



Zhejiang Hyxi Technology Co., Ltd.

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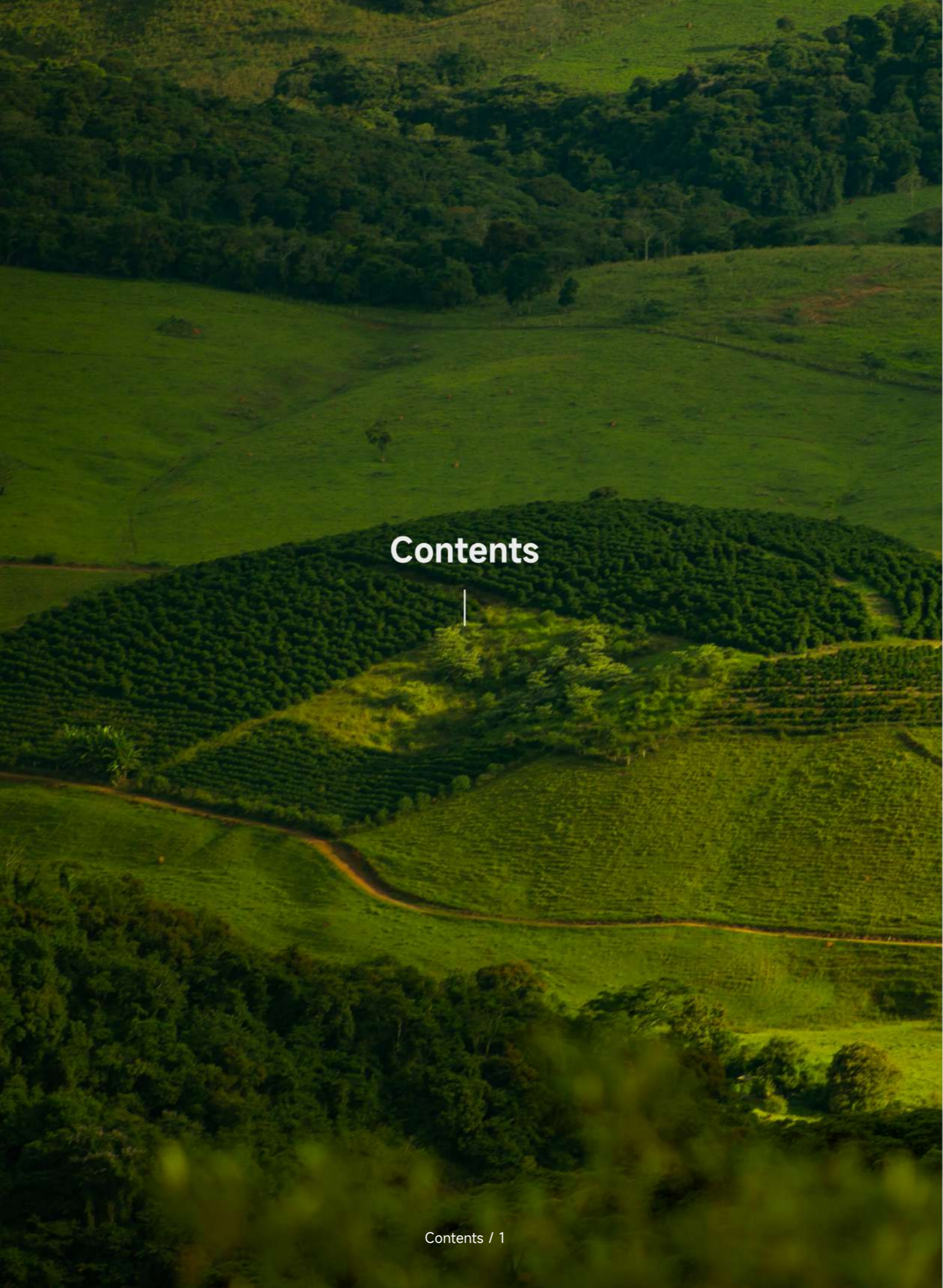
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Driving Excellence in Every Watt

# Utility PV and ESS Solution

EN



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# About HYXiPOWER

# Shaping the Infinite Future Through the Power of Light



## Our Core Value

Quality, Innovation, Efficiency, Win-Win

## Our Mission

Enjoy Green Energy Globally

## Our Vision

To Be the World-leading Provider of Smart Renewable Energy Solutions

Zhejiang Hysi Technology Co., Ltd. (referred to as "HYXiPOWER") is a high-tech enterprise specializing in smart PV & ESS, integrating R&D, manufacturing, sales, and services.

