

ALL-IN-ONE HYBRID ENERGY STORAGE SYSTEM

BES-H40X80/BES-H50X100/BES-H60X120

All-in-One Hybrid Energy Storage System: a versatile solution for large residential, retail, agricultural & small-scale industrial use cases. Integrating power generation, conversion, storage & utilization in a robust unit, it features high-performance hardware & advanced IoT software to support self-consumption, ToU optimization & backup power. Flexible for daily energy needs, it seamlessly integrates with supplementary gear (e.g., diesel generators) to enhance grid stability, power security & end-user 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 20ms

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



*Outdoor, IP55(Cabinet)+IP66(Inverter)

ALL-IN-ONE HYBRID ENERGY STORAGE SYSTEM

BESS

BES-H40X80/BES-H50X100/BES-H60X120

Model	BES-H40X80		BES-H50X100		BES-H60X120	
PV Input						
Max. PV Array Power	80kWp		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	40kW		50kW		60kW	
Max. Apparent Power	44kVA		55kVA		66kVA	
Nominal AC Voltage			3W+N+PE, 380V, 400V, 415V			
Nominal AC Frequency			50 / 60Hz			
Rated Output Current	60.6A		75.8A		90.9A	
Max. Output Current	66.7A		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		5		6	
Rated Battery Voltage	256V		320V		384V	
Rated Energy	80kWh		100kWh		120kWh	
Max. Charging/Discharging			179.4A			
System Parameters						
Depth of Discharge			90%			
Operating Temperature			-20~ 55℃			
Operating Humidity			0% ~95% (non-condensation)			
Operating Altitude			2000m (>2000m derating)			
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)			990*1349*2100mm			
Weight	1025kg		1165kg		1303kg	

HYBRID INVERTER

Three Phase: HP3-40/50/60K S1

As the core of the energy storage solution, LIVOLTEK three phase hybrid inverter offers flexible and social-able solutions for both residential and commercial applications. With the ability of scalable battery storage, the high-voltage inverter facilitate powerful energy backup and also present high self-consumption with optimized built-in EMS to reduce energy cost.

High Efficiency & Reliability

- 120% overload capacity (10s) in off-grid mode
- Supports max. 45A PV input current, compatible with high-power solar panels
- Seamless on-grid/off-grid switching time <10ms
- Supports up to 200% PV oversize, 100% three-phase unbalanced output

Flexibility & Reliability

- Supports up to 10 units in parallel for grid-tied and off-grid operation
- Diesel generator compatibility; flexible multi-energy integration
- Dual independent battery inputs for flexible configuration
- Flexible DC/AC PV coupling for retrofits and expansion

Safe & Intelligent

- Support AFCI, Type II AC/DC surge protection
- Supports intelligent terminal temperature detection
- Intelligent load management and remote OTA



HYBRID INVERTER

HP3-40/50/60K S1

INVERTER

Model	HP3-40KS1		HP3-50KS1		HP3-60KS1	
PV Input						
Max. PV Input Power	80kWp		100kWp		120kWp	
Max. PV Input Voltage	1100V					
Nominal Input Voltage	600V					
MPPT Voltage Range	150 ~ 1000 V					
No. of MPPTs/Strings per MPPT	5/(2+2+2+2+2)		5/(2+2+2+2+2)		5/(2+2+2+2+2)	
Max. PV Current	45/45A/45A/45A/45A		45/45A/45A/45A/45A		45/45A/45A/45A/45A	
Max. Short Circuit Current	55A/55A/55A/55A/55A		55A/55A/55A/55A/55A		55A/55A/55A/55A/55A	
AC Output @ Grid						
Nominal AC Output Power	40kW		50kW		60kW	
Max. Apparent Outout Power	44kVA		55kVA		66kVA	
Max. AC Input Power	120kW					
Nominal AC Voltage	3W+N+PE, 380V, 400V, 415V					
AC Frequency	50 / 60 Hz					
Rated Output Current	60.6A		75.8A		90.9A	
Max. Output Current	66.7A		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	50kW		60kW		80kW	
Nominal AC Voltage	3W+N+PE, 380V, 400V, 415V					
AC Frequency	50 / 60 Hz					
EPS Output @ Off Grid						
Nominal EPS Power	44kW		55kW		66kW	
EPS Peak Power (10s)	52.8kW		66kW		80kW	
Nominal Output Voltage	3W+N+PE, 220/380V, 230/400V, 240/415V					
Nominal Frequency	50 / 60 Hz					
Nominal Output Current	66.7A		83.4A		100A	
THDv (linear load)	< 2%					
Switch Time	< 10ms					
Battery Input						
Battery Type	Lithium					
Battery Voltage Range	120 ~ 900 V					
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(Typical)	<65dB					
Altitude	2000m					
Cooling	Intelligent Fan					
Protection Rating	IP66					
Mounting Method	Wall-mounted					
Operating Temperature Range	-25 to +60°C					
Ambient Humidity	0 ~ 95%RH (Non-condensing)					
Display	LED & APP					
Communication	Wi-Fi/DO/DI/RS485/CAN					
Standrad	IEC61727/62116, EN50549-1/10, IEC/EN 62109-1/-2, EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, IEC/EN 62920					

*1 Supporting parallel 160A input.