



Sigen Energy Controller

3.0 – 12.0 kW Single Phase

- EMS inside for precise control
- Up to 4 MPP. trackers
- Multi-source black start
- On & off-grid compatibility
- DC/AC ratio up to 2
- IP66 system protection rating

Sigen Energy Controller 3.0–12.0 kW Single Phase ¹

| SigenStor EC | 3.0 SP | 3.6 SP | 4.0 SP | 4.6 SP | 5.0 SP | 6.0 SP | 8.0 SP | 10.0 SP | 12.0 SP | Units | |
|---|---|--------|--------|--------|---------------------------|--------|-------------------|---------|---------|-------|-----|
| DC Input (from PV) | | | | | | | | | | | |
| Max. PV power | 6000 | 7360 | 8000 | 9200 | 10000 | 12000 | 16000 | 20000 | 24000 | W | |
| Max. DC input voltage | | | | | 600 | | | | | V | |
| Nominal DC input voltage | | | | | 350 | | | | | V | |
| Start-up voltage | | | | | 100 | | | | | V | |
| MPPT voltage range | | | | | 50 ~ 550 | | | | | | V |
| Number of MPP trackers | | | | | 2 | | 3 | 4 | 4 | | |
| Number of PV strings per MPPT | | | | | 1 | | | | | | |
| Max. input current per MPPT | | | | | 16 | | | | | | A |
| Max. short-circuit current per MPPT | | | | | 20 | | | | | | A |
| AC Output (on-grid) | | | | | | | | | | | |
| Nominal output power | 3000 | 3680 | 4000 | 4600 | 5000 | 6000 | 8000 | 10000 | 12000 | W | |
| Max. output apparent power | 3300 | 3680 | 4400 | 5000 | 5500 | 6600 | 8800 | 11000 | 12000 | VA | |
| Nominal output current | 13.6 | 16.0 | 18.2 | 20.9 | 22.7 | 27.3 | 36.4 | 45.5 | 54.6 | A | |
| Max. output current | 15.0 | 16.0 | 20.0 | 22.7 | 25.0 | 30.0 | 40.0 | 50.0 | 54.6 | A | |
| Nominal output voltage | | | | | 220 / 230 / 240 | | 220 / 230 | | | | V |
| Nominal grid frequency | | | | | 50 / 60 | | | | | | Hz |
| Power factor | | | | | 0.8 leading ~ 0.8 lagging | | | | | | |
| Total current harmonic distortion | | | | | THDi < 2% | | | | | | |
| Efficiency | | | | | | | | | | | |
| Max. efficiency | 98.0% | 98.0% | 98.0% | 98.0% | 98.0% | 98.0% | 97.6% | 97.6% | 97.6% | | |
| European efficiency | 97.0% | 97.1% | 97.2% | 97.3% | 97.4% | 97.4% | 97.0% | 97.0% | 97.0% | | |
| AC Output (backup) | | | | | | | | | | | |
| Peak output power (10 seconds) | 4500 | 5520 | 6000 | 6900 | 7500 | 9000 | 12000 | 15000 | 15000 | W | |
| Nominal output voltage | | | | | 220 / 230 / 240 | | 220 / 230 | | | | V |
| Nominal output frequency | | | | | 50 / 60 | | | | | | Hz |
| Power factor | | | | | 0.8 leading ~ 0.8 lagging | | | | | | |
| Total voltage harmonic distortion | | | | | THDv < 2% | | | | | | |
| Disruption time of backup switch ² | | | | | 0 | | | | | | ms |
| Battery Connection | | | | | | | | | | | |
| Battery module models | | | | | SigenStor BAT 5.0 / 8.0 | | | | | | |
| Number of modules per controller | | | | | 1 ~ 6 | | | | | | pcs |
| Battery module voltage range | | | | | 300 ~ 600 | | | | | | V |
| Protection | | | | | | | | | | | |
| Safety protection feature | DC reverse polarity protection, Insulation monitoring, Residual current monitoring, Arc fault circuit interrupter ³ , AC overcurrent/overvoltage/short-circuit protection. Type II DC/AC surge protection, Anti-islanding protection | | | | | | | | | | |
| General Data | | | | | | | | | | | |
| Dimensions (W / H / D) | | | | | 700 / 300 / 245 | | 700 / 300 / 260 | | | mm | |
| Weight | | | | | 18 | | 36 | | | kg | |
| Storage temperature range | | | | | -40 ~ 70 | | | | | | °C |
| Operating temperature range | | | | | -30 ~ 60 | | | | | | °C |
| Relative humidity range | | | | | 0% ~ 95% | | | | | | |
| Max. operating altitude | | | | | 4000 | | | | | | m |
| Cooling | | | | | Natural convection | | Smart air cooling | | | | |
| System 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 62477, IEC/EN 61000-6-1, IEC/EN 61000-6-2 | | | | | | | | | | |

- Sigen Energy Controller 8.0–12.0 kW Single Phase is only available in specific regions. Please contact Sigenergy or local distributors for details.
- This refers to the load-side disruption time, to achieve this functionality Sigen Energy Gateway needs to be used together with Sigen Energy Controller and Sigen Battery. Test conditions: In the open-circuit state of the power grid, the nominal power of the Sigen Energy Controller is higher than the total power of the home loads.
- This is an optional feature only supported in certain models, please contact Sigenergy for more information.
- For all standards refer to the certificates category on the Sigenergy website.

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