

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 5.0–30.0 kW Three Phase 1

SigenStor EC	5.0 TP	6.0 TP	8.0 TP	10.0 TP	12.0 TP	15.0 TP	17.0 TP	20.0TP	25.0TP	30.0TP	Units	
DC Input (from PV)												
Max. PV power	8000	9600	12800	16000	19200	24000	27200	32000	40000	48000	W	
Max. DC input voltage 2						1100						V
Nominal DC input voltage						600						V
Start-up voltage						180						V
MPPT voltage range						160 ~ 1000					V	
Number of MPP trackers	2			3			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	5000	6000	8000	10000	12000	15000	17000	20000	25000	30000	W	
Max. output apparent power	5500	6600	8800	11000	13200	16500	18700	22000	27500	33000	VA	
Nominal output current	7.6	9.1	12.2	15.2	18.2	22.8	25.8	30.4	38.0	45.5	A	
Max. output current	8.4	10.0	13.4	16.7	20.1	25.1	28.4	33.4	41.8	50.0	A	
Nominal output voltage						380 / 400, 3W+N+PE					V	
Nominal grid frequency						50 / 60					Hz	
Power factor						0.8 leading ~ 0.8 lagging						
Total current harmonic distortion						THDi < 2%						
Efficiency												
Max. efficiency	98.1%	98.2%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	98.4%		
European efficiency	96.1%	96.6%	97.1%	97.5%	97.7%	97.9%	97.9%	97.9%	98.0%	98.0%		
AC Output (backup)												
Peakoutputpower(10seconds)	7500	9000	12000	15000	18000	22500	25500	30000	30000	36000	W	
Nominal output voltage						380 / 400, 3W+N+PE					V	
Nominal output frequency						50 / 60					Hz	
Power factor						0.8 leading ~ 0.8 lagging						
Total voltage harmonic distortion						THDv < 2%						
Disruptiontimeofbackups witch 3						0					ms	
Battery Connection												
Battery module models						SigenStor BAT series						
Number of modules per controller						1 ~ 6					pcs	
Battery module voltage range						600 ~ 900					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 / 260					mm	
Weight						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						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											

1. Sigen Energy Controller 30.0 kW Three Phase is only available in specific regions. Please contact Sigenenergy or local distributors for details.
2. The inverter will initiate protection if the input voltage exceeds the MPPT operating voltage range.
3. 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.
4. This is an optional feature only supported in certain models, please contact Sigenenergy for more information.
5. For all standards refer to the certificates category on the Sigenenergy website.