

RESS PE20 L2

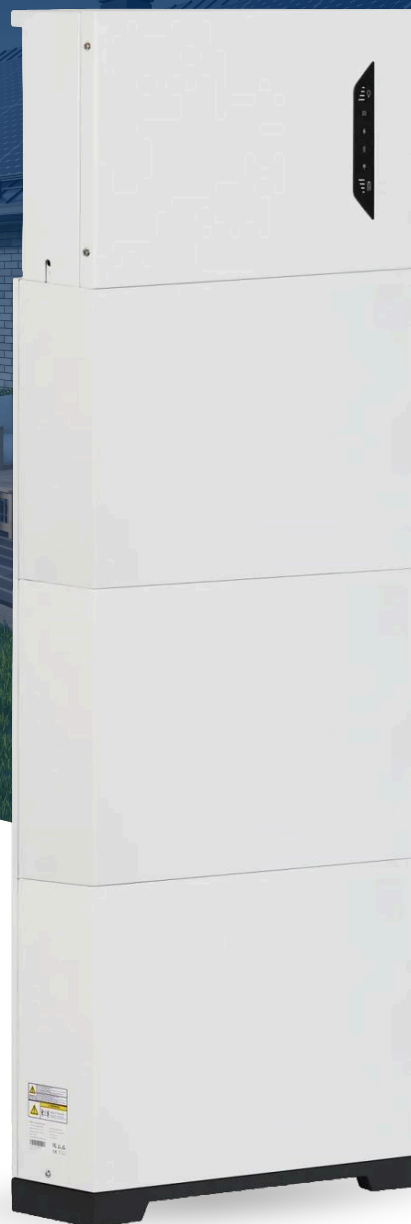
ALL-IN-ONE RESIDENTIAL ENERGY STORAGE SYSTEM



LOW VOLTAGE HOME ENERGY STORAGE SOLUTION

The RESS PE20 L2 is a fully integrated, low-voltage, single-phase residential energy storage system designed to maximize the use of photovoltaic energy, optimize self-consumption, and provide reliable backup power for critical loads.

It combines a PCS/hybrid inverter, Battery Management System (BMS), Energy Management System (EMS), and modular lithium-ion battery modules in a compact, floor-standing unit, delivering high efficiency, easy installation, and remote monitoring through the InnoHaus platform.



**HIGHLY INTEGRATED
3S DESIGN**
PCS, BMS, and EMS
integrated into a single
platform.



HIGH RELIABILITY
Compliant with the VDE-AR-
E 2510-50 standard.



95% DOD
High depth of discharge for
increased utilization of the
stored energy.



QUICK INSTALLATION
Quick-insert design for the
power and battery modules.



KEY ADVANTAGES

Smart Energy Management & Flexible Operating Modes

Real-time monitoring of photovoltaic energy generation, consumption, and battery status through the InnoHaus app and web portal. The system supports Self-Consumption, Peak Shaving, and Battery Priority operating modes, as well as different energy management strategies.

Backup Power Function

Automatically provides backup power to critical loads in the event of a grid outage, with a switching time of just 10 ms.

Expandable & Parallel System Architecture

Modular storage capacity ranging from 5.1 kWh to 20.4 kWh per system, with usable energy of up to 19 kWh. Multiple systems can be connected in parallel, providing a total power output of up to 24 kW and a combined storage capacity of up to 80 kWh.

High Efficiency Performance

Inverter efficiency of up to 97% and MPPT efficiency of up to 99.9%, maximizing the utilization of the photovoltaic energy generated.

Wide Environmental Compatibility

Integrated heating function for installation in environments with temperatures as low as -25°C , allowing the battery to be charged at temperatures down to -20°C .

IP66 Protection & Quiet Operation

IP66-rated protection, natural cooling, and a noise level below 40 dB make the system suitable for both indoor and outdoor installation.

TECHNOLOGY

The RESS PE20 L2 is based on a fully integrated 3S architecture that combines power conversion, battery management, and energy flow control within a single platform.

The system integrates:

- Hybrid PCS / Inverter
- Battery Management System (BMS)
- Energy Management System (EMS)
- Modular Lithium-ion Battery Modules
- Integrated Battery Heating Module
- InnoHaus Communication & Monitoring Interface

Its architecture manages the energy flow between the photovoltaic system, utility grid, battery, meter/CT, and optional generator, supporting both the general and critical loads of the residence.

Through the InnoHaus platform, users can monitor system operation via smartphone or web portal and select the most appropriate energy management strategy.

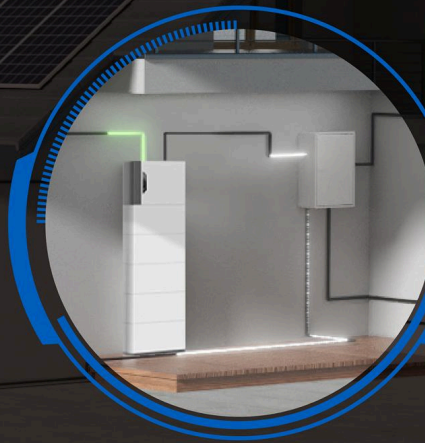
In Self-Consumption mode, priority is given to the direct use of photovoltaic energy and the storage of surplus energy. Peak Shaving and Battery Priority modes enable the system to be further adapted to the residence's energy requirements and consumption profile.

