JKP-125LN-AI

Power Conversion System (PCS)

The JKP-125LN-AI is a 125kW rated bidirectional PCS for C&I series integrated storage cabinet. This three-phase four-wire unit features a compact AC/DC integrated design that fully embeds the high-voltage distribution box, with built-in protections including a disconnecting switch, fuses, and contactors. It supports battery charge/discharge, active/reactive power regulation, and grid dispatching commands.



High-Efficiency Conversion

- Full SiC design with up to 99% peak efficiency
- Three-phase four-leg topology for 100% unbalanced load
- Intelligent multi-level air cooling, no derating up to 55°C
- Supports up to 12 units off-grid parallel operation

Grid Resilience

- <20ms active/reactive power response
- Grid-forming with inertia support and μs-level voltage build-up
- Negative-sequence current control to minimize fluctuations and extend battery life

Comprehensive Protection

- Multi-layer hardware/software protection with DC soft-start and fault interruption
- AC insulation monitoring and DC contactor, fuse, and circuit breaker protection ensure multi-layer system protection
- Dual-chamber isolated cooling duct with high ingress protection for key components

Convenience & Reliability

- Modular design cuts transport, installation, and maintenance costs
- Integrated HV switchgear for compact cabinet layout and easy scalability
- Dual-redundant AC/DC control power supply ensures non-stop operation

DC Side Parameters

Rated DC Voltage Range	680V – 950V
Max. DC Operating Current	202.2A

AC Side Parameters（On-grid）

Rated AC Input/Output Power	125kVA
Max. AC Input/Output Power	137.5kVA
Max. AC Input/Output Current	198.4A
Rated Grid Voltage	380V / 400V
Grid Voltage Range	323V – 437V / 340V – 460V
Rated Grid Frequency	50/60Hz
Grid Frequency Range	47.5Hz – 52.5Hz
Power Factor	0.99 / -1~1
THDi	＜2%

AC Side Parameters（Off-grid）

Rated Voltage	400V
Voltage Range	340V – 460V
Voltage THD	<3% (linear load)
Rated Frequency	50/60Hz
Unbalanced Load Capability	100% (linear load)
Wiring Configuration	Three-phase four-wire
Number of Parallel Units	12

General Data

Max. efficiency	99%
Dimensions (W×D×H)	720×900×265mm
Weight	＜110kg
Ingress Protection	IP65
Cooling	Forced air cooling
Operating Temperature	–30°C ~ +60°C (derating ＞ 55°C)
Operating Humidity	0~100%, without consideration
Opearting Altitude	3000m
Communication Interface	RS485 / CAN / Ethernet

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Version: IEC_2026_A1