



Technology with Spirit

GLOBAL SMART ENERGY STORAGE SOLUTIONS PROVIDER

Powering a Sustainable Future

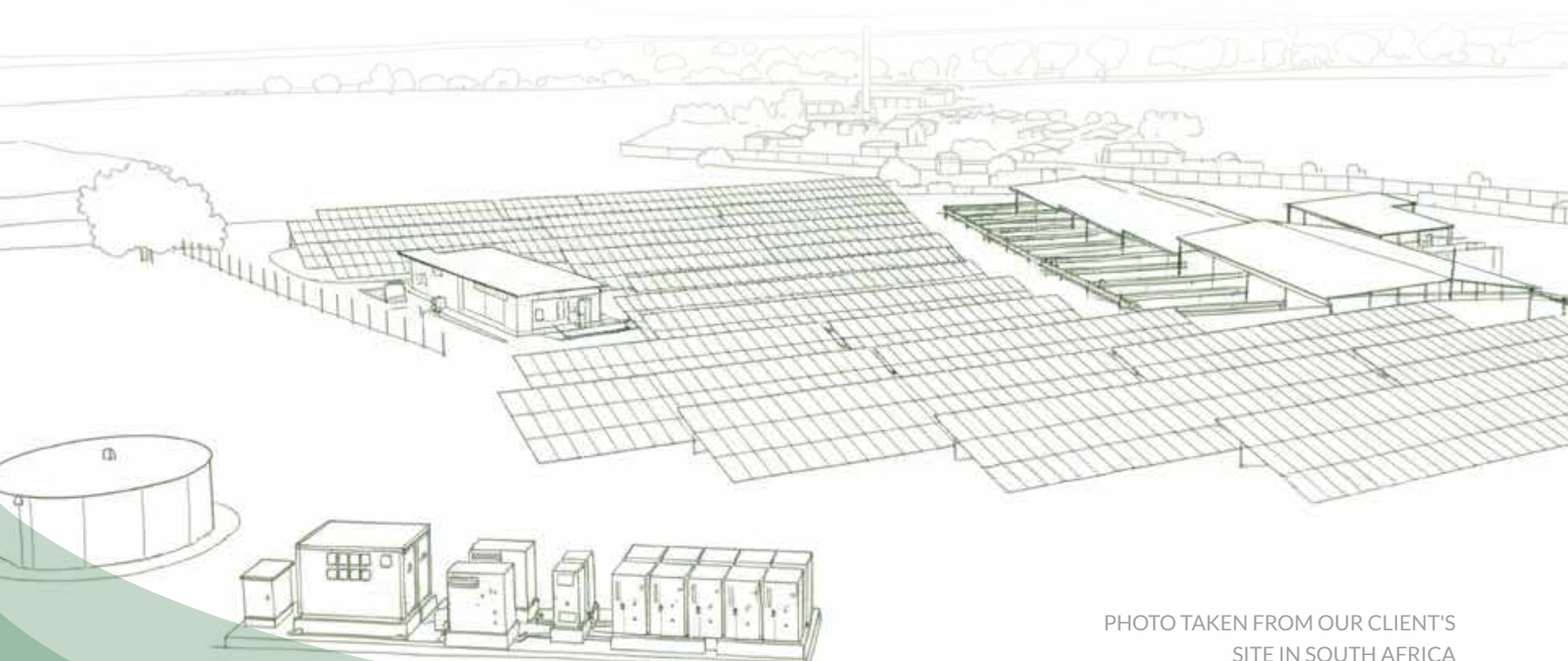


PHOTO TAKEN FROM OUR CLIENT'S SITE IN SOUTH AFRICA



FOR GLOBAL PARTNERS & STAKEHOLDERS



ABOUT TWS TECHNOLOGY

POWERING A SUSTAINABLE FUTURE

TWS Technology, founded in 1998 and entered the ESS field in 2019, is committed to providing reliable energy storage solutions for the global energy transition. Driven by continuous innovation and long-termism, TWS Technology continuously launches an extensive portfolio of energy storage products, ranging from cabinet-level units to containerized systems, to satisfy diversified and dynamic energy storage needs. These solutions have been successfully deployed in numerous benchmark projects of top-tier customers globally, covering all application scenarios across power, grid, and user sides.





28

Years
Of Experience



6

Global Tech
Centers



5

Factories



13

GWh Group Annual
Production Capacity



ESG & CARBON FOOTPRINT

Certified Products

Provincial Green Factory



E

ENVIRONMENTAL PILLARS

25% lower energy consumption in production
Full product life cycle carbon footprint tracking
Established spent battery recycling program



S

SOCIAL RESPONSIBILITY

Supporting local employment in overseas markets
Comprehensive employee skill development and training
Corporate clean energy initiatives
Free employee access to charging facilities



G

GLOBAL CERTIFICATIONS & AWARDS

Certified green factory status
Product and emissions certifications (e.g., carbon footprint, greenhouse gas)
Certified management systems (environmental, occupational health, and quality)
Globally recognized industry awards and government listings



TWS Technology ESS has established international-standard carbon footprint management, laying a solid foundation for EU regulatory compliance and global market growth.

