

Technical Specifications

SunEnergy Three Phase - Hybrid



SunEnergy Solar Inverters

SunEnergy Environmentally Hardened Solar Inverters are designed for the extreme temperatures of Australian deserts, the heat and humidity of Asia and the freezing conditions of North American winters – we build rugged inverters for the harshest environments on earth. At SunEnergy, we pioneered the design and development of large solar inverters to power entire remote communities and remote installations. Our products meet or exceed stringent military specifications with field hardened operating specifications of -20°F to + 140°F.

SunEnergy Hybrid Solar Inverters

SunEnergy hybrid solar inverters are the industry standard for large-scale hybrid applications for remote applications. Our inverters integrate and manage solar PV, wind, diesel generators, fuel cells and batteries. We pioneered mobile hybrid systems in 1989 and rapidly deploy mobile hybrid systems for our global clients.

SunEnergy Intelligent Architecture

SunEnergy solar inverters have many embedded processors that manage sophisticated data logging, diagnostics and peer-to-peer communications providing unparalleled reliability and performance.

SunEnergy solar inverters collect and archive data to manage and report on solar systems status, energy metering, solar tracking, battery status and performance, site access, self diagnostic results, inverter load sharing statistics, as well as user specified digital and analogue inputs.

Our system controllers use intelligent stage management to only operate sufficient power blocks to meet the immediate user current requirements.

This architecture guarantees optimal efficiency, maximises system reliability and results in extended equipment life.

SunEnergy inverters use multiple maximum power point (MMPT) tracking algorithms to ensure that power delivery is efficient and reliable.

SunEnergy client inverters are monitored 365X24 by the SunEnergy Network Management Centre.

SunEnergy Performance

We have successfully designed and built inverters for over twenty (20) years. The world's most demanding clients, including power utilities and every branch of the U.S. Military use SunEnergy solar inverters.

SunEnergy solar inverters are your guarantee of performance. We offer high-energy conversion efficiencies, resource scheduling, maximum uptime and low cost of ownership.



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MODEL AES H200 AES H400 AES H600 AES H800 AES H1000

Inverter output

Output voltage	230/400 V _{AC} or 277/480 V _{AC}				
Output frequency	50/60Hz (true sinewave)				
Distortion factor	<3% on linear loads				
Inverter efficiency	96%				
Power factor Cos Phi	-1...1 load dependent				
Continuous output power 40°C	200kVA	400kVA	600kVA	800kVA	1000kVA
Continuous output power 50°C	160kVA	320kVA	480kVA	640kVA	800kVA
Peak output power 40°C (5 sec)	280kVA	560kVA	840kVA	1120kVA	1400kVA
Peak output power 50°C (10 sec)	280kVA	560kVA	840kVA	1120kVA	1400kVA

Battery (Pb) 25°C

Battery configuration (cells in series)	180				
Battery voltage (nominal)	360*				
Inverter turn-off voltage	324*				
Gassing voltage	432*				
Overvoltage threshold	486*				
Temperature compensation	Three slope user programmable				
Charge control	constant current/constant voltage with boost and equalise settings				

* user adjustable software setpoints

AC input

Voltage range	360-457Vac or 432-550Vac				
Frequency range	Nominal ±2Hz				
Charging capacity	200kW	400kW	600kW	800kW	1000kW
Remote control	Diesel Start/Stop - setpoint changing				
Diesel generator power (recommended)	200kVA	multiple generators set			
Minimum recommended diesel	160kVA	multiple generators set			
Maximum diesel generator	360kVA	multiple generators set			

Operation mode

Load supply from Inverter	Yes
Battery charging/load supply from diesel	Yes
Load supply from Inverter and diesel at peak loads	Yes

General data

Overcurrent protection	Breakers				
Surge voltage protection (varistors & spark gaps)	load and diesel inputs				
Standards	Australian				
Ambient temperature range	0-40°C/40-60°C with derating (optional low temperature kit available)				
Humidity	0-95% non-condensing				
Protection type	IP20				
Control module (WxHxD)	1800x800x800mm				
Power Module Dimensions (W x H x D)	2200x1800x800mm				
Number of power modules	1	2	3	4	5
Weight (approx) kg	2200	4200	6200	8200	10000
Housing	Floor-mounted				