

Sigen Energy Controller

3.0 - 12.0 kW

5.0 - 30.0 kW

5.0 - 12.0 kW

Single Phase

Three Phase

Three Phase Low Voltage



- EMS-integrated intelligent management for precision control
- Max. 2.0 DC/AC ratio compatibility, higher energy utilization (Single Phase)
- Unbalanced 3-phase power output, ensuring efficient operation
- 150% peak output power in off-grid mode, instant high-power boost
- Up to 4 MPP trackers for maximum solar energy extraction

Sigen Energy Controller 3.0–12.0 kW Single Phase I

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 2	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 3					0						ms
Battery Connection											
Battery module models	SigenStor BAT series										
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 4, 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% ~ 100%						
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 ⁵	IEC/EN 62109-1, IEC/EN 62109-2, 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 Sigenenergy or local distributors for details.
- The inverter will initiate protection if the input voltage exceeds the MPPT operating voltage range.
- 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 Sigenenergy for more information.
- For all standards refer to the certificates category on the Sigenenergy website.