AWARDS & HONORS



RANKING

DC BESS Shipments in China in 2023

NO.5

BESS Shipments in China in 2022

NO.5



HONORS

Top 500 Global Renewable Energy Companies

NO.343

Top 10 Brands of Energy Storage System
Integration



Employees

200+



Global R&D Team

50+



ESS Annual Production Capacity

10GWh+



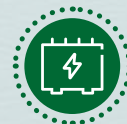
Global Reach

20+



Local Support in Europe

5 Years



Total Commissioned
Capacity as of 2025

8GWh

Next-Gen Products & R&D Highlights

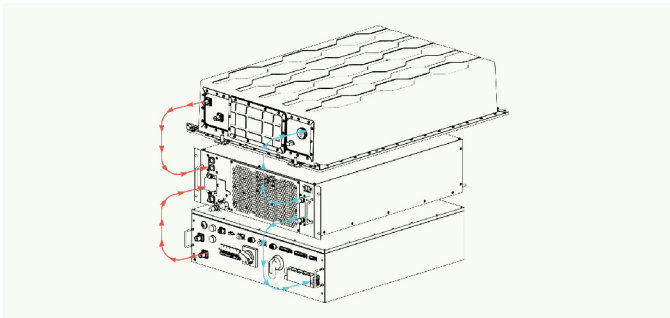
DUAL LIQUID COOLING SYSTEM

Integrated design for optimized performance and cost efficiency

THERMAL MANAGEMENT

Integrated Thermal Management:

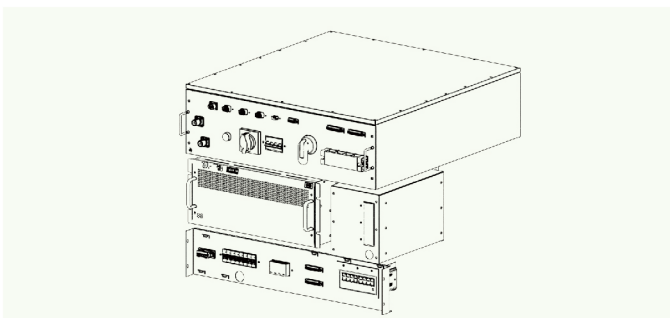
- Shared liquid cooling unit for both the battery pack and PCS
- Centralized cooling with dynamic temperature control
- Ensuring unified thermal management



ELECTRICAL INTEGRATION

Integrated Electrical System:

- High voltage box integrated with AC power distribution
- Uses primary and secondary fusion technology
- Minimizing interfaces and overall system complexity



MULTI-DIMENSIONAL OPTIMIZATION

15%

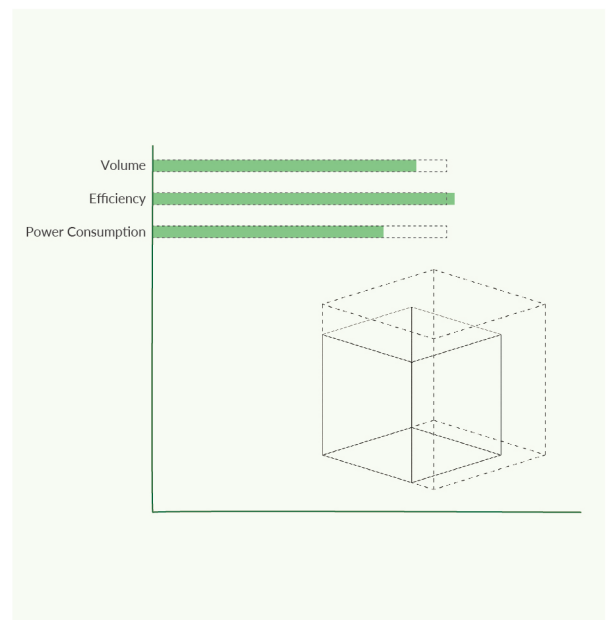
Volume reduction (fits standard containers)

0.2%

Increase in single unit cycle efficiency

30%

Reduction in auxiliary power consumption





ULTRA-LOW NOISE DESIGN

Ultra-low noise control below 65dB.

Quiet operation enhanced by multiple technologies.



ACOUSTIC ISOLATION

Acoustic Material Integration:

Sound absorbing cotton and insulation boards embedded in the shell and core components



COMPONENT OPTIMIZATION

Optimized flow channels and selection of low-noise components (compressors and pumps)



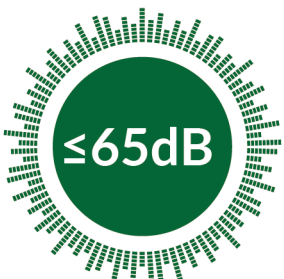
VIBRATION DAMPENING

Vibration dampening design on noise sources (pads or shock absorbers)

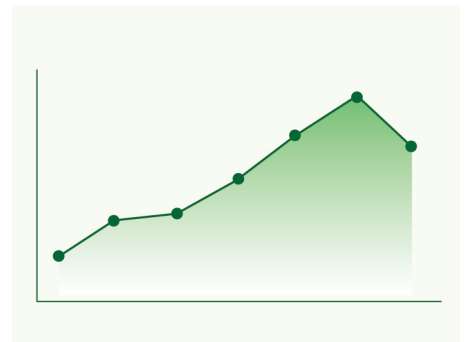


SMART FREQUENCY ADJUSTMENT

Intelligent variable frequency adjustment. Dynamic speed control based on load to suppress noise.



Equivalent to the volume of a daily conversation
Running quietly without disturbing the environment



CLOUD-EDGE- TERMINAL PLATFORM

Our In-house Integrated Management System

HIGH SAFETY STANDARDS

Real-time monitoring of
all system data.

Fast fault detection and
response in milliseconds.

2S + functional safety
design.

HIGH RELIABILITY & REDUNDANCY

Automotive-grade battery
management (BMS).

Advanced protection to
prevent system failure.

AI technology to predict
potential faults.

