Battery Energy Storage System

Battery Energy Storage Systems for Reliable and Flexible Power Management

Powering the Future with Precision and Control

EDMP offers a versatile portfolio of **Battery Energy Storage Systems (BESS)** designed to meet a wide range of energy storage and backup needs. From the compact **300W/296Wh** and 1**200W/1132Wh portable power units** to the advanced **100kW/215kWh liquid-cooled system, EDMP's** solutions support residential, commercial, and industrial applications with high efficiency and reliability. The all-in-one single-phase PV energy storage system integrates solar input, storage, and output functions—ideal for off-grid or hybrid setups.

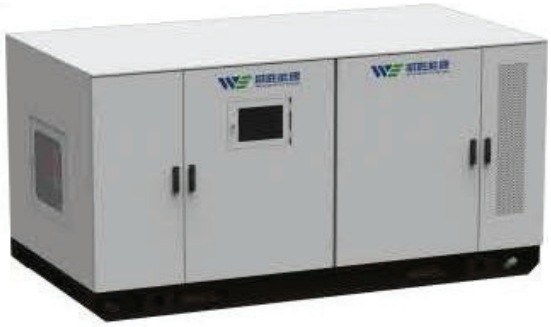
Built with **high-voltage DC relays** and current handling options of **250A, 300A,** and **400A,** EDMP's BESS products ensure safe operation, high discharge capability, and flexible integration with power networks or renewable systems. Whether for **emergency backup, peak shaving,** or **renewable energy optimization.**

Energy Storage

Technical Specification – 100kW / 215Wh

EDMP's 100kW/215kWh Battery Energy Storage System is a fully integrated solution that combines high-efficiency batteries, BMS, PCS, EMS, power distribution units, and advanced liquid cooling technology into a single, compact unit. Featuring a multi-level modular design with minimal rotating components, the system offers high reliability, reduced single-point failure risk, and simplified deployment.

Powered by an intelligent EMS platform, the system enables coordinated control with mobile diesel generators to ensure stable power delivery even in off-grid or backup scenarios. The advanced liquid cooling system ensures rapid thermal regulation, low vibration, low noise, and environmentally friendly performance—making it ideal for smart grid deployments, industrial energy backup, and mobile energy applications.



Item	Value	Remark
Cell Capacity	280Ah	Standard charge and discharge
Cell Capacity	280Ah	A single cluster of 5 battery modules is connected in series, and a single module is connected in series with 48 batteries.
Nominal Voltage	768V	Standard charge and discharge
Nominal Capacity	215kWh	Standard charge and discharge
PCS Power	100kW	
Charge Cut-off Voltage	876V or any cell up to 3.6V	
Discharge Cut-off Voltage	648V or either cell up to 2.7V	
Recharging Current	≤140A (standard continuous current @ 25°C)	Standard test environment, single cluster
Discharge Current	≤140A (standard continuous current @ 25°C)	Standard test environment, single cluster
Working Temperature	-20°C ~ 55°C	
Storage Temperature	-20°C ~ 45°C	
Communication	CAN, RS485, TCP/IP	
Colling Method	Liquid Cooling	
Protection Level	IP54	
Dimension (W x D x H)	1545 * 1400 * 2750mm (Including Feet)	
Design Service Life	6000 times	Operating condition 2±25°C, 0.5°C charge and discharge, equipped with effective equalization, remaining capacity ~%800
Weight	≈2.3T	

Single Phase PV Energy Storage

Overview
EPS5k ~ 10k

Tech Spec	EPS5k	EPS8k	EPS10k
AC Input Voltage	120/230V	230/400V	230/400V
Switching Time (On-Off grid)		<50ms	
AC Input Nominal Line Freq.		50/60Hz	
Max. Input Current	21.7A	12.7A	15.9A
Genera tor Control & Input		Supported	
AC Output Voltage	120/230V	230/400V	230/400V
Max Output Power – Cont	5000W	8000W	10000W
Max Output Power – 60secs	5500W	8800W	11000W
AC Output Freq		50/60Hz	
Max Efficiency	97.6 %	97.9 %	98.2 %
Max Output Current	21.7A	12.7A	15.9A
Total Harmonic Distortion (THD)		<3 %	
Power Factor		Adjustable from leading 0.8 to lagging 0.8	
Battery Capacity	5/10/15/20 kWh	15/20/25/30 kWh	15/20/25/30 kWh
Depth of Discharge (DOD)		90 %	
Battery Life		4000 times	
Min/Max Voltage	40/58V	125/600V	125/600kWh
Max Discharge Current		100A	
Max Charge Current		100A	
Battery Type		Lithium/Lead-acid	
Efficiency	95 %	98 %	98 %
DC Max Input Power	7000W	12000W	15000W
MPPT Voltage Range	125-500v	180-1000v	180-1000v
Max Input Current per MPPT	14A	16A	16A
Number of MPPT/Strings	2/1	1/1	1/1
Start-up Voltage	100V	125V	125V
Internal on/off Grid Switching		Yes	
Protection Functions		Yes	
Current Sensors		Yes	
High Voltage Battery Support		Yes	
Status Indicator Display		Yes	
Embedded Software Package		VPP, Peak Shaving	
VPP-ready/Remote Control		Yes	
Protection Degree		IP55	
Operating Temperature Range		-10°C - 50°C (%100-0 Relative Humidity)	
Cooling Method		Natural	
Weight	25kg (Inverter), 55kg (per Battery)	31kg (Inverter), 55kg (per Battery Pack)	
Dimensions (H*W*D) (mm)		600*300*580 (Inverter), 600*300*350 (per battery Pack)	
Communication		RS485. Modbus, Wi-Fi 4G	
Certifica tes		SAA, TUV	

