SANY 三一硅能

ILLUMINATE YOU&ME
SHINE GLOBALLY

点亮你我
闪耀全球

三 一 硅 能 移 动 光 储 设 备
Mobile PV Storage Equipment

BUILDING A BETTER WORLD

企 业 宣 传 画 册
— Corporate Brochure —

品 质 改 变 世 界
Quality Changes the world

SANY®

三一硅能（株洲）有限公司
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Website:https://siliconenergy.sany.com.cn/

全球员工约 **6万** 人

拥有三家上市公司：**三一重工、三一国际、三一重能**

传统业务——覆盖工程机械、煤炭机械、港口机械、PC
成套装备、石油装备、环保设备、环卫装备、重型卡车

新能源业务——风电、光伏、氢能、锂电、储能等全系列
产品和核心装备技术

两大旷世机遇

◈ 中华民族伟大复兴的中国梦
◈ 第四次工业革命叠加第三次能源革命带来的"超级技术窗口期"

全力推进全球化、数智化、低碳化"三化"转型，为光伏
装备产业发展赋予良机。

About **60,000** employees worldwide
Three listed companies: **SANY Heavy Industry, SANY International and Sany Renewable Energy**
Traditional businesses—— engineering machinery, coal machinery, port machinery, PC complete equipment, petroleum equipment, environmental protection equipment, sanitation equipment and heavy trucks
New energy business—— full range of products and core equipment technologies such as wind power, photovoltaic, hydrogen energy, lithium battery and energy storage
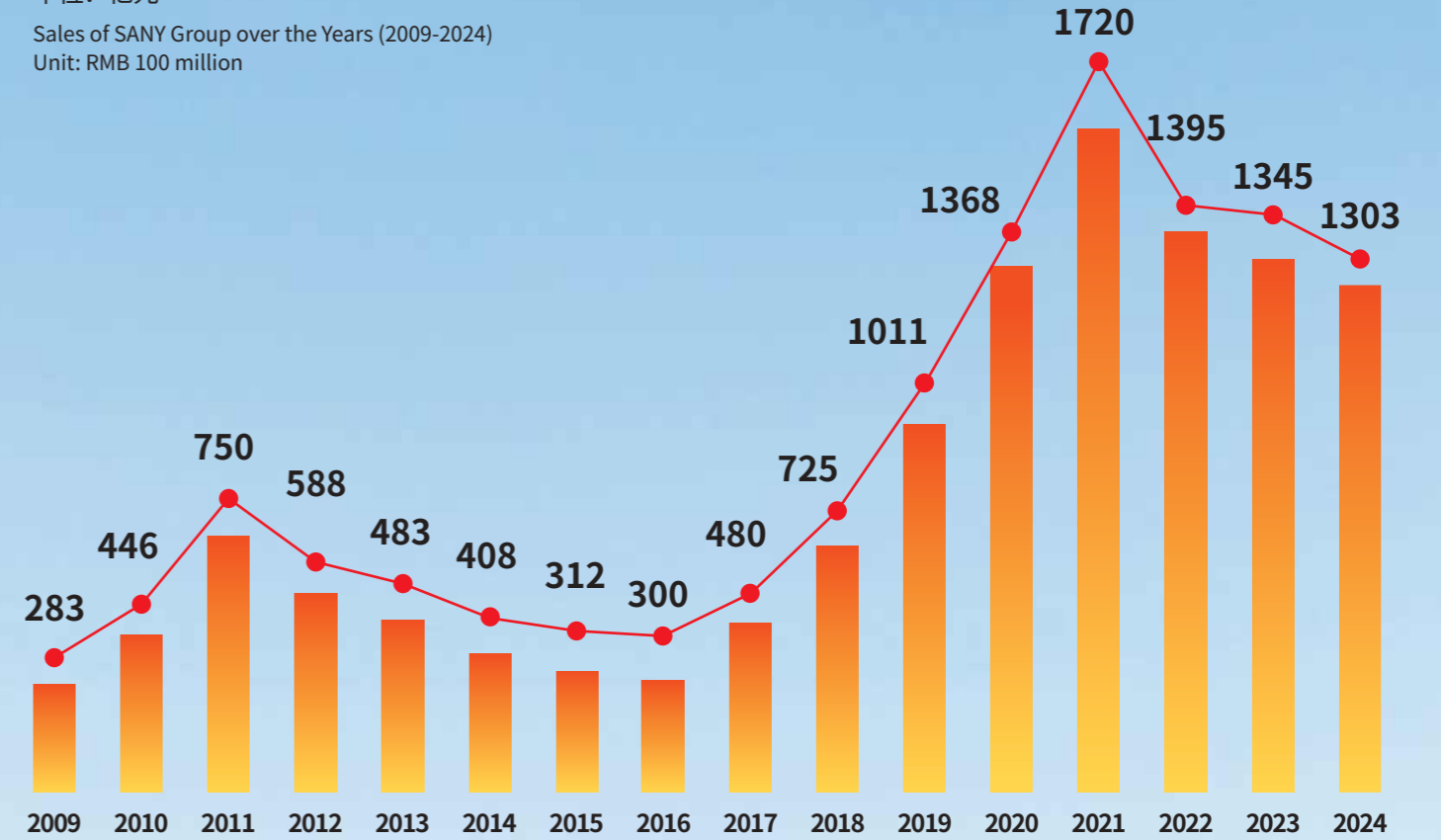
Two Great Opportunities
◈ The China Dream of the great rejuvenation of the Chinese nation
◈ The "super technology window period" brought by the fourth industrial revolution and the third energy revolution

