

Solar Hybrid Power Solution



PowerCube 1000 S3: Solar & Grid (D.G.)hybrid solution

Introduction

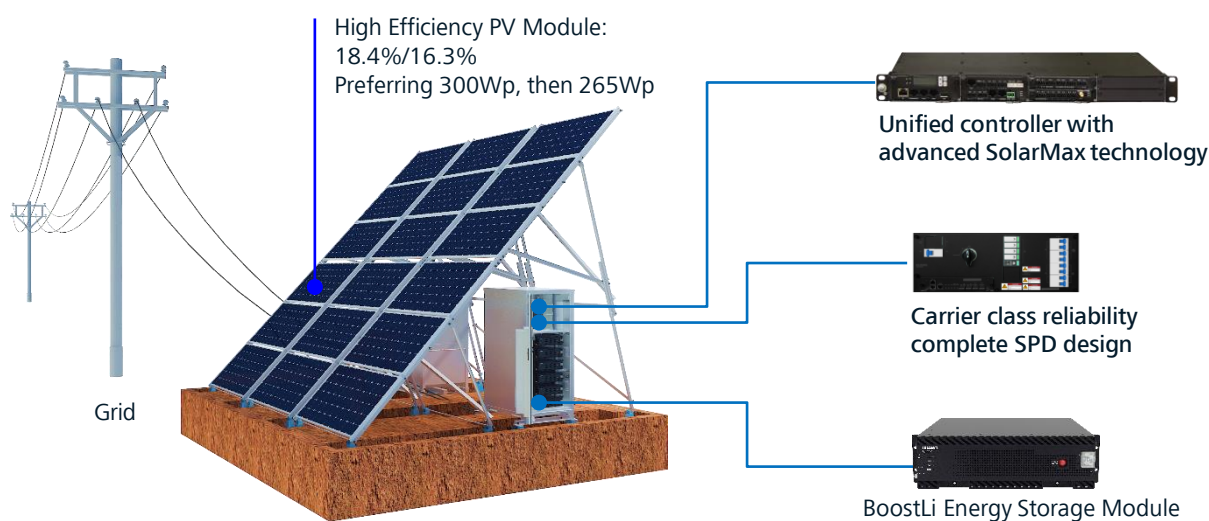
Solar & Grid hybrid solution provides power for low/medium loads from 1.5 kW to 3.5 kW in unstable or stable grid areas, solar energy is used prior to complement grid, the solution adopts excellent cycle performance li-ion battery, it makes full use of the long cycle life performance of lithium battery and 300Wp/265Wp large capacity PV panels and implements intelligent alternate working mode of solar and batteries, maximize solar energy utilization efficiency and provides the most economical power.

Features

- Leading SolarMax technology
- Compact controller with MPPT technology
- Remote energy management by NetEco (optional)
- Smooth evolution and easy expansion

Scenarios

- Unstable grid areas
- Solar energy complement grid
- Require environment protection area



Configuration



Solution1 (Outdoor)



Solution2 (Outdoor)



Solution3 (Outdoor)



Solution2 (Indoor)

Specifications

Solution Type		Solution1 (Outdoor)	Solution2 (Outdoor)	Solution3 (Outdoor)	Solution4 (Indoor)
Condition	Typical Load	< 3.5 kW			
	Energy Input	Solar & Grid (D.G. optional)			
	Grid Type	200 – 240/346 – 415 Vac, Three-phase, 50/60 Hz, Max. 51 A 100 – 120/200 – 240 Vac, (dual-live wire / single-phase, 50/60 Hz, Max. 102 A			
	Diesel Generator	10/14 kW, 230/400 Vac three-phase (800 L fuel tank) 11.5/16 kW, 110/220 dual-live wire (800 L fuel tank)			
Configuration	Photovoltaic Array	Max. 24000 Wp			
	Integrated Cabinet	ICC330-H1-C2+ESC330-D3	ICC330-HA1-C4	ICC710-HA1-C5	ICC200-N1-C5 +ESC200-N3 + battery shelf ICC200-N1-C8 + battery shelf
	Battery Type	ESM-4850A1: 1600Ah	ESM-4850A1: 250Ah	ESM-4850A1: 600Ah	TCB-A/DCB-A/SCB-A, Max. 3200Ah
	Solar Supply Unit	Max. 8 × S4850G1			
	Rectifiers	Max. 8 × R4850G2/R4850N2			
	Controller	ECC500S			
	System	Installation Mode	Ground installation		
Cabling Mode		From the bottom			From the top
Cooling for Equipment		HEX 150 W/K			Natural cooling
Cooling for Battery		Natural cooling	Air-conditioner, PC500D, 600W	Air-conditioner, PC1000D, 1100W	Natural cooling
Maintenance Mode		From the front			
Protection Level		Equipment cabinet: IP55 Battery cabinet: ESC300-N1: IP23, ICC330-HA/ ICC710-HA: IP55 IDG: IP23			Equipment cabinet: IP20 Battery cabinet: NA IDG: IP23
Noise Level		Cabinet: ≤ 65 dB(A) @ 1.5 m, satisfy the GR487 standard IDG: ≤ 75 dB(A) @ 1 m, 75% load, satisfy the ISO8528 standard (80 dB(A) only for 16 kW IDG)			
Remaining Space1		21U (according to actual configuration)	7U (according to actual configuration)	14U (according to actual configuration)	14U/20U (according to actual configuration)
MTBF		> 100,000 hours			
AC Distribution		ACDU Type	ACDU-63A1/ACDU-63A2/ACDU-125B1		
	ATS Type	ATS-63A1/ATS-63A2/ATS-125C1 (only for D.G.)			
	SPD	ACDU-63A1/ATS-63A1: 20/40 kA (8/20 μs); ACDU-63A2/ACDU-125B1/ATS-63A2/ATS-125C1: 30/60 kA (8/20 μs)yyy			
DC Distribution	DCDU Type	DCDU-400AN2			
	Output Voltage	-48 Vdc			
	Maximum Capacity	Max. 400 A			
	Battery Branch	2 × 250A Fuse			
	BLVD Branch2	1 × 63 A MCB, 4 × 32 A MCB, 2 × 16 A MCB (LLVD2)			
	LLVD Branch	2 × 80 A MCB, 2 × 63A MCB (LLVD1)			
Environment	SPD	10/20 kA (8/20 μs)			
	Operating Temperature	Equipment Cabinet	-20°C to +45°C (including solar radiation)		-10°C to +45°C
		Battery cabinet	ESC330-D3: 0°C to +40°C (It is recommended that cabinet should be installed under the PV structure) ICC330-HA/ ICC710-HA: 0°C to +45°C + solar radiation (If the inverter is configured, the temperature should be 0°C to +35°C + solar radiation)		
	Storage Temperature	-40°C to +70°C			
	Operating Humidity	5% to 95% (no condensation)			
	Altitude	0 to 4000 m(1°C per 200m temperature derating from 2000 to 4000 m) IDG: 0 to 3000 m (output derating from 1000 to 3000 m)			

1. The remaining space for customer use should according to the actual configuration of equipments(including ATO pre-installation)
2. DCDU-400NA2: LLVD load connect to LLVD1, BLVD load connect to LLVD2

Remark:

- DCDU: Direct Current Distribution Unit
- ACDU: Alternating Current Distribution Unit
- MTBF: Mean Time Between Failures
- ATS: AC Transfer Switch
- SPD: Surge Protective Device
- IDG: Integrated Diesel Generator

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