



EMPOWERING A SUSTAINABLE FUTURE

HyperStrong Proposal for the
250MW/1000MWh BESS Project



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— 250MW/1000MWh BESS Project —



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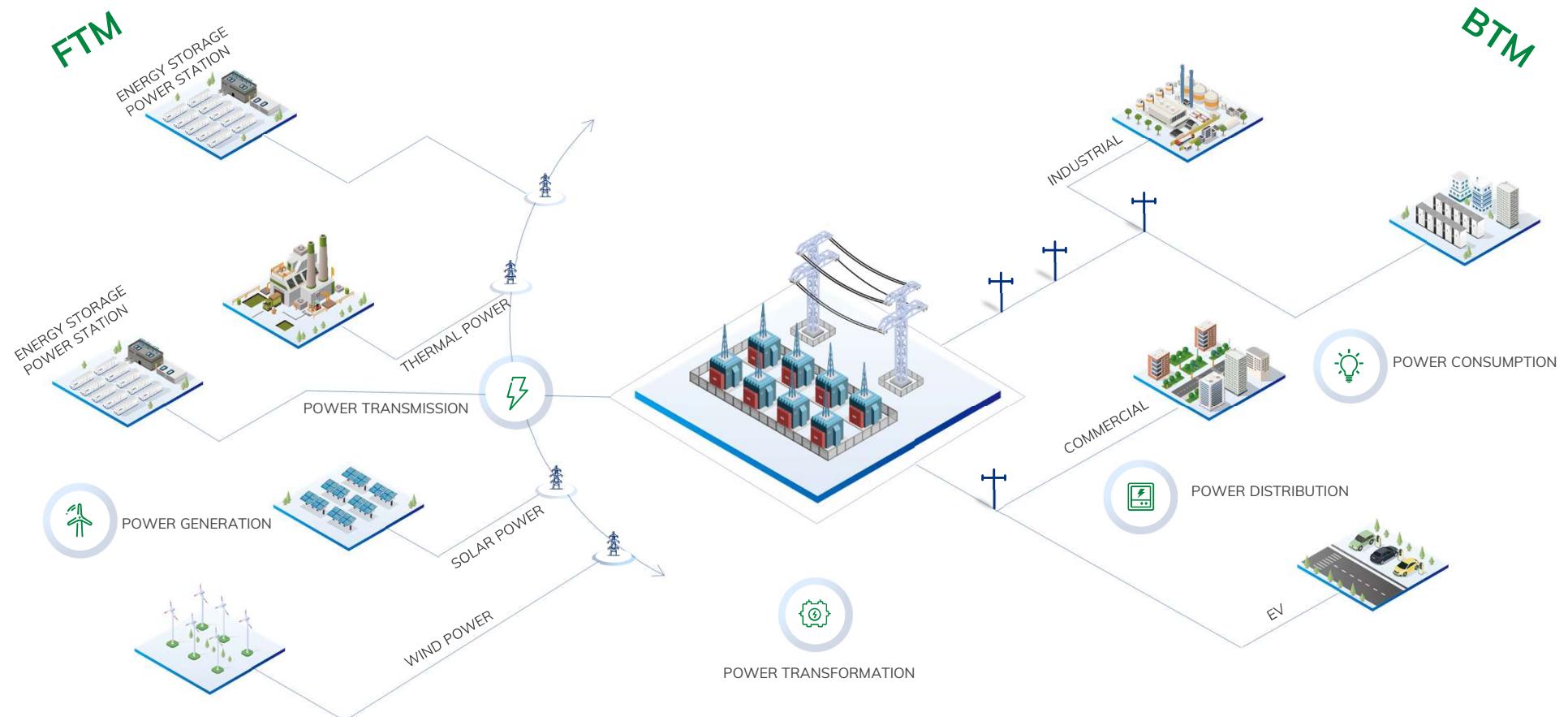


01 PRODUCT INTRODUCTION



SOLUTIONS FOR ALL SENARIOS

 HYPER STRONG



UTILITY-SCALE SOLUTIONS



Wind farm

The combination of wind farms and energy storage ensures continuous power supply and addresses the issue of unstable wind energy production, enhancing reliability.



Solar farm

Photovoltaic power plants paired with energy storage are vital for stabilizing energy production and ensuring reliable electricity supply.



Thermal power plant

Combining energy storage with a thermal power plant enhances energy production flexibility, addresses peak demand fluctuations, and strengthens grid stability.



Other renewable energy power plants

Apart from wind and solar power, the integration of energy storage with other forms of renewable energy generation helps balance unstable sources and ensure reliable electricity supply.

Utility ESS

Wind farm

Solar farm

Balancing power supply

Thermal power plant

Load management

Enhance grid stability

Improve power quality

Peak shaving

MAIN PRODUCTS | Liquid-cooling ESS

Hyper-Block III



Highly Integrated

- Up to 5MWh capacity, 34.5% increase in energy density
- Adopting the integrated design of battery rack, PDU, and string PCS
- Compared with the traditional BESS system, the footprint is reduced by more than 5m², and the commissioning time by more than 4h
- Single-side opening design enables back-to-back container installation to optimize space utilization and reduce O&M workload



Outstanding Adaptability

- IP Rating: Container IP55 and Pack IP65
- Intelligent thermal management system guarantees system optimal performance
- Extensive environmental options and intelligent fault preventions ensures continuous system operation



Safe and Reliable

- The Battery dispatching mechanism optimizes battery degradation and controls cell temperature difference within 3°C
- Both pack and system meet UN38.3 vibration and safety requirements, as well as more than 10 other global certifications
- "Intelligent O&M Key V2.0", an intelligent and user-friendly software designed by HyperStrong for the whole life cycle and all application scenarios
- Ensures more than 20 years of safe and stable operation



Highly Secure

- Multi-dimensional sensors enable intelligent sensing of potential thermal runaway
- Multi-level intelligent AI control, unit-level UL9540A,UL9540 and cabin-level aerosols ensure the overall safety of the BESS