We will make every effort to promote the transformation of globalization, digital intelligence and low carbonization, giving good opportunities for the development of photovoltaic equipment industry.

全球化
Globalization

数智化
Digital Intelligence

低碳化
Low Carbonization

三一集团历年销售额(2009-2024)
单位：亿元

Sales of SANY Group over the Years (2009-2024)
Unit: RMB 100 million

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
283	446	750	588	483	408	312	300	480	725	1011	1368	1720	1395	1345	1303
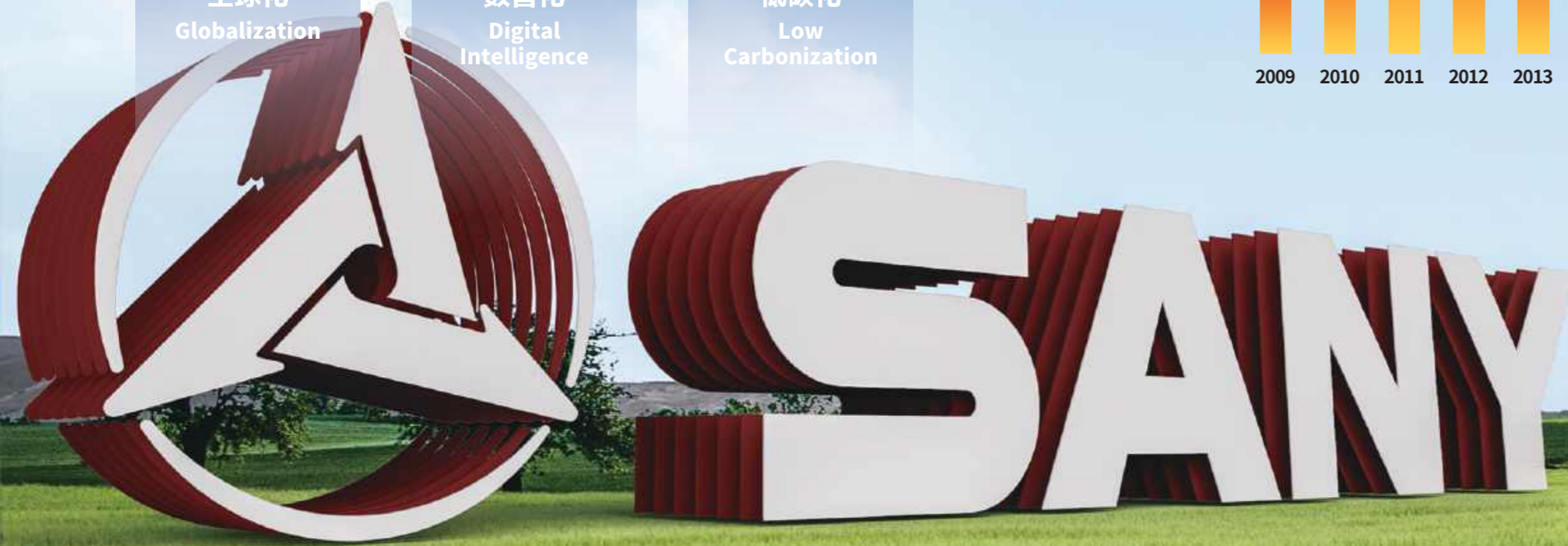
SANY Globalization
三一全球化