The company offers products such as photovoltaic inverters, energy storage systems, and smart energy platforms. Dedicated in providing leading renewable energy solutions for residential, C&I, and utility-scale applications, HYXiPOWER is deeply engaged in power electronic topology, core algorithms, thermal management, magnetics, EMC, BMS, EMS, AI, and smart energy platforms.

With over 70 core intellectual properties and more than 200 certifications received from global institutions such as TÜV Rheinland, CSA, Bureau Veritas, and SGS, HYXiPOWER operates 12 Global Technical Service Centers (GTAC) across six continents, promoting a greener, low-carbon and sustainable future in collaboration with global partners.

HYXiPOWER is committed to excellence through our "SUPER FIVE" concept

Super Service, Super Usability, Super Performance, Super ValuE, Super Reliability

It reflects our dedication to innovation and craftsmanship

Underpins our commitment to global sustainable energy development

Together, we pave the way to a greener, more sustainable world



SUPER FIVE

# Driving Green Energy Innovation to Serve Global Customers



**20+**  
Years R&D Experience

**100+**  
Countries & Regions

**24/7**  
Customer Support

**70%**  
R&D Personnel

**12**  
Global Technical Assistance Centers (GTACs)

**200+**  
Local Professionals

**70+**  
Core Intellectual Properties

**14**  
Spare Parts Centers

**1,000+**  
Service Partners

# Top-Tier Manufacturing & Supply 40,000+ Square Meters of Excellence



**Green Production Line**  
Hangzhou · China | Main Production Base



**AI Driven Smart Production**  
Jinhua · China | Battery Factory

## Intelligent O&M

Big Data Components

Analysis Models

BI Reports

KPI Achievement

Data Analysis

Data Processing

## Digital Integration



## Automation

ATS

AGV

AOI

Automatic Gripping System

Automatic Aging System

## IOT

Sensing & Control

HMI

Sensor Networks

Instruments And Meters

Label Recognition

.....

## Safety and Quality Assured

300+ Advanced Experimental Capabilities

Committed for 25 Years of Reliability

Extreme Environment Test Ensures Durability in Various Conditions

### 82-Day

Residential ESS Product  
Environmental Reliability Load Test



Water Immersion Test



Freezing Test



Rainfall Test

### 22

Environmental Reliability Tests



EMC Test



High Temperature Test



Salt Spray Test

## Precision Testing for Ultimate Reliability

Achieved through Comprehensive Quality Assurance

### 124,000+

Cumulative Electrical Reliability Tests

#### 1,300

Grid Phase Angle  
Mutation Tests

#### 9,125

Grid Overshoot  
Event Test

#### 18,250

Voltage  
Fluctuation Test

#### 9,000

Grid Disconnection  
Event Tests

#### 1,300

Grid Voltage Sag  
Event Tests

#### 200

Four-Phase Angle  
Surge Tests

### 2,300+

Performance & Extreme Condition Tests

#### 500+

Key Performance Tests

Including stress testing, MPPT efficiency, anti-backflow, battery efficiency, voltage adaptability, etc., ensuring safe operation

#### 1,700+

Extreme Condition Tests

Covering weak grid adaptation, harmonic anomalies, load compatibility, low-light simulation, battery emergency test etc., ensuring robust reliability



### 200+ Global Certifications

Recognized by TÜV Rheinland, CSA, Bureau Veritas, SGS, etc.

