

# 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 <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     |
| 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 <sup>2</sup>    |                                                                                                                                                                                                                                   |                                | 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                                                                                                                                                                                                                  |                                |                           |           |           | mm    |
| Weight                                           | 110                                                                                                                                                                                                                               |                                |                           |           |           | 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 <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).
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