EK90 HS5 Three Phase All-in-One Solution

Your Ultimate Smart Home Butler



SAJ

au.saj-electric.com

Smart Home Energy Ecosystem

The eManager 5.0 and elekeeper 5.0 connect PV, storage, EV charger, smart plug, heat pump, and more for fully automated whole-home energy management.

EVDC charger enables V2H & V2G capabilities***.



Easy, Fast, and Smart Installation

- Modular design with blind-mate connectors, no complex external cabling.
- Innovative Wireless-pro meter, providing longer range, more stable connectivity, and wiring-free installation.
- Effortless App commissioning features 3-step initialization and One Click Self-diagnosis (Meter & CT Phase Auto Adjustment)
- No backup retrofit required: 63A bypass, 50% single-phase high output power.



Total Peace of Mind with 9-layer Protection

- 5-layer Battery Protection
V2 flame-retardant material coverage
Full-coverage temperature sensor
Thermal insulation board
Thermal aerosol fire suppression
Decompression valve

- 4-layer System Protection
DC ground-fault protection
AI AFCI PV protection
Grid fault protection
DC Bus protection

- Top-standard UL9540A&B guarantees battery safety.

Future-Ready Scaling with Ultimate Battery Performance

- Built-in DCDC optimizer
Fully independent charge & discharge
Eliminates wooden barrel effect
Seamless capacity expansion

- Built to Last: 12,000 cycles** with premium 314Ah cell



AI-powered Energy Higher returns for every kWh

- **elekeeper 5.0**
AI Keeper – Intelligent energy manager
AI Care – AI-powered system health guardian
AI Designer – Intelligent plant design platform
VPP ready – empower a connected energy ecosystem
AI Edge – Keeps running smoothly even on weak connections

- **AI Saving 3.0**
AI + Multi-scenario（Peak Shaving, EV Charging, VPP, Temporary Scheduling...）



MODEL	EK90 HS5-10K-T3-14/16/18/21/25/27/28/35/36/42/45/50/54	EK90 HS5-15K-T3-14/16/18/21/25/27/28/35/36/42/45/50/54	EK90 HS5-20K-T3-14/16/18/21/25/27/28/35/36/42/45/50/54
Input (PV)			
Recommended max. PV power [W]	20000	30000	40000
Max. input voltage [V]		1000	
MPPT voltage range [V]		150~900	
Operating Voltage Range [V]		150~1000	
Start-up voltage [V]		160	
Nominal DC input voltage [V]		600	
Max. input current per MPPT [A]	20/20/20	40/20/20	
Max. short-circuit current per MPPT [A]	25/25/25	50/25/25	
Number of MPP trackers		3	
No. of Strings per MPP Tracker	1+1+1	2+1+1	
Input (DC Battery)			
Battery Type		LiFePO4	
Battery Voltage Range [V]		600-900	
Communication Interface for BAT		CAN	
Max. Battery Quantity in one system		6	
AC Output/Input (On Grid)			
Rated output power [W]	9999	15000	20000
Rated apperant power [VA]	9999	15000	20000
Max. apparent power [VA]	9999	16500	22000
Rated. output current [A]	14.5	21.7	29.0
Max. output current [A]	14.5	23.9	31.9
Rated output/input voltage [V]		3L+N+PE, 220/380, 230/400	
Rated AC grid frequency [Hz]		50/60	
Max. Input Current (per phase) * [A]		63	
Adjustable power factor		0.8 leading~ 0.8 lagging	
Total current harmonic distortion		< 3%	
AC Output (Back-up)			
Max. Output Apparent Power [VA]	10000	15000	20000
Peak Output Apparent Power [VA]	20000,10s	30000,10s	40000,10s
Max. Current (per phase) [A]	14.5	21.7	29.0
Maximum unbalanced load power [W]	5000	7500	10000
Rated output voltage [V]		3L+N+PE, 220/380, 230/400	
Rated AC grid frequency [Hz]		50/60	
Adjustable power factor		0.8 leading~ 0.8 lagging	
Total current harmonic distortion		< 3%	
Switch time [ms]		≤10	
Efficiency			
Euro Efficiency		97.6%	
Max. Efficiency		98.2%	
Protection			
Insulation Monitoring		Integrated	
Residual Current Monitoring		Integrated	
DC Reverse Polarity Protection		Integrated	
Anti-islanding Protection		AFD	
AC Short-circuit Protection		Integrated	
AC Overcurrent/Overvoltage Protection		Integrated	
DC Switch		Integrated	
surge protection		Type II DC/AC	
AFCI		Integrated	
General Data			
Pollution degree		II	
Inverter topology		Non-isolation	
Protective class		I	
Overvoltage category		DC II, AC III	
Dimensions (W / H / D) [mm]		Inverter: 835 / 350 / 270 Battery pack: 835 / 270 / 270 Battery base: 835 / 70 - 80 / 270	
Weight [kg]		Inverter: 44.5 Battery pack: EK90 BU5-7.0-TV: 71.7 EK90 BU5-9.0-TV: 79.2 Battery base: 8	
Operating temperature range [℃]		-30 ~ + 50 ℃	
Relative humidity range		5% ~ 95% Non-condensing	
Corrosion resistance grade		C4	
Max. operating altitude [m]		3000	
Cooling		Smart air cooling	
Degree of protection		IP66	
Communication		WLAN / Fast Ethernet / RS485 / eSolar 4G pro /eSolar AIO3 pro	
Standard		IEC62109-1/2, IEC62040, IEC62477,EN61000-6-1/2/3/4, IEC62619,AS4777.2, SA TS 5398	
Warranty [Year]		Refer to the warranty policy	