服务全球客户，享受绿色能源

# Utility PV and ESS Solution

## Overview

HYXiPOWER Utility PV and ESS Solution incorporates advanced design to enhance output power and conversion efficiency, reducing switching losses and utilizing AI-driven dynamic MPPT to boost power generation. The system ensures ultimate reliability with temperature monitoring, overheat protection, and smart string disconnection for fast shutdown, all while undergoing rigorous testing for durability.

It supports grid-friendly power quality with low harmonic distortion, and smart management enables fault detection accuracy, real-time monitoring, and remote maintenance support. Safety is prioritized through multi-layer electrical protection, AI thermal balance, and flame-retardant features, while precision monitoring ensures early warning and fire response.

## Highlight



### Ultimate Safety

- Multi-layer electrical protection from cells to system
- Terminal temperature monitoring with overheat protection



### Grid-Friendly

- Full power feed in grid at  $SCR < 1.2$
- THDi  $< 1\%$  for improved power quality



### Highly Profitable

- 75A design for higher output power
- AI dynamic MPPT, boosting power generation by 5%



### Efficient Management

- Real-time monitoring with OTA for online maintenance
- Intelligent IV curve scanning with 99% fault detection accuracy

# STRING INVERTER HYX-S320K-HT



## Highly Profitable

- 75A design for higher output power
- 14% less switching loss, 99.03% conversion efficiency
- AI dynamic MPPT, boosting power generation by 5%

## Ultimately Reliable

- Terminal temperature monitoring with overheat protection
- Smart string disconnection, <25ms fast shutdown
- IP66, 1400+ cumulative rigorous tests

## Grid-Friendly

- Full power feed in grid at SCR<1.2
- THDi <1% for improved power quality

## Smart & Manageable

- Intelligent IV curve scanning with 99% fault detection accuracy
- Real-time monitoring with OTA for online maintenance

Product Model	HYX-S320K-HT	
<b>PV Input</b>		
Max. Input Voltage	1,500V	
Nominal Input Voltage	1,080V	
Start-up Voltage	500V	
MPPT Operating Voltage Range	480 - 1,500V	
Max. Input Current Per MPPT	75A	
Max. Short-Circuit Current	120A	
Number of MPP Trackers	6	
Max. Input Number Per MPP Tracker	24	30
<b>AC Output</b>		
Nominal Output Power	320kW	
Max. Apparent Power	352kVA	
Nominal Output Voltage	3L / PE, 800V	
Nominal AC Grid Frequency	50Hz / 60Hz	
Nominal Output Current	230.9A	
Max. Output Current	254A	
Adjustable Power Factor	>0.99 (0.8 leading...0.8 lagging)	
THDi	< 3%	
<b>Efficiency</b>		
Max. Efficiency	≥99.03%	
European Weighted Efficiency	≥98.52%	
MPPT Efficiency	99.9%	
<b>Protection</b>		
Active Anti-islanding Protection	General Electric Frequency Shift	
Residual Current Monitoring	Yes	
DC Reverse Polarity Protection	Yes	
DC Switch	Yes	
AC Short-Circuit Protection	Yes	
AC Overvoltage Protection	Yes	
AC Overcurrent Protection	Yes	
DC Surge Protection	Type II	
AC Surge Protection	Type II	
Ground Fault Detection	Yes	
Smart String-level Disconnection	Yes	
Smart Connector-level Detection	Yes	
<b>General Data</b>		
Operating Temperature Range	-35 to + 60°C	
Relative Operating Humidity	0 - 100 %RH	
Operating Altitude	5,000m	
Cooling	Smart Air Cooling	
Display	LED / WLAN+App	
Communication	RS485 / HPLC	
Weight	130kg	
Dimensions (W*H*D)	1120*820*380mm	
Topology	Non-Isolated	
Degree of Protection	IP66	
Overvoltage Level	PV II / AC III	

# STRING INVERTER HYX-S350K-HT



## Highly Profitable

- 75A design for higher output power
- 14% less switching loss, 99.03% conversion efficiency
- AI dynamic MPPT, boosting power generation by 5%

