

# Sigen Hybrid Inverter

50.0 / 60.0 / 80.0 / 100.0 / 110.0 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 PV	50M1-HYB	60M1-HYB	80M1-HYB	100M1-HYB	110M1-HYB	Units	
<b>DC Input (PV)</b>							
Max. PV input power	100,000	120,000	160,000	200,000	220,000	Wp	
Max. DC input voltage						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		
Number of PV strings per MPPT						2	
Max. input current per MPPT						40	A
Max. short-circuit current per MPPT						60	A
<b>DC Input (Battery)</b>							
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 <sup>1</sup>						4 - 21	pcs
Max. charge power	55,000	66,000	88,000	110,000	121,000	W	
Max. discharge power	55,000	66,000	88,000	110,000	121,000	W	
Max. operating current						180	A
<b>AC Output (On-grid)</b>							
Nominal output active power	50,000	60,000	80,000	100,000	110,000	W	
Max. output apparent power	55,000	66,000	88,000	110,000	121,000	VA	
Max. output active power (cosφ=1)	55,000	66,000	88,000	110,000	121,000	W	
Nominal output current @380Vac	76.0	91.2	121.5	151.9	167.1	A	
Nominal output current @400Vac	72.5	87.0	115.9	144.9	159.4	A	
Nominal output current @480Vac	60.2	72.2	96.3	120.3	132.4	A	
Max. output current @380/400Vac	83.6	100.3	133.7	167.1	183.8	A	
Max. output current @480Vac	66.2	79.4	105.9	132.4	145.6	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%	
<b>AC Input (On-grid)</b>							
Max. input apparent power	100,000	120,000	160,000	160,000	160,000	VA	
Max. input current @380/400Vac	151.9	182.3	243.1	243.1	243.1	A	
Max. input current @480Vac	120.3	144.4	192.5	192.5	192.5	A	
Max. continuous AC passthrough (grid to load)	83.6	100.3	133.7	167.1	183.8	A	
<b>AC Output (Backup)</b>							
Nominal output active power	50,000	60,000	80,000	100,000	110,000	W	
Max. output apparent power	55,000	66,000	88,000	110,000	121,000	VA	
Peak output power (10 seconds)	75,000	90,000	120,000	150,000	150,000	W	
Nominal output voltage						380 / 400 / 480, 3W+N+PE	V
Nominal output frequency						50 / 60	Hz
Power factor						0.8 leading - 0.8 lagging	
Total voltage harmonic distortion						THDv < 3%	
Disruption time of backup switch <sup>2</sup>						0	ms
<b>Efficiency</b>							
Max. efficiency @380/400 Vac						98.3%	
European efficiency @380/400 Vac	97.9%	97.9%	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%		
<b>Protection</b>							
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						
<b>General Data</b>							
Dimensions (W / H / D)						1097 / 668 / 340	mm
Weight	99	102	102	105	105	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)	
<b>Standard Compliance</b>							
Standard <sup>3</sup>	IEC / EN 62109-1, IEC / EN 62109-2, IEC / EN 61000-6-1, IEC / EN 61000-6-2						

- 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.
- 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.

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