



Residential ESS

Standard
Solution 2026



Modular 16kWh

Low-Voltage Battery Solution

Expandable By Adding Battery Packs.
No Inverter Replacement.

BLUESUN RESIDENTIAL SYSTEM

POWERING 1 MILLION HOMES WORLDWIDE

From PV modules to residential energy storage —
one trusted partner for the world's homes, shipped to
190+ countries and regions.

*Homes served is an estimate based on 10 GW PV delivered at an
average residential system size of 10 kWp; ESS homes estimated
at 16 kWh per home.

Figures are cumulative deliveries as of Oct 2026 and do not
represent production capacity.

2013 FOUNDED

13 years manufacturing

190+ COUNTRIES

& regions worldwide

1 M+ HOMES SERVED

Est. @ 10 kWp average

10 GW PV DELIVERED

Cumulative shipments

3 GWh ESS DELIVERED

≈190K homes @ 16 kWh

SELECTED RESIDENTIAL SYSTEM OVERVIEW

Modular 16.076kWh

Low-Voltage Battery
Solution

Expandable By Adding
Battery Packs.

No Inverter Replacement.



Model	Sys. Type	Standard	Rated Power	AC Volt.	Bess Capacity	Battery Qty
BSE-6.2KW-16KWh	Off-grid	EU	6.2KW	1Phase, 230V	16KWh	16KWh * 1
BSE-11KW-16KWh	Off-grid	EU	11KW	1Phase, 230V	16KWh	16KWh * 1
BSR-6.5KW-16KWh	Off-grid	US	6.5KW	Split-phase, 120/240V	16KWh	16KWh * 1
BSE-6KW-16KWh	Hybrid	EU	6KW	1Phase, 230V	16KWh	16KWh * 1
BSR-10KW-16KWh	Hybrid	EU	10KW	3Phase, 400V	16KWh	16KWh * 1
BSR-15KW-32.1KWh	Hybrid	EU	15KW	3Phase, 400V	32.1KWh	16KWh * 2
BSR-12KW-32.1KWh	Hybrid	US	12KW	Split-phase, 120/240V	32.1KWh	16KWh * 2
BSR-16KW-32.1KWh	Hybrid	US	16KW	Split-phase, 120/240V	32.1KWh	16KWh * 2



MODULAR EXPANSION, BUILT TO GROW

Standard Base Unit

Each system starts with one BSM48314W
16.076 kWh low-voltage battery pack.



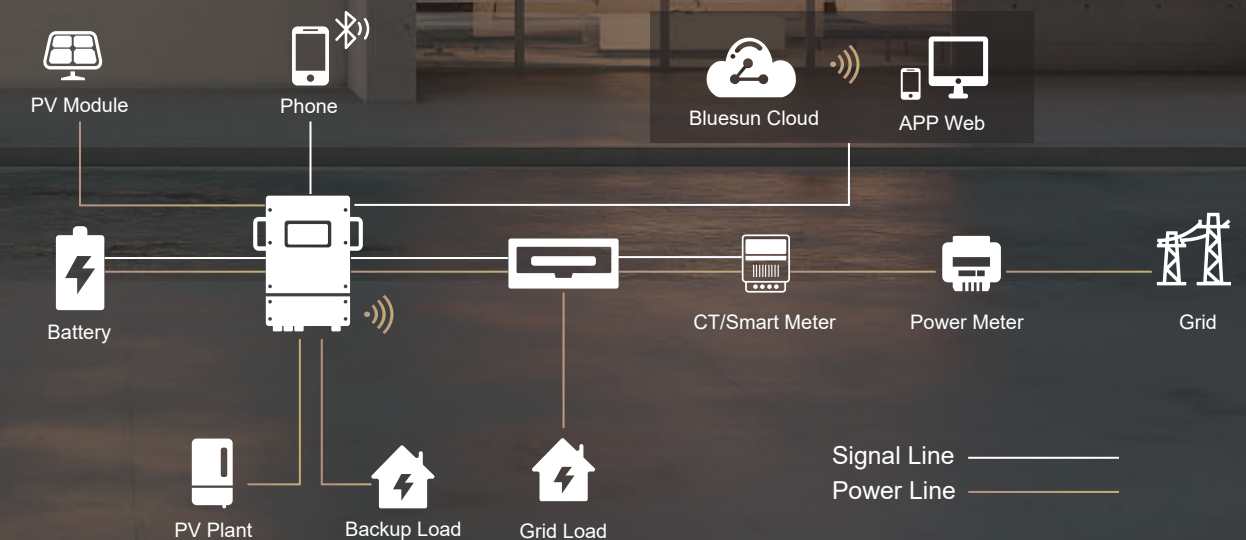
16—32—48kWh... in parallel.

Add packs anytime. No inverter replacement.

