



EnerSolis Series 6KW~12KW 3-Phase Grid-connected PV Inverter

The EnerSolis 6KW to 12KW is a three-phase PV inverter employing transformer-less and multi-level topology. It operates with two independent MPP Trackers that can handle asymmetric solar panels to allow for optimum adjustment and with two parallel MPP Trackers that can balance input current. The input voltage window is extremely wide 300 to 1000 Vdc. The unit can inject nominal power into Utility when solar arrays supply from 370 Vdc to 850 Vdc, and bringing high level efficiencies at peak 97.5% and EU 97.00%. It's cooling is provided by demand-driven fans that are aimed directly at the temperature-sensitive components.

There are two communication interfaces as RS232 and RS485 ports, which transmit data to the monitor software of PC and via RS232 connection for firmware upgrade. USB card, TCP/IP card and or Dry contact card are parts for other optional communication interfaces.

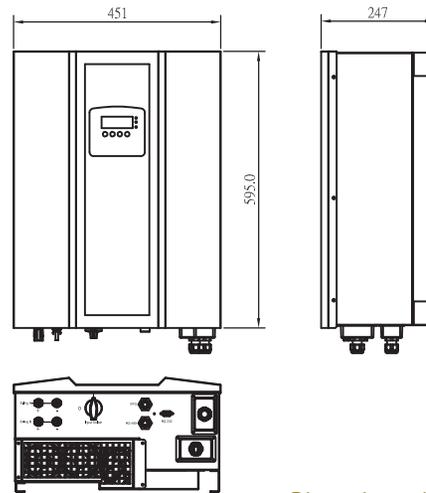
The new housing makes the unit compact and simplifies installation. You can very easy to settings a number of country-specific into the inverters. These are easy to select during on-site installation.

- Three-phase inverter
- Acceptable Input Voltage up to 1000 Vdc
- Transformer-less Topology
- Maximum Efficiency 97.5%
- Protection class IP65
- Dual independent MPP trackers
- Intelligent MPPT Technology
- Active and Passive Anti-islanding Technology
- Compact Design
- User Friendly LCD Display
- High MTBF Components
- Temperature-dependent fan Cooling
- Integrated DC Switch
- High performance DSP Controller
- Built-in RS232 and RS485 Communication Ports
- Firmware Upgradability
- Wide MPPT Voltage Range with Nominal Power
- Allowable De-rating Operation
- Maximum Output Power Clamping
- Multi-Operation Mode
- Multi-Country Certifications

EnerSolis Series
3-Phase Grid-connected PV Inverter

High Performance DSP Controller

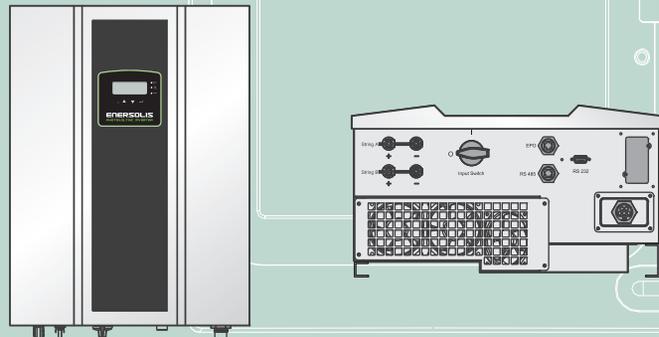
High Performance DSP controller is adopted to increase reliability with fewer components.



Dimension unit: mm

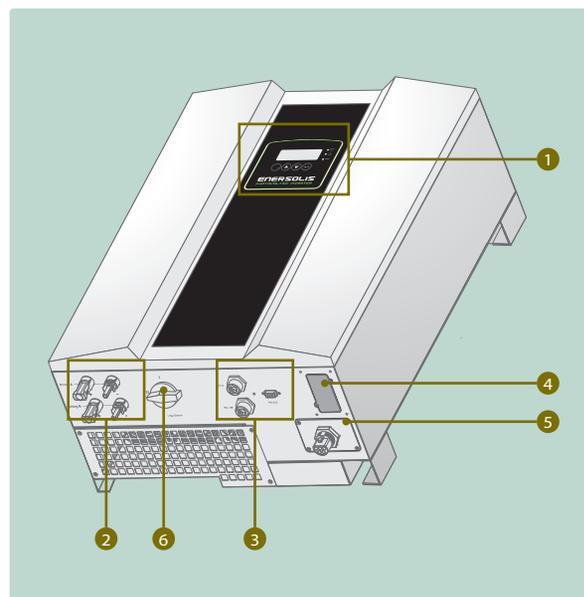
Advantage

- Compact Size
- Light Weight
- Cost Saving
- Lower Temp Rising & High Efficiency



