



Love earth Love us
**ENERGY SOLUTION
PROVIDER**

COMPANY PROFILE



SYNTEK Solar Energy Co. Ltd, specializes in providing high-quality solar panels, complete solar energy systems and cutting-edge energy storage solutions. Together with our partners, we adopt advanced and reliable technology to ensure the stability and reliability of our products. Our commitment to reliability, responsibility, and trustworthiness ensures that you receive customized and dependable energy system tailored to your needs. Our hybrid energy storage systems have been recognized by customers from Southeast Asia, Africa and Europe. SYNTEK Solar Energy is your reliable partner in renewable energy solutions.



ESS Storage Energy System



KEY STRENGTHS

- Multiple working modes can be flexibly set.
- Support real-time online monitoring of system status.
- Support battery management system and comprehensive thermal management.
- Support simultaneous access to load, battery, grid, dg, and pv.
- The electrical compartment and battery compartment are separated to prevent runaway spread of heat.
- Integrated design, easy to transport and install, flexible deployment.

More Energy	All-in-one Design	Simple O&M	Safe & Reliable
Pack-level Optimization String-level Optimization	Ac/dc All-in-one Design Reducing Initial Investment	No Periodic Balancing No Experts Site Visit	Modular Design High Availability

System Technical Specifications

Item	20C2H500K-NA	20C2H500K-EX
DC Data		
Battery chemistry	Lithium Iron Phosphate (LFP)	
Cell life cycle	80% Retention with 5,000 Cycles @ 1C 25°C	
Cell spec	3.2V/280Ah	
String configuration	1P224S	
Number of strings	6	
Rated energy capacity	1.2MWh	
DC rated energy capacity	1,204.224kWh	
Rated voltage	716.8V	
Voltage range	602V~784V	
BMS communication interface	RS485, Ethernet	
BMS communication protocol	Modbus RTU, Modbus TCP	
AC Data		
Rated AC power	500kW	
Maximum AC power	550kW	
Rated voltage	480V	400V
Grid voltage range	432~528V(Configurable)	342~418V(Configurable)
AC rate of current	601.4A	721.7A
Output THDi	< 3%	
AC PF	0.1~1 leading or lagging (Controllable)	
AC output	3-Phase 4-Wire+PE	3-Phase+PE
General Data		
Dimension w/o clearances (L*W*H)	6,058x2,438x2,591mm	
Weight of the whole system	22t	20.7t
Degree of protection	IP54	
Operating temperature range	-20~40°C	
Relative humidity	0~95% (non-condensing)	
Max working altitude	3000m/10000feet (> 2000m/6500feet derating)	
Cooling concept of DC hatch	HVAC	
Fire fighting system	NOVEC1230/FM-200	
Communication interfaces	RS485, Ethernet, GPRS	
Certificates	UL9540, IEC62933, UN3536, etc	

OUTDOOR CABINET ENERGY STORAGE SYSTEM



Door magnetic sensor

Emergency stop switch

LCD control screen

PCS power module

Lightning protection module

Smoke sensor

Battery pack

Cooling + heating air conditioning

Aerosol fire protection

Water immersion sensor

Note: Different projects have different battery pack quantities and specifications, and the structures may be slightly different.

