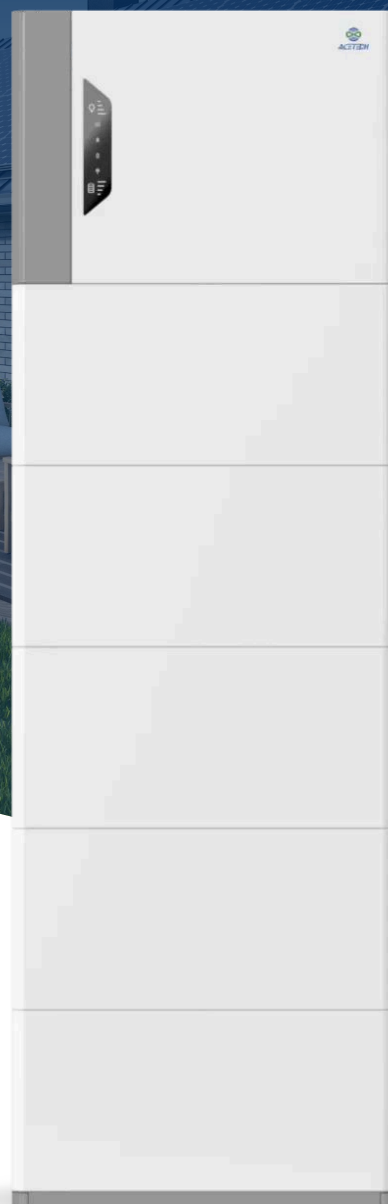


RESS PE20 H2

THREE-PHASE HOME ENERGY STORAGE SYSTEM



HIGH VOLTAGE ALL-IN-ONE RESIDENTIAL ENERGY STORAGE SYSTEM

The RESS PE20 H2 is a fully integrated, high-voltage, three-phase energy storage system designed for residential and small commercial installations with increased power and energy security requirements.

It combines a three-phase hybrid inverter, Battery Management System (BMS), Energy Management System (EMS), and modular high-voltage lithium battery modules in a compact All-in-One unit, delivering high efficiency, backup power, and remote energy management through the InnoHaus platform.



HIGHLY INTEGRATED 3S DESIGN

PCS, BMS, and EMS integrated into a single platform.



HIGH POWER DENSITY

Up to 12 kW of power and 22.7 kWh of storage capacity within a footprint of just 0.15 m².



LONG LIFETIME

More than 7,000 operating cycles and a 10-year warranty.



QUICK INSTALLATION

Quick-insert design for the power and battery modules.



KEY ADVANTAGES

➤ Smart Energy Management & Flexible Operating Modes

Real-time monitoring and management of energy generation, consumption, and battery status through the InnoHaus platform. The system supports Self-Consumption, Backup, Peak Shaving, and Battery Priority operating modes.

➤ Three-Phase Load Support

Supports three-phase loads, with available power ratings of 8 kW, 10 kW, and 12 kW for residential and small commercial installations.

➤ Backup Power & Generator Compatibility

Provides backup power for critical loads with a switching time of just 10 ms. The system also supports generator connection and automatic remote start functionality.

