Powerark Systems



- ZERO EMISSIONS
- ZERO NOISE
- PEAK SHAVING
- LOAD SHARING
- PLUG & PLAY
- RENEWABLES INTEGRATION

P600 / 564

Battery Energy Storage System (BESS)

TECHNICAL SPECIFICATIONS

Specifications

PERFORMANCE		
Nominal rated power	kVA	564
110% Over load (continuous)	kVA	630.4
120% Over load (60 Sec)	kVA	686.8
200% Over load (10 Sec)	kVA	1128
ELECTRICAL		
Rated voltage	Vac	400V (-15%~+15%)
Frequency	Hz	50Hz/60Hz ±5Hz
Wire		3P4N
Power factor		0.99/-1~1
PV power	kW	110
ENERGY		
Cell	V Ah	3.2V / 245Ah
Cell chemistry		LFP
Nominal capacity	kWh	564
Effective capacity	kWh	507.6
Recharging time	h	2hr@255kW
Discharging time	h	2hr@255kW
System round trip efficiency		up to 96%
DoD% (depth of discharge)		90%
Cell Lifetime (70% DoD)	Cycles	6000
Pack Lifetime (70% DoD)	Cycles	5000
BMS (BMSER)		Automotive grade BMS
Balancing Method		Active Balancing
Temperature control		Liquid cooling and heating
ENVIRONMENTAL		
Protection class		IP54 (Enclosure) / up to IP67 (Critical Components)
Operating temperature	℃	-20 to +50
Humidity		0-95%(no condensation)
Maximum operating altitude	m	3000
Sound power level	dB(A) @1m	<50
SYSTEM INTEGRATION & CONTROL		
Genset Control Interface		Dry Contact: for 2-wire auto start/stop signal
		RS485: for advanced control & monitoring (Modbus RTU)
Remote Management		Powerark Cloud Platform via Ethernet / 4G/5G
Communication Protocols		Modbus TCP/IP, Wifi, ETH
Local HMI		15-inch Color Touchscreen
MECHANICAL		
Dimensions (L x W x H)	mm	2991 x 2438 x 2591
Weight	kg	9500

Compliance & Certifications

PCS (Power Conversion System)	EN 50549-1/-2/-10 (EU Grid Code)
	AS/NZS 4777.2 (AU/NZ Grid Code)
	IEC 62477 & IEC 62109 (Safety)
	IEC 61000 (EMC)
Battery Pack (LFP)	IEC 62619 / IEC 63056 (Safety)
	UN 38.3 (Transportation)
	IEC 61000 (EMC)
System-Level (E500/1040 Integrated Unit)	IEC 62933 / UL 9540
	CE Mark for the complete system (LVD & EMC)
	Certified to UN 3536 for streamlined global logistics

Features

Superior Off-Grid Load Adaptability:

- Handles 100% three-phase unbalanced loads.
- Full compatibility with 100% non-linear (half-wave) loads.
- Sustains 150% overload capacity for peak demands.

Advanced Thermal Management & Battery Longevity:

- Liquid-cooling system combined with an active battery balancing system ensures high performance across diverse environments.
- This architecture significantly extends battery service life.

Mission-Critical Reliability and Durability:

- Automotive-grade control core and industrial-grade electrical components provide a wide operating temperature range of -40°C to +80°C.
- Features dual-redundant communication links and watchdog timers on all controllers to prevent system lock-ups.

Uptime-Centric Energy Management System (EMS):

- Our EMS philosophy is centered on ensuring continuous, uninterrupted power for the off-grid site.
- It manages all connected assets as a holistic microgrid, prioritizing overall system robustness and load availability over individual component self-protection.