## Ultimately Reliable

- Terminal temperature monitoring with overheat protection
- Smart string disconnection, <25ms fast shutdown
- IP66, 1400+ cumulative rigorous tests

## Grid-Friendly

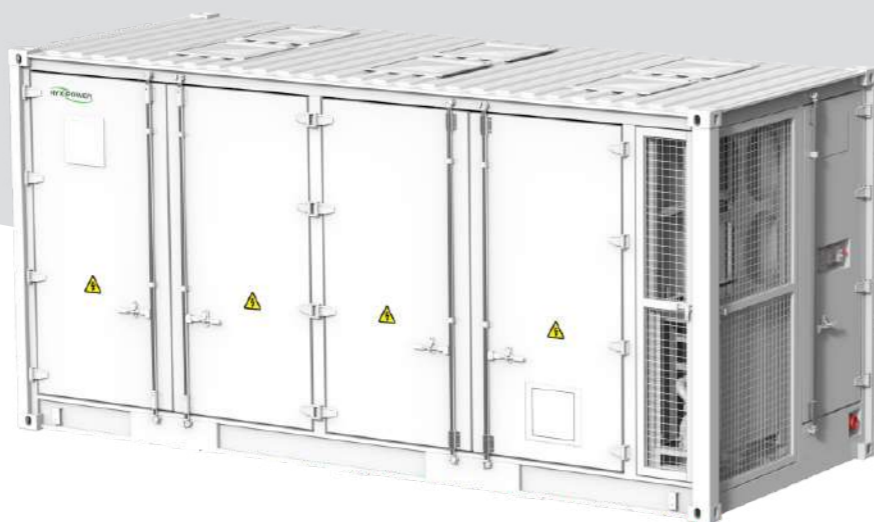
- Full power feed in grid at SCR<1.2
- THDi <1% for improved power quality

## Smart & Manageable

- Intelligent IV curve scanning with 99% fault detection accuracy
- Real-time monitoring with OTA for online maintenance

Product Model	HYX-S350K-HT	
<b>PV Input</b>		
Max. Input Voltage	1,500V	
Nominal Input Voltage	1,080V	
Start-up Voltage	500V	
MPPT Operating Voltage Range	480 - 1,500V	
Max. Input Current Per MPPT	75A	
Max. Short-Circuit Current	120A	
Number of MPP Trackers	6	
Max. Input Number Per MPP Tracker	24	30
<b>AC Output</b>		
Max. Output Power	352kW	
Max. Apparent Power	352kVA	
Nominal Output Voltage	3L / PE, 800V	
Nominal AC Grid Frequency	50Hz / 60Hz	
Nominal Output Current	230.9A	
Max. Output Current	254A	
Adjustable Power Factor	>0.99 (0.8 leading...0.8 lagging)	
THDi	< 3%	
<b>Efficiency</b>		
Max. Efficiency	≥99.03%	
European Weighted Efficiency	≥98.52%	
MPPT Efficiency	99.9%	
<b>Protection</b>		
Active Anti-islanding Protection	General Electric Frequency Shift	
Residual Current Monitoring	Yes	
DC Reverse Polarity Protection	Yes	
DC Switch	Yes	
AC Short-Circuit Protection	Yes	
AC Overvoltage Protection	Yes	
AC Overcurrent Protection	Yes	
DC Surge Protection	Type II	
AC Surge Protection	Type II	
Ground Fault Detection	Yes	
Smart String-level Disconnection	Yes	
Smart Connector-level Detection	Yes	
<b>General Data</b>		
Operating Temperature Range	-35 to + 60°C	
Relative Operating Humidity	0 - 100 %RH	
Operating Altitude	5,000m	
Cooling	Smart Air Cooling	
Display	LED / WLAN+App	
Communication	RS485 / HPLC	
Weight	130kg	
Dimensions (W*H*D)	1120*820*380mm	
Topology	Non-Isolated	
Degree of Protection	IP66	
Overvoltage Level	PV II / AC III	

