



Three-Phase Hybrid Inverter(HV)

STH5-12KTH



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.
- ❏ Supports application in retrofit scenario.
- ❏ Switching time <10ms.



Energy Independence

- ❏ Fast charging / discharging to meet the demand of higher consumption.
- ❏ 110% continuous AC output overloading.
- ❏ 130% max. AC output overloading@85s.



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	STH5KTH	STH6KRH	STH8KTH	STH10KTH	STH12KTH
Recommended Max. PV Input Power	7500 Wp	9000 Wp	10000 Wp	15000 Wp	18000 Wp
Max. Input Voltage*			1000 V		
Start-up Voltage			135 V		
Rated Input Voltage			600 V		
MPPT Input Voltage Range*			135-900 V		
MPPT Max. Input Current	16 A / 16 A			16 A / 32 A	
MPPT Short-circuit Current	20 A / 20 A			20 A / 40 A	
No. of MPPT			2		
No. of Strings per MPPT	1 / 1			1 / 2	
Grid (AC)					
Max. Input Apparent Power**	10000 VA	12000 VA	16000 VA	20000 VA	24000 VA
Rated Output Power	5000 W	6000 W	8000 W	10000 W	12000 W
Max. Output Apparent Power	5500 VA	6600 VA	8800 VA	11000 VA	13200 VA
Rated AC Voltage	3L/N/PE, 220/380 V, 230/400 V, 240/415 V				
Input/Output Voltage Range	180-300 V / 200-253 V				
Rated Output Voltage Frequency	50 / 60 Hz				
Input/Output Voltage Frequency Range	(45-55) / (55-65) Hz				
Rated Output Current	7.2 A	8.7 A	11.6 A	14.5 A	17.4 A
Max. Input/Output Current	15.2 A / 9.8 A	18.2 A / 11.8 A	24.2 A / 15.8 A	30.3 A / 19.7 A	36.4 A / 23.6 A
Power Factor (Rated)	>0.99				
Power Factor (Adjustable)	0.8 leading ... 0.8 lagging				
Total Harmonic Distortion	<3% (Rated Power)				
Grid Connection Mode	3L/N/PE				
AC Load Output (Off-grid)					
Rated Output Power	5000 W	6000 W	8000 W	10000 W	12000 W
Max. Output Apparent Power	5500 VA	6600 VA	8800 VA	11000 VA	13200 VA
Rated Output Voltage	3L/N/PE, 220/380 V, 230/400 V, 240/415 V				
Output Voltage Range	200-240 V				
Rated Output Frequency	50/60 Hz				
Rated Output Current	7.2 A	8.7 A	11.6 A	14.5 A	17.4 A
Max. Output Current	9.8 A	11.8 A	15.8 A	19.7 A	23.6 A
Total Harmonic Distortion	<3% (R Load)				
On-grid/Off-grid Switching Time	<10ms				
Battery (DC)					
Rated Output Power	5000 W	6000 W	8000 W	10000 W	12000 W
Max.Charge/Discharge Power	12500 W / 5500 W	12500 W / 6600 W	12500 W / 8800 W	12500 W / 11000 W	12500 W / 13200 W
Battery Voltage Range	135-800 V				
Max. Charge/Discharge Current	25 A / 25 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, Reverse Polarity Protection, Off-grid Overload Protection.				
Surge Protection	DC Type II, AC Type II				
Display and Communication					
Display	LED+APP				
Communication	Yes: RS485 / USB , Optional: 4G / WIFI				
General Data					
Dimensions (W×H×D)	516×442×222 mm				
Weight	24 kg				
Operating Temperature Range	-30-60°C				
Noise	<30 dB				
Cooling	Natural convection				
Installation Style	Wall-mounted				
Protection Rating	IP66				
Warranty	10 Years				
Standards Compliance					
Grid Connection	IEC/EN 62109-1/2				
Safety Regulation	IEC/EN 61000-6-1/2/3/4				
Others	EN 50549-1, CEI 0-21, AS 4777.2, G98/G99, EN 50438, VDE 4105, VDE 0126				

* Max. DC input voltage is 1000V without battery, 850V with battery. If the voltage is higher than the maximum, the inverter is in standby state.

** Max. grid input power refers to the max. power drawn from the grid, including the supply of off-grid load and battery charging.