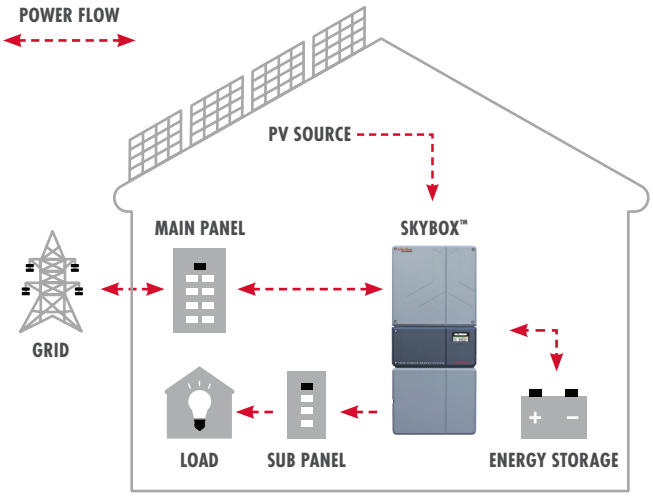
OutBack POWER™
an EnerSys company

SkyBox™

True Hybrid Energy System with EMS 2.0

- Works with the widest variety of 48V battery chemistries, including lithium-ion
- EMS 2.0 provides easy configuration for EnergyCell and leading lithium-ion batteries
- Backup power and support for time-of-use optimization
- Easy and fast to install, with a clean balance-of-systems, all-in-one box
- Field upgradable software
- Compliant with Hawaii 14H and California Rule 21 grid support requirements, including Phase 1, 2, and Functions 1 and 8 of Phase 3, IEEE 2030.5 communications protocol grid support requirements
- 10 year warranty



Easy to install and easy to own, SkyBox™ true hybrid energy systems from OutBack Power brings a new level of resilience, simplicity, intelligence and adaptability.

SkyBox™ systems install like a grid-tied inverter, but with support for energy storage, which is easy to install later. A fully integrated design eliminates external charge controllers and communication boxes, significantly cutting solar + energy storage installation time and cost. EMS 2.0 takes the guesswork out of battery installation. It supports external CTs and stacking multiple SkyBox systems in parallel, each with their own battery. SkyBox systems intelligently measure and control power to and from any connection point (utility, solar, battery, generator and load), dynamically optimizing energy distribution, consumption and utilization—perfecting the way power is created, consumed, stored and sold. With SkyBox systems you can leverage the economic benefits of energy storage for time-of-use optimization and peace of mind backup power. Not ready for batteries? Install a SkyBox system now and add energy storage later. No need in the future to retrofit the PV or AC coupling.

2030.5 CSIP CERTIFIED

SkyBox™ True Hybrid Energy System Specifications

Model:	**SBX5048-120/240**
Grids and Loads	
AC Voltage	120/240V (split-phase)
AC Frequency	60Hz
Max Continuous AC Output Power (@45°C)	5000VA (derate above 45°C)
Max Continuous Output Current	24A @ 25°C
Total Harmonic Distortion	**Typical:** <2% **Maximum:** <5%
Integrated Arc Fault Detection, Ground Fault Detection & Isolation and Monitoring	Yes
Power Factor at Rated Power	1
PV Input	
Max PV System Voltage	600V
MPPT Voltage Range	250 to 600V
Max Input Current	20A
Max Short-Circuit Current	32A
Max Backfeed Duration (to Array)	<8ms
Reverse-Polarity Protection	Yes
CEC Weighted Efficiency	>94%
Typical Inverter Efficiency	>97%
Transformerless, Ungrounded	Yes
Battery	
Unassisted Load Support from Battery Only	5000VA
Nominal DC Battery Voltage	48V
Battery Voltage Range	42 to 60V
Reverse-Polarity Notification	Yes
Operating Modes	
Supported Operating Modes	Immediate Battery Backup Power, Grid Support (UL 1741 SA), Net Metering, Non-Export, Maximum Independence
Islanding Protection	Yes
Configurable Battery Charging Parameters	Yes, to allow/disallow charging from AC for compliance with local regulations
Prioritized Charging from Renewables	Yes
Grid Interactivity	
Supported Interconnection Standards	IEEE 1547-2003, IEEE 1547.1-2005, HECO Rule 14H SRD, CA Rule 21 SRD Phase 1, 2, and Functions 1 and 8 of Phase 3
UL 1741 Power Control System (PCS)	NRTL tested. Complies with solar-only charging mode, Non-Export, import/export limit for Energy Storage Systems, and SunSpec 2030.5 CSIP Certification
SunSpec 2030.5 CSIP Certification	Yes, supports IEEE 2030.5 communications protocol with firmware version 1.5 and above
Minimum Round Trip Efficiency	88% or higher, depending on battery chemistry
Metering Accuracy	Similar to ANSI C12.1-2014 class 2 (2%)
Additional Features	
Listings/Certifications	UL 1741 SA, CSA 22.2 No. 107.1, UL 1778 HECO Rule 14H SRD, CA Rule 21 SRD, IEEE 1547-2003, IEEE 1547.1-2005
RoHS	Yes, directive 2011/65/EU
Weight (lb/kg)	**Unit:** 110.6 / 50.2 **Shipping:** 134 / 60.8
Dimensions H × W × D (in/cm)	47 × 21 × 9.4 / 119.4 × 53.3 × 23.9
Operating Temperature Range	–20 to 60°C
Non-Volatile Memory	Yes
Field-Upgradable Firmware	Yes
Chassis Type	NEMA 3R
Warranty Duration	10 years

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