

Sigen Hybrid Inverter

50.0 / 99.9 / 110.0 / 125.0 kW



- Seamless switchover, ensuring 0ms load-side disruption operation
- 150% overload for 10s, handling impact loads for smooth device startup
- Minimal size & weight in the same power range, ensures simple installation
- Multi-unit connection via Energy Gateway, flexible expansion from kW to MW
- DC coupling micro-grid solution, simplifies configuration & boosts efficiency



Sigen Hybrid Inverter 50.0 / 99.9 / 110.0 / 125.0 kW for Australia Preliminary

Sigen PV	50M1-HYB-AU	99.9M1-HYB-AU	110M1-HYB-AU	125M1-HYB-AU	Units
DC Input (PV)					
Max. PV input power	100,000	199,800	220,000	220,000	Wp
Max. DC input voltage ¹		1,100			V
Nominal DC input voltage		600 @400 Vac, 720 @480 Vac			V
Start-up voltage		180			V
MPPT voltage range		160 ~ 1,000			V
Number of MPP. trackers	4	8	8	8	
Number of PV strings per MPPT		2			
Max. input current per MPPT		40			A
Max. short-circuit current per MPPT		60			A
DC Input (Battery)					
Battery module models	SigenStack BAT 12.0				
Battery controller models	SigenStack BC M2-0.5C-BST / SigenStack BC M2-1C-BST				
System configuration quantity range ²	4 ~ 21				
Max. charge power ³	50,000	99,900	110,000	125,000	W
Max. discharge power	50,000	99,900	110,000	125,000	W
Max. operating current	180				
AC Output					
Nominal output active power	50,000	99,900	110,000	125,000	W
Max. output apparent power	50,000	99,900	110,000	125,000	VA
Max. output active power (cosΦ=1)	50,000	99,900	110,000	125,000	W
Nominal output current @400Vac	72.5	144.8	159.4	181.2	A
Nominal output current @480Vac	60.2	120.2	132.4	150.4	A
Max. output current @400Vac	72.5	144.8	159.4	181.2	A
Max. output current @480Vac	60.2	120.2	132.4	150.4	A
Nominal output voltage	400/480, 3W+N+PE				
Nominal grid frequency	50 / 60				
Power factor	0.8 leading ~ 0.8 lagging				
Total current harmonic distortion	THDi < 3%				
AC Input (On-grid)					
Max. input apparent power	100,000	160,000	160,000	160,000	W
Max. input current @400Vac	144.9	231.9	231.9	231.9	A
Max. input current @480Vac	120.3	192.5	192.5	192.5	A
Max. continuous AC passthrough (grid to load)	72.5	144.8	159.4	159.4	A
AC Output (Backup)					
Nominal output active power	50,000	99,900	110,000	125,000	W
Max. output apparent power	50,000	99,900	110,000	125,000	VA
Max. output active power (cosΦ=1)	75,000	149,850	150,000	150,000	W
Nominal output voltage	400/480, 3W+(N)+PE				
Nominal grid frequency	50 / 60				
Power factor	0.8 leading ~ 0.8 lagging				
Total voltage harmonic distortion	THDv < 3%				
Disruption time of backup switch ⁴	0				
Efficiency					
Max. efficiency @400Vac	98.3%				
European efficiency @400Vac	97.9%	98.0%	98.0%	98.0%	
Max. efficiency @480Vac	98.5%				
European efficiency @480Vac	98.2%	98.3%	98.3%	98.3%	
Protection					
Safety protection feature	DC reverse polarity protection, Insulation monitoring, Residual current monitoring, Arc fault circuit interrupter, AC overcurrent/overvoltage/short-circuit protection. Type II DC/AC surge protection, Anti-islanding protection				
General Data					
Dimensions (W / H / D)	1097 / 668 / 340				
Weight	102	108	108	108	kg
Storage temperature range	-40 ~ 70				
Operating temperature range	-30 ~ 60				
Relative humidity range	0% ~ 100%				
Max. operating altitude	5,000 (Derating at 4,000m)				
Cooling	Smart air cooling				
Ingress protection rating	IP66				
Communication	WLAN / Fast Ethernet / RS485 / Sigen CommMod (4G/3G/2G)				
Standard Compliance					
Standard ⁵	IEC / EN 62109-1, IEC / EN 62109-2, IEC / EN 61000-6-1, IEC / EN 61000-6-2, AS/NZS 4777.2:2020+A1:2024				

1. The inverter will initiate protection if the input voltage exceeds the MPPT operating voltage range.

2. The requirements for the PV string open-circuit voltage in a PV+ESS DC coupling system are as follows: 1) When the system is configured with ≥19 battery modules, the string open-circuit voltage should meet the following minimum requirements: 1.1) If configured with 21 battery modules, the string open-circuit voltage should be > 935 V; 1.2) If configured with 20 battery modules, the string open-circuit voltage should be > 870 V; 1.3) If configured with 19 battery modules, the string open-circuit voltage should be > 805 V. 2) When the system is configured with 4 to 18 battery modules, the string open-circuit voltage has no special requirements.

3. This represents the combined input from PV DC and rectified AC sources, while actual power depends on site configuration and operating condition.

4. This refers to the load-side disruption time. Test conditions: In the open-circuit state of the power grid, the total power of the Sigen Hybrid Inverter is higher than the total power of the loads.

5. For all standards refer to the certificates category on the Sigenenergy website.

6. For Sigen energy gateway connections, the inverter should be connected to the gateway via its AC output port (Grid).

7. The information in this document reflects the current state of technology and is subject to change without notice. For the latest updates, please refer to the Sigenenergy website.