三一德国 SANY in Germany
北威州贝德堡市
Bedburg, Nord Weiss, Germany

普茨迈斯特 Putzmeister
巴登－符腾堡州斯图加特市
Stuttgart, Baden-Wurttemberg

乌鲁木齐产业园
Industrial Park in Urumqi
工程机械、风电
Construction Machinery,Wind Energy

北京产业集群
Industrial Cluster in Beijing
回龙观 / 南口
Huilongguan/Nankou

桩工机械、风电装备、石油装备
Piling Machinery, Wind Power Equipment,
Petroleum Equipment

沈阳产业园
Industrial Park in Shenyang
煤炭机械、矿山机械
Coal Machinery, Mining Machinery

中西部产业集群
Industrial Clusters in Central
and Western Regions
西安/重庆/朔州/巴彦淖尔
Xi'an/Chongqing/Shuozhou/
Bayannur

煤炭机械、矿用车辆、三一筑工、
挖掘机械、光伏、风电
Coal Machinery, Mining Vehicle,Sany
Construction,Mining Excavator,
Photovoltaic,Wind Energy

三一美国 SANY in USA
美国佐治亚州桃树市
Peachtree City, Georgia, USA

三一印度 SANY in India
马哈拉施特拉邦普纳市
Puna City, Maharashtra

三一巴西 SANY in Brazil
巴西圣保罗市
Sao Paulo, Brazil

湖南产业集群
Industrial Cluster in Hunan
长沙 / 宁乡 / 株洲 / 益阳 / 常德 / 娄底 / 邵阳/
郴州 / 怀化 / 韶山 / 岳阳
Changsha/Ningxiang/Zhuzhou/Yiyang/
Changde/Loudi/Shaoyang/Chenzhou/
Huaihua/ Shaoshan/Yueyang

混凝土机械、路面机械、起重机械、移动港口机
械、重卡、消防、军工
Concrete Machinery, Road Machinery, Lifting
Machinery, Mobile Port Machinery, Heavy Trucks,
Firefighting, Military Industry

大湾区产业集群
Industrial Clusters in the
Greater Bay Area
珠海 / 广州 / 深圳
Zhuhai/Guangzhou/Shenzhen

港口机械、工业互联网、智慧园区
Port Machinery,Industrial
Internet,Smart Park

长三角产业集群
Industrial clusters in the Yangtze
River Delta
临港 / 昆山 / 常熟 / 南通 / 如东 / 湖州 / 杭州
Lingang/Kunshan/Changshu/Nantong/
Rudong/Huzhou/Hangzhou

挖掘机械、装载机械、履带起重机、随车起重
机、环保设备
Excavation Machinery, Loading Machinery, Crawler
Cranes, Truck Mounted Cranes, Environmental
Protection Equipment

三一印尼
SANY in Indonesia
雅加达首都特区 雅加达市
Special Capital Region of Jakarta,
City of Jakarta

- - - - 丝绸之路经济带
The Silk Road Economic Belt

- - - - 海上丝绸之路
Maritime Silk Road

★ 三一产业基地
SANY Industrial Base

● 三一营销公司所在地
Location of SANY Marketing Company

[PM] 普茨迈斯特（三一混凝土机械国际总部）
Putzmeister (SANY Concrete Machinery International Headquarters)

点亮你我　闪耀全球
ILLUMINATE YOU&ME, SHINE GLOBALLY

抓住新能源革命旷世机遇
Seizing the Unprecedented Opportunity
of New Energy Revolution

SANY Decarbonization
三一低碳化

三一硅能（株洲）基地
SANY Silicon Energy (Zhuzhou) Base

Introduction to
SANY Silicon Energy
Mobile PV Storage Equipment

三一硅能移动光储简介

聚焦移动光储设备领域，坚持以创新引领，造福人类为宗旨，依托三一30余年的研发实力、质量和品牌保证，以10余家智能制造平台为基础，研发推出安全、高效、便捷的移动光储设备，助力非洲乃至全世界缺电少电地区人民用电无忧。

Focusing on the field of mobile PV storage equipmet, we are committed to driving progress through innovation and dedicated to benefiting humanity. Building on Sany's over 30 years of R&D expertise, quality assurance, and brand credibility, and supported by more than ten intelligent manufacturing platforms, we have developed and launched safe, efficient, and user-friendly mobile PV storage equipments. These innovations aim to provide reliable and worry-free access to electricity for people in underserved regions across Africa and around the world.

