

## EK90 HS5 Three 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, 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



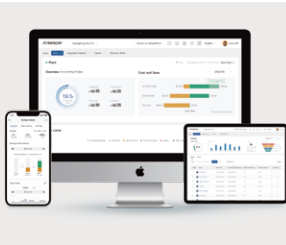
- Built to Last: 12,000 cycles\*\*\* with premium 314Ah cell



## 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 HS5-8K-T3-X                                                                                                                                                                                              | EK90 HS5-10K-T3-X | EK90 HS5-12K-T3-X | EK90 HS5-12K-T3-X -IE | EK90 HS5-15K-T3-X | EK90 HS5-20K-T3-X |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-----------------------|-------------------|-------------------|
| Input (PV)                               |                                                                                                                                                                                                               |                   |                   |                       |                   |                   |
| Recommended max. PV power [W]            | 16000                                                                                                                                                                                                         | 20000             | 24000             | 24000                 | 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                                                                                                                                                                                                            |                   |                   |                       | 40/20/20          |                   |
| Max. short-circuit current per MPPT [A]  | 25                                                                                                                                                                                                            |                   |                   |                       | 50/25/25          |                   |
| Number of MPP trackers                   | 3                                                                                                                                                                                                             |                   |                   |                       |                   |                   |
| No. of Strings per MPP Tracker           | 1+1+1                                                                                                                                                                                                         |                   |                   |                       | 1+1+2             |                   |
| 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]                   | 8000                                                                                                                                                                                                          | 9999              | 12000             | 11000                 | 15000             | 20000             |
| Rated apparent power [VA]                | 8000                                                                                                                                                                                                          | 9999              | 12000             | 11000                 | 15000             | 20000             |
| Max. apparent power [VA]                 | 8800                                                                                                                                                                                                          | 9999              | 13200             | 11000                 | 16500             | 22000             |
| Rated output current [A]                 | 11.6                                                                                                                                                                                                          | 14.5              | 17.4              | 15.9                  | 21.7              | 29.0              |
| Max. output current [A]                  | 12.8                                                                                                                                                                                                          | 14.5              | 19.1              | 15.9                  | 23.9              | 31.9              |
| Rated output/input voltage [V]           | 3L+N+PE, 220/380, 230/400, 240/415                                                                                                                                                                            |                   |                   |                       |                   |                   |
| Rated AC grid frequency [Hz]             | 50/60                                                                                                                                                                                                         |                   |                   |                       |                   |                   |
| Max. AC Input Current (per phase) ** [A] | 63                                                                                                                                                                                                            |                   |                   |                       |                   |                   |
| Adjustable power factor                  | 0.8 leading~ 0.8 lagging                                                                                                                                                                                      |                   |                   |                       |                   |                   |
| Total current harmonic distortion        | THDI < 3%                                                                                                                                                                                                     |                   |                   |                       |                   |                   |
| AC Output (Back-up)                      |                                                                                                                                                                                                               |                   |                   |                       |                   |                   |
| Max. Output Apparent Power [VA]          | 8000                                                                                                                                                                                                          | 10000             | 12000             | 12000                 | 15000             | 20000             |
| Peak Output Apparent Power [VA]          | 16000, 10s                                                                                                                                                                                                    | 20000, 10s        | 24000, 10s        | 24000, 10s            | 30000, 10s        | 40000, 10s        |
| Max. Current (per phase) [A]             | 11.6                                                                                                                                                                                                          | 14.5              | 17.4              | 17.4                  | 21.7              | 29.0              |
| Max. unbalanced load power [W]           | 4000                                                                                                                                                                                                          | 5000              | 6000              | 6000                  | 7500              | 10000             |
| Rated output voltage [V]                 | 3L+N+PE, 220/380, 230/400, 240/415                                                                                                                                                                            |                   |                   |                       |                   |                   |
| Rated AC grid frequency [Hz]             | 50/60                                                                                                                                                                                                         |                   |                   |                       |                   |                   |
| Adjustable power factor                  | 0.8 leading~ 0.8 lagging                                                                                                                                                                                      |                   |                   |                       |                   |                   |
| Total current harmonic distortion        | THDI < 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                             |                                                                                                                                                                                                               |                   |                   |                       |                   |                   |
| 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:BU5-6.0-TV: 60.4; BU5-7.0-TV: 71.7; 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.