SIGENERGY

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

Enjoy Green Energy

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

Preliminary

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 Input (On-grid)						
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
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 @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%	
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	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)			
Standard Compliance						
Standard [3]			IEC / EN 62109-1, IEC / EN 62109-2, IEC / EN 61000-6-1, IEC / EN 61000-6-2			

1. 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.
2. 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.
3. For all standards refer to the certificates category on the Sigenergy website.
4. For Sigen energy gateway connections, the inverter should be connected to the gateway via its AC output port (Grid).
5. 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.

SIGENERGY

Sigen Hybrid Inverter

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

- Battery ready, easy upgrades to a PV + BESS at any time
- Smaller and lighter, easier installation and transportation
- Built-in EMS, supports 100 units in parallel without data logger
- Industry-leading 500m AFCI, top-tier safety across applications
- On-site self-power supply, removes the need for temporary power
- IP66 protection rating, ensuring worry-free outdoor deployment

Enjoy Green Energy

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

Sigen PV	50M1-HYA	60M1-HYA	80M1-HYA	100M1-HYA	110M1-HYA	125M1-HYA	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	1,100						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						
System configuration quantity range [1]	4 ~ 21						pcs
Max. charge power	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							
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 @380Vac	76.0	91.2	121.5	151.9	167.1	189.9	A
Nominal output current @400Vac	72.5	87.0	115.9	144.9	159.4	181.2	A
Nominal output current @480Vac	60.2	72.2	96.3	120.3	132.4	150.4	A
Max. output current @380/400Vac	83.6	100.3	133.7	167.1	183.8	208.9	A
Max. output current @480Vac	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%	THDi < 3%	THDi < 2%	THDi < 2%	THDi < 2%	THDi < 2%	
Efficiency							
Max. efficiency @380/400 Vac	98.6%						
European efficiency @380/400 Vac	98.3%	98.3%	98.3%	98.4%	98.4%	98.3%	
Max. efficiency @480 Vac	98.8%						
European efficiency @480 Vac	98.4%	98.4%	98.4%	98.6%	98.6%	98.4%	
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	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 4,000m)						m
PV connection type	MC4 (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 [2]	IEC / EN 62109-1, IEC / EN 62109-2, IEC / EN 61000-6-1, IEC / EN 61000-6-2						

1. 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.
2. For all standards refer to the certificates category on the Sigenergy website.
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SIGENERGY

SigenStack

Innovative modular energy storage system

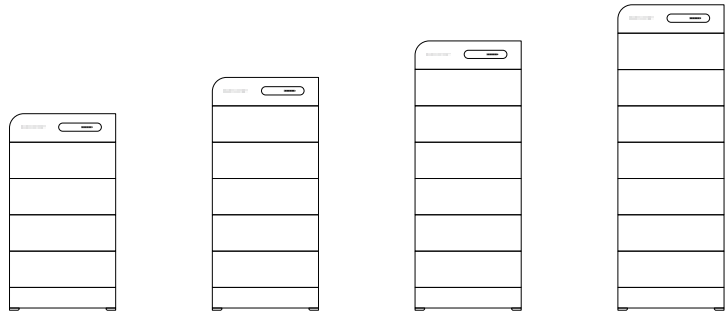
- Pack-level safety protection, precise thermal runaway control
- Higher energy density saves space and eases site selection
- IP66-rated design eliminates regular and complex O&M
- Pack-level active balancing, no need for on-site SOC calibration
- Modular design, stackable installation & ultra-fast commissioning

Enjoy Green Energy

C&I Energy Storage System

SigenStack BC	M2-0.5C [1]	M2-0.5C-BST	M2-1C-BST	Units
Max. output current (to inverter)		180		A
Max. input current (from inverter)		180		A
Operating voltage range		550 ~ 1,100		V
Nonimal charge/discharge current of battery	157	157	314	A
Weight	50	60	60	kg
Dimensions (W / H / D)		770 / 248 / 363		mm
Communication		CAN		
Compatible inverter		Sigen C&I Hybrid Inverter Series		

	SigenStack BAT 12.0	Units
Performance Specification		
Battery type	$LiFePO_4$	
Cell capacity	314	Ah
Cycle life [2]	10,000	
Total energy capacity per module	12.06	kWh
Weight	105	kg
Dimensions (W / H / D)	770 / 300 / 363	mm
Nominal charge / discharge rate	0.5C	
Max. charge / discharge rate	1C	
System configuration quantity range	4 ~ 21	pcs
Max. system energy capacity	253	kWh
System General Data		
Max. number of modules per stack	7	pcs
Max. number of modules per system	21	pcs
Fire suppression system	Aerosol, smoke sensor and exhausting system	
Dimensions of base (W / H / D)	770 / 195 / 363	mm
Storage temperature range	-25 ~ 60	°C
Operating temperature range	-20 ~ 55	°C
Relative humidity range	0% ~ 100%	
Max. operating altitude	4,000 (Derating at 2,000m)	m
Cooling	Smart air cooling	
System ingress protection rating	IP66	
Installation method	Floor standing	
Noise [3]	< 65	dB
Standard Compliance		
Standard [4]	IEC/EN 60730-1, UN 38.3, IEC/EN 62619, IEC/EN 63056, IEC/EN 62040, UL9540A	



Number of battery modules	4	5	6	7	pcs
Total energy capacity	48.24	60.3	72.36	84.42	kWh
Total weight	500	605	710	815	kg
Total height (with base and SigenStack BC)	1,643	1,943	2,243	2,543	mm
Total width		770			mm
Total depth		363			mm

1. SigenStack BC M2-0.5C can only be used in applications where an on-grid energy storage system with ≥ 20 battery modules operates under 380/400V grid voltage and no PV connected to the inverters. For other scenarios, please utilize the battery controller with 'BST' model.
2. This is provided by the battery cell manufacturer. Based on cell test condition of 25±2°C, 0.5C charge and discharge rate and SOH=60%.
3. Noise level is tested based on the rated operating conditions (25 °C ambient temperature, 0.5CP charge/discharge rate, 400Vac output voltage).
4. For all standards refer to the certificates category on the Sigenergy website.
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