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SIGENERGY

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

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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	189.9	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						

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 Sigenergy 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 Sigenergy website.

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