SAJ All-in-One Energy Storage System-Battery Combination

suffix 14/16/18/21/25/27/28/35/36/42/45/50/54 for battery system configuration	14	16	18	21	25	27	28	35	36	42	45	50	54
Input/Output (DC Battery)													
Battery model #1	EK90 BU5-7.0-TV												
Number of battery modules [pcs]	2	1	0	3	1	0	4	5	0	6	0	2	0
Battery model #2	EK90 BU5-9.0-TV												
Number of battery modules [pcs]	0	1	2	0	2	3	0	0	4	0	5	4	6
Total energy capacity [kWh]	14	16	18	21	25	27	28	35	36	42	45	50	54
Usable energy capacity [kWh]	14	16	18	21	25	27	28	35	36	42	45	50	54
Depth of discharge	100%												
Voltage Range [V]	600-900												
Battery Voltage Range/Rated Voltage	Compatible single phase system: 300-600V/450V, Compatible three phase system: 600-900V/800V												
Rated Current (Max. Continuous Current [A]) for **EK90 HS5-10K-S3-14/16/18/21/25/27/28/35/36/42/45/50/54**	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
Dimensions (W /H / D) [mm]	835 / 540 / 270			835 / 810 / 270			835 / 1080 / 270	835 / 1350 / 270	835 / 1080 / 270	835 / 1620 / 270	835 / 1350 / 270	835 / 1620 / 270	
Weight [kg]	136	147.2	158.4	204	226.4	35.4	272	340	316.8	408	396	452.8	475.2
Rated Current (Max. Continuous Current [A]) for **EK90 HS5-15K-S3-14/16/18/21/25/27/28/35/36/42/45/50/54**	18	20.8	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7
Dimensions (W /H / D) [mm]	835 / 540 / 270			835 / 810 / 270			835 / 1080 / 270	835 / 1350 / 270	835 / 1080 / 270	835 / 1620 / 270	835 / 1350 / 270	835 / 1620 / 270	
Weight [kg]	136	147.2	158.4	204	226.4	35.4	272	340	316.8	408	396	452.8	475.2
Rated Current (Max. Continuous Current [A]) for **EK90 HS5-20K-S4-14/16/18/21/25/27/28/35/36/42/45/50/54**	18	20.8	23.6	27	29	29	29	29	29	29	29	29	29
Dimensions (W /H / D) [mm]	835 / 540 / 270			835 / 810 / 270			835 / 1080 / 270	835 / 1350 / 270	835 / 1080 / 270	835 / 1620 / 270	835 / 1350 / 270	835 / 1620 / 270	
Weight [kg]	136	147.2	158.4	204	226.4	35.4	272	340	316.8	408	396	452.8	475.2

* The built-in 63A bypass function enables the whole-house backup power, and the current can be configured on the elekeeper App.
** Provided by the battery manufacturer. Test conditions: 25±2°C, 0.5C charge and discharge rate, SOH 60%.
*** This feature is currently under development and coming soon.

Manufacturer: Guangzhou Sanjing Electric Co., Ltd.
Country of manufacture: China