Technical Specification – 300W / 296Wh

Parameter	Value
Product Model	EPPS3-300
Battery Capacity	800/630A
Battery Type	Lithium-Ion Battery
Rated Power	300W
Peak Power	600W
Overload Protection	360W±50W
AC Output	Waveform Pure Sine Wave
AC Output Voltage	220V/50Hz*1
Type-C Output	PD100W (Bidirectional I/O)*1, PD27W*1
USB Output	QC2*3.0 (24W Max)
DC Output	12V/10A*2
Cigarette Lighter Output	12V/10A*1
LED Lighting	2W (Low, Medium, Strong, SOS)
Number of Cycles	≥1000 times
Operating Temperature	-10°C ~ 40°C
Protection System	Overcharge, Overdischarge, Overvoltage, Overcurrent, Overtemperature, Short-Circuit Protection
Dimension	230*140*169mm
Weight	3.2kg

Technical Specification – 1200W/1132Wh

Parameter	Value
Product Model	EPPS2-1200
Battery Capacity	22.V/51Ah (1132Wh)
Battery Type	Lithium-Ion Battery
Rated Power	1200W
Peak Power	2400W
Overload Protection	1320W±100W
AC Output	Waveform Pure Sine Wave
AC Output	Voltage 220V/50Hz
Type-C Output	PD60W*2
USB Output	5V/2.4VA*2, QC2*3.0 (18W Max)
DC Output	12V/10A*2
Cigarette Lighter Output	12V/10A*1
LED Lighting	2W (Low, Medium, Strong, SOS)
Number of Cycles	≥1500 times
Operating Temperature	-10°C ~ 40°C
Protection System	Overcharge, Overdischarge, Overvoltage, Overcurrent, Overtemperature, Short-Circuit Protection
Dimension	380*220*260mm
Weight	11.45kg

Basic Specification – EP250C (For Energy Storage Residential)

Parameter	Value
Maximum Breaking Current	2500A
Rated Load Current	250A
Rated Load Voltage	1000VDC
Maximum Switching Power	250kW
Main Contact Form	1H
Voltage Measurement Accuracy	1H
External Dimensions	80.3 x 60.4 x 72.3 mm
Installation Hole	68.3mm -- 2*Φ6.2mm
Weight	0.434kg

Basic Specification – EP300B (For EV)

Parameter	Value
Maximum Breaking Current	2000A
Rated Load Current	300A
Rated Load Voltage	750VDC
Maximum Switching Power	225kW
Main Contact Form	1H
External Dimensions	88.3 x 42.5 x 74.5 mm
Installation Hole	70.5 x 28.5mm -- 2*Φ6.2mm
Weight	0.36kg

Basic Specification – EP400P (For Energy Storage C&I)

Parameter	Value
Maximum Breaking Current	2000A
Rated Load Current	400A
Rated Load Voltage	1500VDC
Maximum Switching Power	600kW
Main Contact Form	1H
Voltage Measurement Accuracy	1H
External Dimensions	108 x 67 x 101.6 mm
Installation Hole	94 x 4 -- 48*Φ6.2mm
Weight	0.854kg

Energy Storage System

Liquid Colling Energy Storage System – 1.375MW / 2.75MWh& 500kW / 1500kWh

Parameter	Value
Maximum Breaking Current	2500A
Rated Load Current	250A
Rated Load Voltage	1000VDC
Maximum Switching Power	250kW
Main Contact Form	1H
Voltage Measurement Accuracy	1H
External Dimensions	80.3 x 60.4 x 72.3 mm
Installation Hole	68.3mm -- 2*Φ6.2mm
Weight	0.434kg