GLOBAL SCALABILITY GLOBAL DEPLOYMENT

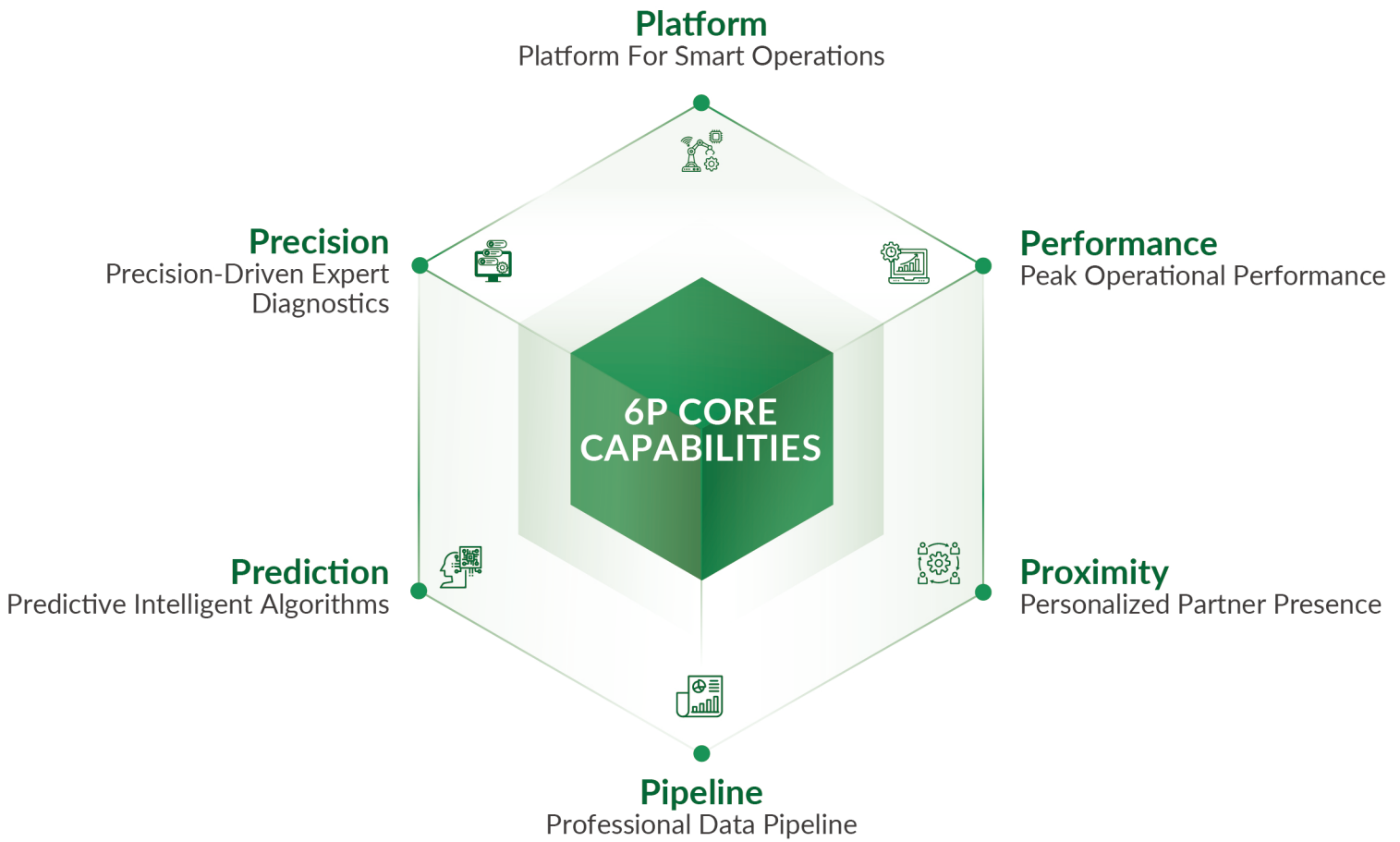
Global scalability for
diverse energy markets.

Supports power market
trading at different times.

Customized hardware
and software for overseas
markets.

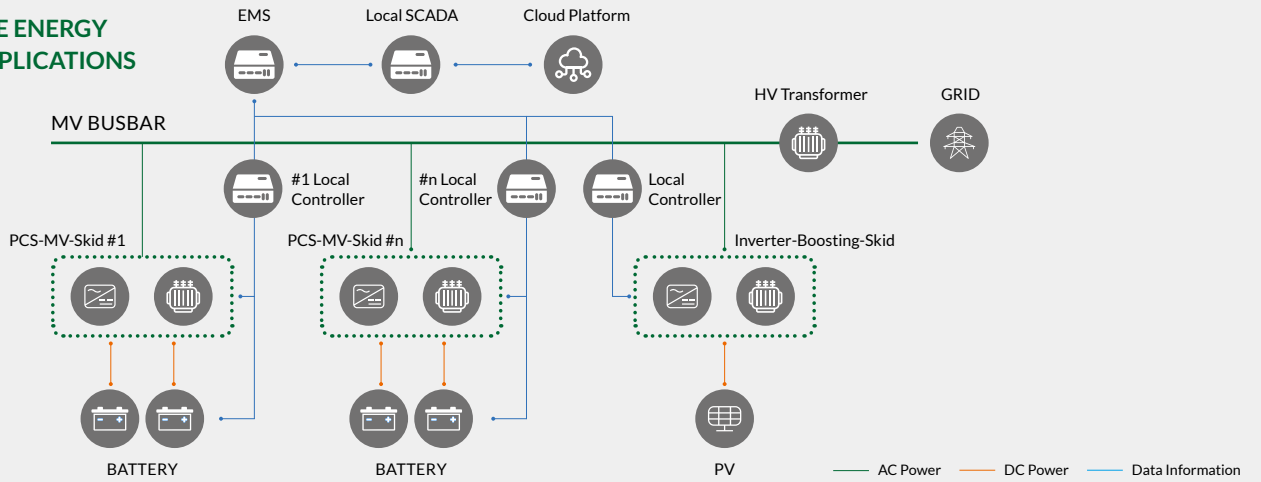
CLOUD-EDGE-TERMINAL PLATFORM Our In-house Integrated Management System