# CONTAINER ESS HYX-EL3000/4000/ 5000P2-DC



## Ultimate Safety

- Multi-layer electrical protection from cells to system
- Six-sided flame retardant, triple fire protection design
- Precision monitoring system with early warning and fire response

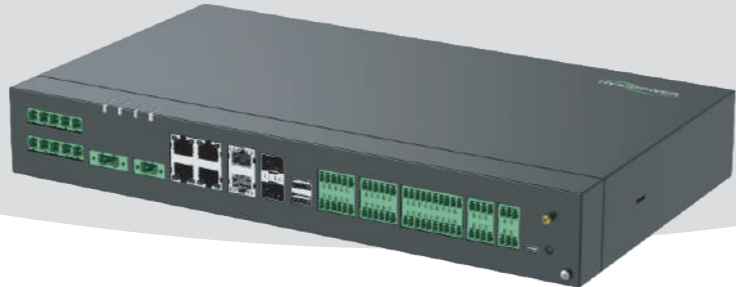
## Efficient Management

- System round-trip efficiency (RTE)  $\geq 90\%$
- A+ grade cells with automotive-grade standards
- Energy-efficient iEMS with multi-site cloud management
- AI cells fault prediction for enhanced safety

Product Model	HYX-EL3000P2-DC	HYX-EL4000P2-DC	HYX-EL5000P2-DC
<b>Battery Side</b>			
Cell Capacity		314Ah LFP	
Battery Configuration	8P416S	10P416S	12P416S
Nominal Voltage		1,331.2V	
Operating Voltage Range		1,164.8 ~ 1,497.6V	
Nominal Capacity	3.34MWh	4.18MWh	5.01MWh
Supported Charge & Discharge Rate		$\leq 0.5C$	
<b>Protection</b>			
Overvoltage Protection		Yes	
Overcurrent Protection		Yes	
Short-circuit Protection		Yes	
Over-temperature Protection		Yes	
Emergency Stop Protection		Yes	
<b>General Data</b>			
Max. Efficiency		$\geq 90\%$ (include self-consumption)	
Operation Ambient Temperature Range		-30 to 55 °C	
Storage Temperature		-20 to 35 °C	
Operating Humidity Range		0 ~ 95%RH	
Noise		$\leq 80dB$	
Anti-corrosion Degree		C3/C4/C5 (optional)	
Dimensions (W*H*D)	6,058*2,896*2,438mm	6,058*2,896*2,438mm	6,058*2,896*2,438mm
Weight	33T	38T	43T
Protection Degree		IP55	
Cooling Method		Liquid Cooling	
Fire Protection Method		Aerosol + water suppression system	
Max. Operating Altitude		$\leq 2,000m$	
Networking Mode		LAN, RS485, CAN	

Preliminary

# HYXi Logger



### Convenient & User-Friendly

- Wall-mounted, rail-mounted, and drawer installation
- Built-in web interface with guided setup and one-click layout

### Stable & Reliable

- TLS data transmission encryption for high security
- Dual-power redundancy ensuring system stability

### Intelligent & Flexible

- Up to 150 inverters connection
- Compatible with multiple communication protocols

Product Model	HYXi Logger
<b>Device Management</b>	
Max. Inverters Supported	150
<b>Communication Interface</b>	
WAN	WAN x 2, 10 / 100 / 1,000 Mbps
LAN	LAN x 4, 10 / 100 / 1,000 Mbps
Optical Ethernet	SFP x 2, 100 / 1,000 Mbps
HPLC	PLC x 2, Max. Voltage 800V (±10%), 1,000 m
RS485	COM x 6
Analog Input	DI x 9 / DO x 4
Digital Input / Output	AI x 4
PT100 / PT1000	2
Active DO	x1, 12V, 0.1A
<b>Communication Protocol</b>	
Ethernet	Modbus-TCP, IEC 60870-5-104
RS485	Modbus-RTU, IEC 60870-5-103 (Standard), DL / T645
<b>Power Supply</b>	
AC Input Voltage/Frequency	100 ~ 277 Vac, 50 / 60 Hz
DC Output Voltage/Current	24Vdc, 1.25A
Power Consumption	Max. 18W
<b>Interaction</b>	
LED	LED x 4
Web	Embedded Web
USB	USB 3.0 x 2
<b>General Data</b>	
Operating Ambient Temperature	-35 to +60°C
Relative Humidity Range	5 ~ 95% RH
Degree of Protection	IP20
Operating Altitude	4000m
Dimensions (W*H*D)	60*380*240 mm (without mounting ears)
Weight	3kg
Installation Method	Wall Mounting, Rail Mounting, Tabletop Mounting

