COMMERCIAL & INDUSTRIAL ESS SOLUTIONS

EVADA (Xiamen) Technology Co., Ltd.

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ABOUT EVADA

EVADA (Xiamen) Technology Co., Ltd. was founded in 1998, for over two decades, the company has been focusing on power conversion and smart energy fields, offering solutions for data center, digital power, energy storage and photovoltaic power. EVADA is a high-tech enterprise that achieves the TOP 5 brands of China UPS and data center, and currently being present in 48+ countries. As part of the general push for the transformation of energy decarbonization, EVADA stays ahead in the field and trying to promote “green” development of energy.

TOP 5
UPS brands in China

25+
Years' experience in power conversion and smart energy field

32
Branches nationwide and counting

3
R&D centers

25,000+
Square meters workplace

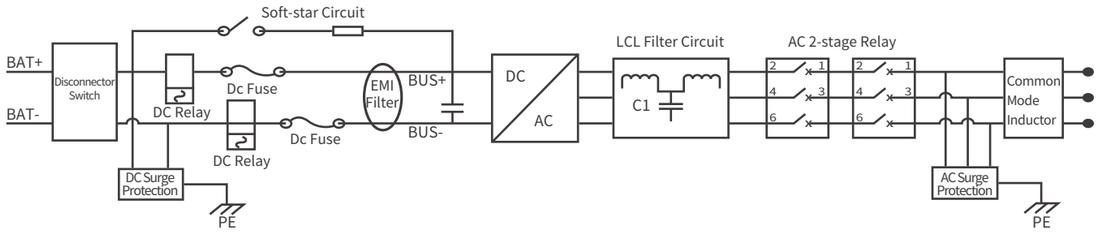
20+
Industry standards drafting

100+
Researchers

30+
Invention patents

CONTENTS

EMP-E³ Series
Power Conversion Module



Applications

Consumption Management | Power Storage | Capacity Increase | Customer Respond

Features

Safe & Reliable

- Interworking with the BMS/EMS to provide full protection
- IP66 protection, adapt to harsh environment
- Intelligent temperature control, strong environmental adapbility

Flexible & Portable

- Supports wall and rack mounted
- Modular design, easy to configure, maintain and expand

Intelligent & Efficient

- Cluster battery management, higher battery availability
- Supports IEC61850, IEC104, etc. protocols
- Intelligent control arithmetic, parallel expansion
- 4-quadrant active/inactive power regulation, HV/LV ride-through, black star

Specification

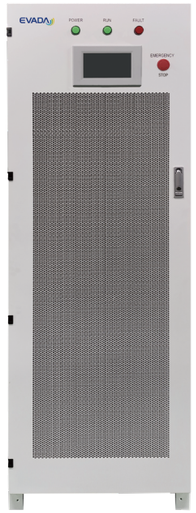
Model	EMP100K-E³	EMP125K-E³
DC Parameter		
Max. DC poweer	110KW	137.5KW
Max.DC current	155A	195A
DC voltage range	650Vdc～1000Vdc	
Accuracy of voltage stabilization	<±1%	
Accuracy of current stabilization	⩽±1%(output load50%～100%)	
AC Parameter		
Rated AC power	100kVA	125kVA
AC overload	110kVA	137.5kVA
Wiring method	3W+PE/3W+N+PE	
Grid voltage	380/400Vac	
Max. output current	166A	208A
Grid frequency	50Hz/60Hz	
THDi	⩽3%(Rated power)	
Output PF	Adjustable，Range-1~+1	
General Specification		
Efficiency	98.50%	
Communication	WIFI/4G/Bluetooth/RS485/RS232/CAN/Ethernet	
IP rating	IP66	
Protection	AC/DC low voltage protection, overcurrent, overtemperature and short circuit protection	
Operating temperature	-20°C～+60°C, and derated above 45°C	
Storing temperature	-40°C～70°C	
Humidity	0～95%，without condensation	
Cooling	Intelligent air cooling	
Altitude	4000m， and derating above2000m	
Dimension(H*W*D)	295mm*600mm*800mm	
Weight	80kg	85kg
Certification	IEC61000-4，IEC64277-1，GB/T34120，GB/T34133	