Standalone ESS

Renewable Energy with ESS

Frequency Regulation

C&I ESS



MAIN PRODUCTS | Liquid-cooling ESS

Hyper-Block III DC Block

Product Specifications			
Model name	HSL37001-05015	Operating Humidity	0~95%RH (Non-condensing)
Battery Type	LFP-314Ah	Operating Temperature(°C)	-30~55°C (> 45°C Derating)
Configuration	12P416S	Altitude(m)	≤3000
Rated Energy (kWh)	5015.96	Auxiliary Power Supply	480Vac 60Hz /400Vac 50Hz
Rated Voltage (Vdc)	1331.2	Communication Protocol	Modbus TCP, Modbus RTU
Voltage Range (Vdc)	1123.2~1476.8	Cooling Method	Smart liquid cooling
Rated Power	≤2500kW	Fire Suppression System	Cabin level aerosol(automatic), Ventilation system & Deflagration panel (optional)
Dimension (W*D*H) (mm)	6058*2438*2896	Certificate and Compliance	UL1973, IEC62619, UL9540A, CE, UL9540, NFPA855
Weight (kg)	≤45000	IP Rating	Pack-IP65/PDU-IP55/Container-IP55/PCS-IP66

MAIN PRODUCTS | Liquid-cooling ESS

Battery cell

The cell is a standard 314Ah lithium iron phosphate (LFP) prismatic cell produced by CATL/EVE, which is a tier-1 battery cell vendor. The battery is in high safety with long lifespan and great performance (cycle, charge and discharge).

Cell	Item	Unit	Spec.
	Rated Capacity	Ah	314
	Rated Energy	Wh	1004.8
	Rated Voltage	V	3.2
	Rated Current	A	157
	Voltage Range	V	2.5-3.65
	Size (W*H*D)	mm	174.26*207.01*71.55
	Weight	kg	5. 49±0.3
	Resistance	mΩ	0.18±0.05
	Operating Temp.	°C	0~60°C (Charge) -20~60°C (Discharge)

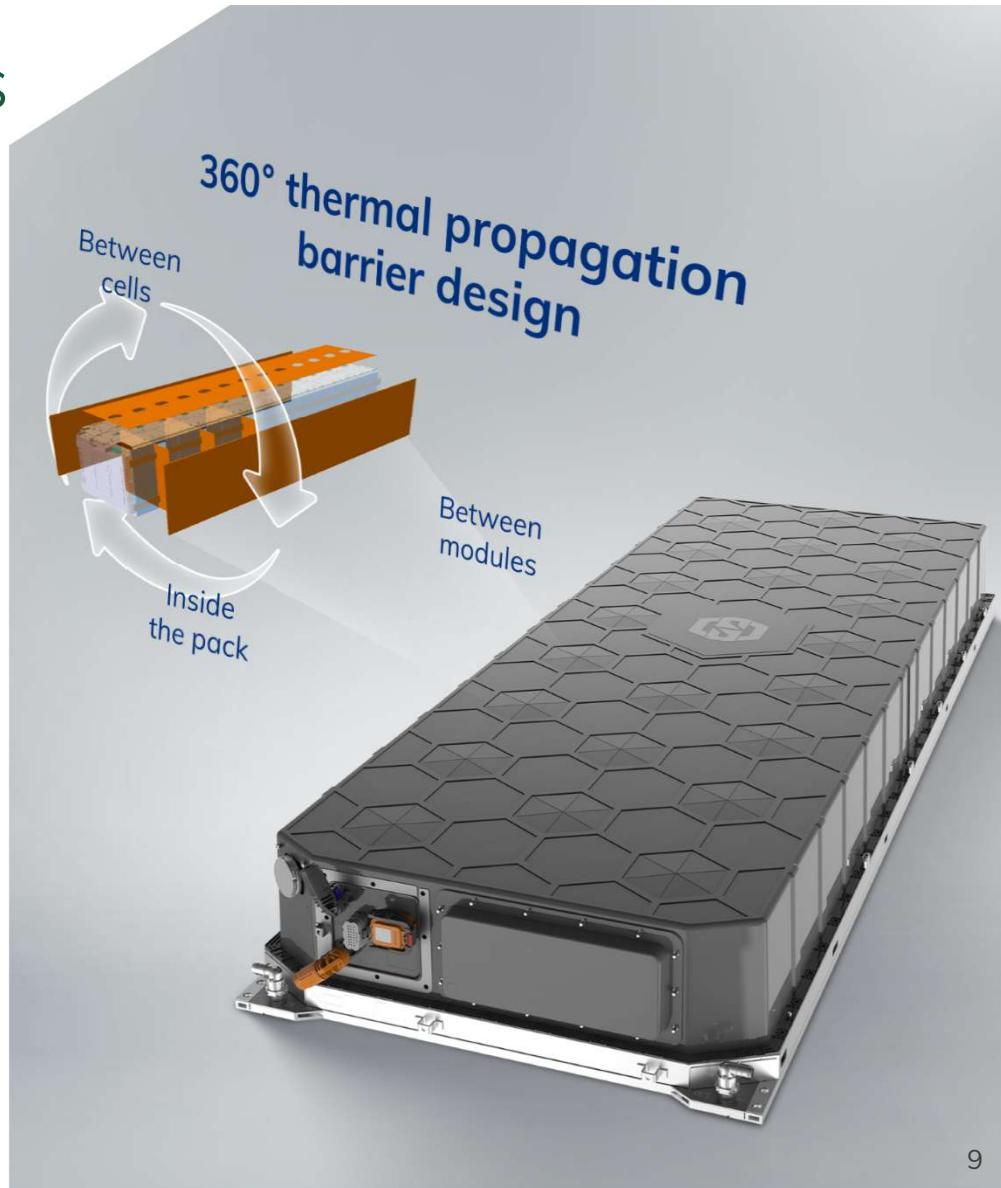


MAIN PRODUCTS | Liquid-cooling ESS

Battery module

The battery module is composed of 104 battery cells in series and auxiliary parts (such as housing, terminals, acquisition circuit, BMU, etc.).

