

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
DC Input (PV)						
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
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 ¹	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
AC Output (On-grid)						
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%			
AC Output (Backup)						
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 ²			0			ms
Efficiency						
Max. efficiency			98.3%			
European efficiency	97.9%	97.9%	98.0%	98.0%	98.0%	
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)	1110 / 668 / 348					
Weight	110					
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 ³	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).
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