* Specifications subject to change without notice.

eMatrix Series
Power Conversion System (PCS)

The eMatrix Series Power Conversion System (PCS) is tailored for industrial and commercial energy storage applications. With a modular design, each module operates independently, enabling centralized management and control, offering cost-effective operation. It also supports multi-unit parallel operation, which makes it capable of easily integrating into diverse scenarios.

The module features a bidirectional AC/DC conversion design, with a capacity of 50KW. This design allows seamless connection to both battery and AC grids, offering high efficiency, power density, scalability, and reliability. It stands as a top-tier international power conversion module.



eMatrix Series PCS

Module

Applications

Peak shaving, flexible expansion

Energy storage, backup power

Sequential utilization

Features

Green & Efficient

- Module energy conversion efficiency: up to 98%
- 3 Level output: low harmonics, superior power quality

Seamless Switching

- Grid-tied charging/discharge and off-grid inversion
- Optional STS for grid/off-grid switch

Safe & Reliable

- Dual DSP design
- RS485, CAN for real-time BMS communication

Easy O&M

- Hot-swappable for easy replacement
- Plug-and-play functionality

Bidirectional Energy Flow

- Single module for AC/DC bidirectional conversion
- Smooth transition on flow direction change

Specification

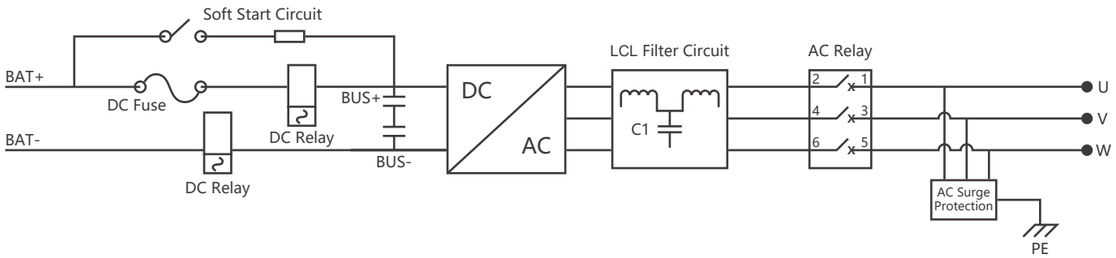
Model		EMP50K-S	EMP100K-S	EMP150K-S	EMP200K-S	EMP250K-S
DC						
MAX. Power		55kW	110kW	165kW	220kW	275kW
MAX. Current		79A	158A	237A	316A	395A
Voltage Range		650VDC ~ 900VDC				
Voltage Accuracy		< ±1%				
Current Regulation Accuracy		< ±1% (Output load within the rated range of 50% to 100%)				
AC						
Rated Power		50kVA	100kVA	150kVA	200kVA	250kVA
Overload		55kVA	110kVA	165kVA	220kVA	275kVA
Grid Voltage		380/400 (-15% ~ 15%)VAC				
Wiring		3W+PE/3W+N+PE				
Grid Frequency		50Hz/60Hz				
THDi		≤3%				
Output Power Factor		-1～+1 (configurable)				
Off Grid	Voltage Accuracy	≤1%				
	Voltage Distortion	≤3%				
	Power Factor	0.7 ~ 1.0				
	Voltage Dynamic Response/ Recovery Time	2%/60ms				
System						
Conversion Efficiency		98%				
Communication		RS232, RS485, CAN				
Protection Class		IP20				
Protection		AC/DC over/under voltage, overcurrent, short-circuit, and over-temperature protection				
Operating Temperature		-20°C ~ +60°C, derating above +45°C				
Storage Temperature		-40°C ~ 75°C				
Humidity		0 ~ 95% (Non-condensing)				
Cooling Method		Intelligent air cooling				
Altitude		4000m, derating above 2000m altitude				
Safety Standards		CE				
W×D×H(mm)	Module	440×665×120				
	System	600×800×1800				
Weight(kg)	Module	30				
	System	190	220	250	280	310