具备微、小、中、大型移动光储设备全系产品的自主研发与生产能力，可覆盖客户1MW以下，包括户用、露营、别墅、农产品加工、灌溉、工地、营地、农网等所有应用场景。

We have the independent R&D and production capabilities to deliver a full range of mobile PV storage equipment, from micro to small, medium, and large-scale solutions. Our products are designed to meet diverse application scenarios with power demands below 1MW, including residential use, camping, villas, agricultural processing, rrigation, construction sites, remote camps, rural grids, and so on.

01

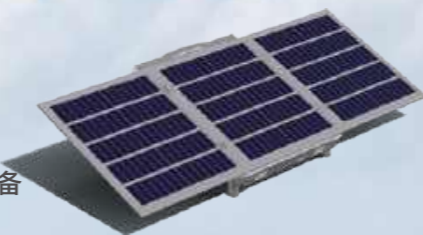**Micro PV Storage all-in-one machine**
微型光储一体机
· 炬阳GlowSun-160
· 炬阳GlowSun-256

02

Small-sized Mobile PV Storage Equipment
小型移动光储设备
一体式
· 睿阳IntelliSun-512
· 睿阳IntelliSun-1000
分体式
· 睿阳IntelliSun-5120

03
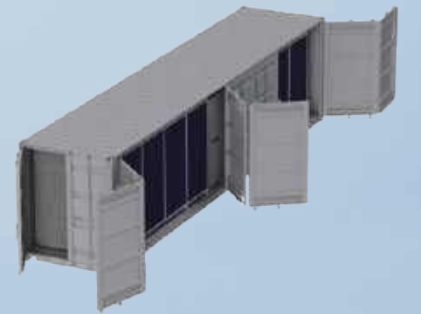
Medium-sized Mobile PV Storage Equipment
中型移动光储设备
· 耀阳LumiSun-50k
· 耀阳LumiSun-30k
· 耀阳LumiSun-25k
· 耀阳LumiSun-20k

04

Large-sized Mobile PV Storage Equipment
大型移动光储设备
· 擎阳PrimeSun-233k
· 擎阳PrimeSun-652k

微型光储一体机
Micro PV Storage all-in-one machine

专为户用照明，户外露营或应急设计，产品集成了光伏组件，直流电输出，多功能娱乐模块，LED 灯。
Designed for household lighting, outdoor camping, and emergency use. The product integrates solar panels, DC output, multifunctional entertainment modules, and LED lighting.

产品参数
Product Parameters

参数(Parameters)	炬阳GlowSun-160	炬阳GlowSun-256
组件类型(Module Type)	30W TOPCon组件	
电池类型(Battery Type)	磷酸铁锂 Lithium Iron Phosphate Battery	
电池能量(Battery Energy)	160Wh	256Wh
多功能(Multifunctional)	自带收音机/蓝牙音箱 Radio/Bluetooth Speaker /MP3	
使用时长 (Duration/times of use)	照明 LED light: 12 hours 手机 Mobile Phone:7 times 风扇 Fans: 4 hours 多功能播放 Multifunctional Playback:10 hours	照明 LED light: 20 hours 手机 Mobile Phone: 10 times 风扇 Fans: 6 hours 多功能播放 Multifunctional Playback:15 hours
尺寸(Dimension)	515×392×65mm	
重量(Weight)	4.2kg	5.3kg

应用场景
Application scenarios

01 一体式 All-in-One
集成光伏板及储能，可边充边用；配备 DC、快充接口。
Integrated PV panels and energy storage, allowing for simultaneous charging and usage; equipped with DC and fast-charging ports.

02 多功能 Multifunction
标配蓝牙音响 /MP3/ 收音机等娱乐功能；集成高清 LED 照明灯。
Standard features include Bluetooth speakers, MP3, radio, and other entertainment functions; integrated high-brightness LED lighting.

