LuminBlock H

ALL-IN-ONE Hybrid ESS

BES-H37.5X80/BES-H40X80/BES-H49.9X100/ BES-H50X100/BES-H60X120

LuminBlock H Series All-in-One Hybrid Energy Storage System is a versatile solution for large residential areas, charging stations, supermarkets, farms, and factories.

With high-performance hardware and advanced IoT software, it supports self-consumption, ToU optimization and backup power.

Flexible enough for daily energy needs, it works smoothly with diesel generators and other equipment to improve grid stability, power reliability and cost efficiency.



Easy Installation

- Pre-installed in the factory, plug & play, saving time and labor
- Connects directly to DG(Diesel generator) for flexible power

Efficient and Reliable

- Supports 200% PV oversizing, efficiently uses solar energy
- String current 22.5A , matching high power PV panel
- Built-in STS function, on-off grid switch in 10ms

Safe and Worry-free

- AFCI as standard to prevent fire
- Features battery health alerts & multi-layer protection for safe, stable operation

Smart Management

- 24/7 cloud monitoring for real-time status and remote management
- Remote troubleshooting and maintenance to reduce on-site repairs and costs

HYBRID ENERGY STORAGE SYSTEM

Hybrid **ESS**

BES-H37.5X80/BES-H40X80/BES-H49.9X100/BES-H50X100/BES-H60X120

Model	BES-H37.5X80	BES-H40X80	BES-H49.9X100	BES-H50X100	BES-H60X120
PV Input					
Max. PV Array Power	75kWp	80kWp	99.8kWp	100kWp	120kWp
Max. PV Input Voltage	1100V				
Nominal Input Voltage	600V				
MPPT Voltage Range	150 ~ 1000V				
Max. PV Current	45A/45A/45A/45A/45A				
Max. Short Circuit Current	55A/55A/55A/55A/55A				
No. of MPPTs/Strings per MPPT	5/2				
AC Parameters					
Rated Output Power	37.5kW	40kW	49.9kW	50kW	60kW
Max. Apparent Power	37.5kVA	44kVA	49.9kVA	55kVA	66kVA
Nominal AC Voltage	3L+N+PE, 380V, 400V,415V				
Nominal AC Frequency	50 / 60Hz				
Rated Output Current	57A	60.6A	75.6A	75.8A	90.9A
Max. Output Current	57A	66.7A	75.6A	83.4A	100A
Adjustable Power Factor Range	~1 (0.8 lagging to 0.8 leading)				
THDi (Rated power)	＜3%				
Battery Parameters					
Battery Type	LiFePO4				
Rated Capacity	314Ah				
Battery Configuration	1P20S				
Battery Pack Quantity	4	4	5	5	6
Rated Battery Voltage	256V	256V	320V	320V	384V
Operaating Voltage Range	224~288V	224~288V	280~360V	280~360V	336~432V
Rated Energy	80kWh	80kWh	100kWh	100kWh	120kWh
Rated Charging/Discharging Current	157A/157A				
Max. Charging/Discharging Current	179.4A/179.4A				
System Parameters					
Depth of Discharge	90%				
Operating Temperature	-20 ~ 55℃				
Operating Humidity	0% ~95% (non-condensation)				
Operating Altitude	2000m				
Warranty	10 Years @70%SOH,25℃,0.5P				
Communication	RS485 / Wi-Fi /CAN / DI / DO				
Temperature Control Mode	Smart Air Cooling				
Ingress Protection	Cabinet: IP55; Inverter: IP66				
Dimension (W*H*D)	1349*2100*990mm				
Anti-corrosion Level	C4 / C5 (optional)				
Weight	1025kg	1025kg	1165kg	1165kg	1303kg