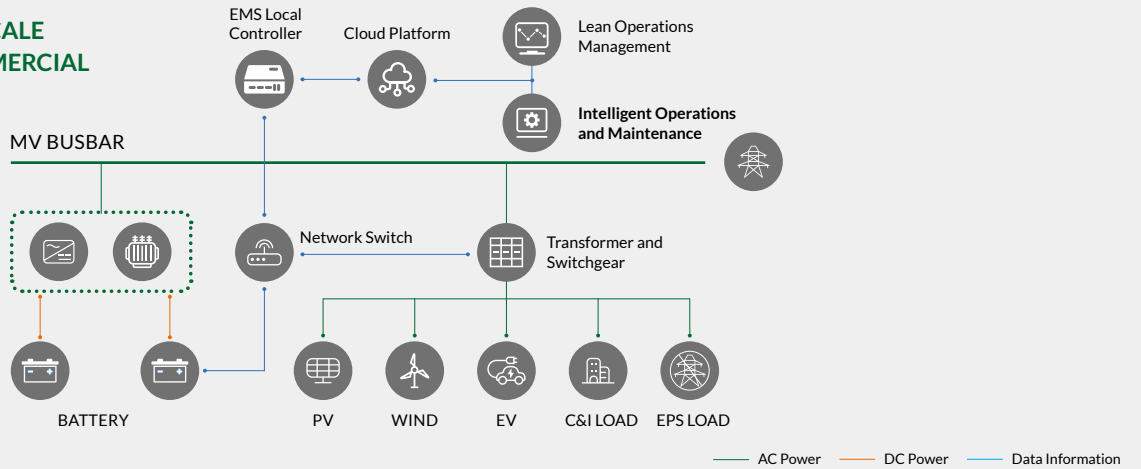


SOLUTION VALUE PROPOSITION

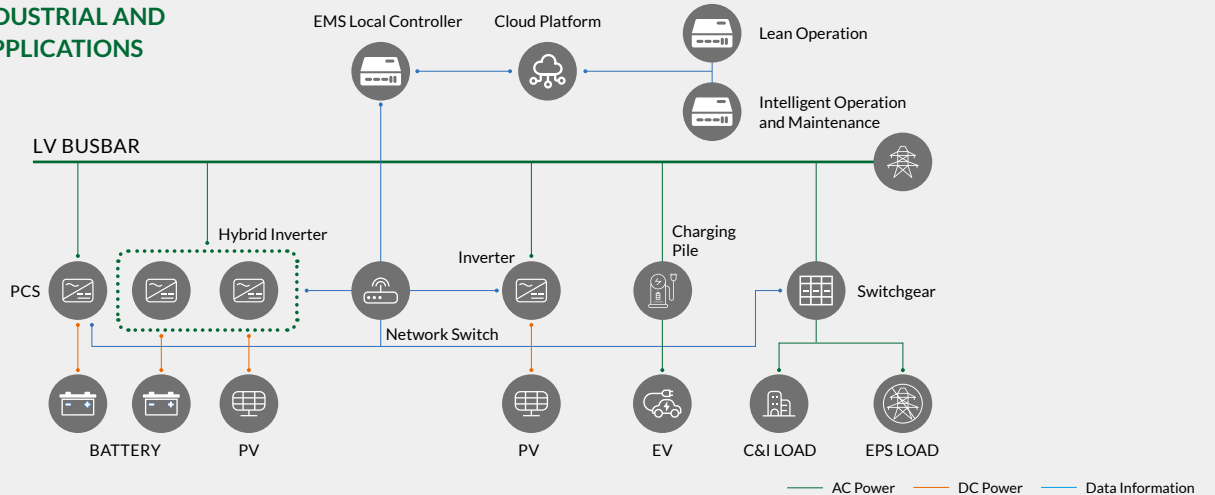
LARGE-SCALE ENERGY STORAGE APPLICATIONS



MEDIUM AND LARGE-SCALE INDUSTRIAL AND COMMERCIAL APPLICATIONS



SMALL-SCALE INDUSTRIAL AND COMMERCIAL APPLICATIONS



● BATTERY PRODUCT SERIES

POWERCORE



● PCS

CENTRALIZED PCS-MV-SKID



STRING-TYPE PCS-MV SKID



● BATTERY PRODUCT SERIES

PROEM-C3



POWERMOD



POWERCORE



● PCS-MV-SKID (OPTIONAL)

CENTRALIZED PCS-MV-SKID



STRING-TYPE PCS-MV SKID



● BATTERY PRODUCT SERIES

MAX-CLASSIC



PROEM-C3



● BATTERY AC/DC INTEGRATED SERIES

MAX-SOLARIS



MAX-PRO



POWERM-PRO



OUR PRODUCT PORTFOLIO





MAX-PRO C&I OUTDOOR LIQUID-COOLING ENERGY STORAGE CABINET



Small Size, Big Energy

High Energy Density (21% greater)
Compact footprint: 1.28 m²

Adaptive To Harsh Environments

Resists extreme cold and heat
Intelligent internal dehumidification
prevents condensation

Good-Quality Cells

315Ah cells ensure superb safety and long
life cycle
High energy efficiency (≥95%)

Modular Design For Easy Construction

Allows parallel connection of multiple
cabinets; Easy expansion and central-
ized control
EMS generates optimal operation
strategy; Factory pre-commissioned;
Plug and play on site

