

BESS Solution for On/Off-Grid C&I Microgrid



Challenges

Unreliable grid and load-shedding cause costly downtime for businesses.



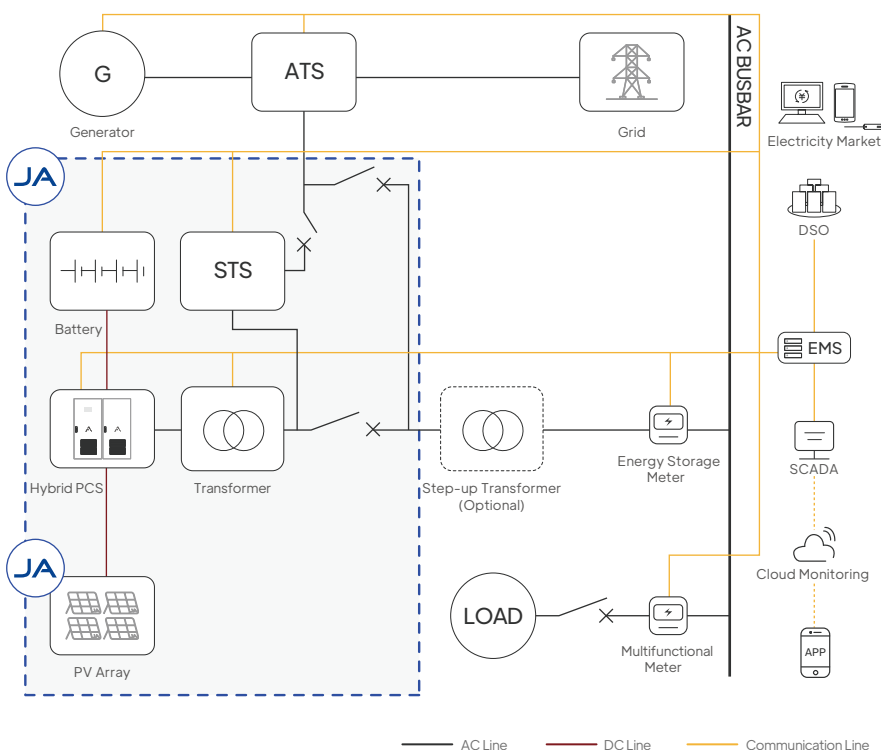
Volatile electricity prices and polluting diesel backups complicate cost control.



Solar generation often mismatches demand, resulting in low self-use and high waste.



Solutions



Functions



Supporting both AC/DC coupling, our multi-parallel PCS (up to 3MW) enables seamless grid to island transition ($\leq 20\text{ms}$) using PQ/VF control modes, ensuring uninterrupted critical load supply during grid failures.



The site EMS intelligently coordinates PV, storage, and generators to optimize energy dispatch, reducing diesel dependence while maintaining continuous power for critical operations.



Based on black start capability, achieving autonomous power restoration and system energy reconstruction.

Benefits

The integrated PV-storage-generator solution improves power reliability and system stability during grid failures and load shedding.

Energy storage allows for peak-valley arbitrage reducing electricity costs by 6%-12% and reducing reliance on costly backup power.

The system effectively regulates renewable energy fluctuations increasing self-consumption and reducing curtailment.

Advantages



Safety

- Comprehensive Cell Screening implementing multi-dimensional battery cell selection and testing protocols.
- Multi-Layer Protection integrating electrical, structural, and explosion-proof safeguards three-level fire protection design.
- Zero Safety Incidents maintaining a proven track record of no safety accidents.



Cost Efficiency

- An integrated control solution for PV-storage-generator systems that optimizes overall energy costs.
- Low auxiliary energy consumption and high system-wide efficiency.
- Modular design enables efficient operation and maintenance.



Reliability

- Seamless grid-connected/off-grid transition and black-start capability.
- Strong environmental adaptability and system immunity to interference (with isolated transformer).
- One-stop service and full lifecycle intelligent O&M support.

MODEL		JAP-100kW	JAP-150kW	JAP-250kW	JAG-500kW	JAG-1000kW
AC SIDE	Nominal power	100kW	150kW	250kW	500kW	1000kW
	Nominal voltage	400V(3W+N+PE)				
	Nominal current	144A	216A	361A	722A	1445A
	Voltage range	320~460V				
	Nominal frequency	50/60Hz				
	Power factor	1.0 leading~1.0 lagging				
	Overload capacity	110% long-term, 120% for 1 min				
	Isolation transformer	315/400V				
	On/off grid-connection switching	Supports 20ms				
PV (OPTIONAL)	Max. PV input voltage	1000V				
	Max. PV power	150kWp	150kWp	300 / 375kWp	600kWp	600/1350/1500kWp
	MPPT voltage range	250~850V				
BATTERY	Battery type	3.2V / 280Ah / LFP / 1P240S	3.2V / 280Ah / LFP / 2P240S	3.2V / 280Ah / LFP / 3P240S	3.2V / 280Ah / LFP / 5P240S	3.2V / 280Ah / LFP / 10P240S
	Nominal energy	215 kWh	430 kWh	645 kWh	1075 kWh	2150 kWh
	Max. C-rate	0.5P@25°C				
BASIC PARAMETERS	Protection level	IP55				
	Max. Off-grid parallel quantity	6	6	6	6	3
	Max. Operating altitude	5000m (>3000 with derating)				
	Cooling method	Intelligent Air Cooling				
	Fire suppression system	Aerosol	Aerosol	Aerosol	HFC-227ea	HFC-227ea
	EMS communication	RS485,TCP/IP				



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