* Specifications subject to change without notice.

eMatrix Series
Power Conversion System Module

The module features bidirectional AC/DC conversion, offering high efficiency, power density, scalability, and reliability. It supports seamless transitions between off-grid and on-grid operations, with intelligent control for reactive power and harmonic compensation. Its advanced algorithms enable smooth multi-unit parallel operation, adapting to various loads and grid conditions.

eMatrix Series Power Conversion System Module



Applications

Peak shaving and valley filling

Dynamic expansion

Energy storage, backup power

Features

Efficient Conversion

- Three-level topology for bidirectional energy conversion
- Highly responsive with a 10ms switch time for full load charge/discharge

User Friendly

- Modular design for flexible configuration
- Easy O&M
- Offering active and reactive power regulation, along with off-grid sync and black-start functionality

Seamless Switching

- On-grid charging, discharging, and off-grid inverter capabilities
- Optional STS for seamless on/off-grid switching

Safe & Reliable

- Series-connected design, wide DC voltage range
- Integrates with BMS and EMS for enhanced protection

Specification

Model		EMP50K	EMP100K
DC			
MAX. Power		55kW	110kW
MAX. Current		79A	158A
Voltage Range		650VDC ~ 900VDC	
Voltage Accuracy		<±1%	
Current Regulation Accuracy		≤±1% (Output load within the rated range of 50% to 100%)	
AC			
Rated Power		50kVA	100kVA
Overload		55kVA	110kVA
Wiring		3W+PE/3W+N+PE	
Grid Voltage		380/400 (-15% ~ 15%)VAC	
Grid Frequency		50Hz/60Hz	
THDi		≤3%	
Output Power Factor		Configurable，setting range: -1 ~ +1	
Off Grid	Voltage Accuracy/ Distortion	≤1%/≤3%（Resistive balanced load）	
	Power Factor	0.7 ~ 1.0 (Suitable for more application scenario)	
	Voltage Dynamic Response/ Recovery Time	2%/60ms	
System			
Conversion Efficiency		98%	
Communication		RS232, RS485, CAN	
Protection Class		IP20	
Protection		AC/DC over/undervoltage, overcurrent, short-circuit, over-temperature protection	
Operating Temperature		-20℃ ~ +60℃， derating above 45℃	
Storage Temperature		-40℃ ~ 75℃	
Humidity		0 ~ 95% (non-condensing)	
Cooling Method		Intelligent air cooling	
Altitude		4000m. derating above 2000m altitude	
Safety Standards		CE	
W×D×H(mm)		130×440×666	220×440×671
Weight(kg)		30	60

* Specifications subject to change without notice.

eMatrix Series
Energy Storage Outdoor Solution

eMatrix Series Energy Storage Outdoor Solution

The EVADA EIS100KVA-215KWH integrates a safety-focused design with high efficiency, incorporating its own PCS, cells, battery modules, and components. Designed for power storage, energy conversion, and transmission, it excels in efficiency, energy density, rapid response, and longevity. Simplifying construction timelines for industrial and commercial energy storage projects, it ensures user-friendly O&M.