03 可靠性 Reliability
磷酸铁锂电池可充放电 2500+ 次循环，寿命超 10 年；多重安全保护，过充 / 过放 / 过流 / 短路保护。
The LiFePO4 battery supports 2,500+ charge/discharge cycles with a lifespan exceeding 10 years; multiple safety protections including overcharge, over-discharge, over-current, and short circuit protection.

小型移动光储设备
Small-sized Mobile PV Storage Equipment

专为家庭用户设计，集成光伏组件、储能模块、逆变和智能控制模块，该系统将光伏板产生的直流电转换为交流电和 USB 供电，为家庭小型电器提供电力。
Designed for home users, the system integrates PV modules, energy storage modules, inverters, and smart control modules. It converts the direct current (DC) generated by PV modules into alternating current (AC) and USB power supply, providing electricity for small household appliances.

01 品质 Quality
整机通过 IEC 62368 安规测试，磷酸铁锂电芯，BMS+ 控制板多重保护，10 年运行无故障，性能保障，安全耐用。
The product has passed the IEC 62368 safety compliance test. Equipped with lithium iron phosphate (LiFePO4) battery cells, it incorporates multiple protections through a Battery Management System (BMS) and control board. With a proven track record of 10 years of reliable operation without failures, it ensures high performance, safety, and long-term durability.

02 实用 Practical
有光就有电，每天可存 1024Wh，储能和组件可扩容，轻松应对家庭小型电器例如：照明、手机、风扇、电视、收音机使用。
Where there is light, there is power. The system can store up to 1024Wh daily, and its energy storage and PV modules are expandable, making it ideal for powering small household appliances such as lights, mobile phones, fans, televisions, and radios.

03 便携 Portable
光伏组件与储能一体化设计，采用三折叠光伏板，折叠尺寸小，重量轻，携带方便，兼顾户用或户外使用。
The system features an integrated PV modules and energy storage design, with a tri-fold solar panel that is compact, lightweight, and portable, making it suitable for both home and outdoor use.

04 智能 Intelligent
智慧控制系统，能量转换效率高达 91% 以上；支持手机 APP 联接。
The intelligent control system achieves an energy conversion efficiency of over 91% and supports connectivity via a mobile app.

产品参数
Product Parameters

参数(Parameters)	睿阳IntelliSun-512	睿阳IntelliSun-1000
组件类型(Module Type)	105W TOPCon组件	150W TOPCon组件
电池类型(Battery Type)	磷酸铁锂 Lithium Iron Phosphate Battery	磷酸铁锂 Lithium Iron Phosphate Battery
电池能量(Battery Energy)	512Wh	1024Wh
使用时长 (Duration/times of use)	照明 Floodlight：48 hours 手机 Mobile Phone：27 times 风扇 Fans：12 hours 电视 Television: 5 hours 收音机 Radio: 40 hours	照明 Floodlight：96 hours 手机 Mobile Phone：54 times 风扇 Fans: 24 hours 电视 Television: 10 hours 收音机 Radio: 80 hours
折叠尺寸(Dimension)	550×450×150mm	680×530×80mm
重量(Weight)	12kg	16kg
寿命(Service life)	≥ 10 years	≥ 10 years

其他可选设计方案
Other design options：

应用场景
Application scenarios

室内 Indoors

室外 Outside

户外 Outdoors

小型移动光储设备
Small-sized Mobile PV Storage Equipment

该产品针对日益增长的家庭用电需求、户外小型用电场景而设计，储能容量可达 5KWH 及以上，使用灵活、便捷。
This product is designed to meet the growing demand for household electricity and small-scale outdoor power usage scenarios. With an energy storage capacity of up to 5kWh or more, it offers flexible and convenient usage.

01 模块化
Modularity

电池包、发电包模块化设计，按需扩容（10kWh、15kWh）。
The battery pack and power generation unit feature a modular design, allowing for on-demand capacity expansion (10kWh, 15kWh).

02 便捷性
Convenience

发电组件无需安装且角度可调节，储能电池操作简单，即插即用。
The PV modules require no installation and offer adjustable angles, while the energy storage battery operates simply with plug-and-play functionality.

