

OUTDOOR INTEGRATED SMART POWER CABINET

IP55 High-Efficiency Dual AC/DC Hybrid Energy Storage & Power Distribution System

Product Overview: The Outdoor Integrated Smart Power Cabinet is engineered for mission-critical outdoor applications including Smart City CCTV surveillance, 5G wireless telecom stations, and intelligent highway monitoring. Designed to withstand harsh desert and tropical climates (-40°C to +55°C), the system seamlessly combines utility grid rectification, pure sine wave AC inversion, long-life LiFePO4 battery energy storage, and door-mounted industrial air conditioning in a unified IP55 weatherproof enclosure.

System Configuration Matrix (Standard Models)

Specification / Model	Type 01 (Standard)	Type 02 (Heavy Load)	Type 03 (Traffic Hub)	Type 04 (Compact)
Enclosure Size (HxWxD)	970 x 600 x 650 mm	1120 x 600 x 650 mm	1120 x 600 x 650 mm	970 x 600 x 650 mm
Ingress Protection	IP55 Weatherproof	IP55 Weatherproof	IP55 Weatherproof	IP55 Weatherproof
DC Power Subrack	5U Rack (200A Max)	5U Rack (200A Max)	5U Rack (200A Max)	5U Rack (200A Max)
Rectifiers (Efficiency >96%)	2x 3kW Modules	2x 3kW (Expandable)	2x 3kW (Expandable)	2x 3kW Modules
Inverter Output	1x 3kVA Pure Sine	2x 3kVA (6kVA Parallel)	2x 3kVA (6kVA Parallel)	1x 3kVA Pure Sine
Battery Storage Capacity	15.36 kWh (3 Packs)	20.48 kWh (4 Packs)	20.48 kWh (4 Packs)	15.36 kWh (3 Packs)
Battery Chemistry & Life	LiFePO4, ≥2500 Cycles	LiFePO4, ≥2500 Cycles	LiFePO4, ≥2500 Cycles	LiFePO4, ≥2500 Cycles
Active Thermal Cooling	AC600W Industrial AC	AC600W Industrial AC	AC600W Industrial AC	AC600W Industrial AC
Operating Temperature	-40°C to +55°C	-40°C to +55°C	-40°C to +55°C	-40°C to +55°C
Estimated Autonomy	8 ~ 16 Hours	8 ~ 12 Hours	8 ~ 12 Hours	8 ~ 16 Hours

Key System Advantages & Engineering Strengths

- Plug & Play Turnkey Deployment:** All sub-systems including distribution panels, rectifiers, inverters, smart BMS lithium packs, and climate control are fully integrated and pre-commissioned at the factory.
- Dual Clean Power Architecture:** Simultaneously delivers clean -48VDC for core transmission/optical gear and isolated 220VAC pure sine wave power for CCTV cameras and recording servers.
- High-Reliability LiFePO4 Chemistry:** Tier-1 prismatic lithium iron phosphate cells with built-in multi-tier BMS safeguarding over-voltage, low-voltage, short-circuit, and high-temperature conditions.
- Harsh Climate Adaptability:** Double-layer galvanized steel casing with internal PEF insulation foam and closed-loop industrial door air conditioner guarantees internal temperatures below 30°C even under 55°C desert sun.
- Global Export Certified:** Fully tested and certified in accordance with IEC 62368, IEC 61000, CE, RoHS, UN38.3, and Maritime Class 9 Dangerous Goods transport standards.

Certified Standards: IP55 Enclosure Protection | CE Low Voltage & EMC Directive | UN38.3 Lithium Safety | RoHS Compliant | ISO 9001 Quality System