet strike. SIQS can be scaled to the needs of a range of users, which will help make the national grid more secure over time.



Rooftop Install at a Major Utility's Headquarters

FEATURES

HARDENED SYSTEM

The Stalwart IQ System can withstand some of the harshest conditions from large temperature ranges to category five hurricanes. It can be reinforced with Kevlar to make it bullet proof, and utilizes a proprietary, secure energy management operating system.

DISTRIBUTED POWER SUPPLY

In the event of a natural disaster or attack, the Stalwart IQ System can sustain a back up power supply without having to worry about a single point of attack.

UNINTERRUPTED POWER SUPPLY

By combining the Stalwart IQ System with renewable energy, natural gas or diesel power generation, it can maintain an uninterrupted power supply for critical equipment and be sustained indefinitely.

SELF GENERATION AND CONSUMPTION

Allows for buildings to use the power generated from renewable energy resources instead of selling back to the grid. The IQ System can be grid tied or act as an off grid solution.

SMOOTHING CAPABILITIES

To maintain consistent power levels when self-consuming from solar or other renewable energy resources, our software manages the power distribution within the building so there is no drop in voltage.

ENERGY ANALYTICS AND OPEN PLATFORM

The Stalwart IQ System provides in depth analytics on energy consumption, production, and storage levels that can be viewed in a cloud based or local environment, and can be sent to any existing energy management software system.

SPECIFICATIONS

BATTERY

Lithium Iron Phosphate or Lithium Titanate
Pouch or Cell Configurations

ENCLOSURE

Stainless Steel Enclosure
Kevlar Lining (Optional)
Integrated AirCon
Water Heating/Cooling (Optional)

CAPACITY

130 kWh per Enclosure
(10 kWh per module)
Ability to parallel up to 5 enclosures on a single building

WARRANTY

10 Year warranty with a O+M service life of 20 years

EFFICIENCY

98.5%+ CEC Discharge

SOLAR INPUT

Up to 125kW, 400 – 1500 VDC Bipolar MPPT;
VOC Monopolar Max 1600

INVERTER OUTPUT

25 kW - 125 kW
String 1-5 inverters in a single enclosure

ADVANCED INVERTER FUNCTIONS

Volt/VAR, Freq/Watt, LVET, Curtailment, VOC
20 Year Service Life

REGULATORY COMPLIANCE

UL 1741 / IEEE 1547

DC GROUND FAULT DETECTION / INTERRUPT

1A

INTEGRATED ARC FAULT INTERRUPT

Yes

EMI

FCC Part 15, Class A

OPERATING TEMPERATURE

-50 degrees to 65 degrees C
150 mph Winds

Saltwater Resistant
Bullet Proof (Optional)

EXPECTED BATTERY LIFE

Daily Cycle Operation, 10+ years

DIMENSIONS OF INTEGRATED BESS

7'6" x 3'10" x 3'6"

WEIGHT OF INTEGRATED BESS

~1000 to 3000 lbs (Depending on Capacity and Power)

OPERATING SYSTEM SPECIFICATIONS:

Login

Default password changes

Removal of unnecessary usernames and logins

Authorization levels

SYSTEM ATTRIBUTES

HIGH EFFICIENCY

Exceptional high efficiency is achieved by unique, internal high voltage technology through state-of-the-art PV operations and the charge/discharge of an industry-leading lithium-ion battery.

EXPANDABLE UP FROM 130 kWh to 650 kWh

String systems together to deliver any power or energy requirements needed.

ON/OFF GRID SOLUTION

The utility disconnect switch allows the system to support autonomous off-grid operations when attached to a renewable energy resource, or to natural gas, or diesel power generation.

FULLY INTEGRATED SOLUTION

All key components (including power control, inverter, and storage) are packaged into hardened form factor for effortless installation and high security. Each system is built to endure the seasons, which makes it suitable for any environment.