MECC ESS

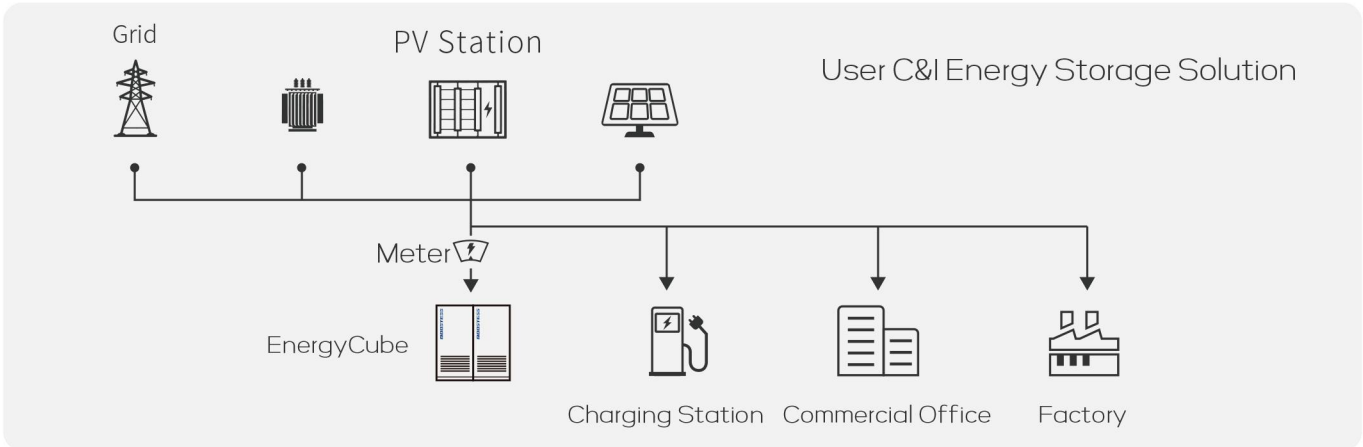
COMMERCIAL & INDUSTRIAL ESS

Energy Cube Liquid-Cooling

125kW/261kWh

POWERFUL ENERGY FULLY EVOLVED

The liquid-cooled Energy Cube utilizes an independent liquid cooling system, achieving higher energy density and cooling capacity within a compact design. It offers high efficiency, low noise, safety, reliability, and easy scalability. When integrated with PCS (Power Conversion Systems), it can regulate grid voltage, correct three-phase imbalance, and manage harmonics, enhancing power quality. With a footprint of only 1.3 ㎡, its modular design and high protection level make it adaptable to various applications, serving as a backup power source to help businesses reduce energy costs and increase the use of green energy.



Ultimate Temperature Control
Dynamic Liquid Cooling

Independent Liquid Cooling

Features liquid cooling design with low noise operation at ≤75dB.