Smart And User-Friendly

Accessible to the cloud platform for re-
mote monitoring.
Smart and wireless; Supports remote
upgrades

Product Model	Max-Pro
Cell parameters	
Type	LFP 315Ah
Cell configuration	1P260S
Rated energy at DC side	262kWh
Voltage range	728V~923V
PCS parameters	
Rated output power	125kW
Max. output power	138kW
THDi	<2% (rated power)
Rated power grid voltage	230Vac/400Vac
Allowable voltage deviation	-15%~+15%
Max. current	200A
Rated power grid frequency	50Hz/60Hz (which can be set)
DC component	<0.5%
Overload capacity	110% long-term
System parameters	
Dimensions (W*D*H)	950mm*1400mm*2330mm
Weight	2600kg
Ingress protection rating	IP55
Auxiliary power supply	Self-powered
Anti-corrosion grade	C4-M
Operating ambient humidity	0%~95% (non-condensing)
Operating ambient temperature	-20°C~55°C (derated over 45 °C)
Max. operating altitude	4000m (derated above 2000m)
Cooling method	Liquid-cooling
Fire protection	Aerosol + combustible gas detection + ventilation + water extinguishing system
Communication interface	LAN
Communication protocol	Modbus TCP
Certification	IEC62619, IEC63056, IEC62477, IEC62933, EN61000, UL9540A, UN38.3, CEI 0-21, CEI 0-16

MAX-CLASSIC C&I OUTDOOR LIQUID-COOLING ENERGY STORAGE CABINET



Adaptive To Harsh Environments

Resists extreme cold and heat
Intelligent internal dehumidification prevents condensation

Good-Quality Cells

315Ah cells ensure superb safety and long life cycle
High energy efficiency ($\geq 95\%$)

Small Size, Big Energy

High Energy Density (21% greater)
Compact footprint: 1.28 m²

Modular Design For Easy Construction

Allows parallel connection of multiple cabinets; Easy expansion and centralized control.
EMS generates optimal operation strategy;
Factory pre-commissioned; Plug and play on site

Smart And User-Friendly

Smart and wireless; Supports remote upgrades

Product Model	Max-Classic
Cell parameters	
Type	LFP 315Ah
Cell configuration	1P260S
Rated energy at DC side	262kWh
Voltage range	728V~923V
System parameters	
Dimensions (W*D*H)	950mm*1400mm*2120mm
Weight	2400kg
Ingress protection rating	IP55
Auxiliary power supply	External power supply
Anti-corrosion grade	C4-M
Operating ambient humidity	0%~95% (non-condensing)
Operating ambient temperature	-20°C~55°C
Max. operating altitude	4000m
Cooling method	Liquid-cooling
Fire protection	Aerosol + combustible gas detection + ventilation + water extinguishing system
Communication interface	LAN
Communication protocol	Modbus TCP
Certification	IEC62619, IEC63056, IEC62477, EN61000, UL1973, UL9540A, UN38.3

MAX-SOLARIS INTELLI-PV ESS CABINET



Multi-Dimensional Integration

Advanced DC coupling seamlessly integrates PV and storage.
20ms auto-switching between grid-connected and off-grid modes.

Intelligent Energy

Supports multiple strategies: self-consumption, peak loading shifting, and backup power supply.
Built-in EMS adapts flexibly to diverse scenarios.

Simple & User-Friendly

Compact design for easy installation.
Remote monitoring for effortless operation.

Product Model	Max-Solaris
Product Model	
Cabinet parameters	
Cabinet model	Max-Classic
Cell type	LFP 315Ah
Pack quantity	5
Cell Configuration	1P260S
Rated energy at DC side	262kWh
Voltage range	728V~923V
Cabinet dimensions (W*H*D)	950mm * 2120mm * 1400mm
Weight	2380kg
Ingress protection rating	IP55
Anti-corrosion grade	C4-M
Operating ambient humidity	0%~95% (non-condensing)
Operating ambient temperature	-20°C~55°C (derated over 45°C)
Max. operating altitude	4000m (derated above 2000m)
Cooling method	Liquid-cooling
Fire protection	Aerosol + combustible gas detection + ventilation + water extinguishing system
Communication interface	LAN
Communication protocol	Modbus TCP
Certification	IEC 62619, IEC 63056, IEC 62477, EN IEC 61000, UL 1973, UL 9540A, UN 38.3
Hybrid inverter parameters	
DC input (PV side)	
Recommended max. PV array size	250kW
Max. usable PV input power	250kW
Max. input voltage	1000V
Rated voltage	600V
Start-up voltage	180V

Product Model	Max-Solaris
MPPT voltage range	150V~950V
Max. input current	10*42A
Max. short circuit current	10*60A
Number of MPPT/ Number of max. input strings	10/20
AC output (Grid side)	
Rated output power	125kW
Max. apparent output power	125kVA
Rated grid voltage	3/N/PE, 220V/380V 3/N/PE, 230V/400V
Rated grid frequency	50Hz/60Hz
Rated grid output current	189.9A/180.4A
Power factor	>0.99 (0.8 leading ~ 0.8 lagging)
THDi	<3% (rated power)
AC input (Grid side)	
Max. input current	250A
Efficiency	
Max. efficiency	97.5%
General specification	
Dimensions (W*H*D)	1174mm * 814mm * 400mm
Weight	170kg
Cooling method	Intelligent redundant fan-cooling
Operating ambient temperature	-25°C~60°C
Max. operating altitude	3000m
Relative humidity	0%~100%
Noise	<70dB(A)
Ingress protection rating	IP66
Grid connection standard	G99, VDE-AR-N 4105 / VDE V 0124, EN 50549-1&2/ EN 50549-10, VDE 0126 / UTE C 15/ VFR:2019, NTS 631/RD 1699/RD 244 / UNE 206006 / UNE 206007-1, CEI 0-21, C10/11, NRS 097-2-1, TOR, EIFS 2018.2, IEC 62116, IEC 61727, IEC 60068, IEC 61683, EN 50530, MEA, PEA, PORTARIA N° 140, DE 21 DE MARÇO DE 2022
Safety/EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-2/-4, EN 55011

PROEM-C3 OUTDOOR LIQUID-COOLING ENERGY STORAGE CABINET



Low Maintenance

Modular design simplifies transportation and O&M.
Fully pre-assembled; minimal on-site integration required.

