

# POWERsave™

## LARGE ENCLOSURE SERIES



All-in-one, pre-assembled, scalable battery energy storage system designed for commercial, industrial, utilities and grid infrastructures  
SUPPORTS BOTH (Behind the meter C and I) and Utility Level (Front of Meter) Applications

<https://lionenergy.com/pages/powersave>



### Reduce Energy Cost

- **Energy Control and Monitoring:** Reduce utility bills with energy shifting tailored to your facility's specific energy goals
- **Faster ROI:** Maximize savings and shortens payback time coupled with renewables
- **Lower Operation Costs:** Reduces energy expenses and demand charges
- **Long Term Solution:** 15+ year solution against rising utility and operational costs
- 3rd Party Financing options and Fed ITC Tax Credits and other programs maybe available



### Renewable Energy Integration

- **DC Coupled Solar:** Optional DC solar MPPT's
- **Secondary Power Sources:** Integration with CHP, Hydro, AC coupled solar, ect.



### Scalable Solutions

- **Modular Configurations:**  
BATTERY: 1.72MWh to 5MWh ranges  
PCS INVERTER: 800KW to 2MW ranges
- **Parallelable Solutions:** Combine multiple systems for increased power output and storage capacity



### No Risk, No Cost Assessment

- **Free Energy Analysis:** Includes an upfront evaluation of your facility's needs
- **Tailored Recommendations:** Receive customized insights for maximizing savings
- **White Glove Service:** Contact Lion Energy for further details and consultation



Solar DC-DC Controller

Battery Energy Storage System

Power Conversion System



### Turn-Key Solution

- **Fully Integrated:** Complete system designed for seamless operation for new or existing systems
- **No Third-Party Components:** Ensures compatibility and reliability
- **Hassle-Free Installation:** Comes with comprehensive commissioning, including full pre- and post-engineering support, plus contractor assistance
- Includes external Grid Isolation Controller (LION-MID) shown below



### Backup Power/Energy Resiliency

- **Reliable Backup Power:** Keeps operations running during outages
- **Grid Independence:** Reduces reliance on the grid during peak times



### Safe and Secure

- **Advanced Cybersecurity:** Protects your system with robust security protocols
- **US-Based Servers:** Ensures data is securely stored and managed domestically
- **Engineered in the USA:** Designed and supported by US-based engineering teams for superior quality and reliability



### Sustainability Impact

- **Offset Carbon Footprint:** Reduces emissions by optimizing energy use and integrate with renewables
- **Supports ESG Goals:** Aligns with corporate sustainability initiatives



### Commercial

(Logistics, Hospitals, Airports)



### Industrial

(Manufacturing, Processing, Municipalities)



### Microgrid

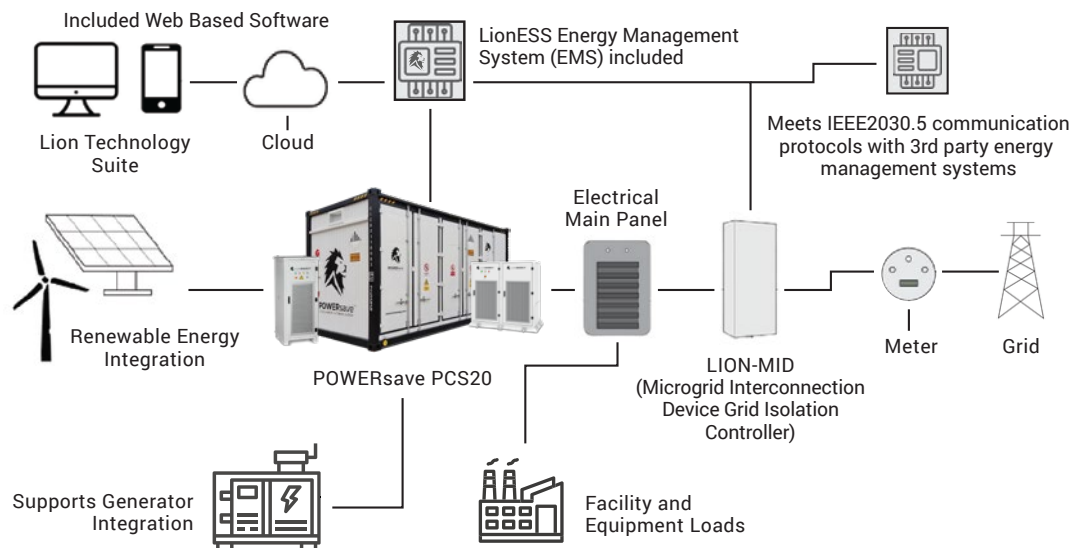
(Agriculture, Off-Grid, Energy Resiliency Hubs)



