





EVADA (Xiamen) Technology Co., Ltd.

- Add: No. 10, Xinyang Road, Haicang District, Xiamen, Fujian, China
- Tel: 0086 592-8105999
- Fax: 0086 592-5746808
- Web: www.evadapower.com

E-mail: sales@evadaups.com

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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.



Invention patents

Industry standards drafting

Square meters workplace

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EMP-E³Series Power Conversion Module





Applications











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-E ³	EMP125K-E ³	
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 l	oad50%~100%)	
AC Parameter			
Rated AC power	100kVA	125kVA	
AC overload	110kVA	137.5kVA	
Wiring method	3W+PE/3	W+N+PE	
Grid voltage	380/4	00Vac	
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.

Applications



Sequential utilization



eMatrix Series PCS

Module

Features

(+) Green & Efficient

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

C Seamless Switching

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

(ô) Safe & Reliable

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

2 Easy O&M

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

Gibble Content State And State And

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

Specification

DescriptionSSKW110KW105KW220KW275KWMAX. Power73A158A237A316A395AVoltage Accuracy73A158A237A316A395AVoltage Accuracy<	Model		EMP50K-S	EMP100K-S	EMP150K-S	EMP200K-S	EMP250K-S			
MAX. Power55kW110kW165kW220kW275kWMAX. Currert79A158A237A316A395AVoltage AccuracyF50VDC - 900VDC500VDC - 900VDCVoltage Accuracy< ±1% (Output I-auter Instand range) 50% to 100%)	DC									
MAX. Current79A158A237A316A395AVoltage Rare <t< td=""><td>MAX. Power</td><td></td><td>55kW</td><td>110kW</td><td>165kW</td><td>220kW</td><td>275kW</td></t<>	MAX. Power		55kW	110kW	165kW	220kW	275kW			
Voltage Accuracy<	MAX. Curren	t	79A	158A	237A	316A	395A			
<td <="" colspace<="" td=""><td>Voltage Rang</td><td>je</td><td></td><td></td><td>650VDC ~ 900VDC</td><td></td><td>1</td></td>	<td>Voltage Rang</td> <td>je</td> <td></td> <td></td> <td>650VDC ~ 900VDC</td> <td></td> <td>1</td>	Voltage Rang	je			650VDC ~ 900VDC		1		
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Rated Power50KVA100KVA100KVA200KVA220KVAOrderload55KVA110kVA165KVA220KVA2275KVAGrid YollagG55KVA100KVA100KVA120KVAGrid YollagG53KVA55KVA220KVA275KVAGrid YollagG53KVA53KVA200KVA100KVAGrid Yollag AccuracyG53KVA53KVA100KVA100KVAOff GridYollag DistorioG53KVA53KVA100KVAOff GridYollag DistorioG53KVA55KVA100KVAOff GridYollag DistorioG53KVA55KVA100KVAOff GridYollag DistorioG53KKA55KVA100KVAOff GridYollag DistorioG53KKA55KVA100KVAOff GridYollag DistorioG53KKA100KVA100KVAOff GridYollag Distorio98K52KKA100KVA100KVAOrdersonSSK52KKA100KVA100KVA100KVAOrdersonG52KKA52KKA100KVA100KVA100KVAOrdersonG52KKA52KKA100KVA100KVA100KVA100KVAOrdersonG52KKA52KKA52KKA100KVA100KVA100KVA100KVAOrdersonG52KKA52KKA52KKA52KKA100KVA100KVA100KVA100KVAOrdersonG52KKA52KKA52KKA52KK	AC									
Overload Order of VoltageS5KVA110kVA165kVA220kVA275kVAGrid VoltageG380/400 (-15% - 15%)/U-U-U-U-U-U-U-U-U-U-U-U-U-U-U-U-U-U-U-	Rated Power		50kVA	100kVA	150kVA	200kVA	250kVA			
WringGrid FrequeryGrid FrequeryValage DistoritioPower FactorValage DistoritioValage DistoritioValage DistoritioValage DistoritioConversionConversionProtectionProtectionConversionProtectionCorrersionCorrersionProtectionCorrersionCorrersionCorrersionCorrersionCorrersionCorrersionCorrersionCorrersionCorrersionCorrersionCorrersionCorrersionCorrersionCorrersion<	Overload		55kVA	110kVA	165kVA	220kVA	275kVA			
WiringWHYPE/3W+N+PEGrid Frequert50Hz/60HzThDiThDiOutput PowerVoltage DistorionVoltage DistorionSystemConversor TimeSystemProtectionProtectionOperating TimeOrdersor TimeVoltage DistorionProtectionOperating TimeOperating TimeVoltage DistorionVoltage DistorionVoltage DistorionVoltage DistorionStorage TimeVoltage DistorionVoltage DistorionVoltage DistorionVoltage DistorionVoltage DistorionVoltage DistorionVoltage DistorionVoltage Distorion	Grid Voltage			380/400 (-15% ~ 15%)VAC						
