

Sigen Hybrid Inverter

50.0 / 60.0 / 80.0 / 100.0 / 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 / 60.0 / 80.0 / 100.0 / 110.0 / 125.0 kW Preliminary

Sigen PV	50M1-HYB	60M1-HYB	80M1-HYB	100M1-HYB	110M1-HYB	125M1-HYB	Units
DC Input (PV)							
Max. PV input power	100,000	120,000	160,000	200,000	220,000	220,000	Wp
Max. DC input voltage ¹	1,100						V
Nominal DC input voltage	600 @380/400 Vac, 720 @480 Vac						V
Start-up voltage	180						V
MPPT voltage range	160 ~ 1,000						V
Number of MPP trackers	4	5	6	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						pcs
Max. charge power ³	55,000	66,000	88,000	110,000	121,000	137,500	W
Max. discharge power	55,000	66,000	88,000	110,000	121,000	137,500	W
Max. operating current	180						A
AC Output (On-grid)							
Nominal output active power	50,000	60,000	80,000	100,000	110,000	125,000	W
Max. output apparent power	55,000	66,000	88,000	110,000	121,000	137,500	VA
Max. output active power (cosφ=1)	55,000	66,000	88,000	110,000	121,000	137,500	W
Nominal output current @380 Vac	76.0	91.2	121.5	151.9	167.1	189.9	A
Nominal output current @400 Vac	72.5	87.0	115.9	144.9	159.4	181.2	A
Nominal output current @480 Vac	60.2	72.2	96.3	120.3	132.4	150.4	A
Max. output current @380/400 Vac	83.6	100.3	133.7	167.1	183.8	208.9	A
Max. output current @480 Vac	66.2	79.4	105.9	132.4	145.6	165.5	A
Nominal output voltage	380 / 400 / 480, 3W+N+PE						Vac
Nominal grid frequency	50 / 60						Hz
Power factor	0.8 leading ~ 0.8 lagging						
Total current harmonic distortion	THDi < 3%						
AC Input (On-grid)							
Max. input apparent power	100,000	120,000	160,000	160,000	160,000	160,000	VA
Max. input current @380/400 Vac	151.9	182.3	243.1	243.1	243.1	243.1	A
Max. input current @480 Vac	120.3	144.4	192.5	192.5	192.5	192.5	A
Max. continuous AC passthrough (grid to load)	83.6	100.3	133.7	167.1	183.8	183.8	A
AC Output (Backup)							
Nominal output active power	50,000	60,000	80,000	100,000	110,000	125,000	W
Max. output apparent power	55,000	66,000	88,000	110,000	121,000	125,000	VA
Peak output power (10 seconds)	75,000	90,000	120,000	150,000	150,000	150,000	W
Nominal output voltage	380 / 400 / 480, 3W+N+PE						V
Nominal grid frequency	50 / 60						Hz
Power factor	0.8 leading ~ 0.8 lagging						
Total voltage harmonic distortion	THDv < 3%						
Disruption time of backup switch ⁴	0						ms
Efficiency							
Max. efficiency @380/400 Vac	98.3%						
European efficiency @380/400 Vac	97.9%	97.9%	98.0%	98.0%	98.0%	98.0%	
Max. efficiency @480 Vac	98.5%						
European efficiency @480 Vac	98.2%	98.2%	98.3%	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						mm
Weight	102	105	105	108	108	108	kg
Storage temperature range	-40 ~ 70						°C
Operating temperature range	-30 ~ 60						°C
Relative humidity range	0% ~ 100%						
Max. operating altitude	5,000 (Derating at 4,000m)						m
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						

- The inverter will initiate protection if the input voltage exceeds the MPPT operating voltage range.
- 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.
- This represents the combined input from PV DC and rectified AC sources, while actual power depends on site configuration and operating condition.
- 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.
- For all standards refer to the certificates category on the Sigenenergy website.
- For Sigen energy gateway connections, the inverter should be connected to the gateway via its AC output port (Grid).
- 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.