Safe & Reliable

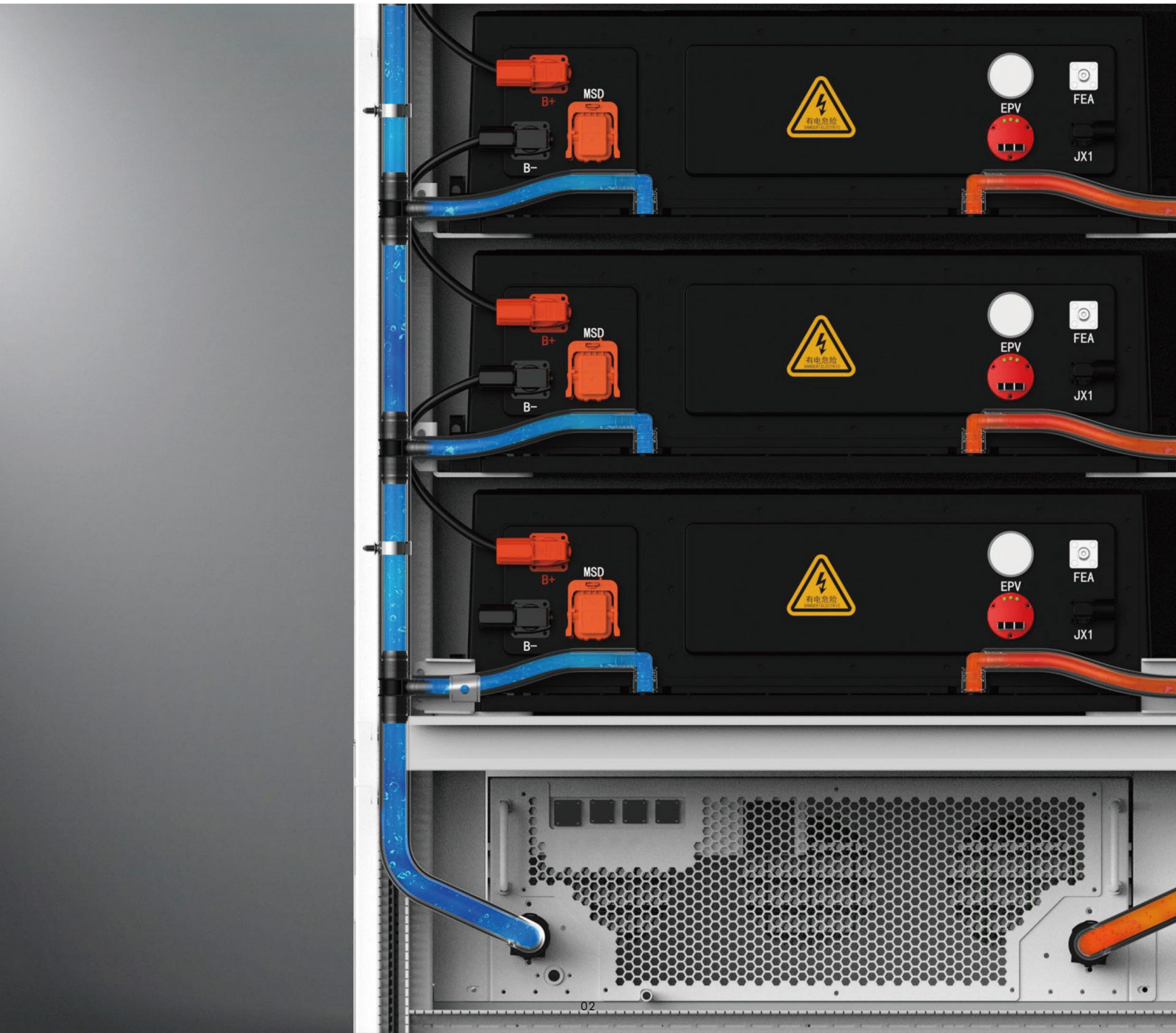
Partitioned system isolation with active safety monitoring and PACK-level immersion fire protection technology.

Cloud-Edge Collaboration

24/7 real-time monitoring with multiple operation control modes.

Modular Design

Modular structure for easy installation and commissioning, allowing flexible expansion as needed.



EMS Energy Storage Cloud

Multiple Strategy Modes

Maximizing Economic Returns

Cloud Control

The system dynamically monitors and assesses the local device data, allocates power outputs for various energy storage devices, coordinates power among multiple devices, optimizes operational modes, ensuring the highest system utilization efficiency and maximum returns.

Security Monitoring

24/7 Cloud-Based Real-Time Monitoring, Analyzing Battery Pack Consistency and Safety, Advanced Algorithms Predict Potential Risks, Real-Time Warnings, Ensuring Battery and Equipment Safety, Rapid Dispatch and Repair in Case of System Failures.

Increase Earnings

Real-time monitoring of device operation status, peak and off-peak power consumption, load power, and energy storage revenue through the system. Achieve remote control of devices and online system updates, optimize device operation strategies, offer peak shaving, demand control, emergency control, load tracking, and various other strategies to enhance overall economic benefits.

Application Scenario

Savings on Electricity Costs through Peak-Off-Peak Price Differentials

During periods of low electricity prices, use the grid to charge the devices. During periods of high electricity prices, discharge the batteries to power the load.

Used as a Backup Power Source during Power Outages

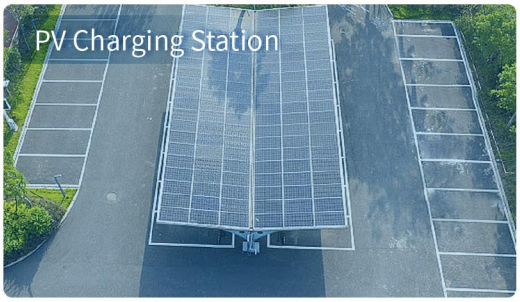
It can serve as a backup power source during power outages, providing power to critical facilities to ensure uninterrupted business operations.