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THDIOutput Power FortorOtif GridVoltage Accuracy<Voltage DistorionPower FactorVoltage Dynamic Resonsol R	Grid Frequer	су		50Hz/60Hz						
Output Power Factor-1~+1 (configurable)Voltage Accuracy $\leq 1^+ + 1$ (configurable)Voltage Distortion $\leq 3\%$ Power Factor $0.7 - 1.0$ Voltage Dynamic Recovery Time $2\%/60ms$ System $2\%/60ms$ SystemConversion EfficiencyOff Conversion Effi	THDi			≤3%						
Voltage Accuracy Voltage Distortion $\leq 1\%$ Off GridPower Factor $\leq 3\%$ Power Factor $0.7 - 1.0$ Voltage Dynamic Rescovery Time $2\%/60ms$ System $2\%/60ms$ SystemSome / Rescovery TimeSystemConversion EfficiencyOff GridOne rescovery TimeSystemConversion EfficiencyOff Conversion Efficiency <td <="" colspan="4" td=""><td>Output Powe</td><td>r Factor</td><td colspan="4">-1~+1 (configurable)</td></td>	<td>Output Powe</td> <td>r Factor</td> <td colspan="4">-1~+1 (configurable)</td>				Output Powe	r Factor	-1~+1 (configurable)			
Voltage DistortionColtage DistortionS3%Off GridPower Factor0.7 ~ 1.0Voltage Dynamic Recovery Time2%/60msSystem2%/60msRecovery Time2%/60msRecovery Time98%Communic TrainingS232, R5485, CANProtection ClassContranseIP20Protection ClassProtection		Voltage Accuracy	≤1%							
Off Grid Voltage Dynamic Recovery TimePower Factor0.7 ~ 1.0Voltage Dynamic Recovery TimeSystemSystemConversion EfficiencyGonversion EfficiencyOConversion EfficiencyOS Conversion EfficiencyOS Co		Voltage Distortion	≤3%							
Voltage Dynamic Recovery Time2%/60msSystemSystemConversion EfficiencyGonversion EfficiencyGonversion EfficiencyGonversion EfficiencyProtection ClassGonversion EfficiencyGonversion EfficiencyProtection ClassGonversion EfficiencyIP20Protection ClassGonversion EfficiencyOperating Terrer AtureGolf Cover/under voltage, oververnent, short-circuit, and over-temperature protectureOperating Terrer AtureCollog MettreIntelligent air coolingAttitudeCeCeCeCeStorage Terrer 5Collog MettreIntelligent air coolingAttitudeCeCeStorage Terrer 5CECelspan="2">Celspan="2"Storage Terrer 5CeCelspan="2">Celspan="2"Storage Terrer 5Celspan="2"Celspan="2"Storage Terrer 5Celspan="2"Storage Terrer 5Celspan="2"Storage Te	Off Grid	Power Factor	0.7 ~ 1.0							
SystemConversion Efficiency98%Communication98%CommunicationProtection ClassProtection ClassProtection ClassAC/DC over/under voltage, oversurrent, short-circuit, and over-temperature protectionOperating Temperature-20°C ~ +60°C, derating above +45°CStorage Temperature-20°C ~ 75°CHumidity-40°C ~ 75°CCooling Mettre		Voltage Dynamic Response/ Recovery Time	2%/60ms							
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$\begin{tabular}{ c c } \hline $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$ $$	Conversion Efficiency		98%							
$\begin{tabular}{ c $	Communication		RS232, RS485, CAN							
$\begin{tabular}{ c $	Protection CI	ass	IP20							
$\begin{tabular}{ c $	Protection		AC/DC over/under voltage, overcurrent, short-circuit, and over-temperature protection							
$\begin{tabular}{ c $	Operating Te	mperature	-20° C ~ $+60^{\circ}$ C, derating above $+45^{\circ}$ C							
$\begin{tabular}{ c $	Storage Tem	perature	-40°C ~ 75°C							
$\begin{tabular}{ c c } \hline Cooling Method \\ \hline Altitude & Intelligent air cooling \\ \hline Altitude & 4000m derating above 2000m altitude \\ \hline Safety Stantow & CE & CE & CE \\ \hline W \times D \times H(mm) & Module & 440 \times 665 \times 120 & CE & C$	Humidity		0 ~ 95% (Non-condensing)							
Altitude 4000m derating above 2000m altitude Safety Stander CE Very Module Module Altitude CE VvDvH(mm) Module 600×800×1800 System Module Signer 30 Weight(kg) Module 190 220 280 310	Cooling Method		Intelligent air cooling							
CE Module 440×665×120 W×D×H(mm) System 600×800×1800 Module 30 30 Meight(kg) 190 220 250 280 310	Altitude		4000m, derating above 2000m altitude							
Module 440×665×120 System 600×800×1800 Module 30 Module 30 System 190 220 250 280 310	Safety Standards		CE							
System System 600×800×1800 Weight(kg) Module 30 System 190 220 250 280 310	Module		440×665×120							
Module 30 System 190 220 250 280 310	אאעראער (וווש) אאעראיינייי	System	600×800×1800							
System 190 220 250 280 310	Woight(kg)	Module	30							
	vveight(kg)	System	190	220	250	280	310			

