



SOLAR STIK®

Category: Storage with Management

24VDC Li BOS 2400

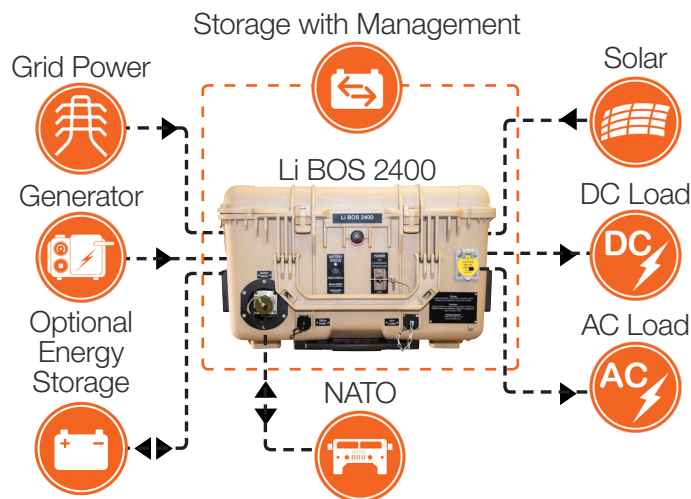
Item # 20-0205201

Power Balance

The 24VDC Li Balance of Systems (BOS) 2400 is a single-case, portable power solution designed to meet both AC and DC power needs. Its onboard battery charger accepts 120 or 230 VAC grid-power inputs, and the BOS also accepts solar and other DC-power sources. The BOS stores 2.4 kWh of energy using lithium iron phosphate (LiFePO₄) chemistry and can be operated in one of three modes, depending on available input power sources: autonomous mode—solar-only; hybrid mode—solar and fuel-driven generator; or uninterruptible power supply (UPS) mode—grid power.

How a BOS Works

The BOS accepts 24 VDC power generation inputs (e.g., solar, wind, other) and 120 VAC or 230 VAC grid or generator power to charge. AC and DC power loads are connected directly to the BOS. Connect additional energy storage—Li Expander Paks—using Plug & Play connections to increase capacity.



Features

- 2.4 kWh (100 Ah) of storage
 - Capable of over 3000 charge/discharge cycles
 - 100% discharged = inert (LiFePO₄ chemistry)
- Compatible with 1.0–2.0 kW generators
 - Auto Generator Start/Stop
- Transportable by land, sea, and cargo aircraft
- Solar input port
- Ruggedized for extreme conditions
- Open architecture

Case Color Options

Standard Color	Tan	Black
		Silver
Optional Colors		Orange
		Yellow
		OD Green





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General

Nominal Operating Voltage	24 VDC
Battery	(1) 24 VDC LiFePO ₄ battery
Input Battery Voltage Range	24.0–28.8 VDC
Capacity	100 Ah
Energy Storage	2.4 kWh
Energy Density	35 Wh/kg
Max Charge Rate (DC)	50 A continuous
Max Discharge Rate (DC)	50 A continuous
Self-discharge Rate	< 5% per month
Cycle Life (@ 77 °F/25 °C)	≥ 3000 cycles to 80% state of health
Shelf Life (@ 77 °F/25 °C)	<ul style="list-style-type: none"> • 5.6 years to 80% state of health • 7.0 years to 75% state of health
Internal Cooling	Forced convection with (2) internal fans
User Interface	LCD and push-button menu controls
Case	Pelican 1640
Warranty	1-year materials and workmanship

Inverter Specifications (@77 °F/25 °C)

Nominal AC Output Voltage	117 VAC ± 6.0%
Rated Current	2.1 A
Output Frequency and Accuracy	60 Hz ± 0.1%
Continuous Output Power	250 W
Efficiency	87%
Transfer Time	Zero
Waveform	Pure sine wave
5-second Surge Power	300 W

Charge Controller Specifications (@77 °F/25 °C)

Maximum PV Input Voltage	57 VDC
Maximum PV Input Current	24 A (@ 24 V nominal)
Maximum PV Power	800 W
Efficiency	97% (typical)
Charging Stages	Bulk, absorb
Charge Control Method	Maximum Power Point Tracking (MPPT)

AC Charger Specifications (@77 °F/25 °C)

Charging Stages	Single stage
Continuous Output Current	20 A
Charging Efficiency	95% (typical)
DC Output Voltage	28.0 V (programmable)

Safety

Breaker(s)	(1) 120 VAC input 10 A, (1) 230 VAC input 5 A, (1) AC output 5 A, (1) DC AUX out 25 A, (1) USB 5 A
Overvoltage Protection	AC charger (90 VAC, 34.5 ± 2.0 VDC), charge controller (voltage transients), inverter (33 ± 1.0 VDC)
Undervoltage Protection	AUX output and inverter (24.4 VDC programmable), battery (23 ± 1.0 VDC)
Overcurrent Protection	AC charger, charge controller, battery, inverter, AUX
Overtemperature Protection	AC charger (140 °F/60 °C), charge controller (167 °F/75 °C), inverter (230 °F/110 °C)
Reverse Polarity	Solar input
Certifications	Internal battery has passed UNDOT 38.3 testing and is certified to ship globally.

Connections

Input(s)	<ul style="list-style-type: none"> • (1) AC input 90 to 125 VAC, 10 A (NEMA 5-15P) • (1) AC input 90 to 250 VAC, 5 A (NEMA 6-15P) • (1) PV input 24 VDC, 30 A (Amphenol bayonet CB2-22-2SC) • (1) Generator communications port (MS3122F12-10P)
Output(s)	<ul style="list-style-type: none"> • (1) AC output 120 VAC, 2.1 A (NEMA 5-20R) • (1) DC AUX output 24 VDC, 20 A (MS3470214-4P) • (2) USB 5 V, 2.1 A total (type-A) • (1) BMS reader (RJ45)
Input/Output(s)	<ul style="list-style-type: none"> • (2) In/out Inter-Connect port 24 VDC, 100 A (Deltran 224-0061-BK) • (1) NATO receptacle 24 VDC, 100 A • (1) Tech port for remote monitoring

Environmental

Operating Temperature	-13 °F to +104 °F (-25 °C to +40 °C), derated operation up to 149 °F (65 °C)
Charge Temperature	+41 °F to +113 °F (+5 °C to +45 °C), derated outside this range
Storage Temperature	-22 °F to 158 °F (-30 °C to +70 °C)
Operating Humidity	10 to 90% RH noncondensing

Weights and Dimensions (L x W x H)

Weight	131 lb (59.42 kg)
Dimensions	27.2 x 27.5 x 16.3 in (69.1 x 69.9 x 41.4 cm)

