

8-12K

Residential Low Voltage Single Phase Hybrid Inverter

S7-EH1P(8-12)K02-NV-YD-L

Wide compatibility

- Works with a wide range of third-party batteries, giving installers more flexibility when designing residential storage systems
- Grid-adaptive control technology helps the system operate reliably in both weak and strong grid conditions
- Built-in Ethernet supports fast communication with VPP platforms and EMS systems
- 200% overload capability for 10 seconds helps start high-demand appliances such as motors, water pumps and air conditioners
- Seamless on/off-grid switching in under 4ms helps keep power running during grid outages

Easy to use

- 4.3-inch touchscreen and physical buttons make operation simple and reliable
- Fast commissioning allows plant creation and system setup to be completed in under 5 minutes
- Side-opening design, similar to a distribution box, makes installation and maintenance quicker and easier

High safety

- Battery and grid terminal temperature monitoring helps detect poor connections or installation issues early, reducing fire risk

UK

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DATASHEET

Models	8K	10K	12K
Input DC (PV side)			
Recommended max. PV array size	16 kW	20 kW	24 kW
Max. usable PV input power	12.8 kW	16 kW	19.2 kW
Max. input voltage		500 V	
Rated voltage		380 V	
Start-up voltage		100 V	
MPPT voltage range		100 - 430 V	
Max. input current		42 A / 42 A	
Max. current per DC input		21 A / 21 A	
Max. short circuit current		50 A / 50 A	
MPPT number / Max. input strings number		2 / 4	
Battery			
Battery type		Li-ion / Lead-acid	
Battery voltage range		40 - 60 V	
Max. charge / discharge current	190 A	210 A	250 A
Number of battery port / Number of BMS port		1 / 1	
Communication		CAN / RS485	
Output AC (Grid side)			
Rated output power	8 kW	10 kW	12 kW
Max. apparent output power	8 kVA	10 kVA	12 kVA
Rated grid voltage		1/N/PE, 220 V / 230 V	
Rated grid frequency		50 Hz / 60 Hz	
Rated grid output current	36.4 A / 34.8 A	45.5 A / 43.5 A	54.5 A / 52.2 A
Power factor		> 0.99 (0.8 leading - 0.8 lagging)	
THDi		< 3%	
Input AC (Grid side)			
Max. input power	12 kW	15 kW	18 kW
Input voltage range		187 - 253 V	
Max. input current	54.6 A / 52.2 A	68.3 A / 65.3 A	81.8 A / 78.3 A
Output AC (Back-up)			
Rated output power	8 kW	10 kW	12 kW
Max. apparent output power		2 times of rated power, 10 s	
Back-up switch time ①		< 4 ms	
Rated output voltage		1/N/PE, 220 V / 230 V	
Rated frequency		50 Hz / 60 Hz	
Rated output current	36.4 A / 34.8 A	45.5 A / 43.5 A	54.5 A / 52.2 A
Max. AC passthrough current		100 A	
THDv (@linear load)		< 3%	
Input AC (Generator side)			
Max. input power	8 kW	10 kW	12 kW
Rated input current	36.4 A / 34.8 A	45.5 A / 43.5 A	54.5 A / 52.2 A
Rated input voltage		1/N/PE, 220 V / 230 V	
Rated input frequency		50 Hz / 60 Hz	
Efficiency			
Max. efficiency		97.5%	
EU efficiency		96.1%	
BAT charged by PV / AC max. efficiency		95.6%/94.5%	
Battery discharged efficiency		94.4%	
Protection			
Surge protection		Yes	
Output over current protection		Yes	
Insulation resistance monitoring		Yes	
Residual current detection		Yes	
Integrated PV switch		Yes	
DC reverse-polarity protection		Yes (PV only)	
Protection class / Over voltage category		I / II (PV and BAT), III (MAINS and BACKUP and GEN)	
Integrated AFCI 2.0		Optional	
Anti-islanding protection		Yes	
General Data			
Dimensions (W × H × D)		375 × 519 × 228 mm	
Weight		25.8 kg	
Inverter topology		Non-isolated (PV), Isolated (Battery)	
Self-consumption		< 30 W	
Operating temperature range		-25 ~ +60°C	
Relative humidity		0 - 100%	
Ingress protection		IP66	
Noise emission (typical)	< 50 dB(A)	< 55 dB(A)	
Cooling concept		Intelligent redundant fan-cooling	
Max. operation altitude		4000 m	
Grid connection standard		IEC 62116, IEC 61727, IEC 60068, IEC 61683, EN 50530, EN 50549-1/-10, MEA, PEA	
Safety / EMC standard		IEC/EN 62109-1/-2, IEC 61000-6-1/-2/-3/-4	
Features			
PV connection		MC4 plug (PV port) / Terminal Block (BAT port)	
Battery connection		Terminal Block	
AC connection		Terminal Block	
Display		4.3" touchable LCD display & Bluetooth + APP	
Communication interface		Standard: WIFI+LAN+Bluetooth, CAN-BMS, CAN-Parallel×2, RS485-Meter, RS485, DRM, DI, DO, Optional: 4G	

Preliminary

① From On-Grid Mode to Off-Grid Mode: For a single inverter system, switchover time <4ms. 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.