

CDS SOLAR

POWERSTATION ENERGY STORAGE SYSTEM

THE MOST INNOVATIVE ENERGY STORAGE SYSTEM ON THE EARTH

CDS SOLAR has engineered the most innovative and valuable energy storage technology available the PowerStation energy storage system. Our mission is bring more solar energy to the world. PowerStation energy storage system bring all in one design and plug and play function to reduce the construction and O&M cost up to 30%. With a minimalist design and highly configurable, PowerStation energy storage system improves reliability and design flexibility while lowering O&M costs. We believe value is more than the cost of a energy storage system. It's about building with forgiving tolerances and fewer parts so construction crews can work efficiently. It means protecting your investment with a failure-free risk management system.

ALL IN ONE DESIGN & PLUG AND PLAY EASY TO INSTALL AND USE

All power conversion equipment is installed in one container and manufactured with IEC standards. We use PV string inverter and power converter with building block design. It is a real all-in-one power machine with high stability. Customers only need to plug the electrical equipment into container.

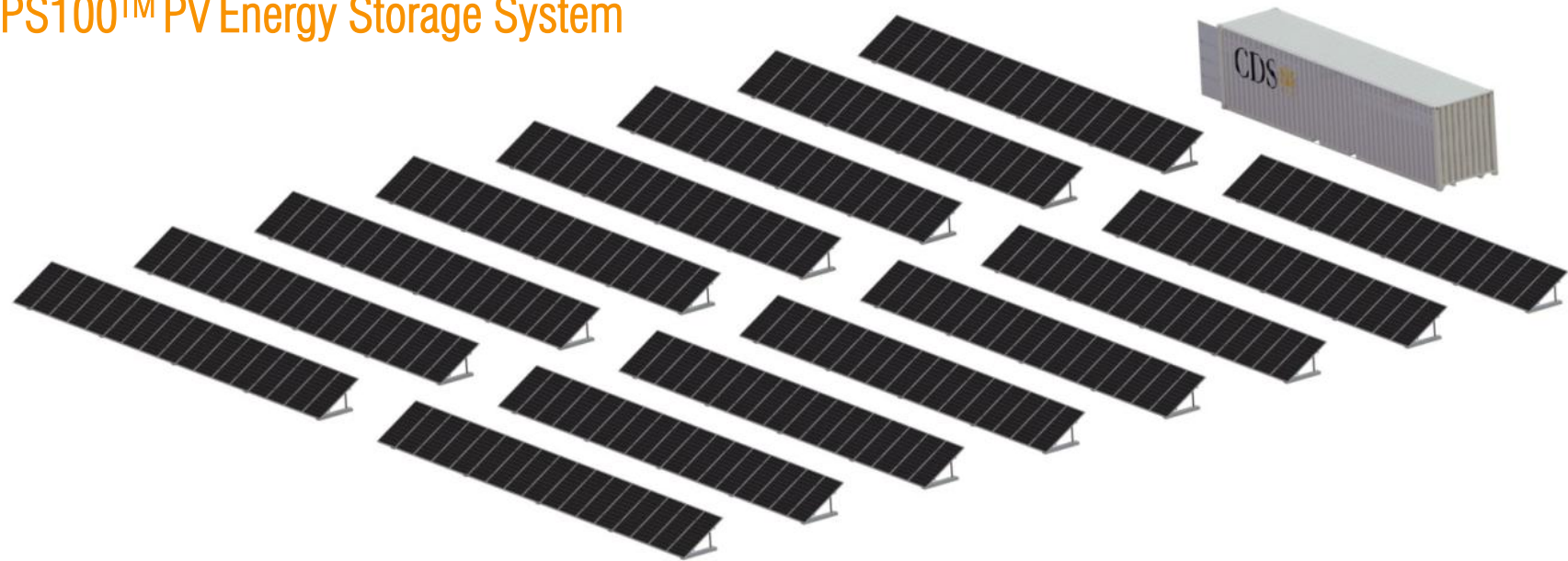
ON AND OFF GRID FUNCTION MEET ALL YOUR NEEDS

PowerStation energy storage system have on-grid function and off-grid function. Off-grid function can guarantee the stability of power supply. The on-grid function allows customers to sell excess power to the grid, increasing your income. It is the best solution for your need of power.

System Overview

PV Power	50kWp-2000kWp	
AC Power	50kW-2000kW	
Storage Capacity	875 kWh	(20-foot Container, include PCS, Battery Pack, BMS,EMS)
	1400kWh	(20-foot Container, include Battery Pack, BMS)
	2450MWh	(40-foot Container, include PCS, Battery Pack, BMS,EMS)
	3125kWh	(40-foot Container, include Battery Pack, BMS)
PV Panel	330Wp-375Wp (Poly & Mono)	
Standard	CE & ETL & UL Certificate.	
PV Bracket Structure	Hot-dip galvanizing steel and aluminum alloy. 25-years long life.	
Energy Control System	EMS + BMS system, communication interface is RS485 or CAN.	

