

**6-12K****Energy Storage Inverters****S6-EH3P(6-10)K-H****S6-EH3P12K-H-EU(21A)**

Three Phase | High Voltage

**Unique Advantages**

- ★ Supports up to 4 MPPTs, suitable for multi-orientation and occlusion, to improve power generation

**Leading Advantages**

- Supports PV input up to 160% of the inverter's rated DC power, maximising solar utilisation
- Supports up to 21A PV input current, compatible with future higher-power PV modules
- 160% overload for 60s in off-grid mode, ensuring stable startup of motors, water pumps and air conditioner
- Seamless on/off-grid switching in under 10ms, guaranteeing an uninterrupted power supply
- Support three-phase unbalanced output, each phase supports output max. 50% rated inverter power
- Supports existing PV grid-tied power connection for export control and off-grid use
- Support grid side generator access, adapting to scenarios with insufficient power supply
- Support max 6 pcs in parallel, expanding system capacity
- Customizable battery backup level for uninterrupted power
- PV only off grid mode, to reduce the initial investment cost
- AI-Powered & VPP-Ready - maximise savings, unlock additional income
- Ingress protection IP66, adapting to harsh ambient conditions



## DATASHEET

| Models                                      | 6K-EU                                                                                                                                                                                                                                 |  | 10K-EU                                      |  | 12K-EU(21A)        |  |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------|--|--------------------|--|
| Input DC (PV side)                          |                                                                                                                                                                                                                                       |  |                                             |  |                    |  |
| Recommended max. PV array size              | 12 kW                                                                                                                                                                                                                                 |  | 20 kW                                       |  | 24 kW              |  |
| Max. usable PV input power                  | 9.6 kW                                                                                                                                                                                                                                |  | 16 kW                                       |  | 19.2 kW            |  |
| Max. input voltage                          |                                                                                                                                                                                                                                       |  | 1000 V                                      |  |                    |  |
| Rated voltage                               |                                                                                                                                                                                                                                       |  | 600 V                                       |  |                    |  |
| Start-up voltage                            |                                                                                                                                                                                                                                       |  | 160 V                                       |  |                    |  |
| MPPT voltage range                          |                                                                                                                                                                                                                                       |  | 200 - 850 V                                 |  |                    |  |
| Max. input current                          | 16 A / 16 A / 16 A                                                                                                                                                                                                                    |  | 4 × 16 A                                    |  | 4 × 21 A           |  |
| Max. current per DC input                   |                                                                                                                                                                                                                                       |  | 16 A                                        |  | 21 A               |  |
| Max. short circuit current                  | 24 A / 24 A / 24 A                                                                                                                                                                                                                    |  | 4 × 24 A                                    |  | 4 × 31.5 A         |  |
| MPPT number / Max. input strings number     | 3 / 3                                                                                                                                                                                                                                 |  |                                             |  | 4 / 4              |  |
| Battery                                     |                                                                                                                                                                                                                                       |  |                                             |  |                    |  |
| Battery type                                |                                                                                                                                                                                                                                       |  | Li-ion                                      |  |                    |  |
| Battery voltage range                       |                                                                                                                                                                                                                                       |  | 120 - 600 V <sup>①</sup>                    |  | 120 - 700 V        |  |
| Max. charge / discharge current             | 25 A                                                                                                                                                                                                                                  |  |                                             |  | 50 A               |  |
| Number of battery port / Number of BMS port |                                                                                                                                                                                                                                       |  | 1 / 1                                       |  |                    |  |
| Communication                               |                                                                                                                                                                                                                                       |  | CAN / RS485                                 |  |                    |  |
| Output AC (Grid side)                       |                                                                                                                                                                                                                                       |  |                                             |  |                    |  |
| Rated output power                          | 6 kW                                                                                                                                                                                                                                  |  | 10 kW                                       |  | 12 kW              |  |
| Max. apparent output power                  | 6 kVA                                                                                                                                                                                                                                 |  | 10 kVA                                      |  | 12 kVA             |  |
| Rated grid voltage                          |                                                                                                                                                                                                                                       |  | 3/N/PE, 220 V / 380 V, 230 V / 400 V        |  |                    |  |
