

Solar Hybrid Power Solution

PowerCube 1000 S2: Solar & Diesel hybrid solution



Introduction

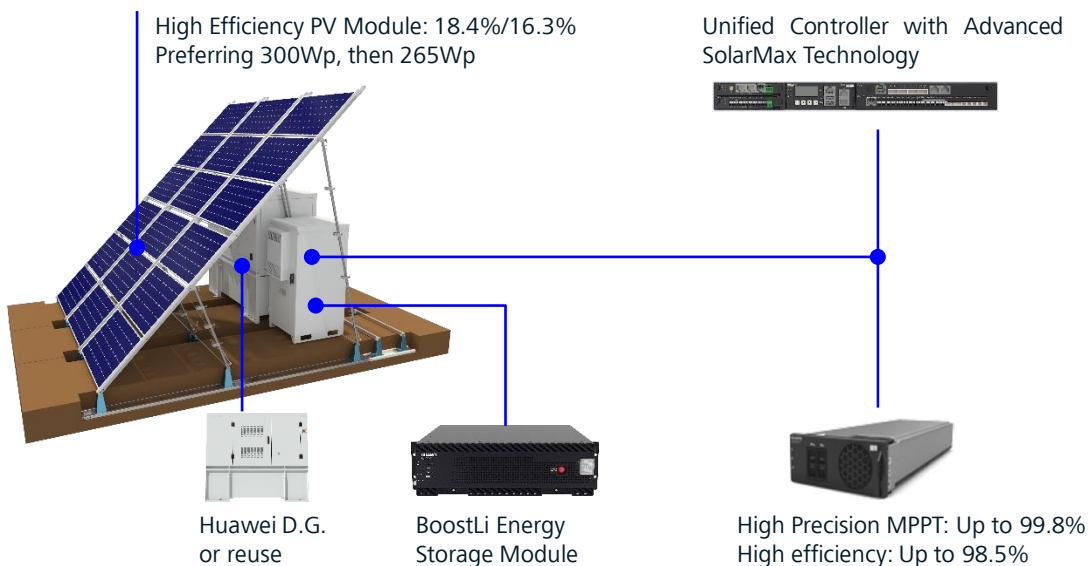
Solar & D.G. hybrid solution provides power for low/medium loads from 0 to 3.5 kW in some areas with enough sunshine but poor grid or off grid, the solution adopts excellent cycle performance li-ion battery, It makes full use of the long cycle life performance of lithium battery and 300Wp/265Wp large capacity PV panels, with the intelligent self-adapting scheduling logic to realize maximize the use of solar energy, to reduce the D.G. running time and fuel consumption.

Features

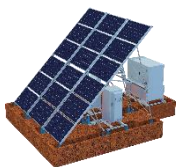
- Leading SolarMax technology
- Compact controller with MPPT technology
- Remote energy management by NetEco (optional)
- Smooth evolution and easy expansion

Scenarios

- Off grid or poor grid areas
- Sunshine duration fluctuates greatly areas
- Systems requiring high reliability requirement
- Require environment protection area



Configuration



Solution1 (Outdoor)



Solution2 (Outdoor)



Solution2 (Outdoor)



Solution3 (Indoor)

Specifications

Solution Type		Solution1 (Outdoor)	Solution2 (Outdoor)	Solution3 (Outdoor)	Solution4 (Indoor)
Condition	Typical Load	< 3.5 kW			
	Energy Input	Solar & Diesel			
	Diesel Generator	5 kW 120/240 Vac, single-phase (300 L fuel tank)	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)		
	Photovoltaic Array	Max. 24000 Wp			
Configuration	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/VSCB-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	
	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			
	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)			
SPD		10/20 kA (8/20 μs)			
Environment	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
- MTBF: Mean Time Between Failures
- SPD: Surge Protective Device
- IDG: Integrated Diesel Generator

Copyright © Huawei Technologies Co., Ltd. 2017. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

General Disclaimer

The information in this document may contain predictive statements including, without limitation, statements regarding the future financial and operating results, future product portfolio, new technology, etc. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in the predictive statements. Therefore, such information is provided for reference purpose only and constitutes neither an offer nor an acceptance. Huawei may change the information at any time without notice.

HUAWEI TECHNOLOGIES CO., LTD.

Huawei Industrial Base
Bantian Longgang
Shenzhen 518129, P.R. China
Tel: +86-755-28780808
www.huawei.com