➤ Expandable & Parallel System Architecture

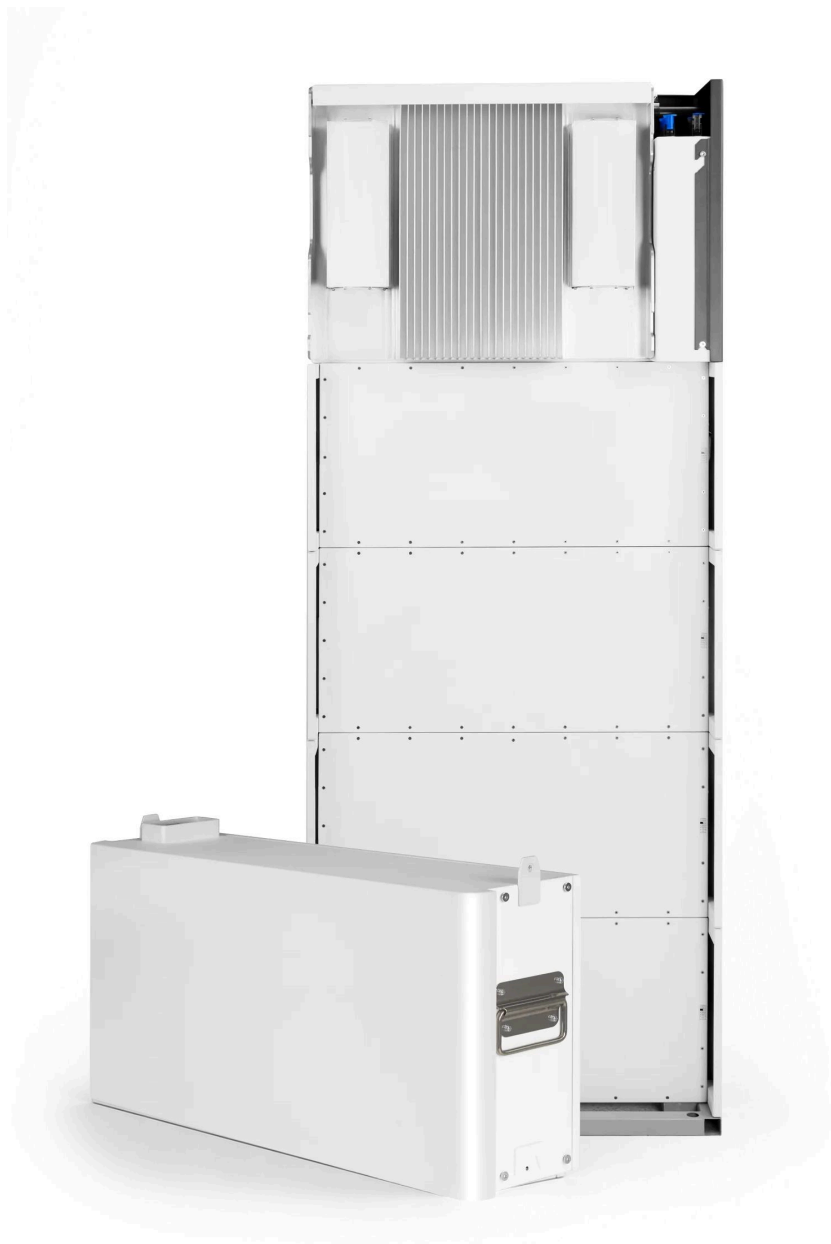
Modular storage capacity ranging from 7.6 kWh to 22.7 kWh per system, with usable energy of up to 21.7 kWh. Multiple systems can be connected in parallel, providing a total power output of up to 48 kW and a combined storage capacity of up to 90.8 kWh.

➤ High Efficiency Performance

Inverter efficiency of up to 98% and MPPT efficiency of up to 99.9%, with support for photovoltaic systems rated up to 18 kW.

➤ IP66 Protection & Quiet Operation

IP66-rated protection, natural cooling, and a noise level below 35 dB make the system suitable for both indoor and outdoor installation.





TECHNOLOGY

The RESS PE20 H2 is based on a fully integrated, high-voltage energy storage architecture. Its advanced 3S architecture combines power conversion, battery management, and energy flow control within a single platform.

The system integrates:

- ✦ Three-Phase Hybrid PCS / Inverter
- ✦ Battery Management System (BMS)
- ✦ Energy Management System (EMS)
- ✦ High-Voltage Modular Lithium-ion Battery Modules
- ✦ Generator Interface & Automatic Remote Start
- ✦ InnoHaus Communication & Monitoring Interface

Its architecture manages the energy flow between the photovoltaic system, utility grid, battery, meter/CT, generator, and the installation's general and critical loads.

The InnoHaus platform provides continuous energy flow monitoring, remote configuration of operating modes, and full system control via smartphone or web portal. OTA support enables software updates to be installed remotely.