Item	Unit	Spec.
Cell	-	LFP-314Ah CATL/EVE
Configuration	-	1P104S
Rated Capacity	Ah	314
Rated Energy	kWh	104.50
Rated Voltage	V	332.8
Rated Power	kW	≤52.25
Voltage Range	V	260V ~ 379.6V
Size (W*D*H)	mm	790*2190*245
Cooling mode		Liquid cooling
Weight	kg	690±10

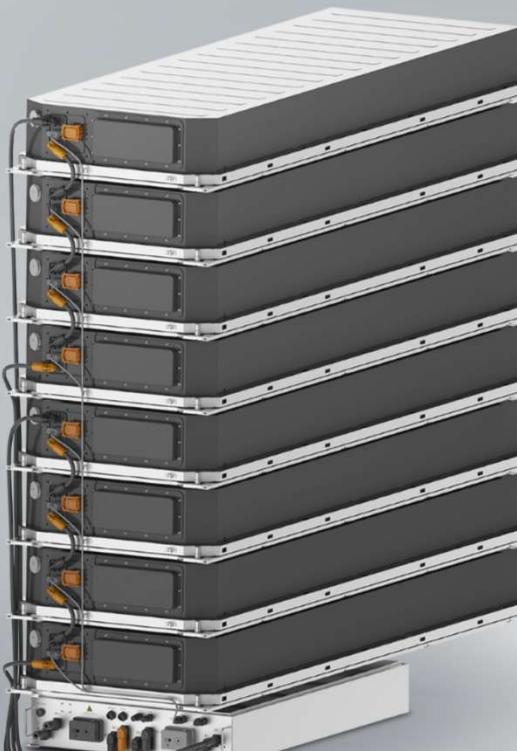


MAIN PRODUCTS | Liquid-cooling ESS



Battery rack

Battery rack
2-rack layout



Item	Unit	Spec.
Cell	-	LFP-314Ah
Configuration	-	1P104S
Rated Capacity	Ah	314
Rated Energy	kWh	104.499
Rated Power	kW	≤ 52.249
Rated Voltage	V	332.8
Voltage Range	V	260-379.6 V
IP Rating	-	IP65
Operating Temperature	°C	Charge: 0-55 Discharge: -20 to 55
Storage Temperature	°C	-35 to 60
Operating Humidity	-	0-95%RH
Altitude	m	3000
Communication Mode	-	Daisy Chain
Size (W*D*H)	mm	(790±5)*(2190±15)*(245±5)
Weight	kg	665±10
Pack Acquisition	-	Voltage Acquisition: 104 pcs

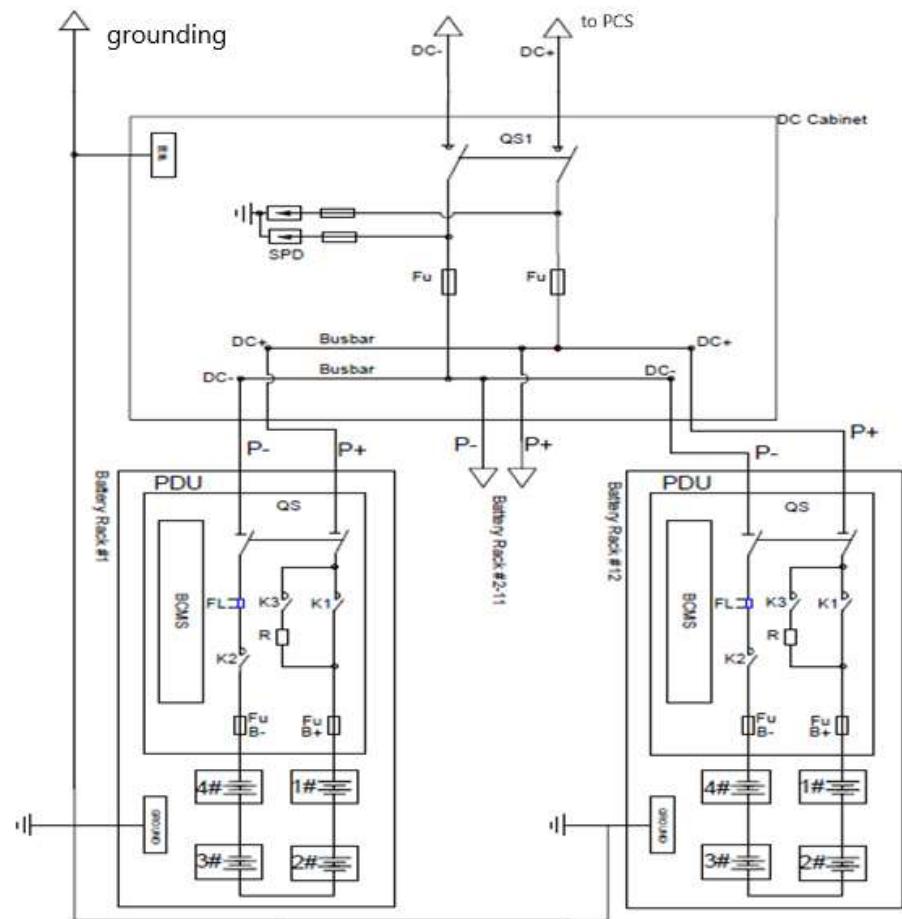
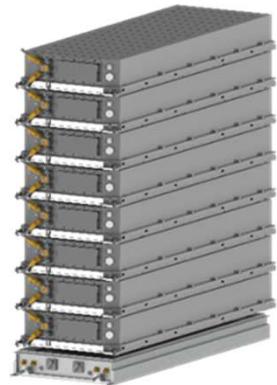
MAIN PRODUCTS | Liquid-cooling ESS

Primary system circuit diagram-DC Block

BCP(Control cabinet)