System Safety

Intelligent monitoring and coordinated response ensure system safety.
Integrated cooling enhances thermal stability and performance.

High Efficiency

Advanced liquid cooling keeps temperature difference within 3 °C
Supports parallel connection and easy system expansion.

Easy Deployment

All-in-one solution for commercial and industrial uses, PV + Storage, backup power, and microgrids.
Seamless transition between grid-connected and off-grid operations.

Product Model	ProeM-C3-208	ProeM-C3-261	ProeM-C3-313	ProeM-C3-365	ProeM-C3-417
Cell parameters					
Cell type	LFP				
Cell capacity	314 Ah				
PACK parameters					
Cell configuration	1P52S				
PACK rated voltage	166.4 V				
PACK energy	52.249 kWh				
Cabinet parameters					
System battery configuration	1P208S	1P260S	1P312S	1P364S	1P416S
PACK quantity	4	5	6	7	8
Rated energy (BOL) at DC side	208 kWh	261 kWh	313 kWh	365 kWh	417 kWh
System output voltage range	582.4~738.4 Vdc	728.0~923.0 Vdc	873.6~1107.6 Vdc	1019.2~1292.2 Vdc	1164.8~1476.8 Vdc
Rate for charging and discharging	≤0.5P				
Dimensions (H*W*D)	2300mm * 1330mm * 1350mm				
Weight	2160 kg	2500 kg	2840 kg	3180 kg	3520 kg
Ingress protection rating	IP55				
Anti-corrosion grade	C4-M				
Operating ambient humidity	0%~95% (non-condensing)				
Operating ambient temperature	-20°C~55°C				
Max. operating altitude	4000 m				
Cooling method	Liquid-cooling				
Fire protection	Aerosol + combustible gas detection + ventilation + water extinguishing system				
Communication interface	LAN				
Communication protocol	Modbus TCP				
Certification	IEC62619, IEC63056, IEC62477, EN IEC 61000, UL9540A, UL1973, UN38.3				

POWERMOD LIQUID-COOLING ENERGY STORAGE CONTAINER



Enhanced Safety

Triple-layer fire protection ensures early detection, accurate spraying, and rapid suppression.
Fire monitoring powered by big data analytics features comprehensive surveillance.
Predictive algorithms identify risks early for rapid, system-wide response.

Cost Efficiency

High-density 314/315Ah LFP cells extend cycle life and reduce cost per kWh by 30%.
Optimized size for cost-effective operation.
Ideal for small to medium commercial and industrial projects.

Flexible Deployment

10-foot container design allows rapid transport and deployment.
Scalable capacity supports on-demand expansion and optimized investment.

Product Model	PowerMod-1600	PowerMod-2000	PowerMod-2500
Cell parameters			
Cell type	LFP		
Cell capacity	314Ah/315Ah		
Pack parameters			
Cell configuration	1P104S		
Pack rated voltage	332.8V		
Pack rated energy	104.499kWh/104.832kWh		
Rack parameters			
Cell configuration	1P416S		
Pack quantity	4		
Rack rated energy	417.996kWh/419.328kWh		
System parameters			
Cell configuration	4P416S	5P416S	6P416S
Rated energy (BOL) at DC side	1671kWh	2089kWh	2507kWh
Voltage range	1164.8Vdc-1476.8Vdc		
Rate for charging and discharging	≤0.5P		
Dimensions (W*D*H)	3360mm * 2896mm * 2438mm		
Weight	17400kg	20110kg	22790kg
Ingress protection rating	IP55		
Anti-corrosion grade	C4/C5		
Operating ambient humidity	0%-95% (non-condensing)		
Operating ambient temperature	-20°C~55°C		
Max. operating altitude	4000m		
Cooling method	Liquid-cooling		
Fire safety configuration	Aerosol + combustible gas detection + ventilation + water extinguishing system		
Communication interface	LAN		
Communication protocol	Modbus TCP		
Certification	IEC62619, IEC63056, IEC62477, EN IEC61000, UL1973, UL9540A, UN38.3		

POWERCORE LIQUID-COOLING ENERGY STORAGE CONTAINER



Enhanced Safety

Triple-layer fire protection ensures early detection, accurate spraying, and rapid suppression. Fire monitoring powered by big data analytics features comprehensive surveillance. Predictive algorithms identify risks early for rapid, systemwide response.

Cost Efficiency

314/315Ah LFP cells with high energy density extend cycle life and reduce cost per kWh by 30%. 5MWh capacity in a standard 20ft container. Side-by-side arrangement reduces land footprint by over 40%.

Versatile Deployment

Adaptable topology supports renewable integration, grid stability, and commercial operations. Modular design enables rapid deployment and flexible configuration.