SOLAR ENERGY SYSTEM

WHOLE SOLUTION PROVIDER

 Smooth New Energy Output

 Voltage, Frequency Support,
Frequency Modulation

 Peak Valley Arbitrage

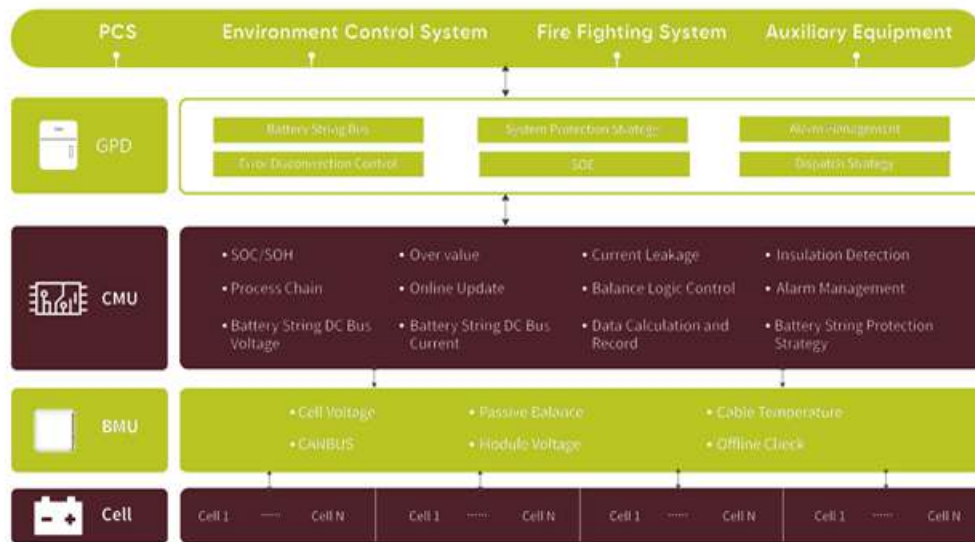
 Demand Management

 Construction of Microgrid





EMS (Energy management system)



BMU		CMU	
Cell Voltage Measurement Accuracy	±5 mV	Battery String Voltage Measurement Range	100-1,000V
Cell Voltage Monitoring Interval	≤200ms	Battery String Voltage Measurement Accuracy	±1%
Cell Temperature Measurement Accuracy	±2°C	Battery String Voltage Monitoring Interval	≤100ms
Cell Temperature Measurement Interval	≤3s	Battery String Current Measurement Range	±300A
Cell Current Balance	Passive Balance, 150mA MAX	Battery String Current Measurement Accuracy	≤1%
Cell Voltage Measurement Range	1-5 V	Battery String Current Monitoring Interval	≤50ms
Over-current Protection	250A/1s	SOC Calculation Accuracy	≤8%
Short-Circuit Protection	500A/10ms	Input Insulation Resistance	≥10MΩ, 1,000VDC



APPLICATIONS

- » Microgrid system energy control
- » Frequency modulation peak modulation energy control
- » C&I peak cutting and valley filling energy control
- » PV charging station energy control