Key Selection Recommendation

Choose a higher-power inverter at the start.

- Stronger load capacity for heavy household appliances (AC, pumps, motors).
- Reserves charging and discharging headroom for future battery expansion.
- Later you only add battery packs — the inverter stays the same. Invest once in the inverter. Expand energy by adding batteries.





BSM48314W

Low-voltage LiFePO4 battery

KEY FEATURES:

314 Ah LiFePO4 High-Capacity Cells from Tier-1 Makers.
Modular Expansion (16 — 32 — 48+ kWh)



FIRE PROOF

Aerosol suppression,
standard & automatic.



SELF-HEATING

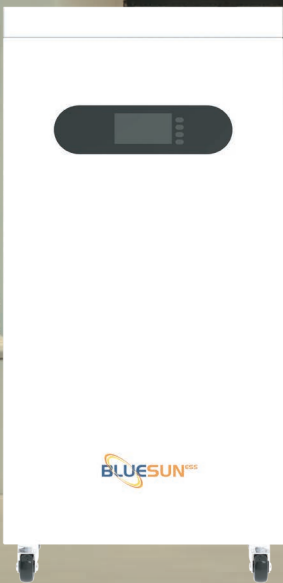
Optimal charging performance
even in cold winter conditions.



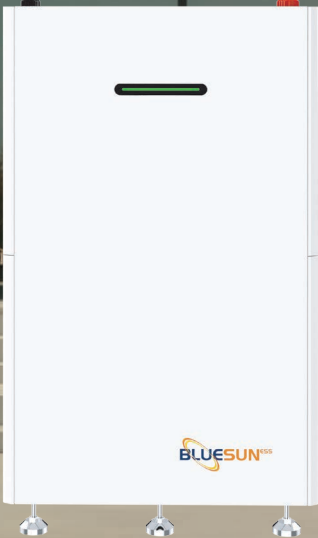
PROTECTION LEVEL

IP32 · IP65 Indoor
and outdoor options.

Indoor



Outdoor

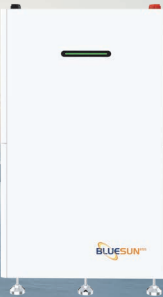


16.076 kWh

Low-voltage
LiFePO4 Battery



Indoor



Outdoor

Performance Parameters

Battery type	BSM48314W	
Nominal Voltage (V)	51.2	
Nominal Capacity (AH)	314	
Usable Capacity (KWH)	16.076	
Charge Voltage (V)	58.4	57.6
Discharge Voltage (V)	40	44.8
Battery System Discharge Current (Standard)	157	
Battery System Discharge Current (Max)	200	
Recommended Charging/Discharging Rate	0.5C	
Communicaiton	RS485/RS232/CAN	
Working Temperature	0°C~50°C Charge / -10°C ~50°C Discharge	
Shelf Temperature	-20°C~55°C	
Certification	CE/IEC/UL/UN38.3/MSDS	
Design Life	10 years+	
Size(mm)	450*944*276	550*690*250
Weight(KGS)	120	132
Cycle Life ¹⁾	>8000	
Enclosure Protect Level	IP32	IP65

1) Test conditions: 0.2C Charging/Discharging, @25°C, 80%Dod (cycle life tested at 80% DOD; rated usable capacity at 90% DOD)



Tailor-made Cabinet

Suitable for multi-module
installation



Easy to Install

Plug and play



Larger Capacity

More energy for long
time use



High Safety

LFP&smart BMS



Wide Compatibility

Matching with leading
inverter brands



Wide Temperature Range

Range of -20°C~50°C

Single-phase Off-grid ESS (EU)

BSE-6.2KW-16KWh

5.85kWp / 6.2kW / 16.076kWh

>8000
CYCLE
LIFE

90%
DOD

EXPANDABLE:

