

## 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-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 (Entelligent 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 without an external ATR
- UL 9540 certified with multiple battery brands to provide up to 150 kWh of storage capacity per inverter
- Multiple working modes to meet different use case scenarios
- UL 1741 SB certified, California Rule 21 compliant \*

### 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
- Supports generator 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-L	10K-H	11.4K-H
<b>DC Input (PV)</b>					
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	
<b>Energy Storage</b>					
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				
<b>AC Output (Grid)</b>					
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	220 V / 240 V				
Rated frequency	60 Hz				
Rated output current	17.3 A / 15.8 A	22.7 A / 20.8 A	34.5 A / 31.7 A	45.5 A / 41.7 A	51.8 A / 47.5 A
Max. output current	17.3 A / 15.8 A	22.7 A / 20.8 A	34.5 A / 31.7 A	45.5 A / 41.7 A	51.8 A / 47.5 A
THDi	<3%				
<b>AC Input (Grid)</b>					
Input voltage range	193.6-242 V / 211-264 V				
Max. input current	25.9 A / 23.8 A	34.1 A / 31.2 A	51.8 A / 47.6 A	68.2 A / 62.6 A	77.7 A / 71.3 A
Frequency range	59.5-60.5 Hz / 58.8-61.2 Hz				
<b>AC Output (Backup and Off-grid)</b>					
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	220 V / 240 V Split-Phase				
Rated output voltage (L1-L2)/(L1/L2-N)	220 V / 240 V				
AC output voltage range	193.6-242 V / 211-264 V				
Rated grid frequency	60 Hz				
Frequency range	55-65 Hz				
Rated AC output current	17.3 A / 15.8 A	22.7 A / 20.8 A	34.5 A / 31.7 A	45.5 A / 41.7 A	51.8 A / 47.5 A
Max. output overcurrent protection, 10 sec	27.7 A / 25.4 A	36.4 A / 33.3 A	55.5 A / 50.7 A	72.7 A / 66.7 A	82.7 A / 76 A
Max. allowable phase imbalance	100%				
Backup support configurations	Dedicated loads and whole-home				
Power factor	>0.99 (0.8 leading - 0.8 lagging)				
THDv (@linear load)	<3%				
<b>Efficiency</b>					
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%				
<b>Protection</b>					
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				
<b>General Data</b>					
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)		
Topology	Transformerless				
Operation temperature range	-31 °F to 140 °F (-25°C to 60°C)				
Ingress protection	TYPE 4X (IP66)				
Cooling method	Natural convection				
Max. operation altitude	13,120 ft (4000 m)				
Compliance	UL1741SB, UL1741SA, IEEE1547-2018, UL1699B, UL1998, FCCPart15ClassB, California Rule21, NEC 690.12-2020, CAN/CSA C22.2107.1-1				
Generator support	Yes; up to 25 kW (with a Solis Power Hub)				
<b>Features</b>					
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				