

Three Phase Hybrid Inverter

SYNK-8/10/12K-SG04LP3

The Sunsynk Three-Phase 8/10/12kW Hybrid Inverter is a highly efficient power management tool for three-phase grid applications. This inverter allows the user to control power flow from multiple sources such as solar, main electrical grids, and generators, and effectively storing and delivering electric power to the grid.

SYNK-8/10/12K-SG04LP3 is a brand new three-phase hybrid inverter with a low battery voltage of 48V, ensuring the system is safe and reliable. With a compact design and high-power density, this series supports a 1.3 DC/AC ratio, saving device investment. It supports a three-phase unbalanced output, extending the application scenarios. Equipped with CAN port (x2) BMS and parallel, x1 RS485 port for BMS, x1 RS232 port for remote control, and x1 DRM port, make the system smart and flexible.

They can operate with unbalanced loads, which means you can have 20% connected to one phase, 20% to another, and 60% to the third phase, and it still gives perfect phase rotation. No other inverter in their class can offer this amazing feature.

48V

48V low-voltage battery.

6

6 time periods for battery charging/discharging.

240

Maximum charging/discharging current of 240A.



Frequency control.



Up to 10 inverters in parallel.



DC and AC couple to retrofit the existing solar system.



Support storing energy from diesel generator.



Warranty included.

Width: 42.2cm **Height:** 70.2cm **Depth:** 28.1cm



Model	SYNK-8K-SG04LP3	SYNK-10K-SG04LP3	SYNK-12K-SG04LP3
Battery Input Data			
Battery Type	Lead-acid or Li-Ion		
Battery Voltage Range	40Vd.c ~ 60Vd.c		
Max. Charging/Discharging Current	190Ad.c (max.)	210Ad.c (max.)	240Ad.c (max.)
Charging Curve	3 Stages / Equalization		
External Temperature Sensor	Yes		
Charging Strategy for Li-Ion Battery	Self-adaption to BMS		
PV String Input Data			
Max. DC Input Power	10400W	13000W	15600W
PV Input Voltage	550Vd.c (160Vd.c ~ 800Vd.c)		
MPPT Range	200Vd.c ~ 650Vd.c		
Start-up Voltage	160V		
PV Input Current	13Ad.c + 13Ad.c	26Ad.c + 13Ad.c	
Max. PV Isc	17Ad.c + 17Ad.c	34Ad.c + 17Ad.c	
No. of MPPT Trackers	2		
No. of Strings Per MPPT Tracker	1+1	2+1	
AC Output Data			
Rated AC Output and UPS Power	8000W	10000W	12000W
Max. AC Output Power	8800W	11000W	13200W
Peak Power (Off-Grid)	2 times of rated power, 10 S		
AC Output Rated Current	12.1/11.6A	15.2/14.5A	18.2/17.4A
Max. AC Current	13.4/12.8A	16.7/15.9A	20/19.1A
Max. Three-phase Unbalanced Output Current	18.2/17.4A	22.7/21.7A	27.3/26.1A
Max. Output Short Circuit Current	75A		
Max. Continuous AC Passthrough	45A		
Output Frequency and Voltage	50/60Hz;3L/N/PE 220/380, 230/400Vac (Three phase)		
Grid Type	Three phase		
Total Harmonic Distortion (THD)	<3% (of nominal power)		
DC Current Injection	<0.5% In		
Efficiency			
Max. Efficiency	97.60%		
Euro Efficiency	97.00%		
MPPT Efficiency	>99%		
Protection			
Integrated	PV Arc Fault Detection, PV Input Lightning Protection, Anti-islanding Protection, PV String Input Reverse Polarity Protection, Insulation Resistor Detection, Residual Current Monitoring Unit, Output Over Current Protection, Output Shorted Protection		
Surge Protection	TYPE II(DC), TYPE II(AC)		
Over Voltage Category	OVC II(DC), OVC III(AC)		

Certifications and Standards

Grid Regulation	EN 50549-1, AS-NZS 4777.2, NRS 097-2-1; Additional connections available upon request
EMC/Safety Regulation	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2

General Data

Operating Temperature Range	-40 to +60 °C, >45 °C Derating
Cooling	Intelligent Air Cooling
Noise	≤45 dB
Communication with BMS	RS485; CAN
Net Weight	38.5kg
Gross Weight	47.5kg
Cabinet Size	422W×702H×281D (Excluding connectors and brackets)
Protection Degree	IP65
Installation Style	Wall-mounted
Warranty	5 Years