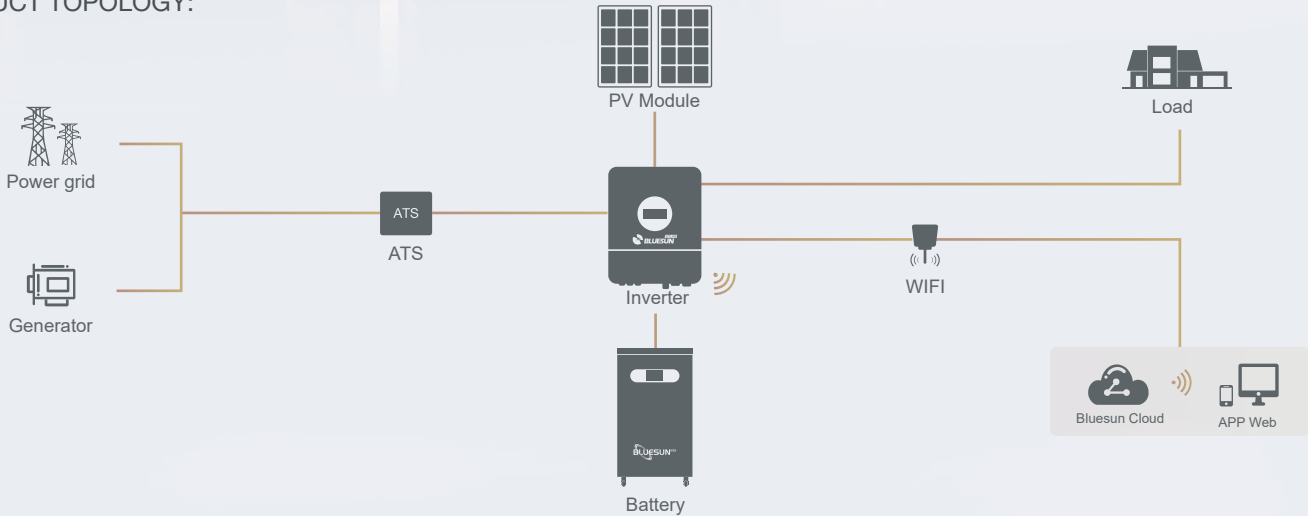
- Starts with 1 × BSM48314W (16.076 kWh).
- Add more battery packs in parallel anytime — no inverter replacement needed.



*Configuration shown for illustration; refer to SCOPE OF SUPPLY



PRODUCT TOPOLOGY:



PERFORMANCE PARAMETERS

Item	Value
AC Rated Power	6,200W
Base Battery Capacity	16.076kWh
AC Voltage / Frequency	230V / 50-60Hz
Max PV Voc	500VDC
Max Charge Current	120A

SCOPE OF SUPPLY

Equipment	Model	Qty
PV Module	BSM650G12-60HNH (Topcon)	9
Off-grid Inverter	BSM-6200LV-48 (EU)	1
Base Battery	BSM48314W	1
WiFi Monitor / Cable / Bracket	/	1 set

Single-phase Off-grid ESS (EU)