Unit Description

- 1 LCD and LED display: Shows operation information and status.
- 2 Solar array input: plug-and-play connectors for the solar modules (two PV string inputs.)
- 3 Standard communication ports: EPO, RS-232, and RS-485
- 4 Optional communication slot: USB, RS-485, Dry-Contact, or TCP/IP
- 5 AC output connector: plug-and-play connector for AC utility
- 6 DC input switch: Connect and Disconnect PV string inputs



Specifications

ITEM		MODEL	ES 6000	ES 8000	ES 10000	ES 12000
Inverter Technology	Conversion Mode	Sine-wave, Current source, High frequency PWM				
	Isolation Method	Transformer-less Design				
DC Input Data						
Nominal DC Voltage		620 Vdc				
Max. DC Input Voltage		1000 Vdc				
Working Range		300 ~ 1000 Vdc				
Max. DC Input current		2 x 8.5 Amp	2 x 11.4 Amp	2 x 14.3 Amp	2 x 14.3 Amp	
MPPT Range (Nominal Output)		370 ~ 850 Vdc				450 ~ 850 Vdc
MPPT Tracker		2				
AC Output Data						
Nominal AC Power		6,000 Watt	8,000 Watt	10,000 Watt	12,000 Watt	
Max. AC Apparent Power		6,600 VA	8,800 VA	11,000 VA	12,000 VA	
Nominal AC Voltage		230 Vac (L-N) and 400 Vac (L-L)				
Output Connect Method		3-Phase / 4-Wire (L1, L2, L3, and Neutral)				
AC Voltage Range		184V ~ 264.5V (Base on 230 Vac)				
Nominal AC Current		3 x 8.69 Amp	3 x 11.59 Amp	3 x 14.49 Amp	3 x 17.39 Amp	
Frequency		50 / 60 Hz Auto-Selection (47.5 ~ 51.5Hz or 59.3 ~ 60.5 Hz)				
Power Factor		COS PHI 0.8 ~ 1.0				
Current Distortion		Total Harmonic current : Less than 5% Single Harmonic current : Less than 3%				
Efficiency Data						
Max. Efficiency		97.5%				
Euro Efficiency		96.20%	96.60%	97.0%	97.25%	
Environmental						
Operating Temperature		-20 °C ~ +60 °C				
Humidity		0 to 100% (Without condensation)				
Altitude		0 ~ 2000 M				
Pollution degree classification		PD3				
Overvoltage category (IEC 60664-1)	DC side	Category II				
	AC side	Category III				

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Mechanical					
Dimensions (W x H x D)		451 x 595 x 247 mm			
Weight		41 kgs			
Protection Class		IP65, outdoor			
Cooling		Fans cooling			
AC Connection		Connector			
DC Connection		Connector			
Communication					
Communication Interface	Standard	RS232 & RS485			
	Optional	USB, RS485, Dry contact, TCP / IP			
Front Panel					
LCD		Boost input Voltage, Boost input Current, Boost input Power, AC output Voltage, AC output frequency, AC output current, AC output power, AC Energy, yield, Inner Temperature, Heat sink Temperature, Status message, Error message			
LED	Red	On: Ground fault or DC input insulation fault			
	Yellow	On: Unit Error or Alarm			
	Green	Flash: Standby or Sleeping mode On: Normal Operation			
Key Pad		UP key / Down key / Function key / Enter key			
Protection					
Utility		Over / under Voltage, Over / under Frequency			
		Ground fault, DC Isolation fault			
Islanding operation detection		Passive : Voltage phase jump detection			
		Active : Reactive power control			
Over Temperature		Downgraded output power			
Certification					
On-Grid Performance		VDE0126-1-1, ENEL 2010, AS4777.2/.3, UK G83/1, CGC			
Safety		EN62109-1, AS3100			
EMI / EMC		EN 61000-6-1, EN 61000-6-3, EN 61000-3-3			