# PV Array Controller Smart ECS



### Convenient & User-Friendly

- Supports multiple protocols integration
- Compatible with devices with various protocols

### Stable & Reliable

- IP65
- Industrial-grade design standards

### Fast & Smart

- Embedded platform with one-click setup

Product Model	Smart ECS
<b>Disposition</b>	
Built-in Data Collector	HYXiLogger
RS485	Standard
HPLC	2
Built-in Switches	Optional, 2 Optical port, 6 Electrical port
<b>Environmental Parameters</b>	
Operating Temperature	-40 to +60°C
Operating Relative Humidity	0% ~ 100% RH
Maximum Working Altitude	5,000m
<b>Electrical Parameters</b>	
AC Input Voltage	100 V ~ 240 V, L / N (L)+ PE
HPLC AC Input Voltage	380 V ~ 800 V, 3Ph+FE
AC Input Frequency	50 / 60 Hz
Power Supply	24V DC power
<b>Mechanical Parameters</b>	
Inlet and Outlet	Down-in, down-out
Dimensions (W*H*D)	770*480*350mm
Weight	30kg
Ingress Protection	IP65
Installation	Brackets, poles, wall mounts

# HYXiPOWER Smart Energy Platform

[www.hyxicloud.com](http://www.hyxicloud.com)



## Ultimate Experience

- One-click cloud setup for seamless operation
- One-stop user view for more comprehensive data
- Scenario-oriented interface for precise information
- Multi-node, all-time-zone coverage for smoother access
- All-in-one user terminal, no more app switching

## Ultimate Safety

- Comprehensive monitoring and proactive risk alerts
- Scalable cloud for stable millions of devices connectivity
- Robust IoT foundation to ensure cloud security

## Efficient O&M

- Intelligent layout with rapid module-level visualization
- App/WEB sync, real-time control, multi-end operation
- Unified management, OTA updates, fast fault resolution
- Real-time data analysis for automated alerts

## Comprehensive Intelligence

- 24/7 AI cells management for safety control
- One-click diagnostics for utility safety monitoring
- Intelligent IV diagnostics for precise fault positioning
- 24H intelligent TOU scheduling for maximum profit
- Power forecast for optimized energy scheduling
- Industry-specific model with integrated interaction