BSE-11KW-16KWh

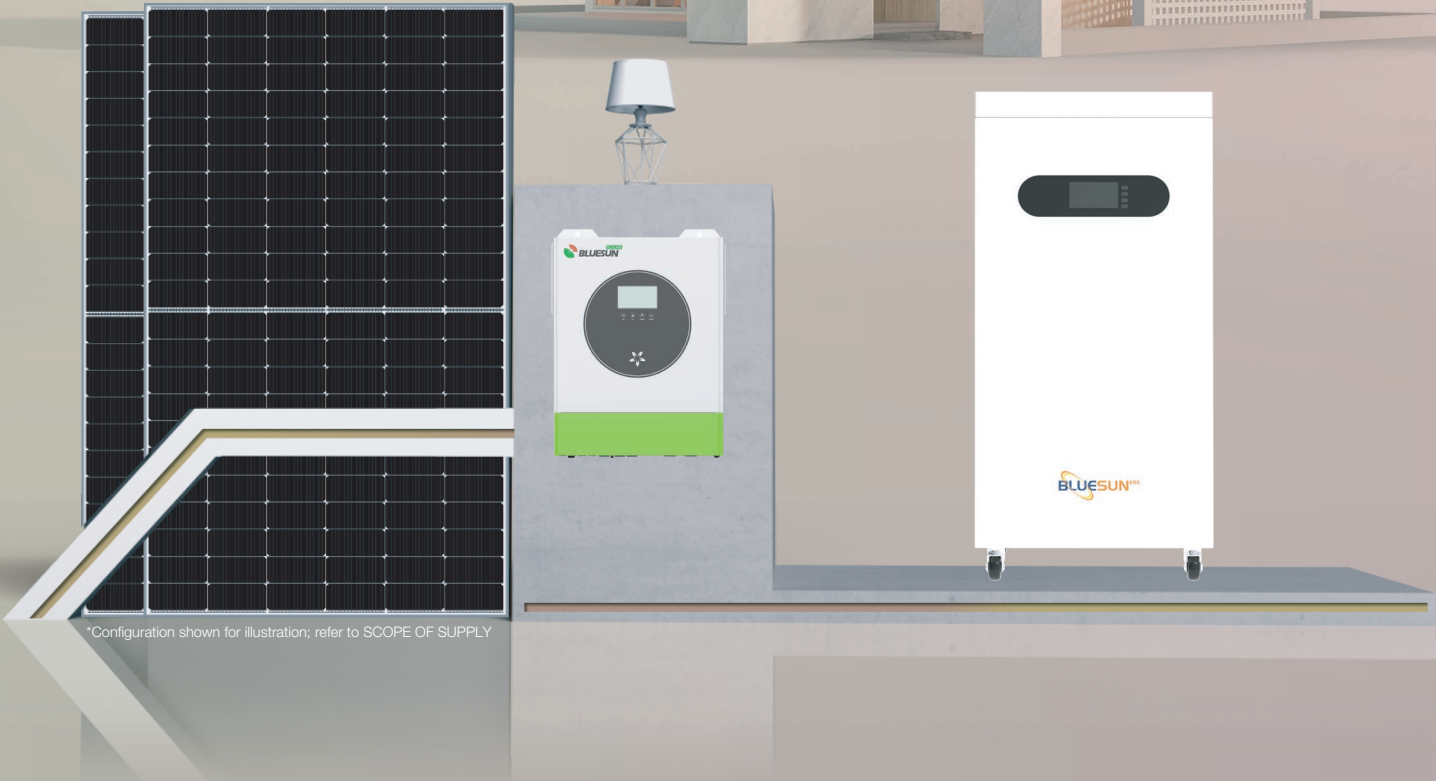
11.7kWp / 11kW / 16.076kWh

>8000
CYCLE
LIFE

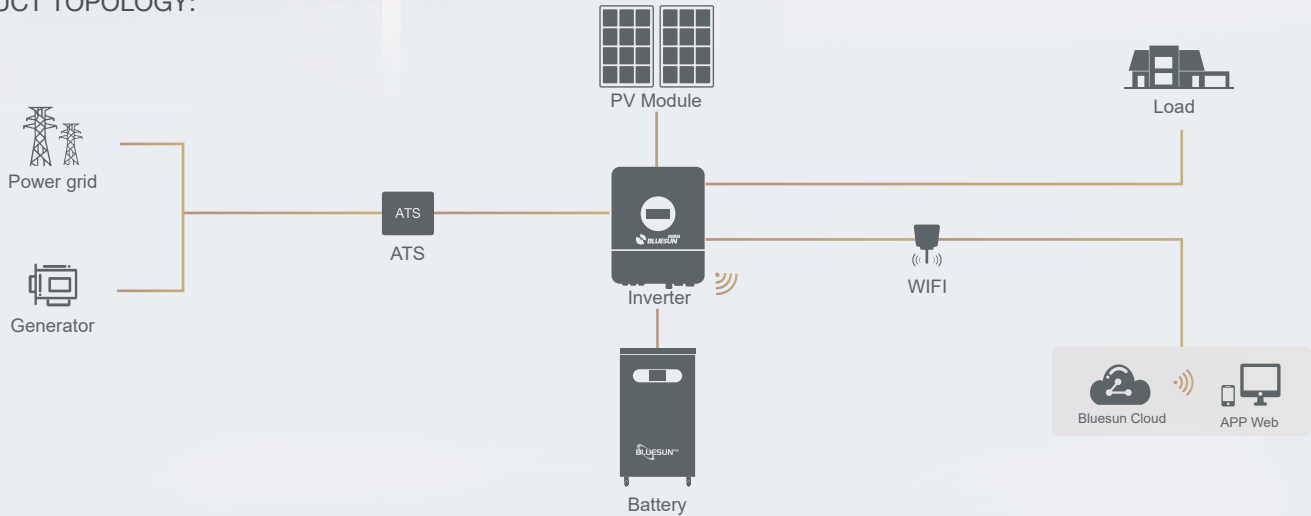
90%
DOD

EXPANDABLE:

- The 11 kW inverter delivers strong heavy-load performance for air conditioners, pumps and motors.
- Start with 16 kWh, then add more BSM48314W packs in parallel— the inverter stays.



PRODUCT TOPOLOGY:



PERFORMANCE PARAMETERS

Item	Value
AC Rated Power	11,000W
Base Battery Capacity	16.076kWh
AC Voltage / Frequency	230V / 50-60Hz
Max PV Voc	500VDC
Max Charge Current	160A

SCOPE OF SUPPLY

Equipment	Model	Qty
PV Module	BSM650G12-60HNH (Topcon)	18
Off-grid Inverter	BSM-11000BLV-48 (EU)	1
Base Battery	BSM48314W	1
WiFi Monitor / Cable / Bracket	/	1 set

Split-phase Off-grid ESS (US)

BSR-6.5KW-16KWh

7.8kWp / 6.5kW / 16.076kWh

>8000
CYCLE
LIFE

90%
DOD

EXPANDABLE:

