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

Solis Residential Hybrid Storage Inverter

>> Models:

S6-EH1P3.8K-H-US

S6-EH1P5K-H-US

S6-EH1P7.6K-H-S-US

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

S6-EH1P10K-H-US

S6-EH1P11.4K-H-US

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

- APST (APS MLRSD Transmitter)
- RSS (Tigo MLRSD Transmitter)
- ENT (Enteligent MLRSD Transmitter)

Highly Flexible

- Can be used for both whole-home and dedicated loads backup systems
- Four MPPTs allows for versatile PV array design
- Provides split-phase backup power up and is stackable up to ten inverters in parallel
- UL 9540 certified with multiple battery brands to provide up to 80 kWh of storage capacity per inverter
- Has peak shaving, energy arbitrage, self-consumption, backup, and off-grid modes
- California Rule 21 and HECO listed with the UL 1741 SB and UL 1741 PCS certifications

Efficient Performance

- Maximum PV input current up to 16A per string
- High DC:AC ratio of 1.6 for more PV power capacity
- Generates up to 50A/11.4kW of continuous backup power with just one inverter
- Transfer time is < 10ms for all backed up loads
- DC to DC battery charging for optimal use of PV-generated energy

Intelligent Design

- SunSpec modbus certified with the latest SunSpec models
- Connect up to 10 inverters in parallel with energy monitoring and export power control
- Supports generate interconnection and allows the generator to function as the grid source if utility power is lost
- Capable of frequency-watt control for interoperability with other smart devices
- Offers all of the smart inverter functions detailed in IEEE 1547-2018
- Utilizes an energy management system that maximizes efficiency and offers multiple operating modes
- Solis app allows for remote system configuration and firmware upgrading

Safe and Reliable

- Reverse DC polarity protection and software-based AFCI detection
- NEC 2017 compliant with multiple integrated PLC transmitter options available
- Fanless design using convection cooling for lower failure rate and complexity
- Third-party tested and validated for product reliability

DATASHEET

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

Models	3.8K-H	5K-H	7.6K-H-S	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	80-550 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	7.6 kW	10 kW	11.4 kW
Max. apparent output power	3.8 kVA	5 kVA	7.6 kVA	7.6 kVA	10 kVA	11.4 kVA
Rated output voltage	240 V/120 V					
Rated frequency	60 Hz					
Rated output current	15.8 A	20.8 A	31.7 A	31.7 A	41.7 A	47.5 A
Max. output current	15.8 A	20.8 A	31.7 A	31.7 A	41.7 A	47.5 A
THDi	<3%					
AC Input (Grid)						
Input voltage range	204-276 V					
Max. input current	23.8 A	31.2 A	47.6 A	47.6 A	62.6 A	71.3 A
Frequency range	55-65 Hz					
AC Output (Backup and Off-grid)						
Rated output power	3.8 kW	5 kW	7.6 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	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)/(L1/L2-N)	240 V/120 V					
AC output voltage range	204-276 V					
Rated grid frequency	60 Hz					
Frequency range	55-65 Hz					
Rated AC output current	15.8 A	20.8 A	31.7 A	31.7 A	41.7 A	47.5 A
Max. output current, 10 sec	25.4 A	33.3 A	50.7 A	50.7 A	66.7 A	76 A
Max. allowable phase imbalance	100%					
Backup support configurations	Dedicated loads and whole-home (with a Solis Power Hub)					
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%					
BAT charged by PV Max. efficiency	98.5%					
BAT 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					
General Data						
Dimensions (W*H*D)	16.5*24.4*8.6 in (420*620*218.5 mm)			19.1*25.6*8.6 in (485*650*218.5 mm)		
Weight	44.1 lbs (20 kgs)			66.1 lbs (30 kgs)		
Topology	Transformerless					
Operation temperature range	-31 °F to 140 °F (-25°C to 60°C)					
Ingress Protection	NEMA 4X (IP66)					
Cooling method	Natural convection					
Max.operation altitude	13,120 ft (4000 m)					
Compliance	UL1741SB, UL1741SA, IEEE 1547-2018, UL1699B, UL1998, FCC Part15 ClassB, California Rule 21, Heco Rule 14H, NEC 690.12-2020, CAN/CSA C22.2107.1-1					
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	2 in. knockouts for conduit (x3) on the side and bottom; Spring clamp terminals					
Interface	LED indicator lights, Bluetooth/Phone app					
Monitoring Platform	SolisCloud (modbus map and API sharing available upon request)					
Communication	RS485, Optional: Cellular, Wi-Fi, LAN					