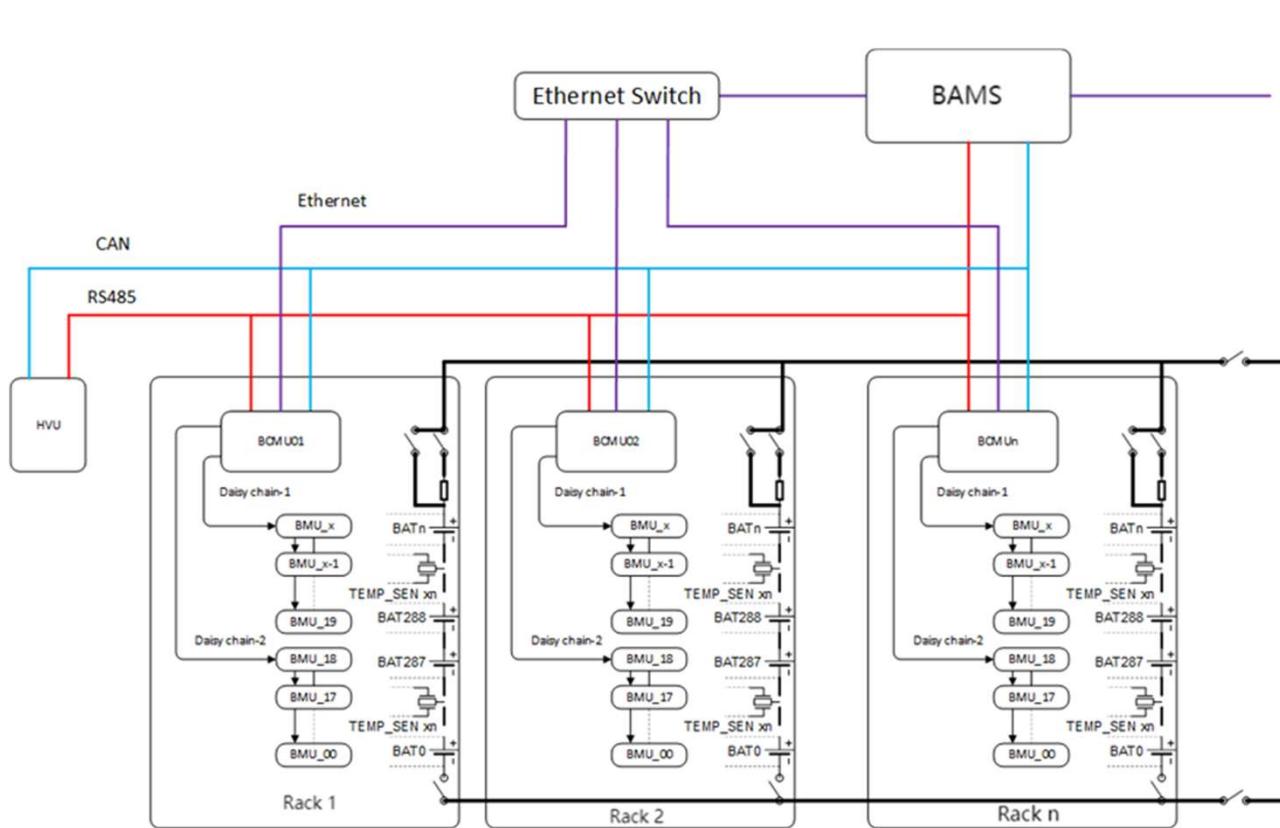


Battery rack*12



MAIN PRODUCTS | Liquid-cooling ESS

Communication Scheme



BAMS

function

- Battery system control and protection
- Communication with PCS and EMS

BCMS

function

- | | |
|-----------------------|---------------------------|
| • Data analysis | • Troubleshoot |
| • Capacity evaluation | • Safety control protocol |
| • SOC evaluation | |

BMU

function

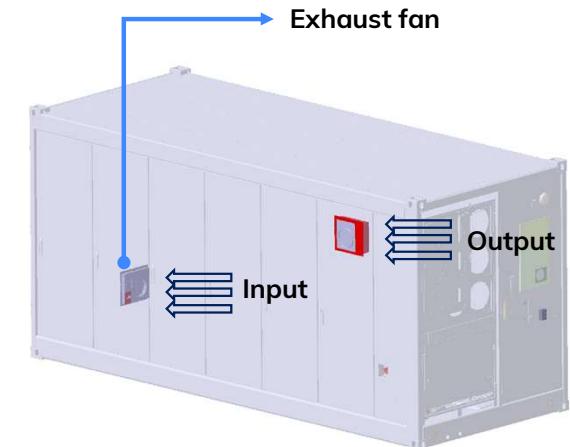
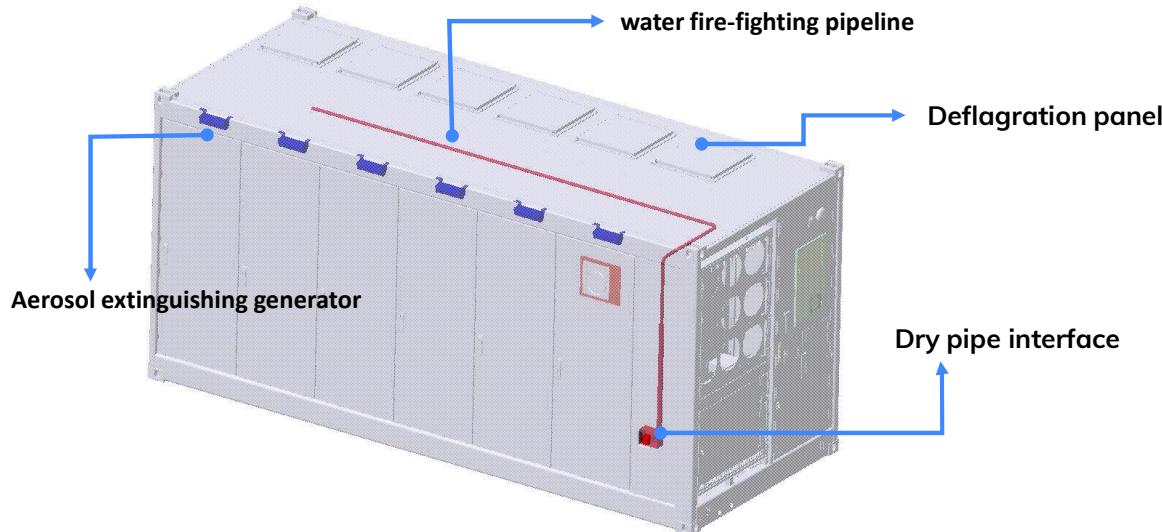
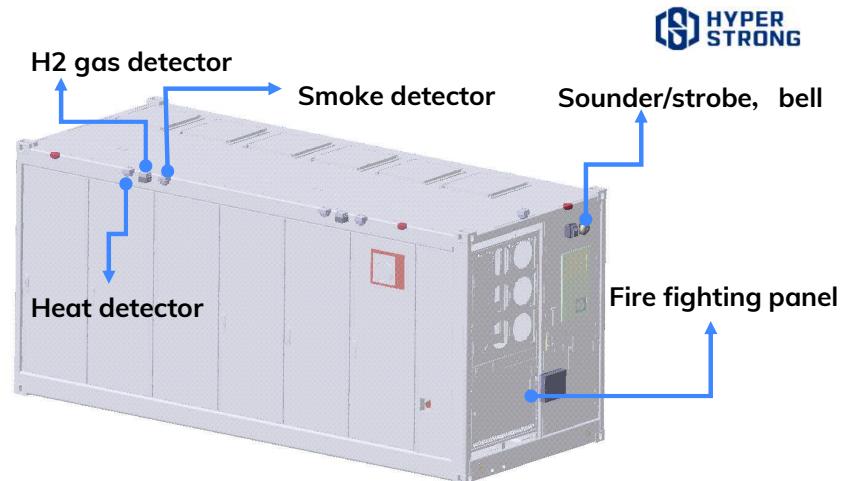
- Cell level operation data collection