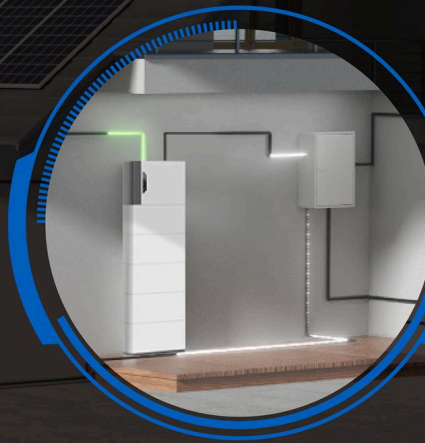
Self-Consumption, Backup, Peak Shaving, and Battery Priority modes allow the system to be configured according to the specific requirements of each installation. Time-of-Use Optimization manages battery charging and discharging based on different electricity tariff periods, helping reduce overall energy costs.

SMART ENERGY MANAGEMENT SYSTEM

An app for optimizing home energy usage

OTA remote upgrades

Grid price interaction



APPLICATIONS



Residential Energy Storage Systems



Small Commercial Installations



Self-Consumption and Hybrid Photovoltaic Systems



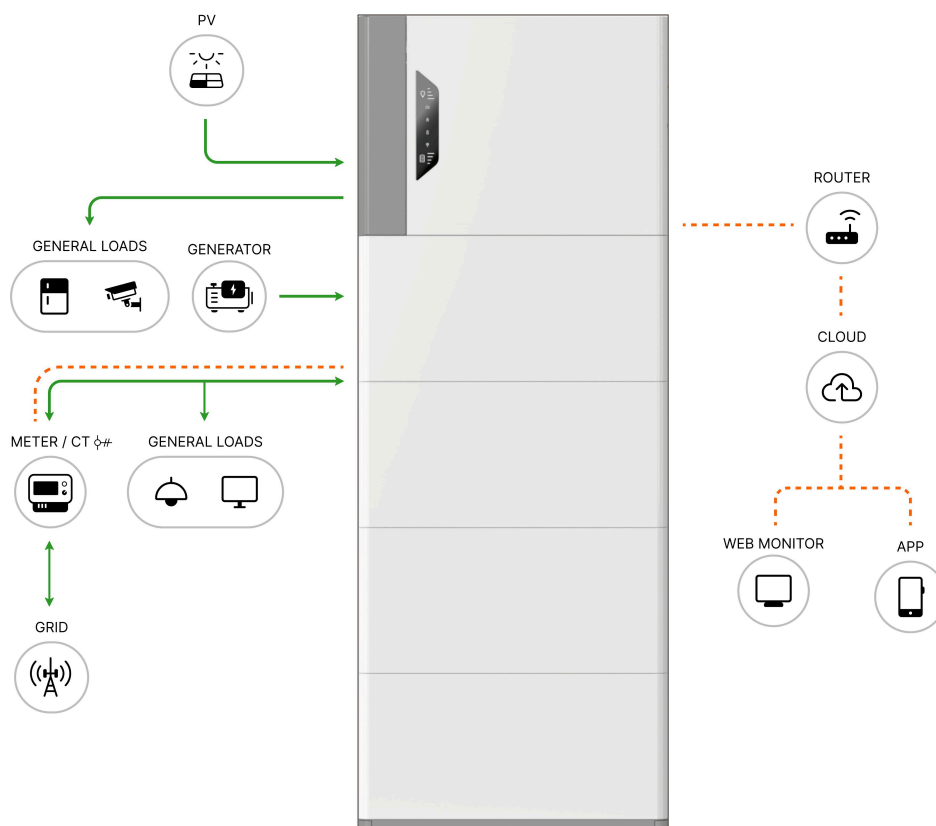
Three-Phase Residential Photovoltaic Systems