Product Model	PowerCore
Cell parameters	
Cell type	LFP
Cell capacity	314Ah/315Ah
Pack parameters	
Cell configuration	1P104S
Pack rated voltage	332.8V
Pack rated energy	104.499kWh/104.832kWh
Rack parameters	
Rack battery configuration	1P416S
Pack quantity	4
Rack rated energy	417.996kWh/419.328kWh
System parameters	
System battery configuration	12P416S
Rated energy (BOL) at DC side	5015kWh
System output voltage range	1164.8Vdc-1476.8Vdc
Rate for charging and discharging	≤0.5P
Dimensions (W *H *D)	20ft (6058mm * 2896mm * 2438mm)
Weight	43t
Ingress protection rating	IP55
Anti-corrosion grade	C4
Operating ambient humidity	0%-95%
Operating ambient temperature	-20°C~55°C
Max. operating altitude	4000m (derated above 2000m)
Cooling method	Liquid-cooling
Fire protection	Aerosol + combustible gas detection + ventilation + water extinguishing system
Communication interface	LAN
Communication protocol	Modbus TCP
Certification	IEC62619, IEC63056, IEC62477, EN61000, UL1973, UL9540A, UN38.3

POWERM-PRO LIQUID-COOLING ENERGY STORAGE CONTAINER



All-in-One Integration

Pre-integrates batteries, BMS, PCS, and EMS into a single container.
Unified AC/DC coupling for seamless operation.
Simplified & faster installation; Reduced costs & labor.

Modular Design

Flexible AC voltage options for diverse applications.
Supports on-demand capacity configuration.

Independent Rack Management

Prevents performance imbalance between racks.
Maximizes overall system efficiency and extends service life.

Intelligent O&M

Real-time monitoring provides instant system visibility and diagnostics.
Rack-level control and modular design enable precise maintenance.

Product Model	PowerM-Pro 2500/1000-400V	PowerM-Pro 3300/1700-690V	PowerM-Pro 3300/1700-800V
Battery Side Parameters			
Cell parameters			
Cell type	LFP		
Cell capacity	314Ah/315Ah		
Pack parameters			
Pack battery configuration	1P104S		
Pack rated voltage	332.8V		
Pack rated energy	104.499kWh/104.832kWh		
Rack parameters			
Rack battery configuration	1P312S	1P416S	
Rack rated voltage	998.4V	1331.2V	
Rack rated energy	313.497kWh/314.496kWh	417.996kWh/419.328kWh	
Battery compartment parameter			
Rated energy	2507kWh	3343kWh	
System battery configuration	8P312S	8P416S	
Rated voltage	998.4V	1331.2V	
System voltage range	873.6 ~ 1107.6Vdc	1164.8 ~ 1476.8Vdc	1206.4 ~ 1476.8Vdc
Rate for charging and discharging	≤0.5P		
PCS Side Parameters			
PCS quantity	8		
Full load voltage range	680Vdc ~ 1500Vdc	1150Vdc ~ 1500Vdc	
Rated AC output voltage	400V	690V	800V
Wiring method	3P4W	3P3W	
Rated output power	8*125kW	8*215kW	
Max. output power	8*137.5kW	8*237kW	
Power factor	0.99/1(leading)~1(leading)		
Current distortion rate	<3% (@rated power)		
System Parameters			
Container dimensions (W*H*D)	20ft. (6058 mm * 2896mm * 2438 mm)		
Container weight	<28t	<33t	
Auxiliary power supply	Self-powered		
Ingress protection rating	IP55		
Anti-corrosion grade	C4 (C5 customizable)		
Operating ambient humidity	0%-95% (non-condensing)		
Operating ambient temperature	-20°C~55°C		
Max. operating altitude	4000m (derated above 2000m)		
Cooling method	Battery compartment: liquid-cooling / PCS: smart air cooling		
Fire protection/safety features	Aerosol + combustible gas detection + ventilation + water extinguishing system		
Communication interface	LAN		
Communication protocol	Modbus TCP		
Certification	Battery rack: IEC 62619, IEC 63056, IEC 62477, EN IEC 61000, UL 1973, UL 9540A, UN 38.3 PCS: IEC 62477, EN IEC 61000		

GLOBAL TECHNICAL SERVICES

Global Expertise · European Presence · Local Support

Our investment in a local European subsidiary is a testament to our long-term commitment. We build lasting partnerships and ensure reliable service.

Trusted Since 1998
Frankfurt Service Center: Operational since 2020



LOCAL EXPERTS

Rapid On-site Support



SPARE PARTS HUB

European Warehousing,
Minimizing Downtime



24/7 MONITORING

Remote Surveillance &
Proactive Alerts



TRAINING

Comprehensive Team
Training Programs



INTEGRATED SYSTEMSOLUTIONS



On-site Investigation
and Consulting



Technical Support
and Services



Warehousing
and Logistics



After-sales
Service


















READY TO EXPERIENCE PEACE OF MIND?
CONTACT OUR LOCAL SERVICE TEAM FOR SUPPORT AND CONSULTATION.