MAIN PRODUCTS | Liquid-cooling ESS

Fire suppression system

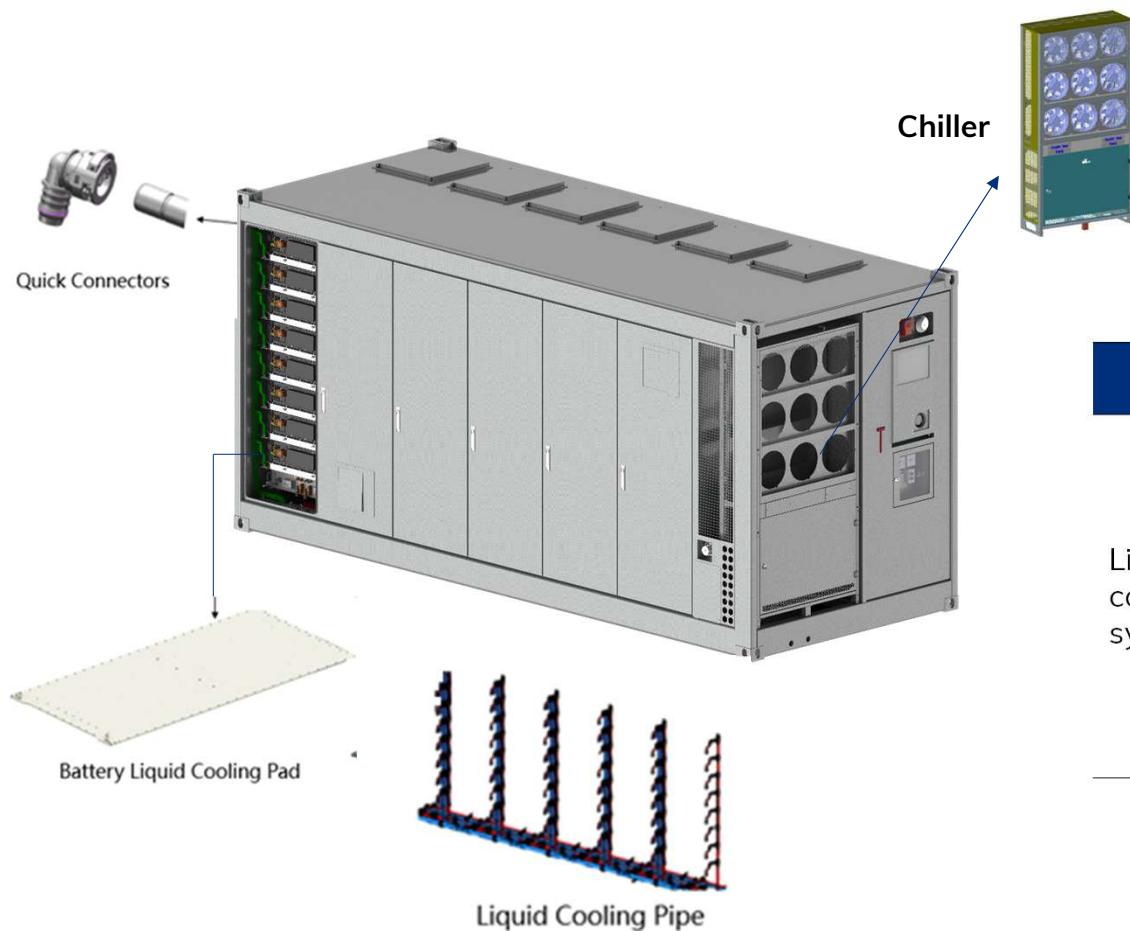
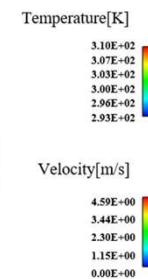
Fire suppression system

- Detection & control system
- Aerosol plus dry-pipe fire suppression system
- Venting system & Deflagration panel design



MAIN PRODUCTS | Liquid-cooling ESS

Thermal management system-DC Block



System	Item	Function
Liquid cooling system	Thermal Management Type	Liquid cooling/heating
	Cooling Capacity	60kW
	Heating Capacity	24kW
	Noise Level	$\leq 80\text{dB}$
	Battery Temperature performance	System temperature difference $\leq 3^\circ\text{C}$

