ENERGYDOCK

ProBackup BACKBOARD RANGE

TECHNICAL DATA SHEET

ProBackup 1 (Option A): 500VA/640Wh

OVERVIEW

The **ProBackup 1** backboard from Specialized Solar Systems is designed for convenience and includes an integrated inverter and a lithium iron phosphate ($LiFePO_4$) battery along with an AC distribution box, all neatly mounted on a single backboard. This system can be used as a stand-alone system or it can be integrated into an existing distribution board in your home or office.

The **ProBackup 1 Option A** energy system features a powerful Victron Energy Multiplus 12/500/20 inverter/charger and a 0.64 kWh $LiFePO_4$ battery, which ensures exceptional performance, safety and longevity. The inverter and battery have been pre-programmed for optimal output. The setup is meticulously configured at the factory, enabling easy connection and significantly reducing installation time.

SPECIFICATIONS

GENERAL SPECIFICATIONS	
Product code	PB01/A
Dimensions	800mm (l) x 600mm (w) x 200mm (d)
Weight	20.8kg
Installation	Indoor / Protected under cover use
Ventilation distance	150mm clear on all sides with no obstructions

VICTRON 12/500/20 MULTIPLUS INVERTER/CHARGER	
Product code	PB01A (Option A) or PB01B (Option B)
Transfer switch	16 A
Input voltage range	9.5 – 17 V

Manufactured by SPECIALIZED SOLAR SYSTEMS
43 Ossie Urban Street, Tamsui Industria, George, South Africa
+27 (0)44 878 1126 | www.specializedsolarsystems.co.za | info@specializedsolarsystems.co.za

Output voltage	230 VAC ± 2% / Frequency 50Hz ±0.1%
Cont. output power at 25°C	500 VA / 430 W
Cont. output power at 40 °C / 65 °C	400 W / 300 W
Peak power	900 W
Maximum efficiency	90%
Zero-load power	6 W
Charger	
AC Input	Voltage range: 187-265 VAC / Frequency 45-65Hz
Storage mode	13.2 V
Charge current house battery	20 A
Charge current starter battery	1 A
Battery temperature sensor	Yes
General	
Programmable relay	Yes
Protection	• Output short circuit • Overload • Battery voltage too high • Battery voltage too low • Temperature too high • 230 VAC on inverter output • Input voltage ripple too high
VE.Bus communication port	For parallel and three phase operation, remote monitoring and system integration
Remote on-off	On/off/charger only
DIP switches	Yes
Internal DC fuse	125 A

Note: *The inverter has a built-in 16 A transfer switch which will allow up to 3.6 kW of energy to pass through it while the grid is connected and on. One could add a Victron MPPT unit to this system and enjoy the functions of a hybrid energy system. The Victron inverter has intelligent programming options available and could be set in ESS (energy storage system) mode, virtual switch mode or purely be a functioning UPS unit.*

STORAGEDOCK ES0.64K BATTERY SPECIFICATIONS	
Battery type	Grade A $LiFePO_4$ Prismatic cells
Nominal voltage	12.8 VDC
Nominal capacity	50 Ah
Total energy capacity	0.64 kWh
Energy capacity at 80% DoD	0.512 kWh
Standard charge current	25 A
Max charge current	35 A

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Charge voltage Bulk/Absorb	14.1 VDC
Float voltage	14.0 VDC
Standard discharge current	30 A
Max discharge current	50 A
Discharge cut-off voltage	12 V @ 0.005C
BMS Charge / Discharge	80A / 80A
Protection	2 x 40 Amp fuses
Operating temp: Charge / Discharge	0 to 45° C / 0 to 55° C
Cycle life	4000 cycles @ 0.5C 80% Depth of Discharge (DoD)

This unit has the option of an add-on colour BMS screen

Please ask your sales representative in the event you require solar panels to be added to this system

INSTALLATION PROCEDURE

When installing this ProBackup system, please ensure that it is not installed in direct sunlight or in dusty or damp conditions.

