Sigen Hybrid Inverter 50.0 / 60.0 / 80.0 / 99.9 / 100.0 / 110.0 / 125.0 kW *Preliminary*

Sigen PV	50M1-HYB	60M1-HYB	80M1-HYB	99.99M1-HYB	100M1-HYB	110M1-HYB	125M1-HYB	Units
DC Input (PV)								
Max. PV input power	100,000	120,000	160,000	200,000	200,000	220,000	220,000	Wp
Max. DC input voltage [1]				1,100				V
Nominal DC input voltage				600				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	99,990	110,000	121,000	137,500	W
Max. discharge power	55,000	66,000	88,000	99,990	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	99,990	100,000	110,000	125,000	W
Max. output apparent power	55,000	66,000	88,000	99,990	110,000	121,000	137,500	VA
Max. output active power (cosΦ=1)	55,000	66,000	88,000	99,990	110,000	121,000	137,500	W
Nominal output current	72.5	87.0	115.9	144.9	144.9	159.4	181.2	A
Max. output current	83.6	100.3	133.7	144.9	167.1	183.8	208.9	A
Nominal output voltage				400, 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	99,990	160,000	160,000	160,000	VA
Max. input current	151.9	182.3	243.1	144.9	243.1	243.1	243.1	A
Max. continuous AC passthrough (grid to load)	83.6	100.3	133.7	144.9	167.1	183.8	189.9	A
AC Output (Backup)								
Nominal output active power	50,000	60,000	80,000	99,990	100,000	110,000	125,000	W
Max. output apparent power	55,000	66,000	88,000	99,990	110,000	121,000	125,000	VA
Peak output power (10 seconds)	75,000	90,000	120,000	150,000	150,000	150,000	150,000	W
Nominal output voltage				400, 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				98.6%				
European efficiency	98.3%	98.3%	98.3%	98.4%	98.4%	98.4%	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	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 4,000 m)				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.

Sigen Hybrid Inverter 50.0 / 60.0 / 80.0 / 99.9 / 100.0 / 110.0 / 125.0 kW

Sigen PV	50M1-HYA	60M1-HYA	80M1-HYA	99.99M1-HYA	100M1-HYA	110M1-HYA	125M1-HYA	Units
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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
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Battery module models	SigenStack BAT 12.0							
System configuration quantity range [2]	4 ~ 21							pcs
Max. charge power [3]	55,000	66,000	88,000	99,990	110,000	121,000	137,500	W
Max. discharge power	55,000	66,000	88,000	99,990	110,000	121,000	137,500	W
Max. operating current	180							A
AC Output								
Nominal output active power	50,000	60,000	80,000	99,990	100,000	110,000	125,000	W
Max. output apparent power	55,000	66,000	88,000	99,990	110,000	121,000	137,500	VA
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Max. output current	83.6	100.3	133.7	144.9	167.1	183.8	208.9	A
Nominal output voltage	400, 3W+(N)+PE							Vac
Nominal grid frequency	50 / 60							Hz
Power factor	0.8 leading ~ 0.8 lagging							
Total current harmonic distortion	THDi < 3%	THDi < 3%	THDi < 2%	THDi < 2%	THDi < 2%	THDi < 2%	THDi < 2%	
Efficiency								
Max. efficiency	98.6%							
European efficiency	98.3%	98.3%	98.3%	98.4%	98.4%	98.4%	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 surge protection (Type I + II optional), Type II AC surge protection, Anti-islanding protection							
General Data								
Dimensions (W / H / D)	918 / 640 / 340						999 / 668 / 340	mm
Weight	72	75	75	78	78	78	95	kg
Nighttime power consumption	< 3.5						< 4	W
Storage temperature range	-40 ~ 70							°C
Operating temperature range	-30 ~ 60							°C
Relative humidity range	0% ~ 100%							
Max. operating altitude	5,000 (Derating at 4,000 m)							m
PV connection type	MC4 / H4 Pro (Max. 6 mm²)							
AC connection type	OT / DT terminal (Max. 240 mm²)							
Cooling	Smart air cooling							
Ingress protection rating	IP66							
Communication	WLAN / Fast Ethernet / RS485 / Sigen CommMod (4G/3G/2G)							
Standard Compliance								
Standard [4]	IEC / EN 62109-1, IEC / EN 62109-2, IEC / EN 61000-6-1, IEC / EN 61000-6-2							

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