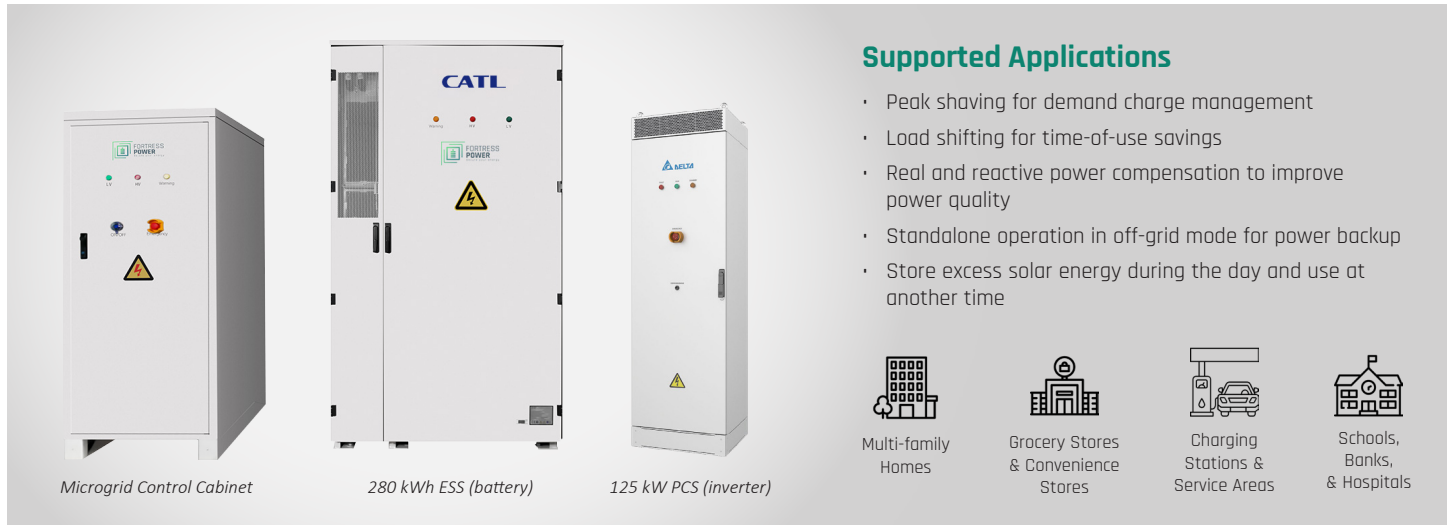


eSpire 280

COMMERCIAL AND INDUSTRIAL BATTERY STORAGE



Product Features

Safe Technology & Multi-level Protection

The solution uses the best-in-class Tier 1 Lithium Iron Phosphate (LFP) chemistry for the highest level of safety, thermal stability, and reliability; An integrated, multi-level Battery Management System (BMS) monitors, optimizes, and balances the system.

Advanced Liquid Cooling for the Extended Battery Lifespan

The unique liquid cooling system optimizes the battery thermal performance by 3 times, which extends the battery lifespan and increases your investment.

Built-in Microgrid Controls with Adaptive EMS / Fleet Management

Ability to integrate with solar, genset, wind, micro-turbines, utility, or other distributed energy resources. Intelligent software to reduce electricity cost, prepare for resiliency, and maximize return on investment. Remote operation & maintenance.

Easy & Flexible to scale (Easy scalability)

This outdoor rated, modular solution can be expanded up to 4.2 MWH capacity easily (Max. 15 unit in parallel).

Turnkey System for Fast Install

Fully integrated, pre-configured package system reduces on-site installation time; includes inverter(s), battery trays, racks, BMS, microgrid Controller, HVAC, fire suppression, and outdoor rated enclosure. Off-grid and Back up package available.

Excellent Local Support

Our US based technical support team can help you from project design to completion.

