

5-12K

Energy Storage Inverters

S6-EH3P(5-10)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 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	5K2	6K2	8K2	10K2	5K-EU	6K-EU	8K-EU	10K-EU	12K-EU(21A)
Input DC (PV side)									
Recommended max. PV array size	10 kW	12 kW	16 kW	20 kW	10 kW	12 kW	16 kW	20 kW	24 kW
Max. usable PV input power	8 kW	9.6 kW	12.8 kW	16 kW	8 kW	9.6 kW	12.8 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 / 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 / 24 A / 24 A		4 × 24 A		4 × 31.5 A
MPPT number / Max. input strings number	2 / 2				3 / 3		4 / 4		
Battery									
Battery type	Li-ion								
Battery voltage range	120 - 600 V ①								120 - 700 V
Max. charge / discharge current	25 A		50 A		25 A		50 A		
Number of battery port / Number of BMS port	1 / 1								
Communication	CAN / RS485								
Output AC (Grid side)									
Rated output power	5 kW	6 kW	8 kW	10 kW	5 kW	6 kW	8 kW	10 kW	12 kW
Max. apparent output power	5 kVA	6 kVA	8 kVA	10 kVA	5 kVA	6 kVA	8 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	7.6 A / 7.2 A	9.1 A / 8.7 A	12.2 A / 11.5 A	15.2 A / 14.4 A	7.6 A / 7.2 A	9.1 A / 8.7 A	12.2 A / 11.5 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	7.5 kW	9 kW	12 kW	15 kW	7.5 kW	9 kW	12 kW	15 kW	18 kW
Input voltage range	304 - 437 V / 320 - 460 V								
Max. input current	11.4 A / 10.9 A	13.6 A / 13.0 A	18.2 A / 17.4 A	22.7 A / 21.7 A	11.4 A / 10.9 A	13.6 A / 13.0 A	18.2 A / 17.4 A	22.7 A / 21.7 A	27.3 A / 26.0 A
Output AC (Back-up)									
Rated output power	5 kW	6 kW	8 kW	10 kW	5 kW	6 kW	8 kW	10 kW	12 kW
Max. apparent output power	1.6 times of rated power, 60 s								
Back-up switch time ②	< 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	7.6 A / 7.2 A	9.1 A / 8.7 A	12.2 A / 11.5 A	15.2 A / 14.4 A	7.6 A / 7.2 A	9.1 A / 8.7 A	12.2 A / 11.5 A	15.2 A / 14.4 A	18.2 A / 17.3 A
Max. AC passthrough current	7.6 A / 7.2 A	9.1 A / 8.7 A	12.2 A / 11.5 A	15.2 A / 14.4 A	7.6 A / 7.2 A	9.1 A / 8.7 A	12.2 A / 11.5 A	15.2 A / 14.4 A	18.2 A / 17.3 A
THDv (@linear load)	< 2%								< 3%
Efficiency									
Max. efficiency	96.50%	97.00%	97.50%	97.90%	96.50%	97.00%	97.50%	97.90%	97.85%
EU efficiency	96.77%	97.10%	97.41%	97.51%	96.77%	97.10%	97.41%	97.51%	97.51%
BAT charged by PV / AC max. efficiency	98.37% / 97.32%	98.45% / 97.34%	98.22% / 97.50%	98.31% / 97.50%	98.37% / 97.32%	98.45% / 97.34%	98.22% / 97.50%	98.31% / 97.50%	98.31% / 97.50%
Battery discharged efficiency	97.32%	97.34%	97.50%	97.50%	97.32%	97.34%	97.50%	97.50%	97.50%
Protection									
Surge protection	DC Type III / AC Type III				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		563 × 412 × 230 mm		563 × 412 × 209 mm		600 × 500 × 230 mm		
Weight	27.6 kg		30.2 kg		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 <10ms. For a parallel system which consists of up to 6 inverters, switchover time <20ms. If customer wishes to connect more than 6 inverters in parallel, please contact Solis Technical Team.