is subject to change wi

<u>03))</u>



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



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

4

Energy storage, backup power

• 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. Cur	rent	79A	158A			
Voltage F	Range	650VDC ~	~ 900VDC			
Voltage A	Accuracy	<±	<±1%			
Current R	egulation Accuracy	≤±1% (Output load within the	\leq ±1% (Output load within the rated range of 50% to 100%)			
AC						
Rated Po	wer	50kVA	100kVA			
Overload		55kVA	110kVA			
Wiring		3W+PE/3	W+N+PE			
Grid Volt	age	380/400 (-15	%~15%)VAC			
Grid Fred	luency	50Hz,	/60Hz			
THDi		≤3%				
Output P	ower Factor	Configurable, setting range: -1 ~ +1				
	Voltage Accuracy/ Distortion	≤1%/≤3% (Resisti	ve balanced load)			
Off Grid	Grid Power Factor 0.7 ~ 1.0 (Suitable for more application scenario)		ore application scenario)			
	Voltage Dynamic Response/ Recovery Time	2%/6	50ms			
System	System					
Conversion Efficiency		98%				
Commun	ication	RS232, RS485, CAN				
Protectio	n Class	IP20				
Protectio	n	AC/DC over/undervoltage, overcurrent, short-circuit, over-temperature protection				
Operating	g 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		C	E			
W×D×H(mm)		130×440×666	220×440×671			
Weight(kg)		30	60			

* Specifications subject to change without notice.

<u>05</u>



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



√→ Intelligent & Efficient

selection

• Cloud-based remote O&M capabilities

· Proactive safety management system

• Multiple operating modes (off-grid, on-grid, etc.) for

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

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		Sub-control module	One sub-controller per battery pack	10
3	Battery Management System	Main control module	One main controller per five battery packs	
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	1
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°C~60°C	
Charging Operating Temperature	0°C~60°C	
Storage Temperature	Within one month: -20°C~45°C	
Storage remperature	Within six months: 0°C~35°C	
Noise	<75db	
Cooling Method	Air cooling	
Cycle Life	6000 times @25°C, 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	
	Peak shaving and valley filling	
	Demand control	
Operation Mode	Dynamic scaling	
	Reactive power regulation	
	Anti-backflow	
	Battery: GB/T 36276	
Standards & Certifications	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



The 2010 Asian Games





Bulgaria Industrial&Commercial Energy Storage System

FISU World University Games 2023





Afghanistan Oil Field



Ecuador Mirador Copper Mine



Laos National Television (LNTV) Channel 3 System Upgrade





BRICS Xiamen Summit



Nigeria Water Pipe Plant



China-Russia East-Route Natural Gas Pipeline



Indonesia Airport Control System



Turkmenistan Bagdady Contract Area



Power the Green World