MAIN PRODUCTS | PCS Skid

EPC +M08



MODEL	50-103421	+M08	+M10
System Inverter Count (1)(2)		8 Inverter System	10 Inverter System
AC	AC configuration Nominal AC voltage (+/- 10%) (3) Nominal AC current (export/import) AC export/import capacity @ +45°C [113°F] (6), (7) Export power overload capacity @ +45°C, starting from 66% full load Max. AC transformer let-through current Nominal frequency range Harmonic distortion	Busbars with Throat 480 - 690 - 850 VAC (4)(5) 3,600 ARMS 2,992 - 4,296 - 5,296 kVA 125 % for 3 sec and 105 % for 5 min 200 - 200 - 100 kA 50 / 60 Hz (configurable) UL1741 / IEEE 1547, <2% TDD at rated power per IEEE 519 <3% according to VDE-AR-N 4110/4120	
DC	Target efficiency: Peak CEC Euro Minimum DC voltage (8) Maximum DC voltage Maximum DC current DC Connection Max. fault current allowed from DC source Number of DC inputs (9) Max. deviation of DC voltage between parallel units	99.1% [est.] 98.7% [est.] 98.9% [est.] 715 - 1,025 - 1,260 VDC 1,200 - 1,500 - 1,500 VDC 540 ADC / Inverter 2 x 750 kcmil Per M Inverter / pole BESS: 250 kA PV: 1.3 kA BESS: 1 per M Inverter PV: max 3 per M Inverter Any	

MAIN PRODUCTS | EMS

EMS - Fractal



HYPERS STRONG

APPLICATION STACKING

Fractal EMS provides applications that are customizable and stackable. Applications can respond to market or sensor inputs. Through the UI, applications can operate concurrently (stacks) and be prioritized (e.g., perform application 2 only if application 1 is not active). Applications can also be configured to use a certain percentage of the asset (application 1 has access to 60% of the BESS rated power, Application 2 has access to 40% of BESS rated power). Applications can be scheduled to operate during certain hours of the day.

MERCHANT SERVICES



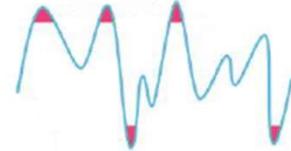
- Energy Arbitrage
- Frequency Regulation
- Spinning Reserves
- Non-Spin
- Fast Frequency
- Ramp Support
- EIM

PEAK SHAVING



- Coincident Peak Shaving
- Demand Charge Mitigation
- TOU Energy Shifting
- Congestion Relief
- Load Leveling

RELIABILITY



- Resource Adequacy
- Capacity
- Volt / Var Support
- Blackstart
- T&D Deferral
- SOC Balancing

RENEWABLES



- Shifting
- Smoothing
- Firming
- Clip Charging
- PV Self Consumption

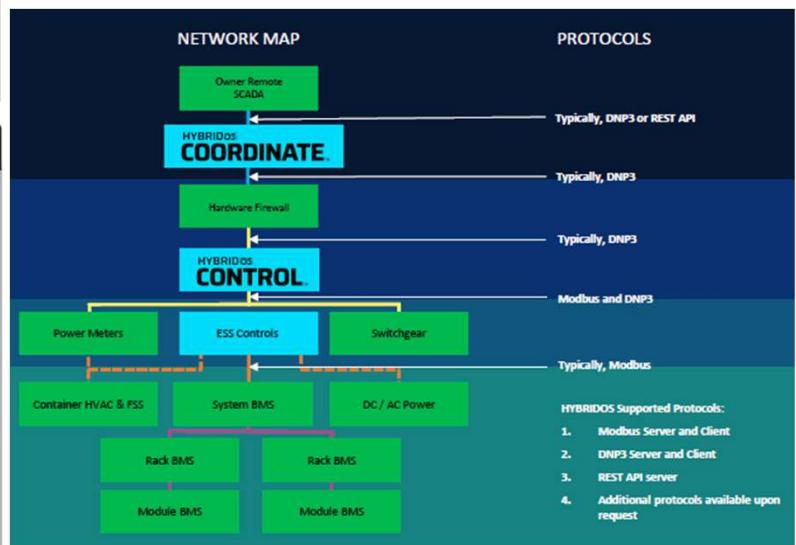
Only for reference, final delivery shall prevail

MAIN PRODUCTS | EMS

EMS – Flexgen

HYBRIDOS CONTROL

- ESS BLOCK**
 - BATTERY CONTROL**
 - ✓ Asset Control
 - ✓ Maintenance Mode
 - Calibration and Capacity Testing
- STORAGE**
 - POWER DISPATCH**
 - Active Power
 - ✓ Active Power Setpoint
 - ✓ Active Power POI Limits
 - Energy Arbitrage
 - Target SOC
 - Reactive Power
 - ✓ Reactive Power Setpoint
 - Power Factor Mode
 - Watt-Var Mode
 - Reactive Closed Loop Control
 - Loss Compensation
 - ✓ Feed-forward Control
 - ✓ Closed Loop Control
 - GRID STABILIZATION**
 - Voltage Regulation
 - ✓ Automatic Voltage Regulation
 - Frequency Regulation
 - ✓ Frequency Response Mode
 - SITE SCHEDULING**
 - Scheduler
 - ✓ Peak Shaving
 - ✓ Day Ahead
 - ✓ Weekly and Monthly Recurring Events
 - ✓ Time of Use
- MERCHANT**
 - US MARKET PARTICIPATION**
 - ERCOT
 - ✓ Regulation Services
 - ✓ Response Reserve Services
 - ✓ Frequency Response Services
 - CAISO*
 - ✓ CAISO ADS
 - ISONE*
 - ✓ MA Clean Peak
 - PJM*
 - MISO*
 - SPP*
- RENEWABLES**
 - RENEWABLE INTEGRATION**
 - Solar Features
 - ✓ Solar Curtailment
 - ✓ Selective Solar Charging
 - Direct Asset Dispatch
 - Solar Shed
 - AC PV Clipping Capture
 - DC COUPLED
 - ✓ DC-coupled Battery
 - ✓ DC PV Clipping Capture
 - DC-coupled Solar



HYBRIDOS COORDINATE.

- FLEET MANAGEMENT**
 - Multi-site Oversight
 - ✓ Fleet-Level Dashboard
 - Real-time Dispatch
 - ✓ Overrides
 - ✓ Verbal Dispatch
- FLEET SCHEDULING**
 - Scheduler
 - ✓ Multi-site Dispatch

HYBRIDOS ANALYZE.