PS100™ PV Energy Storage System



PV Module	
Max Power	330 Wp
Open Circuit Voltage	45.9 V
Nominal Voltage	37.5 V
Short Circuit Current	9.12 A
Nominal Current	8.80 A
Number of String	24
Certification	TUV

PCS (Power converter)	
AC Power	100 kW
Max Input PV Power	110 kW
Nominal AC Voltage	400/480 V
Nominal AC Current	144/120 A
DC Voltage Range	500V – 850V
Frequency	50/60Hz
Certification	CE,ETL

Battery Pack	
Battery Pack Capacity	525kWh
Number of Battery Module	3 units
Battery Module Voltage	729.6 V
Battery Module Capacity	175.1kWh
Battery Type	LiFePO ₄ Battery
Cycle life	5000(90%DOD)
Certification	UL

PV Bracket Structure	
Supporting Structural	Hot-dip galvanized steel
Mounting Structural	Aluminum Alloy
Fastening Piece	Stainless Steel
Max Wind Load	33.3m/s
1. Tilt angle is based on local latitude.	
2. Foundation can use concrete or screw pile.	
3. Time of standard Installation is 1 week.	

SERVICE

Exemplary customer service is tightly woven into CDS SOLAR company’s DNA. We have 10 years of experience, and we know how to best help you speed installation, lower project costs, insure proper maintenance, and answer every question you might have. We’ve got you covered with our on-site tech advisors. Customer service is value – one that we’ve always carried in our DNA, and always will.

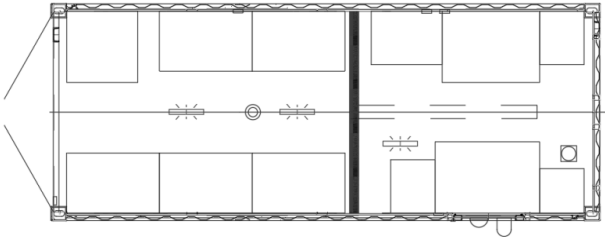
Design Service	Site Plan, Layout, Topography Review
On-Site Tech Advisors	Standard and Paid Service

Standard Energy Storage System



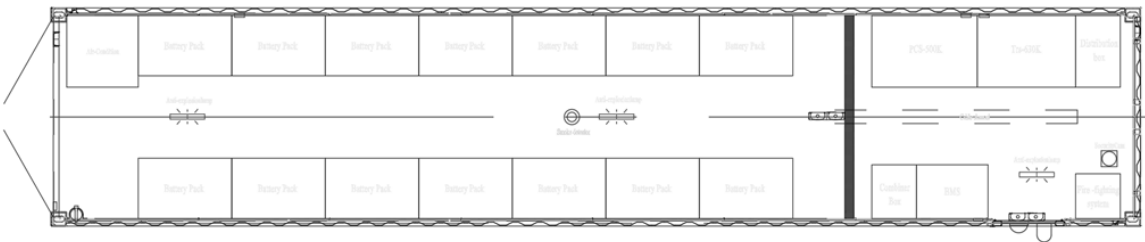
20-FOOT CONTAINERIZED ESS

Standard ESS	Power	Storage Capacity
PS50	50kW	≤ 875kWh
PS100	100kW	≤ 875kWh
PS150	150kW	≤ 875kWh
PS250	250kW	≤ 875kWh



40-FOOT CONTAINERIZED ESS

Standard ESS	Power	Storage Capacity
PS100	100kW	≤ 2450kWh
PS150	150kW	≤ 2450kWh
PS250	250kW	≤ 2450kWh
PS500	500kW	≤ 2450kWh



Lithium ion Battery

Safety Data Sheet

According to Regulation (EU) 2015/863 (PDAH Annex II)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product form : Article
Trade name : Lithium ion Battery
Product model : LFP48173170E-120Ah

1.2. Relevant identified uses of the substance or mixture and uses advised against
1.2.1. Relevant identified uses
Main use category : No information available
1.2.2. Uses advised against
Restrictions on use : No information available

1.3. Details of the supplier of the safety data sheet
Supplier : Jiangsu Higea New Energy Co., Ltd
Address : NO.55, Jianshe Road, Yunting Town, Jiangyin, Jiangsu Province, China
Zip Code : 214400
Phone : 0510-88012065
Fax : 0510-88012020
E-mail : xug@higea.com

1.4. Emergency telephone number
+86-13914288740

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Adverse physicochemical, human health and environmental effects
To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable
Hazard pictograms (CLP) : None
Signal word (CLP) : None
Hazard statements (CLP) : Not applicable
Precautionary statements (CLP) : Not applicable
EU Specific Hazard Statements : None

2.3. Other hazards
No additional information available

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.