Applications

Energy storage, backup power	Photovoltaic energy storage and charging	Microgrid

Features

Safe & Reliable

- High quality LiFePO4 battery
- Automatic fire protection system
- Supports air cooling and AC side parallel connection
- Comprehensive protections: anti-corrosion, waterproof, dust-proof, shock-proof, and UV protection

Compact Design

- Modular design for easy transport and expansion
- Optional STS modules

Intelligent & Efficient

- Cloud-based remote O&M capabilities
- Multiple operating modes (off-grid, on-grid, etc.) for selection
- Proactive safety management system

System Configuration

No.	System	Main Device	Illustrate	Quantity
1	Battery System	21.5KWh Battery pack	3.2V/280Ah Lithium iron phosphate battery cells	10
2	Battery Management System	Sub-control module	One sub-controller per battery pack	
3		Main control module	One main controller per five battery packs	1
4		High-voltage box	One high-voltage box per outdoor cabinet	
5	Environmental Monitoring System	Sensor	Temperature and humidity sensor, water immersion sensor and water immersion rope	
6	AC/DC Conversion System	PCS	100KW	
7	Energy Management System	EMS	Supports functions like peak shaving and demand control are available exclusively in the main cabinet configuration	
8	Fire Protection System	/	Flooded hexafluoropropane fire system	
9	Air Cooling System		Air conditioners, fans, etc.	
10	Electrical Auxiliary System		Low-voltage electrical appliances, UPS, lighting, grounding, wiring, etc.	
11	Cabinet		Cabinet metal structure and installation accessories	

Specification

AC	
Rated Power	100kVA
Overload	110kVA
Wiring	Three-phase, four-wire
Grid Voltage Range	400VAC (-20%~15%)
Grid Frequency Range	50/60Hz (-2.5~2.5)
Power Factor	-0.99~0.99
Conversion Efficiency	≥98%
Cooling Method	Air cooling
Unbalanced Load Capacity	100%
DC	
Battery Type	LiFePO4
Configuration Option	1P240S
Rated Capacity	280Ah
Rated Power	215KWh
Rated Voltage	768V
Charge/Discharge Rate	0.5C
Operating Voltage Range	600~876V
Standard Charge/Discharge Current	140/140A

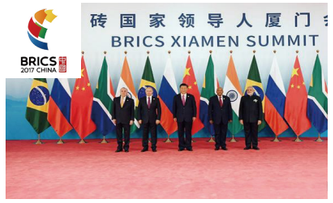
System	
Single Outdoor Cabinet Capacity	100kW/215kWh
Max. Parallelization Per Group	10 Units
Max. Parallelization Capacity Per Group	1000kW/2150kWh
Discharge Operating Temperature	-30℃~60℃
Charging Operating Temperature	0℃~60℃
Storage Temperature	Within one month: -20℃~45℃
	Within six months: 0℃~35℃
Noise	<75db
Cooling Method	Air cooling
Cycle Life	6000 times @25℃, 0.5C, 70%SOH
Fire Protection System	Proactive fire alert system, flooded hexafluoropropane fire system
Detector	Temp, smoke, flammable gas, volatile substances
Corrosion Resistance Level	C3/C4/C5
Protection Class	Battery compartment: IP54
	Equipment compartment: IP54
Humidity	0~95%
Altitude	≤4000m derating above 2000m altitude
Efficiency	85%
Protocol	Modbus TCP/RTU
Operation Mode	Peak shaving and valley filling
	Demand control
	Dynamic scaling
	Reactive power regulation
	Anti-backflow
Standards&Certifications	Battery: GB/T 36276
	BMS: GB/T 34131
	PCS: GB/T 34120
W*D*H(mm)	1500*1000*2350
Weight(t)	<2.6

* Specifications subject to change without notice.

Reference Project

2008 Summer Olympics

The 2010 Asian Games



BRICS Xiamen Summit

Bulgaria Industrial&Commercial Energy Storage System

FISU World University Games 2023

China-Russia East-Route Natural Gas Pipeline

Afghanistan Oil Field

Nigeria Water Pipe Plant

Indonesia Airport Control System

Ecuador Mirador Copper Mine

Laos National Television (LNTV) Channel 3 System Upgrade

Turkmenistan Bagdady Contract Area

Power the Green World