

S6-EH1P(3.8-11.4)K-H-US

Solis Residential High Voltage Energy Storage Inverter

Highly Flexible

- Able to supply a wide range of continuous backup power in the event of a grid outage
- Generates 120/240V backup power without an external autotransformer
- Compatible with multiple battery brands, providing up to 150 kWh of storage capacity per inverter
- Allows up to ten (10) inverters to be stacked in parallel for maximum scalability and flexibility

Safe and Reliable

- UL 1741 SA/SB and UL 9540 certified
- California Rule 21 and HECO Rule 14H compliant ⁽¹⁾
- NEC 2020 compliant with various integrated RSD transmitter options are available for module-level rapid shutdown ⁽²⁾
- External RSD & emergency power off switch options are also available

Models:

S6-EH1P3.8K-H-US / S6-EH1P5K-H-US

S6-EH1P7.6K-H-US / S6-EH1P10K-H-US

S6-EH1P11.4K-H-US

Please consult the Ordering Guide for details on how to order the inverter with different accessories.

Intelligent Design

- Supports operation in parallel with a generator and allows the generator to function as the grid source if utility power is lost
- Optional integrated revenue-grade meter and external energy meter for production & consumption monitoring and export power control
- SolisCloud allows for remote system troubleshooting, firmware upgrading, and configuration, reducing O&M costs

Efficient Performance

- Maximum PV input current up to 16A per string
- Generates up to 50A/114kW of continuous backup power with up to 76A for ten seconds
- Backup transfer (switch) time is < 10ms
- DC to DC battery charging for optimal use of PV-generated energy



DATASHEET

S6-EH1P(3.8-11.4)K-H-US

Models	3.8K-H	5K-H	7.6K-H	10K-H	11.4K-H
DC Input (PV)					
Max. input voltage			600 V		
Rated voltage			380 V		
Start-up voltage			80 V		
MPPT voltage range			80-520 V		
Max. input current per string			16 A		
Max. short circuit current per string			25.6 A		
Number of MPPTs/Number of strings per MPPT	2/1	3/1		4/1	
Energy Storage					
Battery type			Lithium-ion		
Battery voltage range			120-500 V		
Maximum charge/discharge current		25 A		50 A	
Battery communication			CAN/RS485		
Number of batteries per inverter			See Battery Compatibility Sheet		
AC Output (Grid)					
Rated output power	3.8 kW	5 kW	7.6 kW	10 kW	11.4 kW
Max. apparent output power	3.8 kVA	5 kVA	7.6 kVA	10 kVA	11.4 kVA
Rated output voltage			240 V		
Rated frequency			60 Hz		
Rated output current	15.8 A	20.8 A	31.7 A	41.7 A	47.5 A
Max. output current	15.8 A	20.8 A	31.7 A	41.7 A	47.5 A
THDi			<3%		
AC Input (Grid)					
Input voltage range			211-264 V		
Max. input current	23.8 A	31.2 A	47.6 A	62.6 A	71.3 A
Frequency range			58.8-61.2 Hz		
AC Output (Backup and Off-grid)					
Rated output power	3.8 kW	5 kW	7.6 kW	10 kW	11.4 kW
Max. apparent output power	6.1 kVA, 10 sec	8 kVA, 10 sec	12.2 kVA, 10 sec	16 kVA, 10 sec	18.2 kVA, 10 sec
Back-up switch time			<10 ms		
Phase Power			240 V Split-Phase		
Rated output voltage (L1-L2)			240 V		
AC output voltage range			211-264 V		
Rated grid frequency			60 Hz		
Frequency range			55-65 Hz		
Rated AC output current	15.8 A	20.8 A	31.7 A	41.7 A	47.5 A
Max. output overcurrent protection, 10 sec	25.4 A	33.3 A	50.7 A	66.7 A	76 A
Max. allowable phase imbalance			100%		
Backup support configurations			Whole-home and dedicated loads		
Power factor			>0.99 (0.8 leading - 0.8 lagging)		
THDv (@linear load)			<3%		
Efficiency					
PV Max. efficiency			97.6%		
PV CEC efficiency			97.2%		
Battery charged by PV Max. efficiency			98.5%		
Battery charged/discharged to AC Max. efficiency			97.0%		
Protection					
Ground fault detection			Yes		
Residual (leakage) current detection			Yes		
Integrated AFCI (DC arc-fault circuit protection)			Yes		
DC reverse-polarity protection			Yes (PV only)		
Rapid Shutdown NEC 2017			Integrated SunSpec-certified Transmitter		
Compatible RSD Receivers			See MLRSD Compatibility Sheet		
Protection class/Over voltage category			I/II		
Manual inverter bypass switch			Yes		
General Data					
Dimensions (W*H*D)	19.21*28.35*8.66 in (490*720*220 mm)		22.05*29.53*8.66 in (560*750*200 mm)		
Weight	59.52 lbs (27 kgs)		71.74 lbs (32.54 kgs)		
Topology			Transformerless		
Self-consumption (night)			< 20 W		
Operation temperature range			-13 °F to 140 °F (-25°C to 60°C)		
Ingress protection			TYPE 4X (IP66)		
Noise emission			<30 dB(A)		
Cooling method			Natural convection		
Mounting type			Wall Bracket		
Max. operation altitude			13,120 ft (4000 m)		
Compliance			UL 1741, UL 1741 SA, UL 1741 SB, IEEE1547-2018&2020, UL 1699B, UL 1998, California Rule 21, HECO Rule 14H ⁽¹⁾ , NEC 690.12-2020, CAN/CSA C22.2107.1-1, FCC Part 15 Class B		
Generator support			Yes; up to 25 kW (with a Solis Power Hub)		
Features					
DC connection	1 in. knockouts for conduit (x2) on the side and bottom; Spring clamp terminals				
AC connection	1.5 in. knockouts for conduit (x3) on the side and bottom; Spring clamp terminals				
Interface	LED indicator lights, Bluetooth/Mobile application				
Monitoring platform	SolisCloud (modbus map and API sharing available upon request)				
Revenue Grade Meter	Integrated ANSI C12.20 option				
Communication	RS485, Cellular, Wi-Fi, Optional: LAN				
Integrated RSD Transmitter Brands	See the MLRSD Compatibility Sheet				

(1) HECO listing pending.