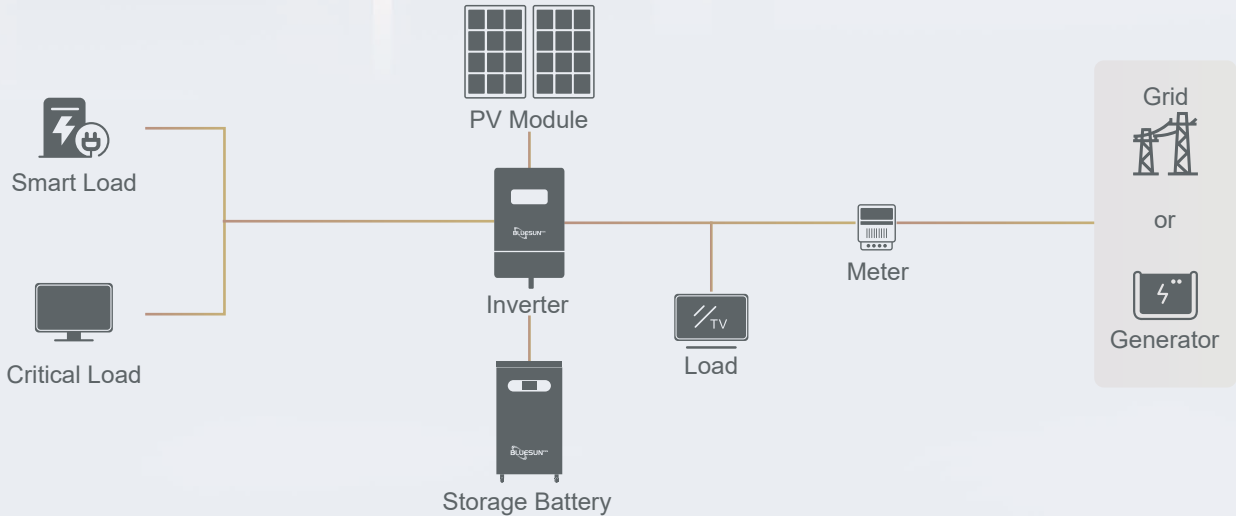
- Starts with 1 × BSM48314W (16.076 kWh).
- Add more battery packs in parallel anytime — no inverter replacement needed.



*Configuration shown for illustration; refer to SCOPE OF SUPPLY



PRODUCT TOPOLOGY:



PERFORMANCE PARAMETERS

Item	Value
AC Rated Power	6,500W
Base Battery Capacity	16.076kWh
AC Voltage / Frequency	120/240V, 50-60Hz
Max PV Voc	550VDC
Max Charge Current	52A

SCOPE OF SUPPLY

Equipment	Model	Qty
PV Module	BSM650G12-60HNH (Topcon)	12
Off-grid Inverter	SPI-6.5K-UP (US)	1
Base Battery	BSM48314W	1
WiFi Monitor / Cable / Bracket	/	1 set

Single-phase Hybrid ESS (EU)

BSE-6KW-16KWh

7.8kWp / 6kW / 16.076kWh

>8000
CYCLE
LIFE

90%
DOD

EXPANDABLE:

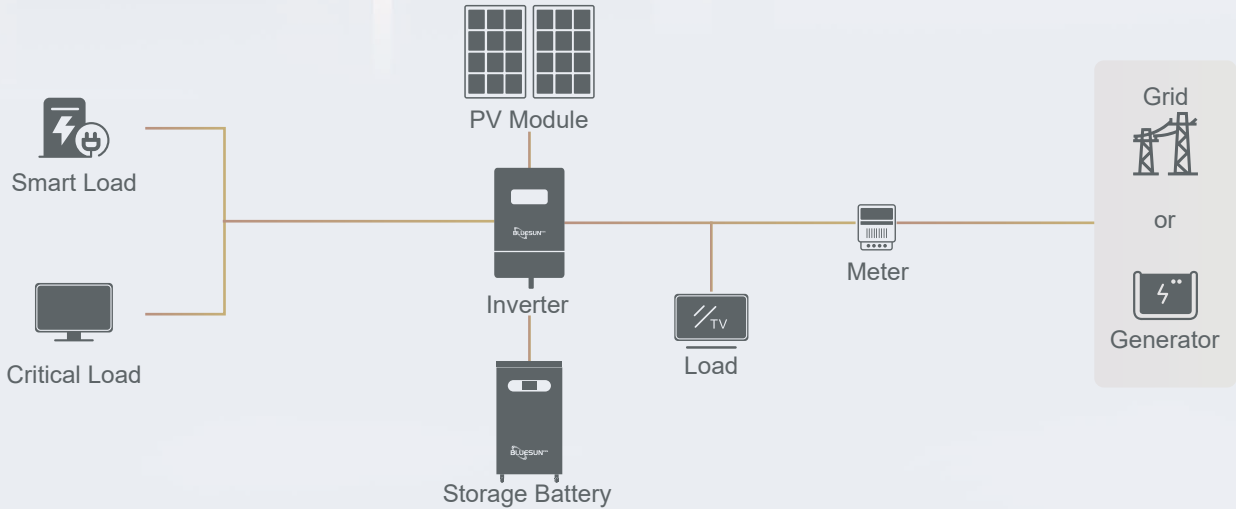
- Starts with 1 × BSM48314W (16.076 kWh).
- Add more battery packs in parallel anytime — no inverter replacement needed.