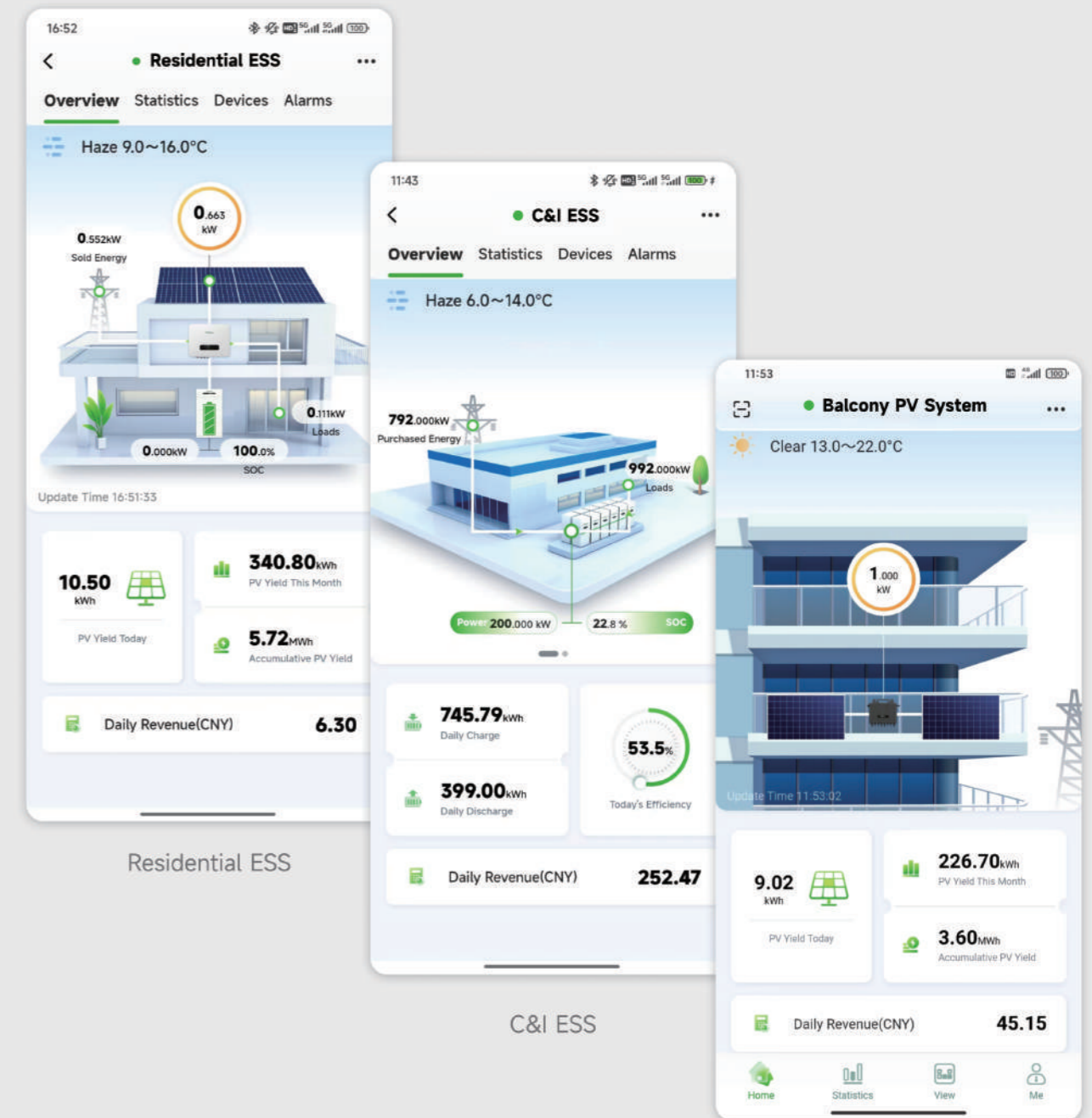
## Open Ecosystem

- OpenAPI for platform-level cloud connectivity
- Customizable SaaS solution, empowering ecosystem partners
- Multi-mode virtual PV plant access for fast integration

- Multi-dimensional reports for efficient decision-making
- 24/7 intelligent sensing for 360° security
- Efficient smart control of heat pumps and generators

## Scenario-Oriented Interface For Precise Information

Adapted for C&I ESS, Residential ESS, Balcony PV System, etc.