Technical Specification

Parameter	1.375MW / 2.75MWh ESS	500kW / 1500kWh ESS
Rated AC Power	1MW~500+MW	500kW~500+MW
Discharge Time	8~1 Hours	8~1 Hours (Optional)
Grid Frequency	50Hz or 60Hz	50Hz or 60Hz
Voltage Class	10~36kV	0.38~34.5kV (Optional)
Power Factor	-1.0+~1.0 adjustable	-1.0+~1.0 adjustable
Availability	≥97%	≥97%
Altitude Allowed	2000m	4000m
Class of Seismic Measure	Class 8GB / T 50260	Class 8GB / T 50260
Charge and Discharge Switching Time	<30ms	<30ms
Battery Operating Temperature Range	-20~+50°C	0~+50°C (Charge); -20~+55°C (Discharge)
Cooling	Type Liquid Colling	Forced Air
Designed Lifetime	30 years	30 years
Round Trip	Varies by Configuration	
Battery Type	LFP-280Ah (Customized)	LFP-280Ah (Customized)
IP Class	IP54	IP54

Technical Specification

Parameter	1.375MW / 2.75MWh ESS	500kW / 1500kWh ESS
Rated Discharge Power	≥1375kW	500kW
Rated Charge Power	≥1375kW	500kW
Energy Conversion Efficiency	≥95.5%	≥95.5%
Voltage Range (DC)	1036.8~1401.6V	648~864V
Operating Environmental Temperature	-20°C ~ 45°C	-20°C ~ 45°C
System Power Consumption	35kW	20kW
Overall Dimension (W*H*D)mm	6085 * 2896 * 2438	6085 * 2896 * 2438
Max Temperature Difference	-20°C ~ 45°C	-20°C ~ 45°C
Warranty	3 years (extension optional)	3 years (extension optional)
Certification	IEC62619, UL1973, UL9540A, IEC62477- 1, CE, TUV, I EC/UL60730	IEC62619, UL1973, UL9540A, IEC62477- 1, CE, TUV, I EC/UL60730

Energy Storage System

Liquid Colling Energy Storage System – 100kW / 200kWh & 200kW /320kWh

Technical Specification

Parameter	100kW / 200kWh ESS	200kW /320kWh ESS
Rated AC Power	100kW ~ 500+MW	200kW ~ 500+MW
Discharge Time	1~8 Hours (Optional)	1~8 Hours (Optional)
Grid Frequency	50Hz or 60Hz	50Hz or 60Hz
Voltage Class	0.38~34.5kV (Optional)	0.38~34.5kV (Optional)
Power Factor	-1.0+~1.0 adjustable	-1.0+~1.0 adjustable
Availability	≥97%	≥97%
Altitude Allowed	4000m	4000m
Class of Seismic Measure Class	8GB / T 50260 Class	8GB / T 50260
Charge and Discharge Switching Time	<30ms	<30ms
Battery Operating Temperature Range	0~+50°C (Charge); -20~+55°C (Discharge)	0~+50°C (Charge); -20~+55°C (Discharge)
Cooling Type	Liquid	Liquid
Designed Lifetime	30 years	30 years
Battery Type	LFP-280Ah (Customized)	LFP-280Ah (Customized)
IP Class	IP54	IP54

Technical Specification

Parameter	100kW / 200kWh ESS	200kW /320kWh ESS
System Efficiency	94%	94%
Relative Humidity	0~95% non-condensing	0~95% non-condensing
Communication	RS485, Ethernet	RS485, Ethernet
Dimensions (W x H x D)mm	1300 x 2100 x 1300	1300 x 2350 x 1300
Weight	≤2.2 tons	≤3.5 tons
Warranty	3 years (extension optional)	3 years (extension optional)
Certification	IEC62619, U L1973, UL9540A, IEC62477-1, CE, TUV, IEC/UL60730	IEC62619, U L1973, UL9540A, IEC62477-1, CE, TUV, IEC/UL60730

Technical Specification – 250kW / 215kWh

The EDMP 250kW/215kWh Energy Storage System is a fully integrated, containerized solution featuring advanced air-cooled battery technology, a battery management system (BMS), power conversion system (PCS), energy management system (EMS), power distribution, and environmental controls—seamlessly housed within a robust container. Designed for flexible deployment, it supports efficient energy storage, peak shaving, backup power, and grid stabilization across commercial and industrial applications.