| Rated grid frequency                        |                                                                                                                                                                                                                                       |  | 50 Hz / 60 Hz                               |  |                    |  |
| Rated grid output current                   | 9.1 A / 8.7 A                                                                                                                                                                                                                         |  | 15.2 A / 14.4 A                             |  | 18.2 A / 17.3 A    |  |
| Power factor                                |                                                                                                                                                                                                                                       |  | > 0.99 (0.8 leading - 0.8 lagging)          |  |                    |  |
| THDi                                        |                                                                                                                                                                                                                                       |  | < 3%                                        |  |                    |  |
| Input AC (Grid side)                        |                                                                                                                                                                                                                                       |  |                                             |  |                    |  |
| Max. input power                            | 6 kW                                                                                                                                                                                                                                  |  | 10 kW                                       |  | 12 kW              |  |
| Input voltage range                         |                                                                                                                                                                                                                                       |  | 304 - 437 V / 320 - 460 V                   |  |                    |  |
| Max. input current                          | 13.6 A / 13.0 A                                                                                                                                                                                                                       |  | 22.7 A / 21.7 A                             |  | 27.3 A / 26.0 A    |  |
| Output AC (Back-up)                         |                                                                                                                                                                                                                                       |  |                                             |  |                    |  |
| Rated output power                          | 6 kW                                                                                                                                                                                                                                  |  | 10 kW                                       |  | 12 kW              |  |
| Max. apparent output power                  |                                                                                                                                                                                                                                       |  | 1.6 times of rated power, 60 s              |  |                    |  |
| Back-up switch time <sup>②</sup>            |                                                                                                                                                                                                                                       |  | < 10 ms                                     |  |                    |  |
| Rated output voltage                        |                                                                                                                                                                                                                                       |  | 3/N/PE, 220 V / 380 V, 230 V / 400 V        |  |                    |  |
| Rated frequency                             |                                                                                                                                                                                                                                       |  | 50 Hz / 60 Hz                               |  |                    |  |
| Rated output current                        | 9.1 A / 8.7 A                                                                                                                                                                                                                         |  | 15.2 A / 14.4 A                             |  | 18.2 A / 17.3 A    |  |
| Max. AC passthrough current                 | 9.1 A / 8.7 A                                                                                                                                                                                                                         |  | 15.2 A / 14.4 A                             |  | 18.2 A / 17.3 A    |  |
| THDv (@linear load)                         |                                                                                                                                                                                                                                       |  | < 2%                                        |  | < 3%               |  |
| Efficiency                                  |                                                                                                                                                                                                                                       |  |                                             |  |                    |  |
| Max. efficiency                             | 97.00%                                                                                                                                                                                                                                |  | 97.90%                                      |  | 97.85%             |  |
| EU efficiency                               | 97.10%                                                                                                                                                                                                                                |  | 97.51%                                      |  | 97.51%             |  |
| BAT charged by PV / AC max. efficiency      | 98.45% / 97.34%                                                                                                                                                                                                                       |  | 98.31% / 97.50%                             |  | 98.31% / 97.50%    |  |
| Battery discharged efficiency               | 97.34%                                                                                                                                                                                                                                |  | 97.50%                                      |  | 97.50%             |  |
| Protection                                  |                                                                                                                                                                                                                                       |  |                                             |  |                    |  |
| Surge protection                            |                                                                                                                                                                                                                                       |  | DC Type II / AC Type II (optional)          |  |                    |  |
| Output over current protection              |                                                                                                                                                                                                                                       |  | Yes                                         |  |                    |  |
| Insulation resistance monitoring            |                                                                                                                                                                                                                                       |  | Yes                                         |  |                    |  |
| Residual current detection                  |                                                                                                                                                                                                                                       |  | Yes                                         |  |                    |  |