Backup Power & Generator-Supported Systems



Peak Shaving & Time-of-Use Optimization



TECHNICAL SPECIFICATIONS

Parameters	8K Model	10K Model	12K Model
All-in-One RESS Model	RESS-3A-7.6-H2-8K RESS-3A-11.4-H2-8K RESS-3A-15.2-H2-8K RESS-3A-19-H2-8K RESS-3A-22.7-H2-8K	RESS-3A-7.6-H2-10K RESS-3A-11.4-H2-10K RESS-3A-15.2-H2-10K RESS-3A-19-H2-10K RESS-3A-22.7-H2-10K	RESS-3A-7.6-H2-12K RESS-3A-11.4-H2-12K RESS-3A-15.2-H2-12K RESS-3A-19-H2-12K RESS-3A-22.7-H2-12K
Grid AC Input and AC Output			
Rated Output Apparent Power	8000VA	10000VA	12000VA
Rated Input Apparent Power	12000VA	14000VA	16000VA
Rated Output Current	11.6 A ac	14.5 A ac	17.4 A ac
Rated Input Current	17.4 A ac	20.3 A ac	23.2 A ac
Rated AC Voltage	380 V / 400 V / 415 V		
AC Rated Frequency	50 Hz / 60 Hz		
Wiring	L1/L2/L3-N-PE		
Power Factor (cosΦ)	0.8 leading – 0.8 lagging		
THDI	<3%		
Output (Back Up)			
Rated Output Apparent Power (Back Up)	8000VA	10000VA	12000VA
Backup Segment Output	2 groups		
THDV(@Linear Load)	<3%		
Switch Time	10ms		
PV String Input			
Recommended Max. PV Input Power	12000W	15000W	18000W
MAX. PV Input Voltage	1000V		
Startup Voltage	150V		
MPPT Voltage Range	150V-950V		
Number of MPPTs	2		
Max. Number of PV Strings per MPPT	2		