03 适用性
Applicability

无缝对接入户用电 & 户外独立使用。
It seamlessly integrates with household grid connections and supports independent outdoor operation.

04 可靠性
Reliability

安全电量提醒，充 / 放安全自锁。
The system provides real-time power level alerts with multi-stage warnings and features auto-lock protection during charging and discharging cycles.

产品参数
Product Parameters

参数(Parameters)	睿阳IntelliSun-5120
光伏发电功率(PV power)	1.8kW
储能容量(Energy storage capacity)	5.12kWh
标称输出功率(Output power)	5kW
输出额定电压(Output voltage)	AC 220V/230V/240V
输出额定频率(Output frequency)	50~60Hz
重量(Weight)	储能电池Battery：80kg，光伏组件PV Modules：230kg
尺寸(Dimensions)	储能电池Battery：436×311×633mm，光伏组件PV Modules：2350×1550×550mm
使用寿命(Service life)	储能≥10年，组件≥25年 (Energy storage≥10 years, PV module≥25 years)

模块化光伏系统
Modular PV system

储能及逆变系统
Energy Storage and inverter system

应用场景
Application scenarios

户用 Household

露营 Camping

中型移动光储设备
Medium-sized Mobile PV Storage Equipment

三一中型移动光储设备是专为电网未覆盖或电力不足的农村、社区、牧区、灌溉、矿区等场所，开发的一款可灵活布置，可模块化扩容的离网型微电网系统，可移动底盘上集成光伏组件及支架、储能单元、逆变器、能源管理系统。

SANY Medium-sized Mobile PV Storage Equipment is an off-grid microgrid system designed for flexible deployment and modular expansion. It is specifically developed for rural areas, communities, pastoral regions, irrigation zones, mining areas, and other locations where the power grid is either unavailable or insufficient. The system integrates PV modules and brackets, energy storage units, inverters, and an energy management system on a movable chassis.

01 移动式
Mobility

整套系统都集成在带车轮的底架上，可以灵活快速的转运。
The entire system is mounted on a wheeled chassis, allowing for flexible and rapid transportation.

02 模块化
Modularity

储能和组件都可以根据需求进行系统扩容。
Both the energy storage and PV modules can be expanded according to system requirements.

03 便捷性
Convenience

光伏组件可手动进行展开和收回，角度可调节；出厂前整套产品完成测试，现场即插即用。
The PV modules can be manually deployed and retracted, with adjustable angles. The entire product is fully tested before leaving the factory, offering plug-and-play functionality for immediate on-site use.

产品参数
Product Parameters

参数(Parameters)	耀阳LumiSun-50k	耀阳LumiSun-30k	耀阳LumiSun-25k	耀阳LumiSun-20k
设备总功率(Equipment power)	10.8kW	10.8kW	9kW	7.2kW
逆变输出功率(Inverter output power)	10kW	10kW	8kW	6kW
储能容量(Energy storage capacity)	50kWh	30kWh	25kWh	20kWh
频率(Frequency)	50HZ-60HZ	50HZ-60HZ	50HZ-60HZ	50HZ-60HZ
逆变输出电压(Inverter output voltage)	AC220V/380V	AC220V/380V	AC220V/380V	AC220V/380V
设备重量(Weight)	2.65t	2.5t	2.2t	1.8t
设备展开尺寸(Unfolded dimensions)	8.8×6.5×3m	8.8×6.5×3m	7.5×6.5×3m	6.2×6.5×3m
设备收回尺寸(Folded dimensions)	8.8×2.5×1.9m	8.8×2.5×1.9m	7.5×2.5×1.9m	6.2×2.5×1.9m
使用寿命(Service life)	储能≥10年，组件≥25年 (Energy storage≥10 years, PV module≥25 years)			

应用场景
Application scenarios

光伏组件
PV Modules

移动底盘
Moblie chassis

逆变器
Inverter

储能电池
Energy Storage Battery

乡村 Village

牧区 Pasture

灌溉 Irrigation

矿区 Mine

大型移动光储设备
Large-sized Mobile PV Storage Equipment

三一大型移动光储设备是专为矿山、偏远工地等场景开发的离网型微电网系统，为业主生产、生活提供高效、绿色电力能源。它包含光伏组件及支架、储能单元、逆变器、能源管理系统及集成箱体。

SANY Large-sized Mobile PV Storage Equipment is an off-grid microgrid system specifically developed for scenarios such as mines and remote construction sites. It provides efficient and green power energy for owners' production and daily life. The system includes PV modules and brackets, energy storage units, inverters, an energy management system, and an integrated container.