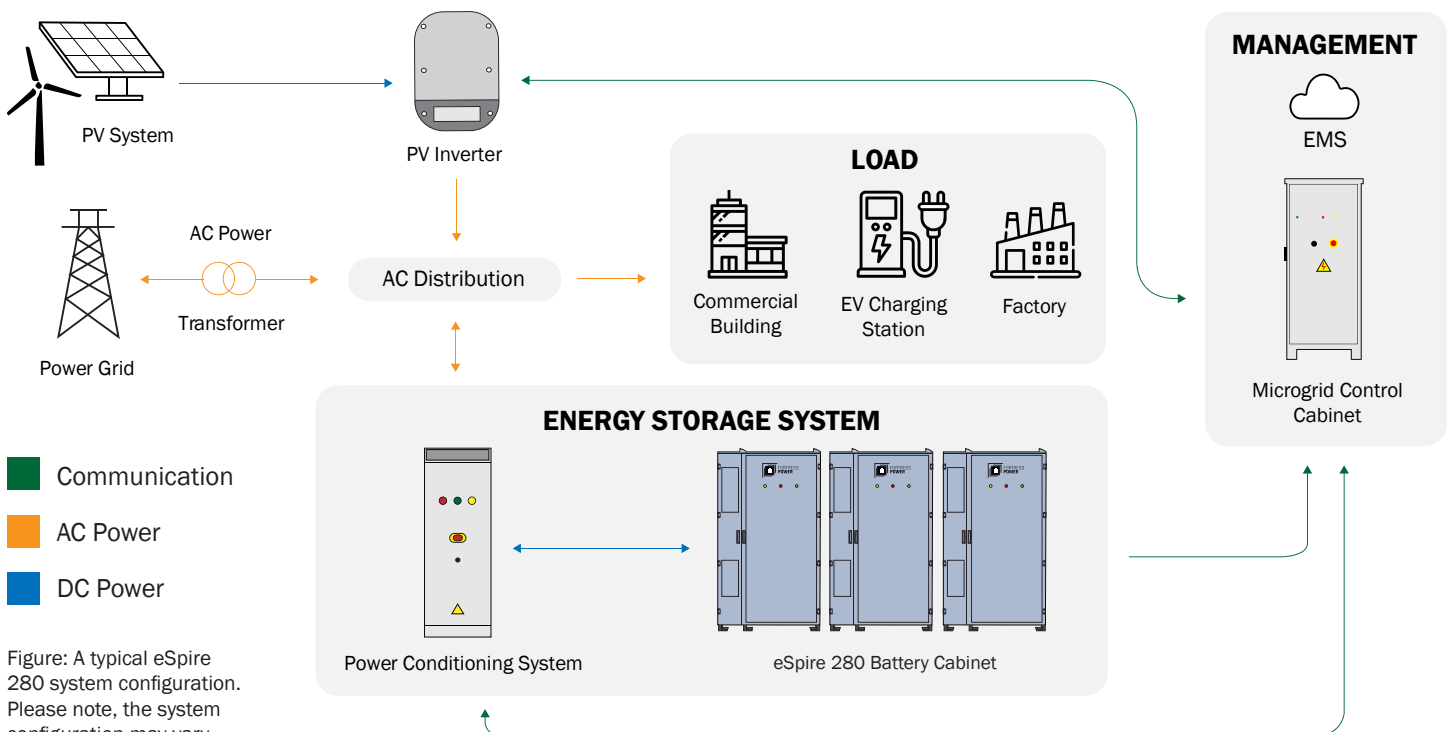


Figure: A typical eSpire 280 system configuration. Please note, the system configuration may vary based on application.