- BASIC MONITORING**
 - Site Activity
 - ✓ Key Metric Data Visualizations
 - ✓ Digital Twin Performance Index
 - Reporting
 - ✓ Monthly Performance Report
 - ✓ Standard Alerting
 - Warranty Tracking
 - ✓ OEM Compliance & Equipment Health
- PREMIUM PERFORMANCE INSIGHTS**
 - Predictive Site Analytics
 - ✓ Proactive Optimization Recommendations
 - ✓ Underperformance & Failure Identification
 - ✓ Customized Alerts, Alarms and Reporting
 - 24/7 ROC Support & Troubleshooting (Lifecycle Services sold separately)

Only for reference, final delivery shall prevail



02
**TECHNICAL
PROPOSAL-
AUGMENTATION**



Project Design for the DC Block Solution

Project BESS configuration

Item	Value
Usable capacity @BOL	250MW/1000MWh
Installed nameplate capacity @BOL	270.648MVA/1263.78MWh
BESS Configuration	83*(5.015MWh BESS*3 + EPC + M09 4.833MVA)

The initial supply of this project is 83 sets of 4.833MVA/15.048MWh BESS unit, and total initial installation capacity is 401.139MVA/1243.72MWh.

Each 4.833MVA/15.048MWh BESS unit includes the following components:

- 3 sets of 5.015MWh BESS battery containers, each of which integrates 12 battery strings, BMS, liquid cooling system, fire protection system, control cabinet, etc.
- 1 set of 4.833 MVA PCS MV Station, each of which includes PCS, step-up transformer, MV switchgear, etc.
- POI Connection point BESS unit shall be AC 34.5kV 60Hz based on assumption.

Project Design for the DC Block Solution

Scope of supply

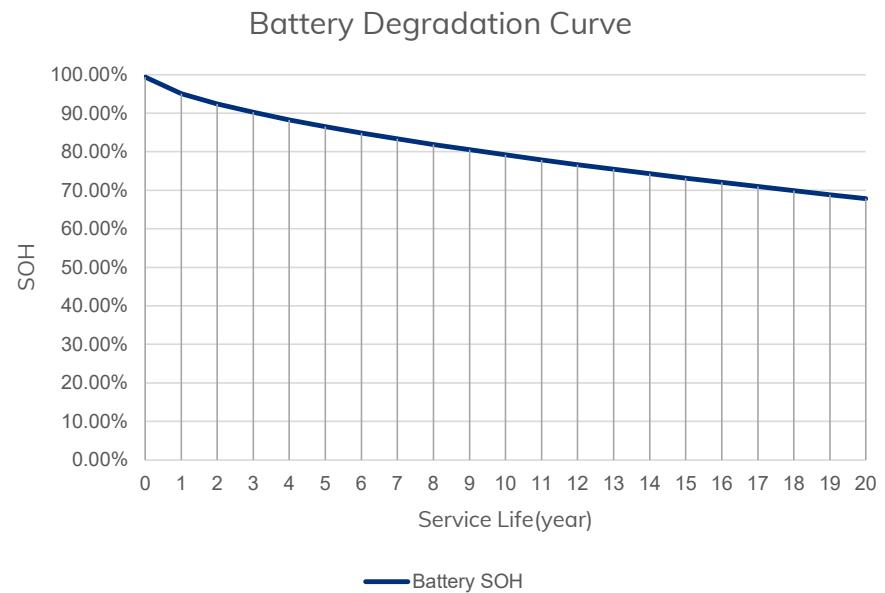
No.	Device	Specification	Qn.	Unit	Remark
1	Hyper-Block III DC Block 12-rack	5.015MWh Liquid-cooling BESS container	249	set	Each system consists of 1.1~1.6
1.1	Battery rack	1P416S,1040V~1500V, Rated energy: 418kWh Cell : ≥314Ah@25°C,0.25P,BOL	12	pcs	Cell from EVE
1.2	BMS	HyperBMS V2.1	1	set	/
1.3	Liquid-cooling system	>50kW liquid cooling machine & self-design double ring cooling pipes	1	set	/
1.4	Fire Suppression System	Smoke detection; Water dry pipe; Heat detection; Flammable gas detection; Venting system; Aerosol fire suppression.	1	set	Compliant to NFPA855
1.5	BCP	Include control, distribution and communication area, AC switch box	1	pcs	/
1.6	20ft Container	6058*2438*2896mm	1	pcs	/
2	EPC PCS Skid	4.833MVA MVPS	83	set	Each system consists of 2.1~2.3
2.1	PCS	4.833 MVA Power conversion system	1	unit	
2.2	Transformer	≥4.833MVA step-up transformer, 0.69kV/34.5KV	1	unit	
2.3	Switchgear	34.5kV MV switchgear	1	set	
3	EMS	Energy management system	1	set	

Project Design for the DC Block Solution



Performance & Degradation

Working conditions:
-10~45.4°C
 $\leq 0.25P$
100%DOD
365 cycles/year



Year	0	1	2	3	4	5	6	7	8	9	10
SOH	99.39%	95.05%	92.34%	90.13%	88.17%	86.40%	84.75%	83.20%	81.74%	80.34%	79.00%
Year	11	12	13	14	15	16	17	18	19	20	
SOH	77.70%	76.45%	75.24%	74.07%	72.92%	71.80%	70.71%	69.64%	68.60%	67.57%	

Technical Proposal-DC Block Solution

Performance & Degradation

Parameters used during the design:

- 1 Cycle/day
- DC Cable Efficiency: 99.9%
- PCS Efficiency: 98.3%
- MV Transformer Efficiency: 99%
- Aux Loss separately metered
- Power Factor: 0.95

Augmentation Strategy:

1. At the beginning of year 6, **12** 5.015MWh HyperBlock III DC containers and **4** EPC 4.833MVA PCS MV Station shall be added to meet the usable capacity requirement at POI.
2. At the beginning of year 9, **12** 5.015MWh HyperBlock III DC containers and **4** EPC 4.833MVA PCS MV Station shall be added to meet the usable capacity requirement at POI.
3. At the beginning of year 12, **15** 5.015MWh HyperBlock III DC containers and **5** EPC 4.833MVA PCS MV Station shall be added to meet the usable capacity requirement at POI.
4. At the beginning of year 16, **21** 5.015MWh HyperBlock III DC containers , **7** EPC 4.833MVA PCS MV Station