### Data Center



### Sub-Stations and Utilities



# POWERsave™ CABINET GENERAL SPECIFICATIONS

<b>MODEL</b>	POWERsave PS20 Series	BATTERY CENTER: 1720KWH up to 3440KWH standard capacities. Up to 5MWh available on request PCS INVERTER CABINET: 800KW to 2.3MW POWER at 480VAC and 690VAC (3P)
<b>BATTERY SYSTEM &amp; ENCLOSURE</b>	Battery Type	Lithium Iron Phosphate (LFP)
	Module/Cell Configuration	280Ah/3.2VDC 1P48S/153.6VDC/43KWh
	Rack Configuration	1P8S/1228.8VDC/344KWh (3 to 10 racks capability) 1032KWh to 3440KWH Capacity range)
	Rated Charge/Discharge Current	0.5C/1C Max Charge, 0.5C/1C Max Discharge 90% DOD
	Cycle Life	6000 R/T Cycles (90% DOD at 0.5C Charge/Discharge)
	Dimensions/Weight	238.5" L x 96" W x 114" H ( 19.875' x 8' x 9.5') Gross Enclosure weight varies depending on number of batteries installed (25,000-45,000 lbs.)
	Compliance	UL1973, UL9540[A], UL9540
	Enclosure Rating	IP54 Outdoor, Corrosion Protection Level 4X
<b>POWER CONVERSION SYSTEM CABINET</b> (Bi-Directional Inverters) 2 Models	Safety	LFP Battery (BMS protection)Built in Clean Agent Pressurized, Dry Water Sprinkler Suppression, Cross Zoned Gas, Smoke, Heat Detection and Alarm Shutdown
	Inverter Power Ratings (AC 3P) Input & Output AC Load/Grid side	Model Inverter CPS1250 : 800KW Max/1072A (480VAC/3P Input/Output), 1600KW Max/1488A (690VAC/3P Input/Output) Model Inverter CPS2500: 1600KW Max/2139A (480VAC/3P Input/Output), 2300KW Max/2139A (690VAC/3P Input/Output)
	Inverter Power Ratings (DC Input Battery Bus)	Model Inverter CPS1250 : 800KW Max/1072A (480VAC/3P Input/Output), 1600KW Max/1488A (690VAC/3P Input/Output) Model Inverter CPS2500: 1600KW Max/2139A (480VAC/3P Input/Output), 2300KW Max/2139A (690VAC/3P Input/Output)
	Capabilities	Dynamic Transfer On Grid/Off Grid (<1 second), Islanding Operation, Black Start, Frequency Compensation, VAR Compensation, Parallel Capable, Lion Energy EMS Interface & Control, Grid Tied UL1741, IEEE1547
	PF(Power Factor Rating)	0.8-1
	Dimensions/Weight	"Model Inverter CPS1250 : Dimension 49"" L x 43.3"" W x 79.72"" H, Weight 1980 lbs. Model Inverter CPS2500: Dimension 79.72" x 85.04" x 43.3", Weight 3970 lbs."
	Compliance	UL1741SB , IEEE1547
	Enclosure Rating	IP55 Outdoor Rated
<b>SOLAR DC TO DC CONTROLLER CABINET</b>	Functionality/Features	PV- Solar (DCto DC) direct Interconnection and Operation Battery Energy Storage System and Control, On Grid/Off Grid
	Power Rating	DC Input Voltage Range (Battery Port): 100-1500VDC, (PV Port): 100-1500VDC, Maximum Power Rating: 500kW (@1000VDCInput), 600kW (@1200-1500VDCInput), Maximum Current Rating: +/-500A"
	Dimensions/Weight	33.5" x 39.4" x 80.5", 1300lbs.
	Enclosure Rating	NEMA3R Outdoor, Compliance UL1741
<b>LION-MID</b> (Microgrid Interconnection Device) SEL Relay/Contactor & PMU Energy Management System	Power Rating (3P Contactor)	Configurations for 480V/3P, 208Y/3P, 240D/3P. Up to 1500A per enclosure
	"Functionality/Features (Grid Isolation & Energy Management)"	On Grid/Off Grid, Islanding of BESS utility outage, Voltage/Freq Detection CT's, PMU to EMS and Inverter Interface and Energy Management Control, Parallel Capable, Lion Energy EMS Interface & Control
	Dimensions/Weight Enclosure NEMA3R Indoor/Outdoor rated	48" x 36" x 12" standard up to 1200A Contactor, Large Enclosure Size (If required above 1200A systems) Weight: 150-250lbs.
<b>GENERAL</b>	Enclosure Rating, Main Battery Center	NEMA3R Outdoor IP55, Corrosion Rating 4C-H
	"Lion Energy EMS (Energy Management System ) Modes"	Self Consumption, TOU Demand Response, Arbitrage, Voltage/Frequency Regulation
	Communication	IEEE2030.5, RS485, Modbus TCP/IP, CAN, Ethernet
	Compliance/Certifications	UL1973, UL9540[A], UL9540, UL1741SB, IEEE1547
	Warranty	Main System & Inverters/Controllers 10 Years, LFP Battery System 6000 R/T Cycles or 10 Years (which ever comes first)