ESS includes: Inverter, battery, battery racks, BMS, HVAC, fire suppression, extraposition transformer, and outdoor rated enclosure

eSpire 280

COMMERCIAL AND INDUSTRIAL BATTERY STORAGE



Battery Specification	
Fortress Power Battery Module	eSpire 280
Chemistry	Lithium Iron Phosphate
Cell Type	Prismatic
Configuration	IP3I2S
Number of Modules	6
Nominal Capacity	280 Ah
Nominal Energy	279.5 kWh
Nominal Voltage	998.4 Vdc
Operating Voltage Range	873.7 - 1123.2 Vdc
Maximum Continuous Charging / Discharging Current	280 Amps
Peak Charging / Discharging Current	280 Amps
Communication	Modbus TCP, CAN, Modbus RTU
Cycle Life @ 25C @ 70% Retention	8000 Cycles
DC DC Round Trip Efficiency	92% @ 0.5C, 25°C, 1 Cycle Per Day
Operating Temperature Range	Charging: 0-55°C & Discharging -20-55°C
Key Components	6 Modules, 6 Cell Supervision Circuits, 1 Slave Battery Management Unit, 6 Maintenance Switch Disconnects
Thermal Management System	Integrated Liquid Cooling System (HVAC)
Fire Suppression System	Fire Detector, Smoke Detector & Fire Extinguisher
IP Class	Type IP66
Battery Bank Scalability	Up to 15 (4.2 mWh)

PCS Specification	
PCS Model	125 HV
Rated AC Power	125 KVA/KW
Rated Grid Voltage	3Ph 480Vac + PE
Grid Voltage Range	422 to 528Vac (-12%, +10%) / (3Ph 208Vac + PE)*
Rated Grid Frequency	60 Hz
Grid Frequency Range	59.3 to 60.5Hz, Adjustable
Rated AC Current	151 Amps
DC Voltage Range	750-1350Vdc
Rated Discharge / Charge Power	128KW/122KW
Max. Discharge/Charge Current	157Amps/151Amps
Output THDi	<3%
Peak Efficiency	98%
Standby Loss	<25W @ Cool Mode
Grid Power Factor	-1 (leading) to (Lagging), Continuously Adjustable
Wiring Configuration	3Phase 4 Wire (3P4W Configuration)
Protection	DC Reverse Protection/OVP/UVP/OCV/DC Insulation Detection

* For 3Ph 208Vac + PE application, a step-down transformer is required.

Energy Management Software	
Operation Mode	On Grid/Economic, Off Grid/Microgrid, Blackstart
Use Cases	Back-up, Microgrid, Off-grid, Peak Shaving, Demand Response, Time of Use, Net Metering, Zero Export, VPP
Communication Interface	Modbus (TCP and RTU), TCP/IP, CANbus, BACnet, Dry Contactor, External APIs

System Specification	PCS Details	Microgrid Control Panel Details	Battery Details
Operating Temperature	-30 to 60°C, De-Rating >45°C	-25 to 40°C	-30 to 45°C
Storage Temperature Range	-25 to 55°C	-15C to 45°C	-40 to 60°C
Dimensions (H*W*D)	2000*600*500mm	2300*600*750mm	2280*1300*1300mm
Enclosure Rating	NEMA 3R / IP55	NEMA 3 / IP54	NEMA 4X / IP66
Relative Humidity	<95% No Condensing	<95% No Condensing	<95% No Condensing
Max Altitude	4000m, De-Rating > 2000m	4000m, De-Rating > 2000m	4000m, De-Rating > 2000m
Acoustic Noise	<70 dBA, Max 75dB	N/A	<70dB, Max 80dB
Cooling System	Forced Air via Speed Control	Air Cool	Liquid Cooling Via HVAC
Net Weight	230kg/286.6lbs	313kg/690lbs	2510kg/5533.60lbs
Operation Status indicators	Warning, Low Voltage & High Voltage		
Lockage Enclosure	Swing Handle Padlockable		
User Interface	LED, EPD, Ethernet & HMI via Web Access		
Communication Protocol	Ethernet/Modbus TCP		
Certifications	UL1973, UL9540[A], UL1741-SB, IEEE-1547-2018, IEEE-519, FCC Part 15 Class A (UL9540 CEC, SGIP Pending)		

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