

Grid Hybrid Power Solution

PowerCube 1000 G2: Grid hybrid solution



Introduction

G2 solution is an advanced fast charging system, which is suitable for the scenario of frequent and short interval outage grid in the poor or unstable grid area, it configures the advanced lithium battery of ESU-A, and shows excellent performance in replacing the legacy dual D.G. power solution, intelligent alternate working mode of grid and batteries, Maximize the using of grid power to realize "Zero" D.G. running time or remove D.G. .

Features

- Leading GridMax technology
- Full charging ≤ 2 hrs. 4-5 years lifespan
- Advanced lithium battery control technology
- Remote energy management by NetEco (optional)
- Smooth evolution and easy expansion

Scenarios

- Poor grid or unstable grid areas
- Frequent & short interval outage grid
- New-building sites in unstable grid areas
- Modernization legacy sites



Unified controller with advanced GridMax technology

Advanced energy storage unit

Configuration



Solution1 (Roof site)



Solution2 (Ground site)



Solution3 (Indoor)

Specifications

Solution Type		Solution1 (Roof site)		Solution2 (Ground site)	Solution3 (Indoor)
Condition	Typical Load	< 5.0 kW			
	Energy Input	Grid			
	Grid Type	200 – 240/346 – 415 Vac, Three-phase, 50/60 Hz, Max. 51 A 100 – 120/200 – 240 Vac, (dual-live wire or single-phase, 50/60 Hz, Max. 102 A)			
	Diesel Generator	Optional (depends on the existing backup D.G.)			
Configuration	Cabinet	ICC330-HA1-C1 ICC330-HA1-C1+ESC330-A2	ICC330-H1-C2+ESC330-A2	ICC710-HA1-C2 (400Ah) ICC710-HA1-C3 (800Ah)	ICC200-N1-C5+ESC200-N1
	Battery Type	ESU-A2400Wh/D or ESU-A2400Wh/N Max. 400Ah	ESU-A2400Wh/D or ESU-A2400Wh/N Max. 600Ah	ESU-A2400Wh/D or ESU-A2400Wh/N Max. 800Ah	ESU-A2400Wh/D or ESU-A2400Wh/N Max. 400Ah
	Rectifiers	Max. 8 × R4850S1/R4850G2/R4850N2			
	Controller	ECC500S			
	Installation Mode	Ground installation			
	Cabling Mode	From the bottom			From the top
System	Cooling for Equipment	HEX: 150 W/K			Natural cooling
	Cooling for Battery	DC Air-con PC500D		DC Air-con PC1000D	Natural cooling
	Maintenance Mode	From the front		From the front and rear	
	Protection Level	Equipment cabin: IP55 Battery cabin: IP55			Equipment cabinet: IP20 Battery cabinet: NA
	Noise Level	≤ 65 dB(A) @ 1.5 m, satisfy the GR487 standard			
	Remaining Space ¹	7 U	21 U	14 U	34 U
	MTBF	> 100,000 hours			
AC Distribution	ACDU Type	ACDU-63A1/ACDU-63A2/ACDU-125B1 (Optional, only for single mains input)			
	ATS Type	ATS-63A1/ATS-63A2/ATS-125C1 (optional, only for two AC inputs)			
	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)			
DC Distribution	DCDU Type	DCDU-400AN2			
	Output Voltage	-48 Vdc			
	Maximum Capacity	Max. 400 A			
	Battery Branch	2 × 250A Fuse			
	BLVD Branch ²	1 × 63 A MCB, 4 × 32 A MCB, 2 × 16 A MCB (LLVD2)			
	LLVD Branch	2 × 80 A MCB, 2 × 63A MCB (LLVD1)			
	SPD	10/20 kA (8/20 μs)			
Environment	Operating Temperature ³	ICC330-H/ICC710-HA: 0°C to +45°C + solar radiation ESC330-A2: 0°C to +50°C + solar radiation			-10°C to +45°C
	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)			

1. The remaining space for customer use should according to the actual configuration of equipments
2. DCDU-400NA2: LLVD load connect to LLVD1, BLVD load connect to LLVD2
3. ICC330-HA1-C1/ESC330-A2 /ICC710-HA can work under the ultra-temperature: -20°C by adding pre-heat box.

Remark:

- DCDU: Direct Current Distribution Unit
- ESU: Energy Storage Unit
- ATS: AC Transfer Switch
- MTBF: Mean Time Between Failures
- SPD: Surge Protective Device

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