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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

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

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

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

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.

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

DATASHEET

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

Models	3.8K	5K	7.6K	10K	11.4K
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*220 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, 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 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				