<i>End of Year</i>	<i>Total usable capacity @POI Without Augmentation (MWh)</i>	<i>Total usable capacity @POI With Augmentation (MWh)</i>
0	1166.55	1166.55
1	1114.00	1114.00
2	1081.23	1081.23
3	1054.58	1054.58
4	1031.01	1031.01
5	1009.79	1009.79
6	989.88	1045.83
7	971.28	1024.75
8	953.83	1005.76
9	937.01	1043.53
10	920.90	1023.83
11	905.18	1005.53
12	890.16	1058.00
13	875.61	1038.36
14	859.21	1017.73
15	845.42	1000.62
16	832.00	1081.26
17	819.03	1061.17
18	806.30	1043.06
19	794.01	1026.03
20	781.92	1009.59



03
WARRANTY
& SERVICE



Supply, Warranty & Service

Product Warranty, qualification & after-sales service

Warranty

Standard warranty is 5 years. From year 6 to 20, warranty service is available with extra cost.

Battery

HyperStrong integrates batteries from EVE. The nominal capacity is 314Ah in the proposal.
The battery system is compliant with UL certification and IEC certification.
Including but not limited to UL1973/IEC62619/UL9540A/UL9540/UL1741 certificates

	Client	HyperStrong	Scope	Support Level
Service Level 1	✓ (after Training)		Easy repairs.	Remote
Service Level 2		✓	Replacement of consumables, spare parts	Local
Service Level 3		✓	Complex troubleshooting	Local
	Client	HyperStrong	Scope	Support Level
Preventative Maintenance	✓ (after Training)	✓	One every 6-month maintenance intervention by HyperStrong, one by customer every 3 months	Local

Summary

We address key concerns and create the diverse long-term value for clients

Technical Expertise

More than **a decade** dedicated to ESS with founders' technological expertise
All-scenario solution for the energy 3.0 era empowered by AI technology
 Whole **AC block** solution provider

Safety & Reliability

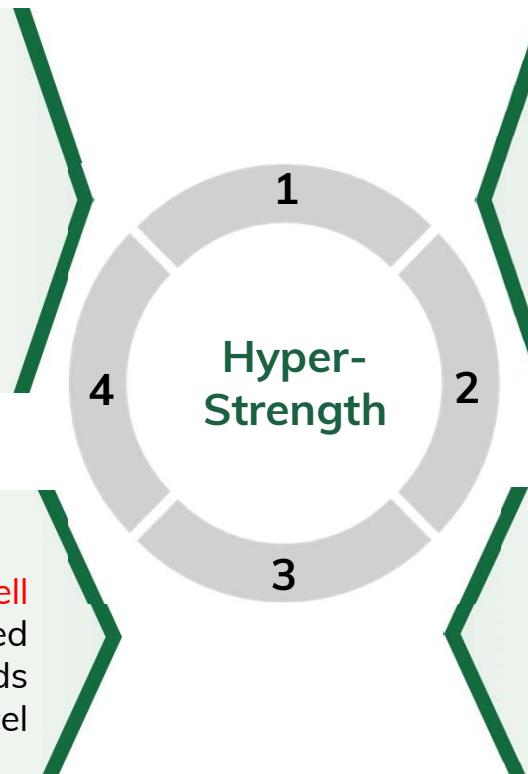
Large-scale applications exceeding 15GWh, **80% cells from EVE/CATL**.
 Tested and proven reliable products through practical application with **zero safety issues**.
 More **accurate SOX calculation** based on massive Hyper-cloud data.

Customization

Integration solutions incorporating **multiple cell types, PCS, EMS** meet diverse customized demands
 PCS: PE, SMA, Ingeteam, Sineng, Sinexcel

Support & Service

Long term commitment to the global market with **local O&M capabilities**;
DDP logistics to cover overall requirements
Hot inventory to ensure availability for customer.



04 Pricing





HYPER STRONG

Indicative Commercial Proposal

Vendor:

Address:

Contact:

Mobile:

Email:

Date:

Customer:

Project :

HyperStrong International USA Corp.

2023 Gateway P1 #500, San Jose, CA 95110

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May 16, 2025

Strata Clean Energy; Chimay; Vad

Painted Rock BESS Project

Total Equipment Scope

Painted Rock Energy Storage (Chinese manufactured system)

Size Requirement	Major Product Specified	Quantity	Nameplate MWh	Currency	Price/kWh	Total Price
600MW / 4800MWh	DC Block HyperStrong HyperBlock III (EVE battery cells)	1,195				
	PCS EPC Power +MOS	239	5,992.93	USD	\$147.00	\$880,961.000
	tbd (included in scope)	1				

Painted Rock Energy Storage (US domestic assembly with Malaysian cells)

Size Requirement	Major Product Specified	Quantity	Nameplate MWh	Currency	Price/kWh	Total Price
600MW / 4800MWh	DC Block HyperStrong HyperBlock III (EVE battery cells)	1,195				
	PCS EPC Power +MOS	239	5,992.93	USD	\$147.00	\$880,961.000
	tbd (included in scope)	1				

Commercial Terms

1) Transportation
The price is based on DDP to the job site. The current tariff rate used in calculation is 40.9% for goods imported from China. Any modifications in applicable laws will be adjusted at the time of order placement.

2) Payment Terms
5% payment due within 30 days of contract signing

30% payment due within 30 days of Delivery Acceptance

5% payment due within 30 days of Factory Acceptance Tests

10% payment due within 30 days of Onsite Commissioning Completion

5-Year Battery Warranty included within the configuration price

4) Validity
This quotation is valid until 6/16/2025

5) Currency
This quote is in USD

6) Lead Time
Estimated manufacturing lead time: 26 weeks from contract signing

7) Confidentiality
This document is confidential and proprietary. Unauthorized distribution is prohibited

QUOTE PR-05162025-MLR-0



Making energy storage simple

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Guangdong • Hubei • Shandong • Jiangsu • Shanxi • Gansu

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