Providing Power Compensation

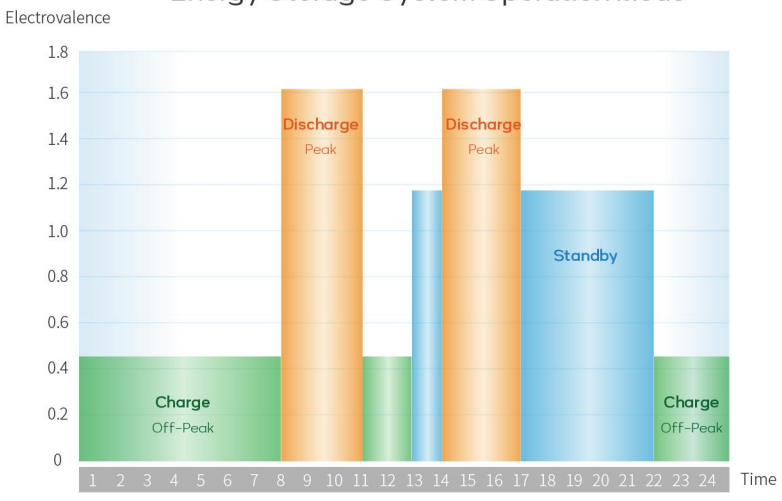
Providing Power Compensation Function to Ensure Stable Power Supply for Businesses and Ensure Safe Equipment Operation.

PV and Energy Storage Integration Building an Independent Grid

Storing excess electricity generated by the photovoltaic system using the Energy Cube and converting it for later use.



Energy Storage System Operation Mode



22:00-8:00

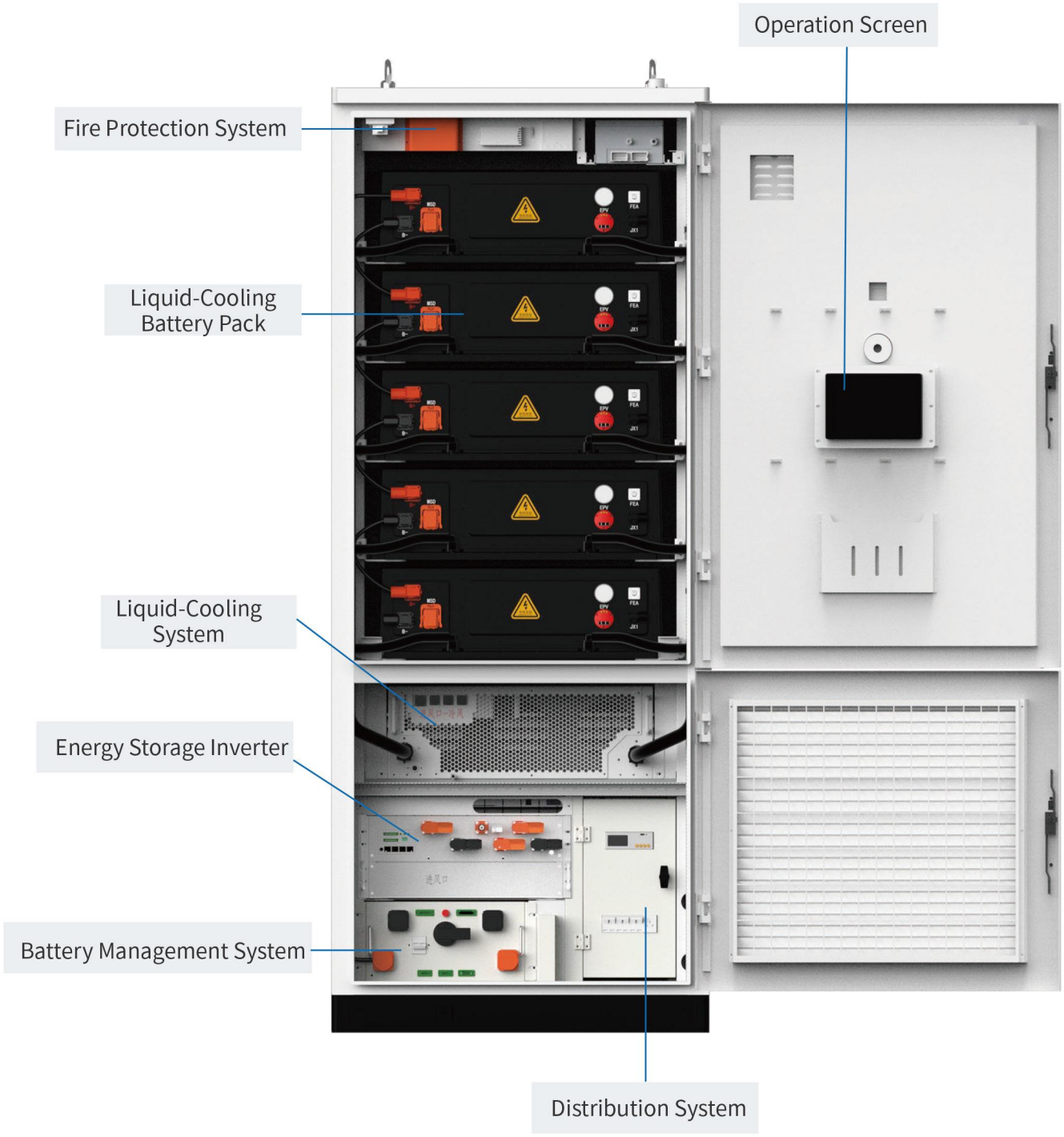
Charging during off-peak electricity price periods