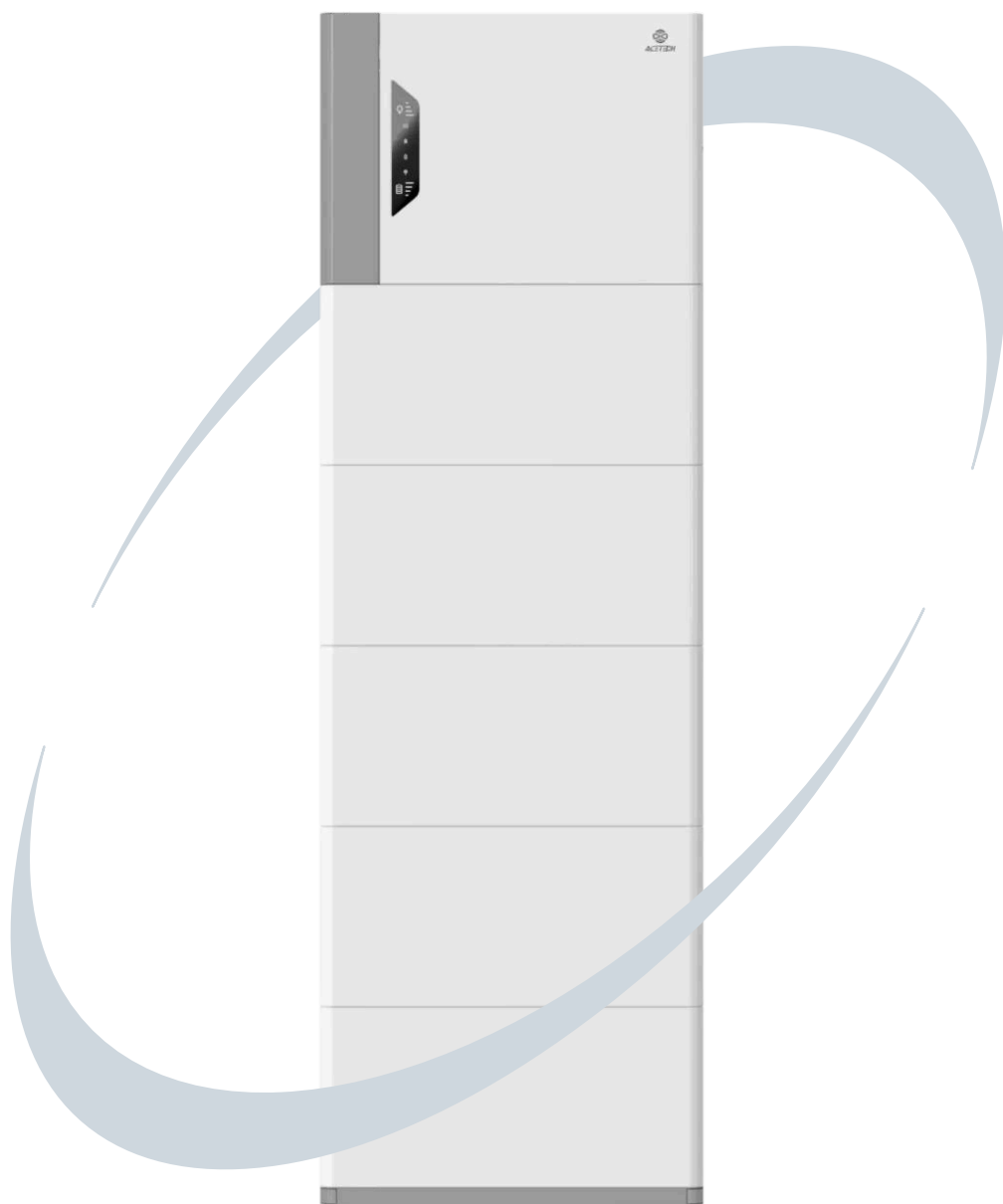
TECHNICAL SPECIFICATIONS

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PV String Input				
Max. Input Current per MPPT	16A			
Max. Short-circuit Current per MPPT	24A			
Reverse Connect Protection	Yes			
Efficiency				
MPPT Efficiency	99.90%	99.90%	99.90%	
Euro Efficiency	97.50%	97.50%	97.50%	
MAX. Efficiency	98.00%	98.00%	98.00%	
Battery				
Battery Type	Lithium-ion battery			
System Energy	7.6kWh / 11.4kWh / 15.2kWh / 19kWh / 22.7kWh			
Usable Energy [1]	7.2kWh / 10.8kWh / 14.4kWh / 18kWh / 21.7kWh			
Rated Battery Voltage	204.8V / 307.2V / 409.6V / 512V / 614.4V			
Number of Battery Modules	2 / 3 / 4 / 5 / 6			
Recommend Charging/Discharging Current	18.5A			
Max Charging/Discharging Current	37A			
Cycle Life	>=7000 cycles [2]			
Battery Auto Wake Up [3]	Yes			
Function				
CT/Meter (Option)	Yes			
OTA	Yes			
Diesel Generator Support	Yes			
Safety Protection				
Protection Function	PV String reverse polarity protection, DC short circuit current protection, DC over current protection, DC over voltage protection, AC output short circuit current protection, AC output over current protection, AC over voltage protection, Anti-island protection, Leakage current detection, Ground connection detection			
AFCI	Optional			
Rapid DC Voltage Cut Off	Optional			
Over Voltage Category	AC III ; DC II			
General				
Dimensions (W*H*D) (mm)	670*(1135/1450/1765/2080/2395)*230			
Net Weight	117kg / 155kg / 193kg / 231kg / 269kg			
Installation	Floor-mounted			
Operating Temperature Range	Charge: -10°C~50°C Discharge: -10°C~55°C			
Max. Operating Altitude	<4000m (>2000m power derating)			
Relative Humidity Range	0~95% (No Condensation)			
Ingress Protection Rating	IP66			
Climatic Category	4K4H			
Cooling	Natural convection			
Noise	<35dB			
Communication	RS485 / WLAN / Bluetooth / DRY / DRM / Meter, LAN / 4G (Optional)			
Display	LED indicators / APP / Web			
Warranty	10 years			
Standard				
Safety	IEC/EN 62109-1&-2; IEC62619; CE; UN38.3			
EMC	IEC/EN 61000-6-1/-2/-3/-4; IEC/EN 61000-3-2/-3/-11/-12; IEC/EN 62920			
Grid Connection Standards	EN 50549-1:2019/AC:2019; VDE-AR-N 4105:2018; DIN VDE V 0124-100:2020; EN50549-1+EN50438; NA/EEA-NE7 – CH 2020; EIFS 2018: 2; OVE Directive R 25:2020; TOR Erzeuger Type A V1.2			

[1] Test conditions: temperature 25°C, at the beginning of life, cell charge voltage between 2.8~3.5V, 0.5C.

[2] 25°C ambient temperature, recommended charging/discharging current.

[3] Battery can be auto woken up if the inverter has power. No need to turn on the battery additionally.



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