solis

12K

Energy Storage Inverters

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 units in parallel, for 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

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DATASHEET

Models	12K
Input DC (PV side)	
Recommended max. PV array size	24 kW
Max. usable PV input power	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	4 × 21 A
Max. short circuit current	4 × 31.5 A
MPPT number / Max. input strings number	4 / 4
Battery	
Battery type	Li-ion
Battery voltage range	120 - 700 V
Max. charge / discharge power	12 kW
Max. charge / discharge current	50 A
Communication	CAN / RS485
Output AC (Grid side)	
Rated output power	12 kW
Max. apparent output power	12 kVA
Rated grid voltage	3/N/PE, 380 V / 400 V
Rated grid frequency	50 Hz / 60 Hz
Rated grid output current	18.2 A / 17.3 A
Max. output current	18.2 A / 17.3 A
Power factor	> 0.99 (0.8 leading - 0.8 lagging)
THDi	< 3%
Input AC (Grid side)	
Input voltage range	304 - 437 V / 320 - 460 V
Max. input current	27.3 A / 26.0 A
Rated grid frequency	50 Hz / 60 Hz
Frequency range	45 - 55 Hz / 55 - 65 Hz
Output AC (Back-up)	
Rated output power	12 kW
Max. apparent output power	1.6 times of rated power, 60 s
Back-up switch time	< 10 ms
Rated output voltage	3/N/PE, 380 V / 400 V
Rated frequency	50 Hz / 60 Hz
Rated output current	18.2 A / 17.3 A
THDv (@linear load)	< 3%
Efficiency	
Max. efficiency	97.85%
EU efficiency	97.51%
BAT charged by PV max. efficiency	98.31%
BAT charged / discharged to AC max. efficiency	97.50%
Protection	
Anti-islanding protection	Yes
Output over current protection	Yes
Short circuit protection	Yes
Surge protection	DC Type II / AC Type II (optional)
Integrated DC switch	Yes
DC reverse-polarity protection	Yes
Battery reverse protection	Yes
General Data	
Max. power per phase	50% rated power
Dimensions (W × H × D)	563 × 412 × 230 mm
Weight	34.5 kg
Topology	Transformerless
Self-consumption (night)	< 25 W
Operating ambient 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, EK18
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	CAN, RS485, Optional: Wi-Fi, Cellular, LAN