HYBRID INVERTER

HP3-37.5/40/49.9/50/60KS1

Hybrid ESS **Inverter**

Model	HP3-37K5S1	HP3-40KS1	HP3-49K9S1	HP3-50KS1	HP3-60KS1
PV Input					
Max. PV Input Power	75kWp	80kWp	99.8kWp	100kWp	120kWp
Max. PV Input Voltage	1100V				
Rated Input Voltage	600V				
MPPT Voltage Range	150 ~ 1000 V				
No. of MPPTs/Strings per MPPT	5 (2/2/2/2/2)				
Max. PV Current	45/45A/45A/45A/45A				
Max. Short Circuit Current	55A/55A/55A/55A/55A				
AC Input / Output @ On-grid					
Rated AC Output Power	37.5kW	40kW	49.9kW	50kW	60kW
Max. Apparent Output Power	37.5kVA	44kVA	49.9kVA	55kVA	66kVA
Max. AC Input Power	75kW	80kW	99.8kW	100kW	120kW
Rated AC Voltage	3W+N+PE, 380V, 400V, 415V				
AC Frequency	50 / 60Hz				
Rated Output Current	57A	60.6A	75.6A	75.8A	90.9A
Max. Output Current	57A	66.7A	75.6A	83.4A	100A
THDi (Rated Power)	< 3%				
Power Factor	~1 (Adjustable from 0.8 Leading to 0.8 Lagging)				
AC Input @ Generator					
Max. AC Input Power	75kW	80kW	99.8kW	100kW	120kW
Nominal AC Voltage	3W+N+PE, 380V, 400V, 415V				
AC Frequency	50 / 60Hz				
AC Output @ Back-up					
Rated Output Power	41.2kW	44kW	55kW	55kW	66kW
Max. Apparent Output Power	1.5 Times of Rated Power, 10 s				
Rated Output Voltage	3W+N+PE, 220/380V, 230/400V, 240/415V				
Rated Frequency	50 / 60Hz				
Rated Output Current	62.6A	66.7A	83.4A	83.4A	100A
THDv (linear load)	< 3%				
Switch Time	< 10ms				
Battery					
Battery Type	Lithium				
Battery Voltage Range	120 ~ 900V				
Max. Charge/Discharge Current [1]	80A*2 / 80A*2				
Communication with BMS	CAN				
Efficiency					
Max. Efficiency	98.40%				
Euro Efficiency	98.00%				
Protection					
PV Reverse Polarity Protection	Support				
Anti-islanding Protection	Support				
AC Overcurrent Protection	Support				
AC Short Circuit Protection	Support				
Leakage Current Protection	Support				
DC Switch	Support				
Battery Input Reverse Polarity Protection	Support				
Surge Protection	DC Type II / AC Type II				
AFCI	Support				
General Data					
Topology	Transformerless				
Dimension (W*H*D)	620*895*300 mm				
Weight	80kg				
Noise	<65dB				
Altitude	2000m				
Cooling	Inteligent Fan				
Protection Rating	IP66				
Mounting Method	Wall-mounted				
Operating Temperature Range	-25 ~ 60℃				
Ambient Humidity	0 ~ 95%RH (Non-condensing)				
Display	LED & APP				
Communication	Wi-Fi / DO / DI / RS485 / CAN				
Standard	IEC61727/62116, EN50549-1/10, IEC/EN 62109-1/-2, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN61000-6-4, IEC/EN 62920				

*1 Supporting parallel 160A input.