8:00-11:00 14:00-17:00

Discharging during peak electricity price periods

During device charging, the system automatically monitors the current electrical load and PV generation under the transformer, and adjusts the charging power of the system based on real-time load conditions. This control ensures that the total power consumption remains below the transformer capacity, preventing overload.

Product Appearance



Product Parameter

DC Side Parameters			
Battery Type	LFP	Operating Voltage Range	650V～949V
Configuration	1P260S	Cooling Method	Liquid cooling
Rated Capacity	314Ah	Coolant	Ethylene glycol solution (50% v)
Rated Energy	261kWh	Cycle Life	6000 cycles
Rated Voltage	832V	Fire Protection System	Perfluorohexanone + Aerosol + Water fire suppression
Rated Power	125kW	Detector Type	Temperature, smoke, CO
Rated Charge/Discharge C-rate	0.5P		

AC Side Parameters	
Rated AC Power	125kW
AC Overload Capability	135.5kW
Wiring Method	Three-phase, four-wire
Allowed Grid Voltage	380V/400V (-15%～+15%)
Allowed Grid Frequency	50Hz/60Hz±2.5Hz
Total Harmonic Distortion (THD)	⩽ 3% (at full load)
Power Factor	-0.99/-1~1
DC Component in Current	⩽0.5%
Charge/Discharge Conversion Time	＜100ms
Maximum Conversion Efficiency	⩾98%

System Parameters	
Operating Environment	-20°C to 50°C (de-rated operation above 45°C)
Noise Level	⩽75dB
Dimensions (WDH mm)	1000*1300*2500
Weight	~2.6 tons
Water Resistance Rating	Battery compartment: IP65, Electrical compartment: IP54
Allowed Relative Humidity	0-95% (non-condensing)
Maximum Altitude	⩽ 2000m (de-rating above 2000m)
Communication Interface	CAN, Ethernet
Communication Protocol	ModbusTCP/RTU
System Operation Mode	Peak shaving, demand control, reactive power adjustment, grid scheduling interface,Remote dispatch, local data storage, anti-backflow feature
Certification Standards	UN38.3; IEC 62619; IEC 61000; EN 62477-1; EN 50549-1; EN 50549-2; VDE-AR-N 4105

Project Case

Energy Storage Solutions

Facing high energy prices and growing demand for energy independence, an Estonian factory adopted five MECC ECO-E233LS cabinets with an STS1000 smart ransfer cabinet and three Autarco PV inverters. The on -grid self consumption system allows daytime solar charging and nighttime use, maximizing renewable utilization and reducing grid re iance.

With A -powered EMS and modular all-in-one design, helps industrial clients achieve stable power supply, lower electricity costs, and smarter energy management.

Project Case

MECC

Energy Storage Solutions

Rising energy costs and unstable grid conditions challenged the factory's operations in Estonia. MECC provided three ECO-E233LS cabinets with an STS1000 transfer cabinet and two Huawei 50 kW PV inverters, creating a self-consumption solar + storage system with off-grid backup capability.

The system stores solar energy during the day and powers the plant at night, while the STS automatically switches to backup mode during outages.

With AI-powered EMS and reliable all-in-one design, MECC ensures continuous production, lower energy bills, and long-term energy independence for industrial users.

Clean Energy Solutions Provider

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Energy Storage Solutions

To overcome high energy costs and grid instability, an Estonian factory adopted two MECC ECO-E233LS cabinets with an STS1000 smart transfer cabinet and Huawei 50 kW PV inverter. The system enables solar self-consumption and seamless off-grid switching, charging by day and powering operations at night.

With AI-powered EMS and intelligent STS control, MECC ensures uninterrupted power, reduced energy bills, and higher operational reliability for industrial users.

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