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

Solis Residential High Voltage Hybrid Energy Storage Inverter

>> Models:

S6-EH1P3.8K-H-US

S6-EH1P5K-H-US

S6-EH1P7.6K-H-L-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.

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
- Up to four MPPTs allows for PV string versatility
- Compatible with multiple battery brands, providing up to 150 kWh of storage capacity per inverter
- Multiple energy storage working modes to satisfy various use cases and lifestyles
- Allows up to ten (10) inverters to be stacked in parallel for maximum scalability and flexibility

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
- Optional module-level optimization & monitoring

Intelligent Design

- SunSpec modbus certified with the latest SunSpec models
- 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
- Offers all of the smart inverter functions detailed in IEEE 1547-2018
- Utilizes an energy management system that maximizes efficiency and offers multiple modes of operation for performance customization
- SolisCloud allows for remote system troubleshooting, firmware upgrading, and configuration, reducing O&M costs
- Bi-directional capability can allow the battery to charge from the grid

Safe and Reliable

- UL 1741 SA/SB and UL 9540 certified
- California Rule 21 and HECO Rule 14H compliant [1]
- Sophisticated alarm system ensures the system operates only under safe conditions and warns you immediately if there is an issue
- Third-party tested and validated for product reliability [2]
- A standard 10-year standard warranty is included
- NEC 2020 compliant with various integrated RSD transmitter options are available for module-level rapid shutdown [3]
- External RSD & emergency power off switch options are also available

(1) Listings pending. (2) Test report pending. (3) See the Ordering Guide for more details.

DATASHEET

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

Models	3.8K-H	5K-H	7.6K-H-L	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	High Voltage 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				
Rated output voltage (L1-L2)	240 V				
Rated output voltage (L1/L2-N)	120 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)	19.23*32.97*8.62 in (488.5*837.5*219mm)		21.87*34.88*8.62 in (555.5*866*219mm)		
Weight	65.16 lbs (29.56 kgs)		89.59 lbs (40.64 kgs)		
Mounting type	Wall Bracket				
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				
Max. operation altitude	13,120 ft (4000 m)				
Compliance	UL 1741, UL 1741 SA, UL 1741 SB, IEEE 1547-2018, IEEE 1547.1-2020, UL 1699B, UL 1998, California Rule 21, HECO Rule 14H*, NEC 690.12-2020, CAN/CSA C22.2107.1-1, FCC Part 15 Class B				
Generator support	Yes				
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)				
Integrated ANSI C12.20 revenue grade meter	Optional (Continental Control Systems RWND-3D-240-MB)				
Communication	RS485, Cellular, Wi-Fi, Optional: LAN				
Integrated RSD Transmitter Brands	See the MLRSD Compatibility Sheet				

* CEC and HECO listing pending.