



SOLAR STIK®

Category: Storage with Management

24VDC Li BOS 2400-230

Item # 20-0205203

Power Balance

The Balance of Systems (BOS) 2400 is a single case power management and energy storage unit that employs 24VDC LiFePO4 batteries to supply 2.4kWh of energy storage while also satisfying both AC and DC power needs. The BOS 2400-230 comes equipped with AC and Solar Input as well as AC and programmable DC auxiliary output. A BOS can be operated in any of 3 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. The BOS 2400-230 has 230VAC output rather than 120VAC, making it a more suitable option for European systems.

How a BOS Works

The BOS 2400-230 accepts AC or Solar power input and converts it to usable AC or DC power to be distributed to the load; which can be connected directly to the BOS. It's 24 VDC battery allows for 100Ah of storage and can last up to 3000 charge/discharge cycles. Extra energy storage can be connected to the BOS via simply plug and play connections. The addition of ESMS increases energy capacity, required support, etc.

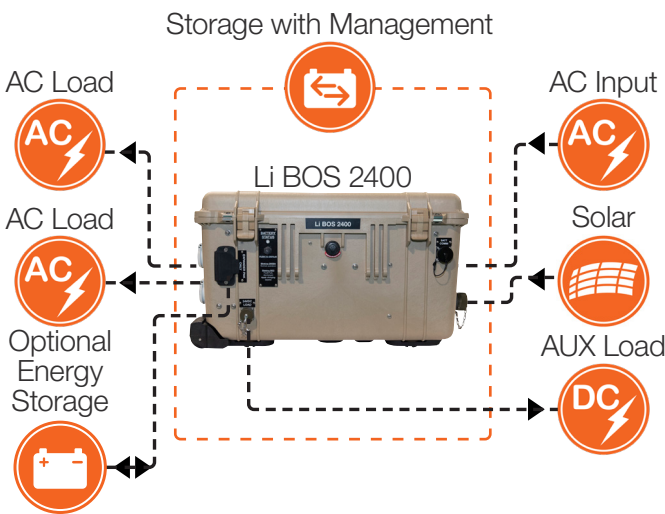


Features

- 2.4 kWh (100 Ah) of storage
 - Capable of over 3000 charge/discharge cycles
 - 100% discharged = inert (LiFePO₄ chemistry)
- Transportable by land, sea, and cargo aircraft
- Accepts a variety of inputs (Solar/Grid/Generator)
- Ruggedized for extreme conditions
- Open Architecture
- Compliant with European voltage standards

Case Color Options

Standard Color	Tan
	Black
	Silver
	Orange
	Yellow
Optional Colors	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	42.3 Wh/kg
Max Charge Rate (DC)	50 A continuous
Max Discharge Rate (DC)	50 A continuous
Self-discharge Rate	<5% per month
Cycle Life*	≥ 3000 Cycles to 80% State of Health
Shelf Life*	<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 1620
Warranty	1-year materials and workmanship

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

Nominal AC Output Voltage	230 VAC+/- 6.0%
Rated Current	5.1 A
Output Frequency and Accuracy	60 Hz ± 0.1%
Continuous Output Power	600 W
Efficiency	87%
Transfer Time	Zero
Waveform	Pure sine wave
5-second Surge Power	1200 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)
Input AC Voltage	90-250 VAC
DC Output Voltage	28.0 V (factory programmable)

Safety

Breaker(s)	(1) AC Input 5 A, (1) AC Output 30 A (DC Side), (1) DC AUX Output 20 A, (1) PV Input 30A, (1) Main Power 50A
Fuse(s)	3 amp fuse
Overvoltage Protection	AC Charger (34.5±2.0 VDC), Charge Controller (voltage transients), Inverter (33±1.0 VDC)
Undervoltage Protection	Inverter (19V 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])
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 100 to 250 VAC, 10 A (NEMA 5-15P) • (1) PV Input 24 VDC, 30 A (Amphenol bayonet CB2-22-2SC)
Output(s)	<ul style="list-style-type: none"> • (1) AC Output 120 VAC, 5.1 A (NEMA 5-20R) • (1) DC AUX Output 24 VDC, 20 A (MS3470214-4P) • (1) USB 5 V, 2.1 A total (type-A) • (1) BMS Reader (RJ45)
Input/Output(s)	<ul style="list-style-type: none"> • (1) In/Out Inter-connect Port 24 VDC, 100 A (Deltran 224-0061-BK) • (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 non-condensing

Weights and Dimensions (L x W x H)

Weight	125 lb (56.69 kg)
Dimensions	27.2 x 27.5 x 16.3 in (69.1 x 69.9 x 41.4 cm)