SMART ENERGY MANAGEMENT SYSTEM

An app for optimizing home energy usage

OTA remote upgrades

Grid price interaction



APPLICATIONS



Residential Energy Storage Systems



Backup Power for Critical Loads



Hybrid Photovoltaic Systems



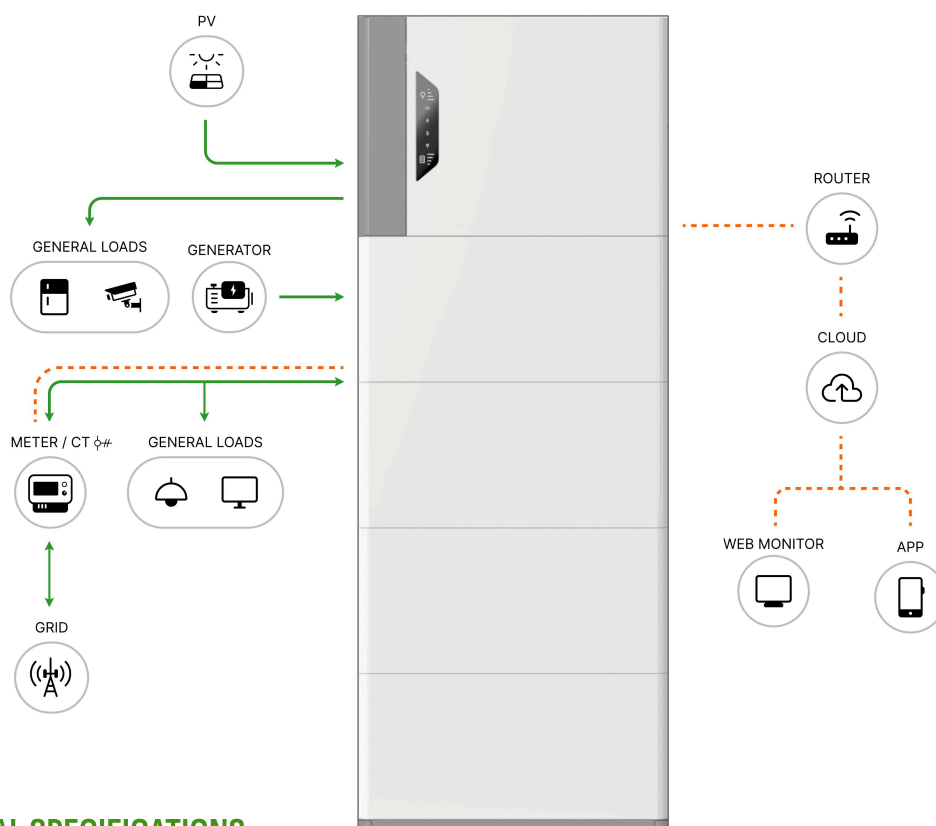
Residential Photovoltaic Systems



Self-Consumption and Peak Shaving Applications



Smart Home Energy Management



TECHNICAL SPECIFICATIONS

Parameters	3.68K Model	5K Model	6K Model
All-in-One RESS Model	RESS-1A-5.1-L2-3.68K RESS-1A-10.2-L2-3.68K RESS-1A-15.3-L2-3.68K RESS-1A-20.4-L2-3.68K	RESS-1A-5.1-L2-5K RESS-1A-10.2-L2-5K RESS-1A-15.3-L2-5K RESS-1A-20.4-L2-5K	RESS-1A-5.1-L2-6K RESS-1A-10.2-L2-6K RESS-1A-15.3-L2-6K RESS-1A-20.4-L2-6K
All-in-One PCS Model	RESS-1P-3.68K-L02	RESS-1P-5K-L02	RESS-1P-6K-L02
Grid AC Input and AC Output			
Rated Output Apparent Power	3680VA	5000VA[1]	6000VA
Rated Output Active Power	3680W	5000W[1]	6000W
MAX Output Apparent Power	3680VA	5000VA	6000VA
Rated Input Apparent Power	7368VA	9200VA	9200VA
Rated Output Current	16.0 A ac	21.7 A ac	26.1 A ac
Rated Input Current	16.0 A ac	21.7 A ac	26.1 A ac
MAX Output Current	16.7 A ac	22.7 A ac	27.3 A ac
MAX Input Current	32.0 A ac	40.0A ac	40.0A ac
Rated AC Voltage	220/230/240 a.c,		
Output Voltage Range (V)	180~260 a.c,		
AC Rated Frequency	50 Hz/60Hz		
Wiring	L+N+PE		
Power Factor (cosΦ)	0.8 leading - 0.8 lagging		
THDI	<3%		
Backup (EPS)			
MAX. Output Apparent Power	3680VA	5000VA	6000VA
MAX. Output Current	16.0 A ac	21.7 A ac	26.1 A ac
Rated Output Active power	3680W	5000W	6000W
Rated Output Voltage	230 Vac		
Rated Output Frequency	50/60Hz		
THDV(@Linear Load)	<3%		
Switch Time	10ms		

