

EK90 HS5 Single Phase All-in-One Solution

Your Ultimate Smart Home Butler



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.



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 HS5-5K-S3-X*	EK90 HS5-6K-S3-X*	EK90 HS5-6K-S3-X*-IE	EK90 HS5-8K-S3-X*	EK90 HS5-10K-S4-X*
Input (PV)					
Recommended max. PV power [W]	10000	12000	12000	16000	20000
Max. input voltage [V]			600		
MPPT voltage range [V]			50~550		
Operating Voltage Range [V]			50~600		
Start-up voltage [V]			80		
Nominal DC input voltage [V]			360		
Max. input current per MPPT [A]			20		
Max. short-circuit current per MPPT [A]			25		
Number of MPP trackers		3			4
No. of Strings per MPP Tracker		1+1+1			1+1+1+1
Input (DC Battery)					
Battery Type			LiFePO4		
Battery Voltage Range [V]			300~600		
Communication Interface for BAT			CAN		
Max. Battery Quantity in one system			6		
AC Output/Input (On Grid)					
Rated output power [W]	4999	6000	5750	8000	9999
Rated apperant power [VA]	4999	6000	5750	8000	9999
Max. apparent power [VA]	4999	6600	5750	8800	9999
Rated. output current [A]	21.7	26.1	25.0	34.8	43.5
Max. output current [A]	21.7	28.7	25.0	38.3	43.5
Rated output/input voltage [V]			L+N+PE, 220, 230, 240		
Rated AC grid frequency [Hz]			50/60		
Max. input current** [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]	5000	6000	6000	8000	10000
Max. output current [A]	21.7	26.1	26.1	34.8	43.5
Peak Output Apparent Power [VA]	10000, 10s	12000, 10s	12000, 10s	16000, 10s	20000, 10s
Rated output voltage [V]			L+N+PE, 220, 230, 240		
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			98.0%		
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					
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: 39.5; Battery pack:BU5-6.0-TV: 60.4; BU5-7.0-TV: 68; BU5-9.0-TV: 79.2; Battery base: 8		
Operating temperature range [°C]			-30 ~ + 50 °C		
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		
Warranty [Year]			Refer to the warranty policy		
Standard			EN 62109-1/2, EN 61000-6-2/4, EN 50438, EN 50549, C10/11, IEC 62116, IEC 61727, RD 1699, RD 413, UNE 206006, UNE 206007, NTS, CEI 0-16, CEI 0-21, AS 4777.2, NBR 16149, NBR 16150 VDE-AR-N 4105, VDE 0126-1-1		

* X for battery system configuration: X=6/7/9/12/14/15/16/18/21/24/25/27/30/28/35/36/40/42/45/50/54 kWh; each number presents the energy storage capacity for different models;

For battery combinations and ratings refer to the battery combination datasheet.

** 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, 0.2C charge and discharge rate, SOH 60%.

**** This feature is currently under development and coming soon.