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

Enjoy Green Energy

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

| 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 | | | | | | 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 |
| Max. output current @380/400 Vac | 83.6 | 100.3 | 133.7 | 167.1 | 183.8 | 208.9 | A |
| Nominal output voltage | 380 / 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 | 160,000 | 160,000 | 160,000 | VA |
| Max. input current | 151.9 | 182.3 | 243.1 | 243.1 | 243.1 | 243.1 | 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, 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% | 98.3% | |
| **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 4,000 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.

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