*Configuration shown for illustration; refer to SCOPE OF SUPPLY



PRODUCT TOPOLOGY:



PERFORMANCE PARAMETERS

Item	Value
AC Rated Power	6,000W
Base Battery Capacity	16.076kWh
AC Voltage / Frequency	230V / 50-60Hz
Max PV Voc	550VDC
Max Charge Current	52A

SCOPE OF SUPPLY

Equipment	Model	Qty
PV Module	BSM650G12-60HNH (Topcon)	12
Hybrid Inverter	BSE6KL1 (EU)	1
Base Battery	BSM48314W	1
WiFi Monitor / Cable / Bracket	/	1 set

Three-phase Hybrid ESS (EU)

BSR-10KW-16KWh

10.4kWp / 10kW / 16.076kWh

>8000
CYCLE
LIFE

90%
DOD

EXPANDABLE:

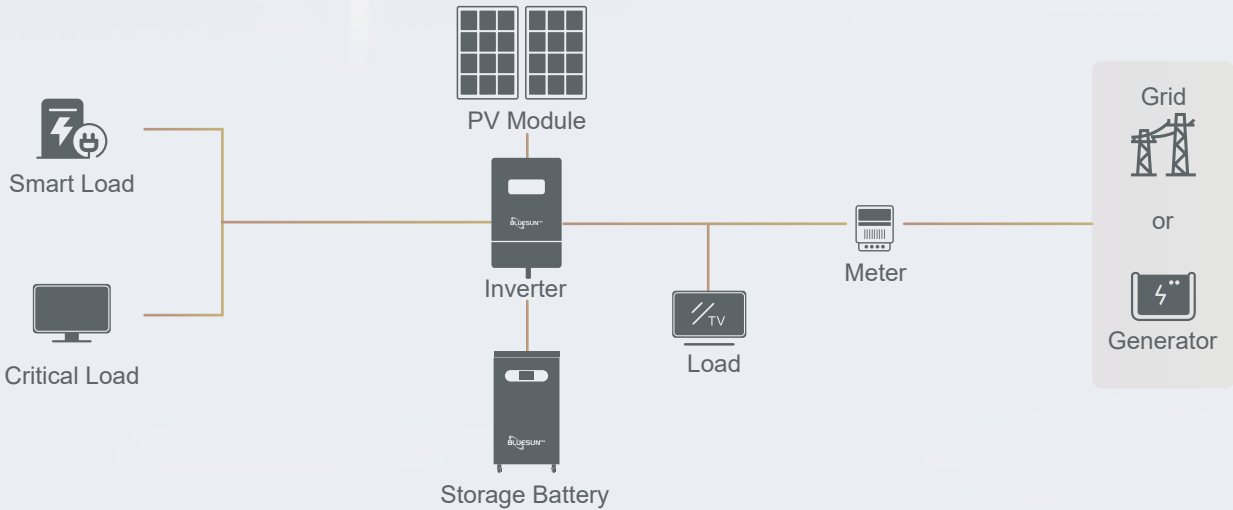
- 10kW three-phase output for larger homes.
- Start with 16 kWh, add more BSM48314W packs in parallel to reach 32 kWh, 48 kWh and beyond.



*Configuration shown for illustration; refer to SCOPE OF SUPPLY



PRODUCT TOPOLOGY:



PERFORMANCE PARAMETERS

Item	Value
AC Rated Power	10,000W
Base Battery Capacity	16.076kWh
AC Voltage / Frequency	400V / 50Hz
Max PV Voc	1000VDC
Max Charge Current	100A

SCOPE OF SUPPLY

Equipment	Model	Qty
PV Module	BSM650G12-60HNH (Topcon)	16
Hybrid Inverter	BSE3P10KH3 (EU)	1
Base Battery	BSM48314W	1
WiFi Monitor / Cable / Bracket	/	1 set

Three-phase Hybrid ESS (EU)

BSR-15KW-32.1KWh

15.6kWp / 15kW / 32.1kWh(16.076kWh*2)

>8000
CYCLE
LIFE

90%
DOD

EXPANDABLE:

