Diesel Hybrid Power Solution

PowerCube 1000 D1-Standard: Diesel hybrid solution

Introduction

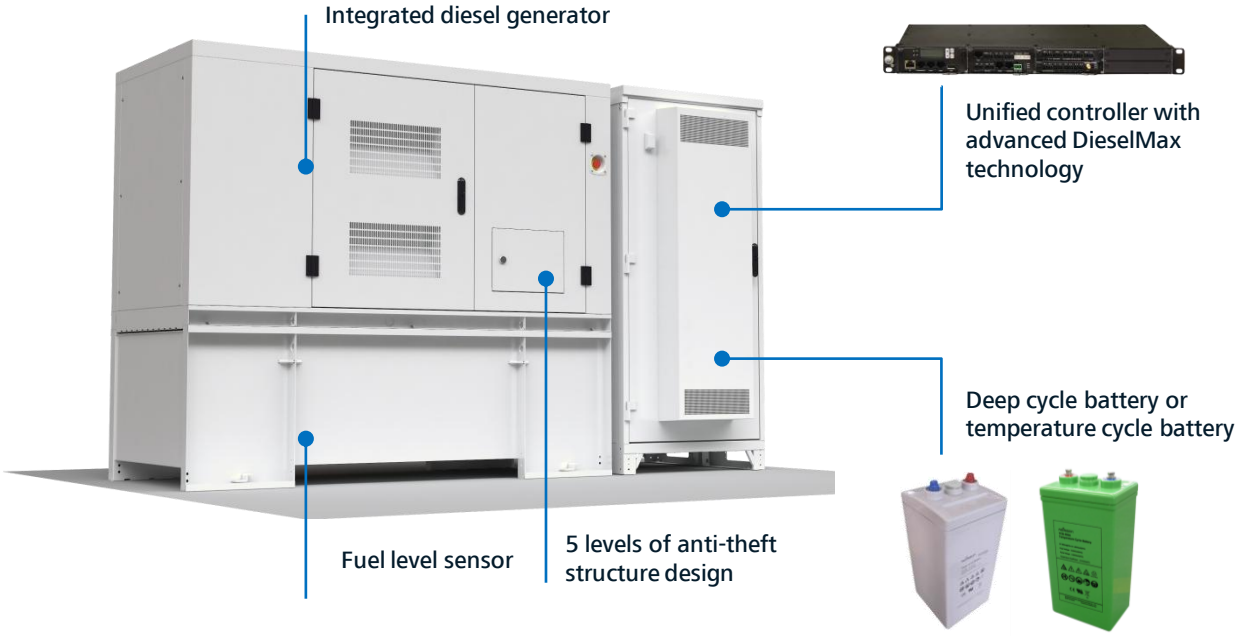
D1-Standard hybrid solution provides power for medium/large loads from 1.0 kW to 5.0 kW in off and unstable grid areas, it configures the battery of TCB-A/DCB-A for indoor and outdoor scenarios, the TCO is much lower than legacy dual D.G. solution, it also can smooth evolution to solar solution by adding PV panels.

Features

- Leading DieselMax technology
- Integrated design, 5-level anti-theft structure
- Support the connection of grid & solar, smooth evolution
- Remote energy management by NetEco (optional)

Scenarios

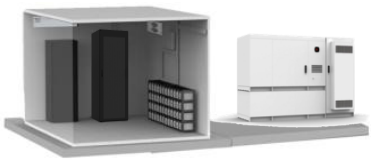
- Off or unstable grid areas
- Medium or large load system
- Areas of lacking professional D.G. maintenance engineers



Configuration

D1-Standard (DCB-A) (Outdoor)

D1-Standard (TCB-A) (Outdoor)



D1-Standard (Indoor)

Specifications

Solution Type		D1-Standard (Outdoor)			D1-Standard (Indoor)
Condition	Typical Load	< 5.0 kW			
	Energy Input	Diesel			
	Diesel Generator	10/14 kW, 230V/400 Vac three-phase (800 L fuel tank) 11.5/16 kW, 110/220 Vac or 120V/240 Vac dual-live wire (800 L fuel tank)			
Configuration	Integrated Cabinet	ICC330-H1-C2 + ESC710-A1 ICC330-H1-C2 + ESC710-D2	ICC710-HA1-C1 ICC710-HD1-C1	ICC900-HA1-C4 ICC900-HD1-C1	ICC200-N1-C5 + battery shelf
	Battery Type	TCB-A，Max. 2600Ah	TCB-A, Max. 650 Ah	DCB-A, Max. 1200 Ah	TCB-A/DCB-A/SCB-A, Max. 3200Ah
	Rectifiers	Max. 8 × R4850S1			
	Controller	ECC500S			
System	Installation Mode	Ground installation			
	Cabling Mode	From the bottom			From the top
	Cooling for Equipment	HEX: 150 W/K	HEX: 150 W/K	HEX: 200 W/K	Natural cooling
	Cooling for Battery	ESC710-A1: DC Air-con PC1000D ESC710-D2: Direct ventilation	ICC710-HA: PC500D ICC710-HD: Direct ventilation	ICC900-HA: DC Air-con PC1000D ICC900-HD: Direct ventilation	
	Maintenance Mode	From the front and rear			From the front
	Protection Level	Equipment cabinet: IP55 Battery cabinet: ESC710-A1/ICC710-HA/ICC900-HA: IP55 ESC710-D2/ICC710-HD/ ICC900-HD: IP34 IDG: IP23			Equipment cabinet: IP20 Battery cabinet: NA IDG: IP23
	Noise Level	Cabinet ≤65 dB(A) @1.5m, satisfy the GR487 standard IDG: 75 dB(A) @1m, 75% load, satisfy the ISO8528 standard (80 dB(A) only for 16 kW 1DG)			
	Remaining Space[1]	21 U	14 U	18 U	34 U
	MTBF	>100,000 hours			
AC Distribution	ATS Type	ATS-63A1/ATS-63A2/ATS-125C1			
	SPD	ATS-63A1: 20/40 kA (8/20μs) ATS-63A2/ATS-125C1: 30/60 kA (8/20μs)			
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-H1-C2: -20°C to +45°C + solar radiation ICC710/900-HA: -10°C to +45°C + solar radiation ICC710/900-HD: -10°C to +40°C + solar radiation ESC710-A1:-10°C to +50°C + solar radiation ESC710-D2:-10°C to +40°C + solar radiation (:-10°C to +45°C for TCB-A)			-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) 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*
3. *ICC710-HA1-C1 & ESC710-A1 can work under the ultra-temperature: -20°C by adding pre-heat device*

Remark:

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

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