



Single-Phase Hybrid Inverter(HV)

STH3-8KSH



Sonnex Energie high voltage hybrid inverters are designed to improve energy independence for home owners. Energy management is based on time-of-use and demand charge rate structures, reduces amount of electricity purchasing from the grid. With less than 10ms switching time from on-grid to off-grid model, it ensures crucial loads power on during outage.

Max.

Flexible Design & Use

- ❑ DC 16A current input, compatible with high power PV module.
- ❑ 32A charge/discharge current.
- ❑ Supports application in retrofit scenario.
- ❑ Switching time <10ms.



Energy Independence

- ❑ Fast charging / discharging to meet the demand of higher consumption.
- ❑ 10kW power of off-grid overloading@600s.
- ❑ DC/AC ratio up to 2.6.



Convenient Installation & Operation

- ❑ Unique plug-in connectors for time-saving installation.
- ❑ Touch free commissioning with smartphone.
- ❑ Sonnex Light, power and alarm indicator.
- ❑ Compact size and elegant appearance.



Smart Management

- ❑ Remote firmware update and customisable settings.
- ❑ Free online monitoring to enhance energy management for end-user, installer and retailer.
- ❑ Programmable supply priority for PV, Battery or Grid.

MODEL	STH3KSH	STH3.6KSH	STH4.6KSH	STH5KSH	STH6KSH	STH8KSH
Max. PV Input Power*	7000 Wp	7000W Wp	12600 Wp	13000 Wp	14000 Wp	16000 Wp
Max. Input Voltage**	600 V					
Start-up Voltage	120 V					
Rated Input Voltage	370 V					
MPPT Input Voltage Range**	100-550 V					
MPPT Max. Input Current	16 A			16 A / 16 A		16 A / 32 A
MPPT Short-circuit Current	20 A			20 A / 20 A		20 A / 40 A
No. of MPPT	1				2	
No. of Strings per MPPT	1			1 / 1		1 / 2
Grid (AC)						
Max. Input Apparent Power***	10350 VA			12650 VA		
Rated Output Power	3000 W	3680 W	4600 W	5000 W	6000 W	8000 W
Max. Output Apparent Power	3000 VA	3680 VA	4600 VA	5000 VA	6000 VA	8000 VA
Rated AC Voltage	L/N/PE, 220/230/240 V					
Input/Output Voltage Range	154-276 V					
Rated Output Voltage Frequency	50/60 Hz					
Input/Output Voltage Frequency Range	(45-55) / (55-65) Hz					
Rated Output Current	13.04 A	16.00 A	20.00 A	21.74 A	26.09 A	34.78 A
Max. Input/Output Current***	45 / 16 A	45 / 18 A	45 / 23 A	45 / 25 A	45 / 28 A	55 / 36 A
Power Factor (Rated)	>0.99					
Power Factor (Adjustable)	0.8 leading ... 0.8 lagging					
Total Harmonic Distortion	<3% (Rated Power)					
Grid Connection Mode	L/N/PE					
AC Load Output (Off-grid)						
Rated Output Power	3000 W	3680 W	4600 W	5000 W	6000 W	8000 W
Max. Output Apparent Power	10000 VA@600s					
Rated Output Voltage	L/N/PE, 220/230/240 V					
Output Voltage Range	154-276 V					
Rated Output Frequency	50 / 60 Hz					
Rated Output Current	13.04 A	16.00 A	20.00 A	21.74 A	26.09 A	34.78 A
Max. Output Current	45 A					
Total Harmonic Distortion	<3% (R Load)					
On-grid/Off-grid Switching Time	<10 ms					
Battery (DC)						
Max.Charge/Discharge Power	8000 W / 8000 W					
Battery Voltage Range	85 - 460 VDC					
Max. Charge/Discharge Current	32A / 32 A					
Communication Port	CAN / RS485					
Efficiency						
Max. Efficiency	97.6%					
Max. MPPT Efficiency	99.9%					
Max. Euro Efficiency	97.0%					
Protection						
Integrated Protection	Anti-flow Protection, DC Reverse Protection, DC Circuit Breaker, Insulation Resistor Detection, GFCI Leakage Current Monitoring, Output Shorted Protection, Output Over Current Protection, Grid Monitoring, Anti-islanding Protection, Residual Current Monitoring, BAT reverse Polarity Protection, BAT Shorted Protection, Off-grid Overload Protection					
Surge Protection	DC Type II, AC Type II					
Display and Communication						
Display	LED+APP					
Communication	RS485 / WIFI, 4G (Optional)					
General Data						
Dimensions (W×H×D)	516×442×222 mm					
Weight	22.5 kg					
Operating Temperature Range	-30-60°C					
Noise	<35 dB					
Cooling	Smart Cooling					
Installation Style	Wall-mounted					
Protection Rating	IP66					
Warranty	10 Years					
Standards Compliance						
Grid Connection	CEI 0-21, UNE 217001, UNE 217002, NTS Type A, VDE 4105, VDE 0126, EN 50438, G98, G99, EN50549, AS 4777.2					
Safety Regulation	EN/IEC 62109-1/2					
Others	EN/IEC 61000-6-1/3					

*Recommended PV power should be considered by battery capacity and actual household load.

**Max. PV input voltage is 460V when battery input voltage is less than 150V.

***The max. input power & current from grid refers to the ability of the grid to charge the battery and bypass the load.