Parameters	3.68K Model	5K Model	6K Model
All-in-One RESS Model	RESS-1A-5.1-L2-3.68K RESS-1A-10.2-L2-3.68K RESS-1A-15.3-L2-3.68K RESS-1A-20.4-L2-3.68K	RESS-1A-5.1-L2-5K RESS-1A-10.2-L2-5K RESS-1A-15.3-L2-5K RESS-1A-20.4-L2-5K	RESS-1A-5.1-L2-6K RESS-1A-10.2-L2-6K RESS-1A-15.3-L2-6K RESS-1A-20.4-L2-6K
All-in-One PCS Model	RESS-1P-3.68K-L02	RESS-1P-5K-L02	RESS-1P-6K-L02
PV String Input			
Recommended Max. PV Input Power	7200W	10000W	10000W
MAX. PV Input Voltage	500Vdc		
Startup Voltage	120Vdc		
Nominal Input Voltage (V)	360Vdc		
MPPT Voltage Range	120-480Vdc		
MPPT Voltage Range at Nominal Power (V)	200-425Vdc	250-425Vdc	
Number of MPPTs	2		
Max. Number of PV Strings per MPPT	1		
Max. Input Current per MPPT	20A		
Max. Short-circuit Current per MPPT	25A		
Reverse Connect Protection	Yes		
Efficiency			
MPPT Efficiency	99.90%	99.90%	99.90%
Euro Efficiency	96.30%	96.30%	96.30%
MAX. Efficiency	97.00%	97.00%	97.00%
Battery			
Battery Type	Lithium-ion Battery		
System Energy	5.1kWh / 10.2kWh / 15.3kWh / 20.4kWh		
Usable Energy [2]	4.75kWh / 9.5kWh / 14.25kWh / 19kWh		
Battery Module Model	RESS-BM-051100-L0		
Rated Battery Voltage	51.2V		
Recommend Charging/Discharging Current	50A/module		
Number of Battery Modules	1 / 2 / 3 / 4	1 / 2 / 3 / 4	1 / 2 / 3 / 4
Max Charging/Discharging Current	80A / 80A / 80A / 80A	100A / 120A / 120A / 120A	100A / 125A / 125A / 125A
Max Charging power	3680W	5000W	6000W
Max Discharging Power	3900W	5400W	6400W
Cycle Life	>=6000 cycles [3]		
Battery Auto Wakeup	Yes		
Function			
CT/Meter (Option)	Yes		
OTA	Yes		
Safety Protection			
PV String Reverse Polarity Protection	Yes		
DC Short Circuit Current Protection	Yes		
DC Over Current Protection	Yes		
DC Over Voltage Protection	Yes		
AC Output Short Circuit Current Protection	Yes		
AC Output Over Current Protection	Yes		
Anti-island Protection	Yes		
Leakage Current Detection	Yes		
Ground Connection Detection	Yes		
Overvoltage Category	AC III ; DC II		
AC Over Voltage Protection	Yes		



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All-in-One PCS Model	RESS-1P-3.68K-L02	RESS-1P-5K-L02	RESS-1P-6K-L02
General			
Dimensions (W*H*D) (mm)	725*(740/1040/1340/1640)*230		
Net Weight	75kg / 121kg / 167kg / 213kg		
Installation	Floor-mounted		
Operating Temperature Range	Charge: 0~50°C Discharge: -20~50°C		
Operating Temp Range (With Heating Module)	Charge: -20~50°C Discharge: -20~50°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	<40dB		
Communication	RS485 / WLAN / Bluetooth / DRY / DRM / Meter, LAN / 4G(Optional)		
Display	LED indicators / APP / Web		
Warranty	Inverter: 5 years (expand to 10 years); Battery: 10 years		
Standard			
Safety	IEC/EN62109-1&-2, IEC62619/CE/UN38.3		
EMC	IEC/EN61000-6-1/-2	IEC/EN61000-3-2/-12	IEC/EN62920
	IEC/EN61000-6-3/-4	IEC/EN61000-3-3/-11	
Grid	EN 50549-1:2019/AC:2019/RfG:2016; CEI 0-21:2022; Arrêt du 9 juin 2020; G98/G99/G100; UNE 217001/NTS V2.1/RD 244; VDE-AR-N 4105:2018-11 (VDE V 0124-100:2020-06);		

[1] 4600VA/4600W for VDE-AR-N4105 & NRS 097-2-1.

[2] Test conditions: 25°C ambient, beginning of life, cell charge voltage 2.8~3.5V, 0.5C.

[3] 25°C ambient temperature, recommended charging/discharging current.



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