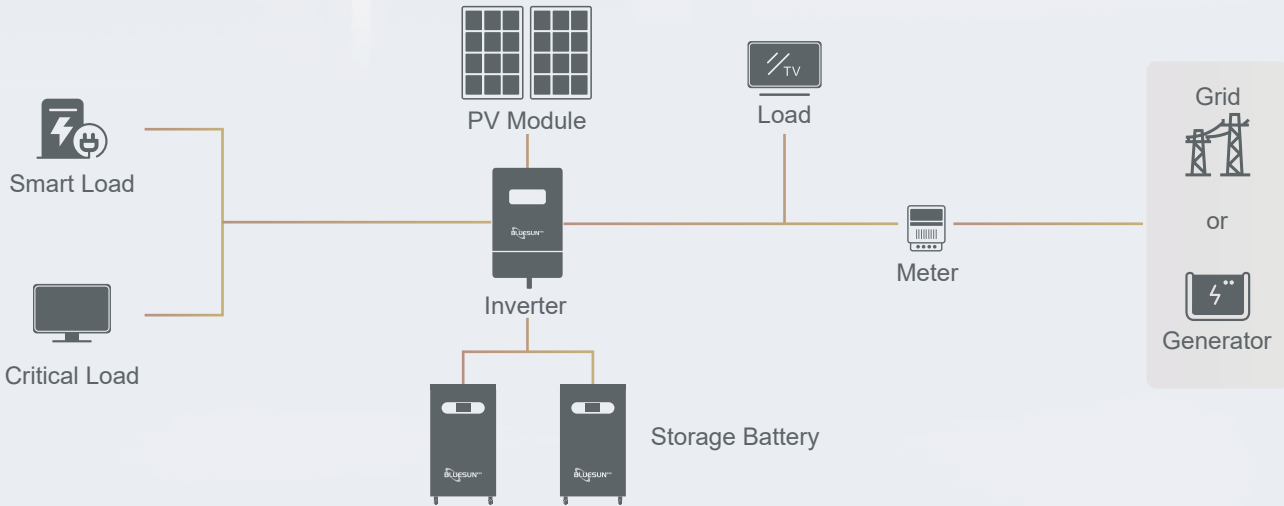
- 15kW three-phase inverter handles the heaviest household loads.
- Ships with 2 packs (32.1 kWh); add a third pack to reach 48 kWh — the 15kW inverter has the headroom.



*Configuration shown for illustration; refer to SCOPE OF SUPPLY



PRODUCT TOPOLOGY:



PERFORMANCE PARAMETERS

Item	Value
AC Rated Power	15,000W
Base Battery Capacity	32.1kWh
AC Voltage / Frequency	400V / 50Hz
Max PV Voc	1000VDC
Max Charge Current	100A

SCOPE OF SUPPLY

Equipment	Model	Qty
PV Module	BSM650G12-60HNH (Topcon)	24
Hybrid Inverter	BSE3P15KH3 (EU)	1
Base Battery	BSM48314W	2
WiFi Monitor / Cable / Bracket	/	1 set

Split-phase Hybrid ESS (US)

BSR-12KW-32.1KWh

13kWp / 12kW / 32.1kWh(16.076kWh*2)

>8000
CYCLE
LIFE

90%
DOD

EXPANDABLE:

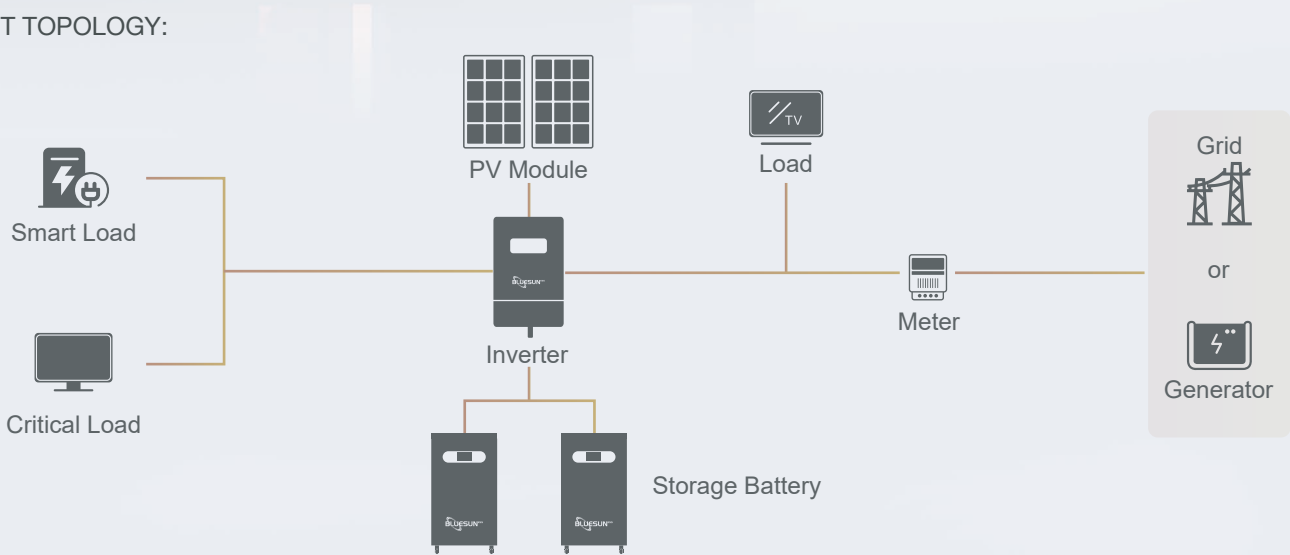
- 12kW single-phase inverter handles the heaviest household loads.
- Ships with 2 packs (32.1 kWh); add a third pack to reach 48 kWh — the 12kW inverter has the headroom.