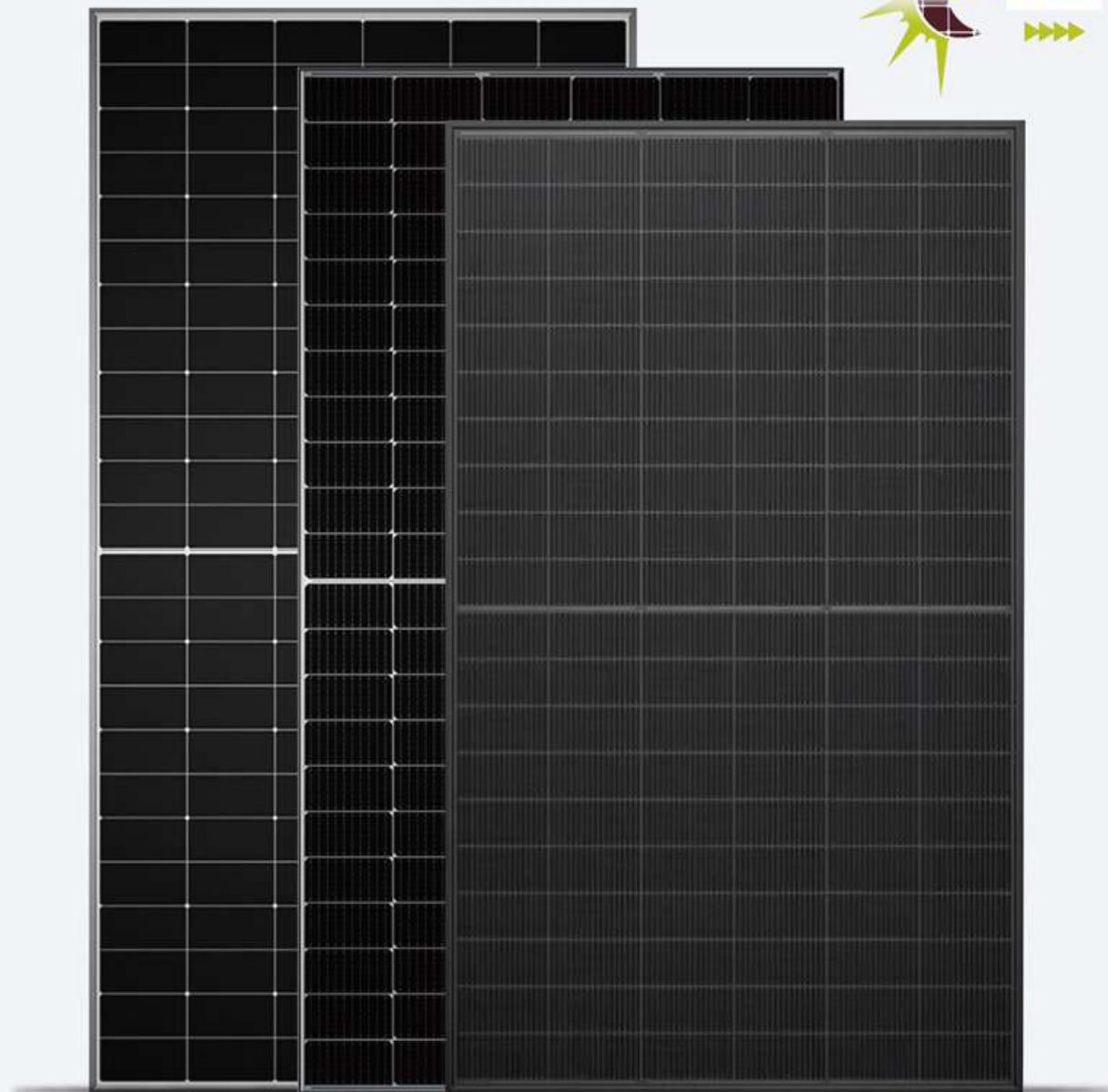
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HOT PROOUCT

DIVERSIFIED SOLAR MODULES MEET DIFFERENT NEEDS

-  Partial Shading Optimisation
-  Better Temperature Coefficient
-  High Temperature Restriction
-  Micro-crack Resistance

Comprehensive Product And System Certificates



CHARM 10/11/12

DEVELOPMENT HISTORY



2014

Founded EPC Contrator of Solar Energy System

2016

Updated Production Line
Annual Capacity 200mw

2018

Self Developed Optimal
Solar System One Stop Solution

2022

Global Cumulative Solar Energy
System Shipment Reached To 5GW

2025

Solar Energy With Bess System
Achieved Mass Production

ONE-STOP SOLUTION TURNKEY PROJECTS SUPPLIER



01

Project Survey & Research

Preliminary Research And
System Design

02

Design & Confirm The Configuration

Confirm System Configuration
And Grid Application Paperwork



03

Arrange Production & Shipping

Arrange Production And
Delivery To Project Site



04

Installation & Debugging

Lovsun Europe Team Will Do The
Installation And Commissioning Works



05

Enjoy Payback

Save Your Electricity Bill By Peak
Shaving And Valley Filling



During The Use Of The Product, After-sales Team 24/7 Ready To Help Solve Problems.
Warranty Work Can Be Performed Locally In Europe With In 48 Hours.

PV MODULE PRODUCTION LINE



BATTERY PRODUCTION LINE



BATTERY PRODUCTION LINE



PROJECT CASES

COMMERCIAL



Location: South Africa
Capacity: 60kw /100kWh



Location: Suriname
Capacity:250kW/1MWh



Location: South Africa Capacity:750kW/1.5MWh



Location: South Africa
Capacity:1MW/1.3MWh



Location: Croatia
Capacity:120kW/200kWh



Location: Poland
Capacity:250kW/500kWh