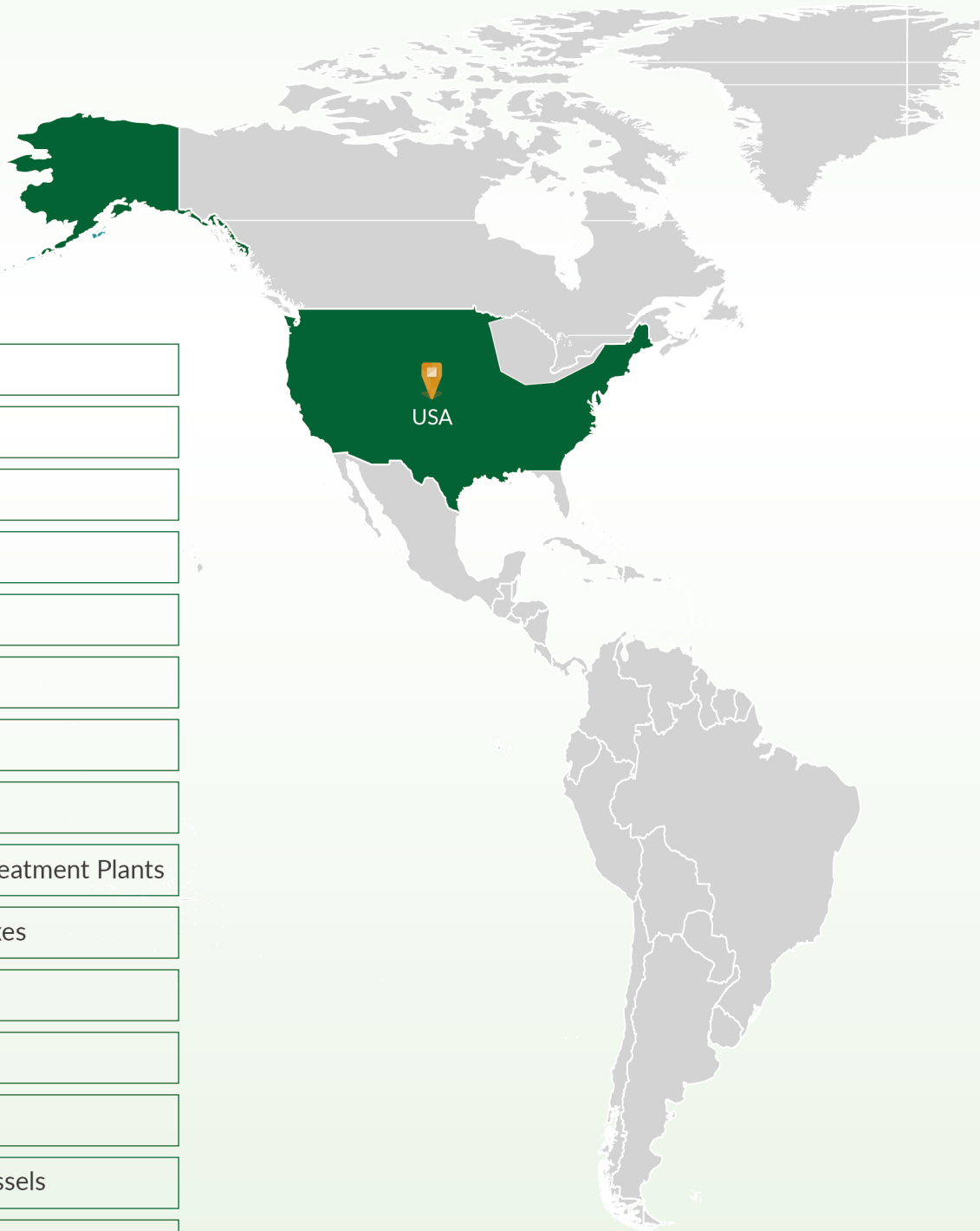


WhatsApp

TWS ESS IN PLACE: DEPLOYED, ENERGIZED, GLOBAL

TWS ESS SOLUTIONS SERVE IN

-  State Power Plants
-  State Grid
-  Manufacturing
-  Aquaculture
-  Agriculture
-  Iron & Steel Groups
-  Mining
-  Automated Sawmills
-  Municipal Sewage Treatment Plants
-  Commercial Complexes
-  Laboratories
-  Industrial Parks
-  EV Charging Stations
-  Electric Dredging Vessels
-  Microgrid Systems





CERTIFICATION & CASE

Global
Certification

Global
Certification **UN38.3**

American
Standard



UN38.3 Safe Transport

UL9540A UL1973 CEC

South Korean
Standard



KC

IEC



IEC62619 IEC63056 IEC62477 IEC61000

125 kW / 262 kWh Municipal Building, Vietnam



Delivery time: 2026
Application: Low-carbon power supply for municipal infrastructure
ESS product: Max-Solaris cabinet

2MW / 6.7 MWh Utility Japan



Delivery time: 2025
Application: Grid Integration
ESS product: ProeM cabinet

1.72 MW/ 5 MWh Horticulture, Netherlands



Delivery time: 2025
Application: On/off-grid switching,
energy arbitrage with PV
ESS product: PowerCore container

2.5 MW/ 5.24 MWh Food Processing, Belgium



Delivery time: 2025
Application: Demand management, energy arbitrage
ESS product: Max-Pro cabinet

500 kW/ 978 kWh Municipal Sewage Treatment, Netherlands



Delivery time: 2025
Application: Peak shifting
ESS product: ProeM cabinet

4.7 MW/ 5.9 MWh Agriculture & PV, South Africa



Delivery time: 2024
Application: Agriculture,
PV + ESS, 35 kV access, automatic on/off-grid switching
ESS product: ProeM cabinet

1.2 MWh Intelligent Microgrid, China



Delivery time: 2023
Application: ESS + PV + charging + diesel generator, automatic
on/off-grid switching
ESS product: ProeM cabinet

3.75 MW/ 7.45 MWh Manufacturing, US



Delivery time: 2025
Application: PV+ESS, electricity cost reduction
ESS product: ProeM cabinet

2 MW/ 4.176 MWh Wind Power, Korea



Delivery time: 2025
Application: Dynamic
frequency regulation
ESS product: ProeM cabinet

225 MW/450 MWh Steel Production, China



Delivery time: 2023
Application: Energy consumption reduction, efficiency increase,
frequency regulation, peak shaving, and backup power
ESS product: ProeM cabinet


TWS

Technology with Spirit

Since 1998

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