*Configuration shown for illustration; refer to SCOPE OF SUPPLY



PRODUCT TOPOLOGY:



PERFORMANCE PARAMETERS

Item	Value
AC Rated Power	12,000W
Base Battery Capacity	32.1kWh
AC Voltage / Frequency	120/240V, 50-60Hz
Max PV Voc	500VDC
Max Charge Current	200A

SCOPE OF SUPPLY

Equipment	Model	Qty
PV Module	BSM650G12-60HNH (Topcon)	20
Hybrid Inverter	BSE12KLNA (US)	1
Base Battery	BSM48314W	2
WiFi Monitor / Cable / Bracket	/	1 set

Split-phase Hybrid ESS (US)

BSR-16KW-32.1KWh

18.2kWp / 15kW / 32.1kWh(16.076kWh*2)



EXPANDABLE:

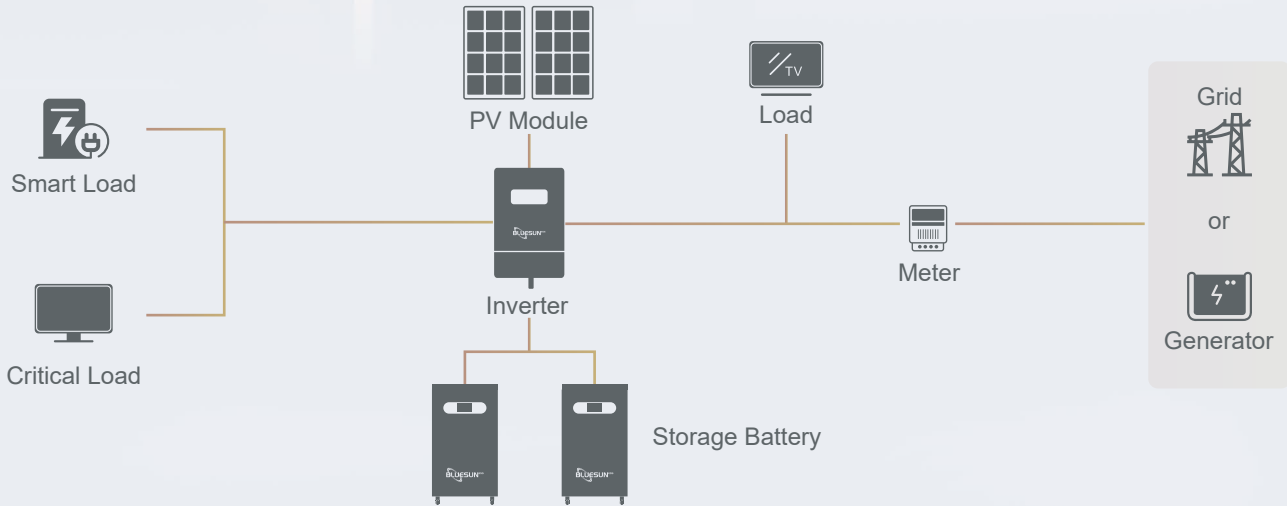
- 16kW Single-phase inverter handles the heaviest household loads.
- Ships with 2 packs (32.1 kWh); add a third pack to reach 48 kWh — the 16kW inverter has the headroom.



*Configuration shown for illustration; refer to SCOPE OF SUPPLY



PRODUCT TOPOLOGY:



PERFORMANCE PARAMETERS

Item	Value
AC Rated Power	16,000W
Base Battery Capacity	32.1kWh
AC Voltage / Frequency	120/240V, 50-60Hz
Max PV Voc	550VDC
Max Charge Current	290A

SCOPE OF SUPPLY

Equipment	Model	Qty
PV Module	BSM650G12-60HNH (Topcon)	28
Hybrid Inverter	BSE16KLNA (US)	1
Base Battery	BSM48314W	2
WiFi Monitor / Cable / Bracket	/	1 set



Bluesun, Your Trusted ESS Partner



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