01 移动式
Mobility

能够随场地变化快速迁移，拆除快、运输方便。
Capable of rapid relocation in response to site changes, it features quick dismantling and convenient transportation, enabling seamless adaptation to different locations.

02 模块化
Modularity

可根据不同客户用电需求，通过模块叠加方式形成更大容量发电系统。
Tailored to diverse customer power demands, a higher-capacity power generation system can be achieved through modular expansion. This allows for flexible configuration to meet specific requirements.

03 快捷化
Efficiency

采用模块化结构设计，集装箱及现场安装结构件功能二合一，场内预装配和调试，大幅缩短建设周期，快捷省心。
With a modular structural design, it ingeniously combines the functions of containers and on-site installation components. Pre-assembly and commissioning are conducted on-site, significantly shortening the construction cycle and providing a hassle-free and time-efficient solution.

04 光储柴构网
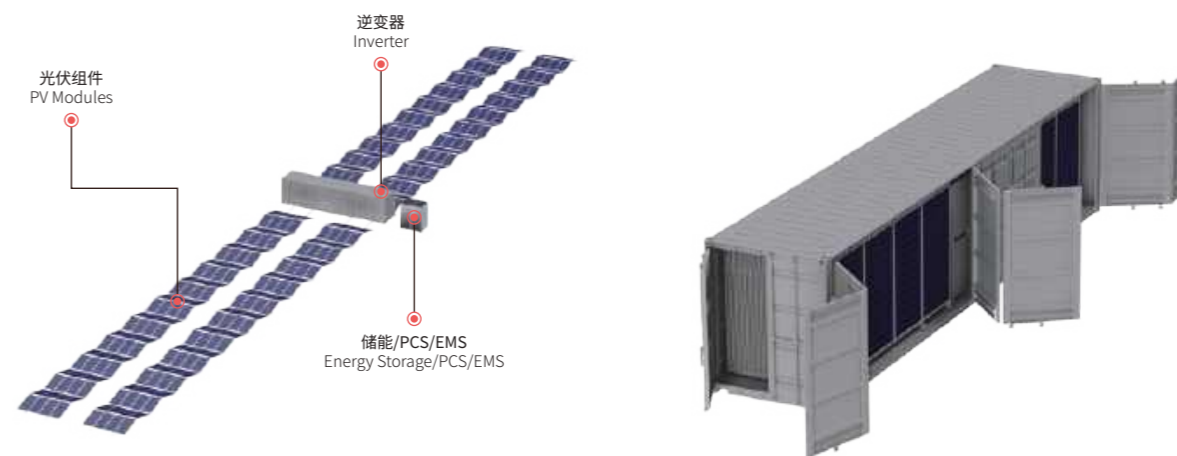**PV-Storage-Diesel Hybrid Network**

采用低压构网方案，光伏、储能、柴发集成控制，解决连续阴雨天用电焦虑问题。
By adopting a low-voltage grid-forming solution, the integrated control of PV power, energy storage, and diesel generators effectively addresses power supply concerns during prolonged rainy periods, ensuring stable electricity.

产品参数
Product Parameters

参数(Parameters)	擎阳PrimeSun-233k	擎阳PrimeSun-652k
设备总功率(Equipment power)	100kW	200kW
逆变输出功率(Inverter output power)	100kW	125kW
储能容量(Energy storage capacity)	233kWh	652kWh
逆变输出电压(Inverter output voltage)	AC220V/380V	AC220V/380V
柴油发电机功率(Power of the diesel generator)	100kW	150kW
设备展开尺寸(Unfolded dimensions)	120×9m	120×15m
设备收回尺寸(Folded dimensions)	6.05×2.43×2.89m	12.1×2.43×2.89m
使用寿命(Service life)	储能≥10年，组件≥25 年(Energy storage≥10 years, PV≥25 years)	

逆变器
Inverter

光伏组件
PV Modules

储能/PCS/EMS
Energy Storage/PCS/EMS

应用场景
Application scenarios

工地 Construction site

矿山 Mine

工棚 Temporary shelter for workers