The system utilizes EDMP's proprietary 1C-rated air-cooled battery packs, offering high thermal efficiency and precise temperature control for safe, reliable operation. Its modular architecture—organized from cell to module to cluster—ensures easy maintenance, scalability, and system expansion. With a high-strength structural design and corrosion-resistant enclosure, the unit delivers durability, environmental protection, and dependable performance in diverse operating conditions.

Parameter	Value	Remark
Cell Capacity	280Ah	Standard Charge and Discharge
Battery Module	1P240S	A single cluster of 15 battery modules is connected in series, and a single module is connected in series with 16 cells
Nominal Voltage	768V	Standard charge and discharge
Nominal Capacity	215kWh	Standard charge and discharge
PCS Power	250kW	
Charge Cut-off Voltage	876V or any cell up to 3.6V	
Discharge Cut-off Voltage	648V or either cell up to 2.7V	Standard test environment, single cluster
Recharging Current	≤280A (standard continuous current @ 25°C)	Standard test environment, single cluster
Discharge Current	≤280A (standard continuous current @ 25°C)	
Working Temperature	-20°C ~ 55°C	
Storage Temperature	-20°C ~ 45°C	
Communication	CAN, RS485, TCP/IP	
Colling Method	Air Cooling	
Protection Level	IP54	
Dimension (W x D x H)	1545 * 1400 * 2750mm (Including Feet)current @ 25°C)	
Design Service Life	6000 times	Operating condition 25±2°C, 1C Charge and discharge, equipped with effective equalization, remaining capacity ≥70%
Weight	≈5.2T	

Indoor Pre-fabricated Voltage Housing (IPVH-Block)

Technical Specification - IPVH Block 50

Parameter	Value	Remark
Hydrogen Production	50Nm3/h	
Hydrogen Purity Time	≥%99.999 ≥%99.99	After Purification Before Purification
Hydrogen Production Range	10-100 %	
Oxygen Production	25Nm3/h	
Oxygen Purity	≥99.8%	
Hydrogen Pressure	0.6~1.0MPa	Continuously Adjustable
Electric Tank Temperature	70±5°C	
Dew Point Temperature	≤-71°C	Gas Dew Point Temperature
Maximum Operating Voltage	266V	
Maximum Operating Current	1000A	Rated Working Current 900A
DC Power Consumption	≤5kWh/Nm3	
Differential Pressure of Hydrogen and Oxygen System	±50PSI	
Control Mode	PLC	
Distribution Capacity	266kVA	
Power Supply	380V	50HzAC

	Regular Alkaline Hydrogen	Production System iPVH-Block 50
Off Grid Operation	Relying on power grid	Support off grid operation
Dynamic Response	120~300s 50~100%	10~30s 10~110%
Current Density	≤2000A/m2	>8000A/m
Relative Equipment Size	1 (the largest skid-mountable model 200Nm3/h)	1/2~1/4 (the largest skid -mountable model 1000Nm3/h)
DC Power Consumption	<5.5kWh/Nm3	<5kWh/Nm3
Cold start time	1~2hr	0.5~0.6hr
Quality	H%99.98 2	H%99.99 2
The Main Material of the Electric Tank	Nickel plating on low carbon steel, unipolar nickel catalyst	Nickel alloy, multi-component catalyst containing trace amounts of precious metals
Lifecycle	60kh (5 years overhaul period)	60kh (10 years overhaul period)
Relative Infrastructure Investment	1	<1/2

High Voltage DC Relay

Basic Specification – EP250C

Parameter	Value
Maximum Breaking Current	2500A
Rated Load Current	6.5/3V
Rated Load Voltage	600/1A
Maximum Switching Power	(AC90V~AC254V), two-way
Main Contact Form	1H
Voltage Measurement Accuracy	1H
External Dimensions	80.3 x 60.4 x 72.3 mm
Installation Hole	68.3mm - -2*Φ6.2mm
Weight	0.434kg

Basic Specification – EP250C

Parameter	Value
Maximum Breaking Current	2500A
Rated Load Current	3/6.5V
Rated Load Voltage	1/600A
Maximum Switching Power	(AC90V~AC254V), two-way
Main Contact Form	1H
Voltage Measurement Accuracy	1H
External Dimensions	80.3 x 60.4 x 72.3 mm
Installation Hole	68.3mm - -2*Φ6.2mm
Weight	0.434kg

Basic Specification – EP250C

Parameter	Value
Maximum Breaking Current	2500A
Rated Load Current	6.5/3V
Rated Load Voltage	600/1A
Maximum Switching Power	(AC90V~AC254V), two-way
Main Contact Form	1H
Voltage Measurement Accuracy	1H
External Dimensions	80.3 x 60.4 x 72.3 mm
Installation Hole	68.3mm - -2*Φ6.2mm
Weight	0.434kg

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