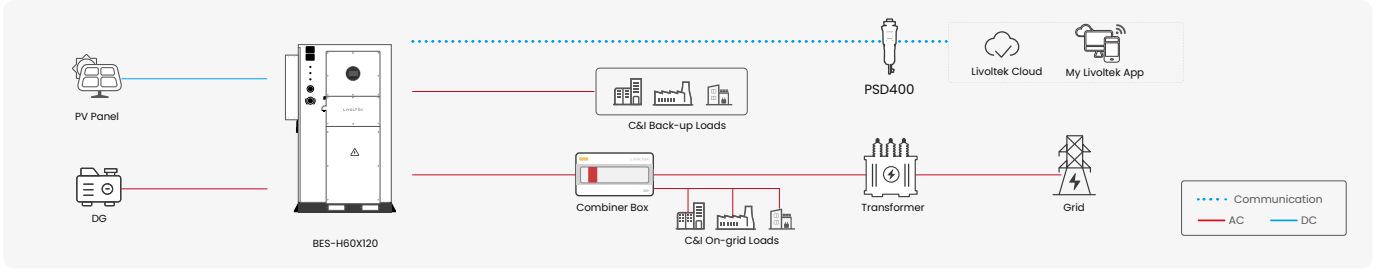
BATTERY PACK

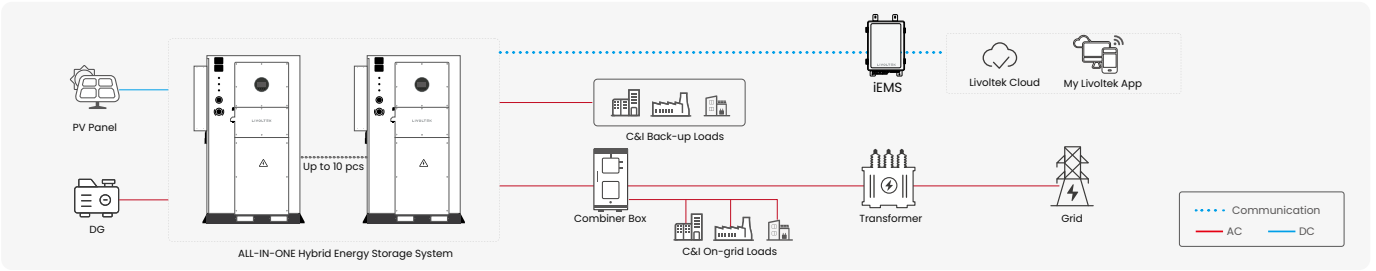
Hybrid ESS **Battery**

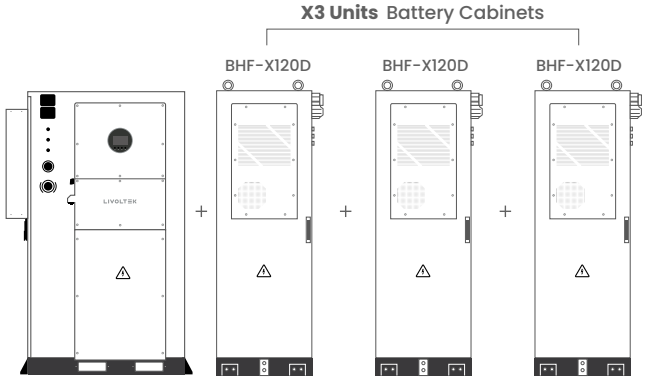
BHF-C64314

Model	BHF-C64314
Battery Type	LiFePO4
Rated Capacity	314Ah
Battery Configuration	1P20S
Max. Charging/Discharging Power	10.04kW/10.04kW
Rated Battery Voltage	64V
Operaating Voltage Range	56~72V
Rated Charging/Discharging Current	157/157A
Max. Charging/Discharging Current	179.4/179.4A
Ingress Protection	IP20
Operating Temperature	-20~55°C
Operating Humidity	≤95%RH (non-condensation)
Temperature Control Mode	Smart Air Cooling
Dimension (W*H*D)	500*230*933.7mm
Weight	138.75kg

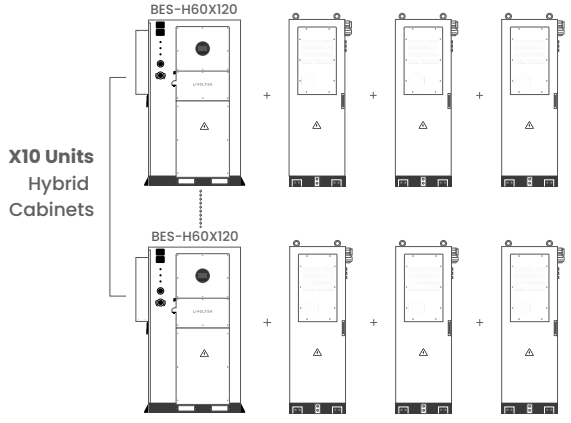
TYPICAL APPLICATION SCENARIOS







480kWh Battery Cabinet DC Side
Up to **4 Units** Parallel for Capacity Expansion



0.6MW/4.8MWh On/Off-grid System
Up to **10 Units** Parallel for Capacity Expansion