# BESS Solution for Grid-Connected C&I Microgrid

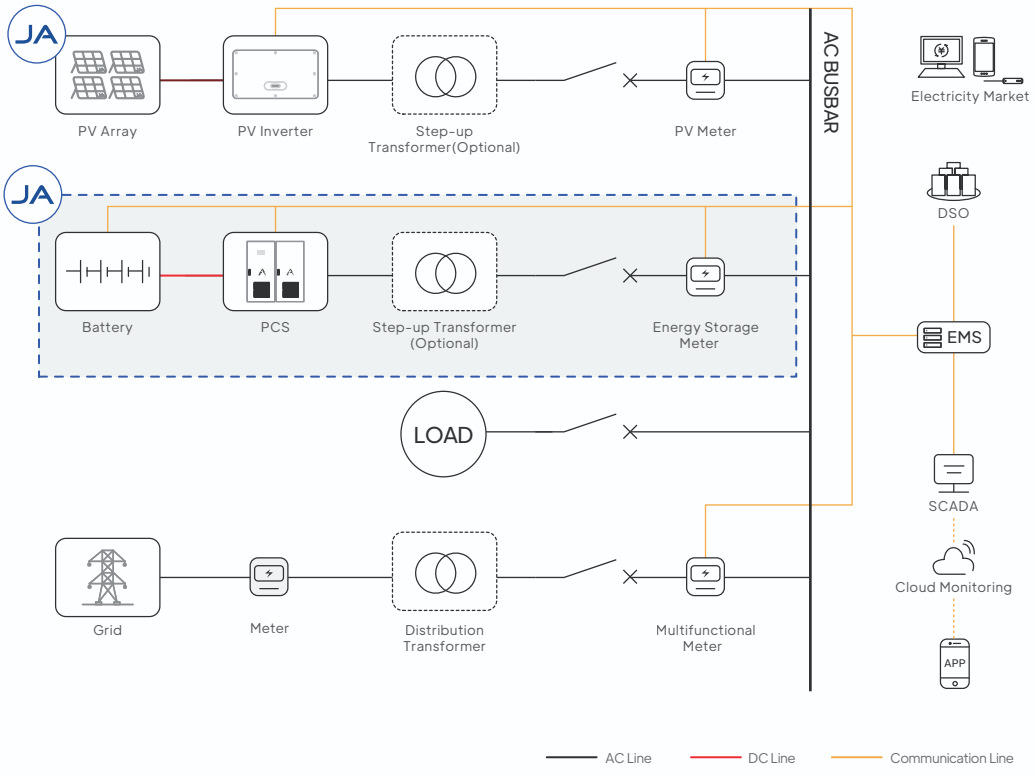
## Challenges

Soaring electricity prices drive up operational costs, making budgets unpredictable.

High solar curtailment rates lead to significant waste of clean energy.

Inadequate grid capacity stifles growth, with expansion being both complex and prohibitively.

## Solutions




### Functions

Optimize energy costs with VPP-driven real-time pricing and generate new revenue through ancillary market participation.

Maximize solar self-consumption through intelligent solar-storage-load coordination.

Dynamically manage power demand with AI-powered forecasting to avoid peak charges.

## Benefits

Achieve significant energy cost reductions of 6-12%.

Maximize renewable energy consumption, smooth power fluctuations, and increase the ROI of your green assets.

Deploy dynamic grid expansion to support and future-proof your business growth.

Enhance power reliability and minimize the high cost of downtime.

# Advantages

**Safety**

- Three-Stage Fuse Protection with millisecond response and continuous insulation monitoring.
- Three-Tier Fire Safety System with system-level explosion-proof design and PACK-level suppression.
- 24/7 Thermal Runaway Early Warning for proactive hazard prevention.

**Cost Efficiency**

- Higher ROI with long-life LFP batteries and precision SOX algorithms.
- 88% System Efficiency with minimal auxiliary power consumption.
- ±1.5°C Temperature Control through intelligent liquid cooling for optimal consistency.

**Reliability**

- Predictive Maintenance with AI algorithms to forecast failures and reduce unplanned downtime by 90%.
- Remote Resolution enabling over 90% of issues to be diagnosed and fixed online via software updates.
- Modular Design for rapid component replacement and significantly improved service efficiency.

| MODEL | | JAP-ES-125kW-261kWh |
|---|---|---|
| DC SIDE | Nominal energy | 261kWh |
| | Cell capacity | 314Ah LFP |
| | Nominal voltage | 832Vdc |
| | Voltage range | 728 ~ 936Vdc |
| AC SIDE | Nominal power | 125kW |
| | Nominal voltage | 380 / 400Vac, -15% ~ 15% (3P4W + PE) |
| | Nominal frequency | 50/60HZ |
| | AC PF | 1.0 leading ~ 1.0 lagging |
| SYSTEM PARAMETER | Cooling method | Intelligent liquid cooling |
| | Nominal charge & discharge rate | 0.5P |
| | Depth of discharge | 95% |
| | Protection level | IP55 |
| | Communication interface | Ethernet, CAN, RS485 |
| | Communication protocol | MODBUS-TCP/IP, MODBUS-RTU |
| | Fire suppression system | Pack-level & Cabinet-level detection + Aerosol |
| | Certification | IEC 62619, IEC 63056, IEC 60730, IEC 62477, IEC 61000, UN 38.3 |
| | Max. Parallel quantity | 20 |
| BASIC PARAMETER | Dimension (W x D x H) | 989 × 1465 × 2473mm |
| | Battery cycle life | 8000+ |
| | Weight | 2700kg |
| | Operation temperature range | -30°C~ +50°C |
| | Operation humidity range | 0 ~ 95% (Non-condensing) |
| | Anti-corrosion level | C4 |
| | Max. operating altitude | 2000m |

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