TUV SUD Certification and Testing (China) Co., Ltd. Guangzhou Branch

Technical Report No.: 64158.13.00443.018

TUV SUD Group
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Guangzhou 510056, P. R. China
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Engineer: Kevin Zhang
2019-01-08
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CERTIFICATE OF COMPLIANCE

Certificate Number
Report Reference
Issue Date

20190108-MH63242
MH63242-20181221
2019-JANUARY-08

Issued to:

Jiangsu Higea New Energy Co., Ltd.
NO.55,Jianshe Road,Yunting Town
Jiangyin
Jiangsu 214400, CHINA

This certificate confirms that representative samples of

COMPONENT - BATTERY CELLS FOR USE IN STATIONARY AND/OR TRANSPORT APPLICATIONS
Lithium Iron Cells, Model LFP48173170E-120Ah

Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

Standard(s) for Safety:

ANSI/UL 1973, Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications.

Additional Information:

See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information.

This Certificate of Compliance does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at info@ulprospector.com

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Power Converter System



Item	PCS50	PCS100	PCS150	PCS250	PCS500
AC Rated Power	50 kW	100kW	150kW	250kW	500kW
Max Input PV Power	55 kW	110kW	165kW	275kW	550kW
Nominal AC Voltage	400/480 V				
DC Voltage Range	500V – 850V				
Frequency	50/60Hz				
Certification	CE & ETL				




AUTHORIZATION TO MARK

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing Report.

This document is the property of Intertek Testing Services and is not transferable. The certification mark(s) may be applied only at the location of the Party Authorized To Apply Mark.

Applicant:	Shenzhen Sinexcel Electric Co., Ltd	Manufacturer:	Shenzhen Sinexcel Electric Co., Ltd
Address:	Building 6,BaiWangXin High-tech Industrial Park, Nanshan District,Shenzhen City,China	Address:	Building 6,BaiWangXin High-tech Industrial Park, Nanshan District,Shenzhen City,China
Country:	China	Country:	China
Contact:	Ms.Tang Yulian Mr.Gou Xipu	Contact:	Ms.Tang Yulian Mr.Gou Xipu
Phone:	(86)-0755-86511588-8310 (86)-0755-86511588	Phone:	(86)-0755-36511588-8310 (86)-0755-36511588
FAX:	--	FAX:	--
Email:	yulian_tang@sinexcel.cn xinpu_gou@sinexcel.cn	Email:	yulian_tang@sinexcel.cn xinpu_gou@sinexcel.cn

Party Authorized To Apply Mark: Same as Manufacturer
Report Issuing Office: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Control Number: 5002598 **Authorized by:**  for Dean Davidson, Certification Manager



This document supersedes all previous Authorizations to Mark for the noted Report Number.

This Authorization to Mark is for the exclusive use of Intertek's Client and is provided pursuant to the Certification agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Authorization to Mark. Only the Client is authorized to permit copying or distribution of this Authorization to Mark and then only in its entirety. Use of Intertek's Certification mark is restricted to the conditions laid out in the agreement and in this Authorization to Mark. Any further use of the Intertek name for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. Initial Factory Assessments and Follow up Services are for the purpose of assuring appropriate usage of the Certification mark in accordance with the agreement, they are not for the purposes of production quality control and do not relieve the Client of their obligations in this respect.

Intertek Testing Services NA Inc.
545 East Algonquin Road, Arlington Heights, IL 60005
Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672

UL SUBJECT 9540 Issued: 2014/06/30 Ed: 1 Outline Of Investigation Energy Storage Systems And Equipment	
Standard(s):	UL 1741:2010 Ed.2 +R:7 Sep 2016 Inverters, Converters, Controllers And Interconnection System Equipment For Use With Distributed Energy Resources
CSA C22.2#107.1:2016 Ed.4 Power Conversion Equipment	
Product:	Single-stage Storing Device (Grid supprot utility interactive inverter)
Brand Name	Sinexcel
Models:	PWS1-150K-NA, PWS1-100K-NA, PWS1-50K-NA, PWS1-250K-NA

ATM for Report 160114055GZU-001

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ATM Issued: 23-Apr-2017
ED 18.3.15 (20-Apr-17) Mandatory



Lithium Iron Phosphate Battery



9.216kWh Battery Module

Item	Parameter
Cell Type	LFP48173170-120Ah
Charging Rate	≤ 1C
Discharge Rate	≤1C
Combination Method	2P12S
Nominal Capacity	240Ah
Nominal Energy	9.216kWh
Nominal Voltage	38.4VDC
Operating Voltage Range	33.6VDC ~ 43.2 VDC
Operating Temperature Range	-20℃ ~ 55℃
Size	W525*D505*H190mm
Weight	85kg



175.1kWh Battery Cabinet

Item	Parameter
Cell Type	LFP48173170-120Ah
Charging Rate	≤ 1C
Discharge Rate	≤1C
Combination Method	2P228S
Nominal Capacity	240Ah
Nominal Energy	175.1kWh
Nominal Voltage	729.2VDC
Operating Voltage Range	638.4VDC ~ 832.2 VDC
Operating Temperature Range	-20℃ ~ 55℃
Size	W1050*D550*H2200mm
Weight	1850kg



Customers visit energy storage projects

Inside the energy storage container



CDS is a partner of China state grid

Automatic lithium battery production line