| Integrated PV switch                        |                                                                                                                                                                                                                                       |  | Yes                                         |  |                    |  |
| DC reverse-polarity protection              |                                                                                                                                                                                                                                       |  | Yes                                         |  |                    |  |
| Protection class / Over voltage category    |                                                                                                                                                                                                                                       |  | I / II (PV and BAT), III (MAINS and BACKUP) |  |                    |  |
| Integrated AFCI 2.0                         |                                                                                                                                                                                                                                       |  | Optional                                    |  |                    |  |
| Anti-islanding protection                   |                                                                                                                                                                                                                                       |  | Yes                                         |  |                    |  |
| General Data                                |                                                                                                                                                                                                                                       |  |                                             |  |                    |  |
| Max. power per phase                        |                                                                                                                                                                                                                                       |  | 50% rated power                             |  |                    |  |
| Dimensions (W × H × D)                      | 563 × 412 × 209 mm                                                                                                                                                                                                                    |  |                                             |  | 600 × 500 × 230 mm |  |
| Weight                                      | 27.6 kg                                                                                                                                                                                                                               |  | 30.2 kg                                     |  | 34.5 kg            |  |
| Inverter topology                           |                                                                                                                                                                                                                                       |  | Transformerless                             |  |                    |  |
| Self-consumption                            |                                                                                                                                                                                                                                       |  | < 25 W                                      |  |                    |  |
| Operating temperature range                 |                                                                                                                                                                                                                                       |  | -25 ~ +60°C                                 |  |                    |  |
| Relative humidity                           |                                                                                                                                                                                                                                       |  | 0 - 100%                                    |  |                    |  |
| Ingress protection                          |                                                                                                                                                                                                                                       |  | IP66                                        |  |                    |  |
| Noise emission (typical)                    |                                                                                                                                                                                                                                       |  | < 46.9 dB(A)                                |  |                    |  |
| Cooling concept                             |                                                                                                                                                                                                                                       |  | Natural cooling                             |  |                    |  |
| Max. operation altitude                     |                                                                                                                                                                                                                                       |  | 4000 m                                      |  |                    |  |
| Grid connection standard                    | G98 or G99, VDE-AR-N 4105/VDE V 0124, EN 50549-1, VDE 0126/UTE C 15/VFR:2019, RD 1699/RD 244/UNE 206006/UNE 206007-1, CEI 0-21, C10/11, NRS 097-2-1, TOR, EIFS 2018.2, IEC 62116, IEC 61727, IEC 60068, IEC 61683, EN 50530, MEA, PEA |  |                                             |  |                    |  |
| Safety / EMC standard                       | IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-3                                                                                                                                                                                                |  |                                             |  |                    |  |
| Features                                    |                                                                                                                                                                                                                                       |  |                                             |  |                    |  |
| PV connection                               | MC4 connector                                                                                                                                                                                                                         |  |                                             |  |                    |  |
| Battery connection                          | Quick connection plug                                                                                                                                                                                                                 |  |                                             |  |                    |  |
| AC connection                               | Quick connection plug                                                                                                                                                                                                                 |  |                                             |  |                    |  |
| Display                                     | LED indicator & Bluetooth + APP                                                                                                                                                                                                       |  |                                             |  |                    |  |
| Communication interface                     | Standard: WIFI+LAN+Bluetooth, CAN-BMS, CAN-Parallel×2, RS485-Meter, RS485, DRM, DI, DO                                                                                                                                                |  |                                             |  |                    |  |

① Supports max. battery voltage to 700 V.

② From On-Grid Mode to Off-Grid Mode: For a single inverter system, switchover time &lt;10ms. For a parallel system which consists of up to 6 inverters, switchover time &lt;20ms. If customer wishes to connect more than 6 inverters in parallel, please contact Solis Technical Team.