Once the unit has been fixed into position, install the AC input cable as marked into the AC IN circuit breaker of the distribution box. Please ensure that this is done by a certified and qualified technician. The load is then connected to the AC output circuit breaker as indicated in the distribution box.

Before switching any power ON, please follow the following steps:

1. Switch the battery "ON" and allow the battery to complete a verification test.
2. On the lower side of the inverter, switch the inverter into the "ON" position (not the charger position).
3. The inverter's light will light up and stabilize on green.
4. The AC output indicator light in the distribution box will light up. There is now power at that circuit breaker.
5. Now turn the AC input ON. The AC input indicator light will light up and the inverter's green light will change to orange. This means that the battery is charging.
6. If you now switch the AC input OFF, the green light will come back on and the UPS is now functional.

For more information and videos, please scan the QR code

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SPECIALIZED SOLAR SYSTEMS QUALITY CONTROL & SIGN-OFF

PRODUCT NAME:	***STORAGEDOCK ES0.64K***	ASSEMBLER NAME:	
SERIAL NUMBER:		QUALITY CONTROLLER NAME:	

CHECKLIST			
PASS	**FIT & FINISH**	**QUALITY CONTROLLER INSPECTION**	**COMMENTS**
	MAIN ASSEMBLY (Paint Finish, Structure, Rivets)		
	BATTERY COMPARTMENT LID		
	CIRCUIT BREAKER DIN RAIL & SSS COVER		
	$LiFePO_4$ BATTERY MOUNT SECURE		
	ALIGNMENTS		
SIGN OFF:		*DATE:*	
PASS	**FIT & FINISH**	**QUALITY CONTROLLER INSPECTION**	**COMMENTS**
	$LiFePO_4$ BREAKER, SIZE, TEST		
	$LiFePO_4$ VOLTAGE SENSING CABLES		
	BMS MAIN ON/OFF		
	BATTERY MAINS ON/OFF		
	TORQUE VALUE:		
	RJ45 CABLE (CAN-bus Colour Coded)		
	FUSE HOLDER - ALIGNMENT LEVEL		
SIGN OFF:		*DATE:*	
PASS	**PROGRAMMING & COMMISSIONING Memory Setup & Connectivity**	**QUALITY CONTROLLER INSPECTION**	**COMMENTS**
	BREAKER ON/OFF, OC AMP TRIP		
	BMS ON/OFF		
	BMS CONFIG UPLOAD		
	BMS UPDATE WITH PRODUCT SERIAL NUMBER		
	CELL MONITOR- CELL VOLTAGES: HIGH:.....		
	LOW:.....		
	PACK:.....		
	CELL TEMPERATURE: A: ..... B:		
SIGN OFF:		*DATE:*	

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PASS	PERFORMANCE - DISCHARGE & CHARGE	QUALITY CONTROLLER INSPECTION	COMMENTS
	UPS MORE - AC DISCONNECT (NON ESS/VS)		
	RESISTIVE LOAD 1700W DISCHARGE TO LVD		
	DISCHARGE SOC 80%		
	RE-CHARGE TO 100% (AC Source 35A)		
SIGN OFF:		*DATE:*	
PASS	**SAFETY & LEGAL**	**QUALITY CONTROLLER INSPECTION**	**COMMENTS**
	BREAKER TEST		
	LABELS - AC, PV DC (if applicable & align)		
	QR CODE		
SIGN OFF:		*DATE:*	
PASS	**PACKAGING**	**QUALITY CONTROLLER INSPECTION**	**COMMENTS**
	PACKAGING MATERIAL AND MOUNT		
	SHIPPING LIST		
	PRODUCT SPECIFICATION BROCHURE		
	HANGER BRACKET KIT		
	QC LABEL		
	SERIAL NUMBER TAG		
SIGN OFF:		*DATE:*	
FINAL SIGN-OFF AND APPROVAL			
	NAME OF COMMISSIONER:		
	DATE:		
	SIGN OFF:		

NOTE: PLEASE RETAIN THIS BOOKLET AS PROOF OF YOUR WARRANTY

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