

Sigen Energy Controller

- 3.0 - 12.0 kW | Single Phase
- 5.0 - 30.0 kW | Three Phase
- 5.0 - 12.0 kW | 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
- 200% 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	20.0 TP	25.0 TP	30.0 TP	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)												
Peak output power (10 seconds) ³											2 times of nominal output power	
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%	
Disruption time of backup switch ⁴											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 ⁵ , 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 ⁶											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. Actual load starting performance depends on the load type and its characteristics; practical results may vary.
4. 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.
5. This is an optional feature only supported in certain models, please contact Sigenenergy for more information.
6. For all standards refer to the certificates category on the Sigenenergy website.