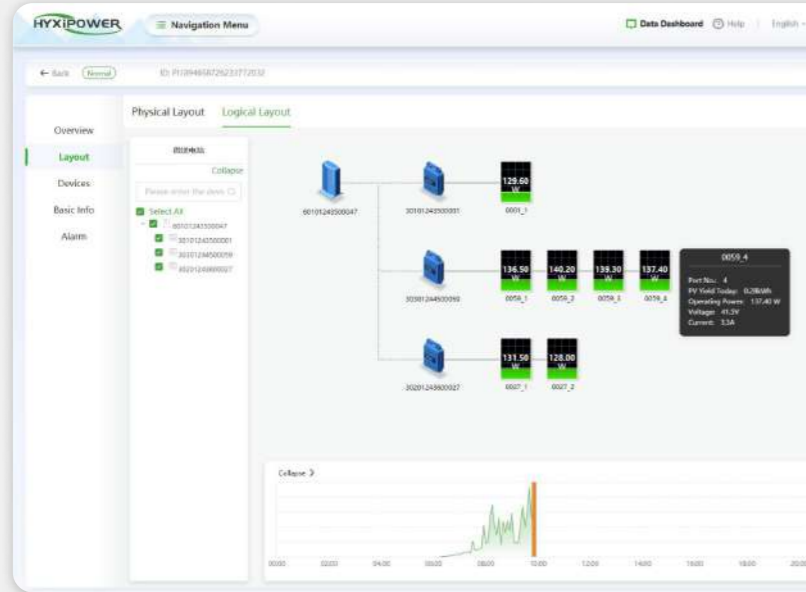
Residential ESS

C&I ESS

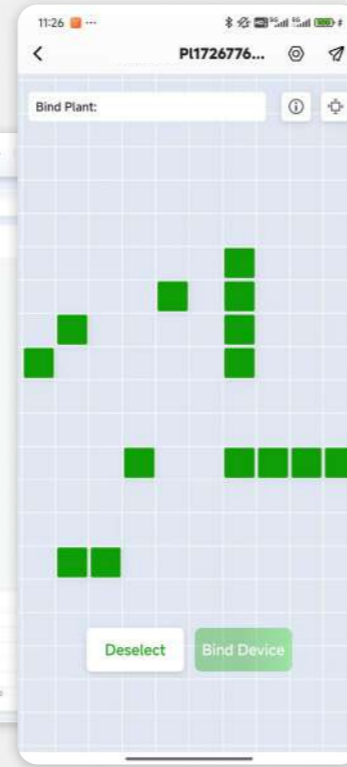
Balcony PV System

## Smart PV Plant Layout → Modular Monitoring

Intelligent layout with rapid module-level visualization  
One-stop user view with module-level operational monitoring



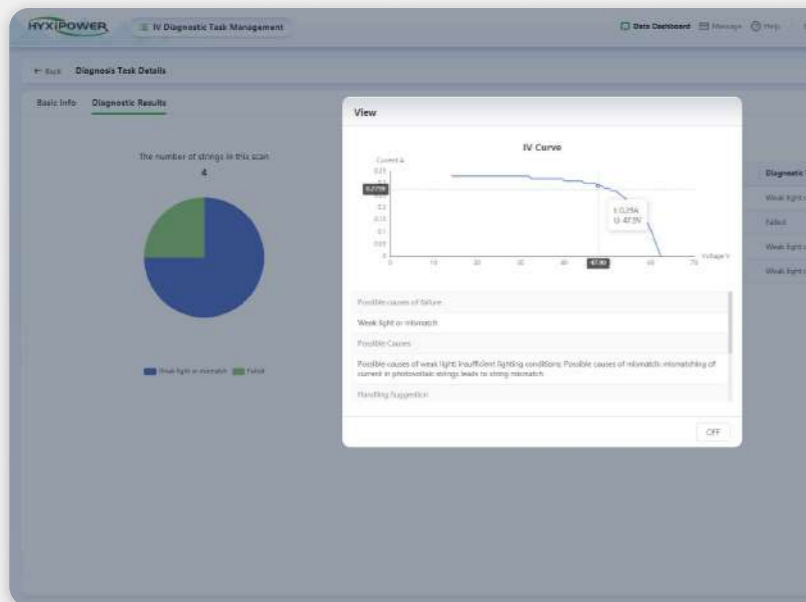
Smart PV Plant Layout



Smart PV Plant Layout

## One-Click Diagnostics

For utility safety monitoring



IV Diagnostics



One-Click Diagnostics

## AR Visualization Screen:

From "Overall View" to "Single-Plant Cockpit",  
Key Data at a Glance



HYXIPOWER Energy Storage Monitoring Center



Energy Storage Cockpit