

Caliber launching indigenously designed patented Solar Inverter for domestic and industrial applications.



Caliber Interconnect Solutions [®]

designforperfection

**Solar Photovoltaic
Power System**



INTRODUCTION

Caliber Interconnect Solutions is involved in providing solutions to the World's most critical problem of today - Energy Shortage - by Electric Power Generation from Solar Light Radiation. Solar energy harvesting is the ultimate solution for the energy-starving countries to meet their ever growing needs.

In our attempt to keep our planet greener and cleaner, we came out with our current solution : **The Solar Photo-voltaic Power System**. We manufacture a range of Solar Inverters designed for different sizes of homes as well as commercial industrial configurations with expanded capacity requirements.

Product Description

Our products are designed to give Pure Sine Wave output with less than 2% Total Harmonic Distortion (THD). Loads that can be connected are of any type – Home Appliances, Computers, Motors with inverter drives etc.

The following Safety checks will be done in real-time:

- Under and Over voltage status of Solar Panel voltage
- Under and Over voltage status of Battery voltage
- Under and Over voltage status of Output AC
- Overload Current status of Output AC
- High Temperature status and safer error recovery for Power switches (IGBTs)



An RS-485 serial communication port is linked to a computer to control and monitor the inverter remotely. An optional GPRS modem can provide connectivity with a server to help the user and maintenance personnel to oversee the inverter's operation and maintenance.

On-grid models help the customer to sell excess power generated into a grid that can be used by other customers connected to the same grid.

Metering of Solar power generated is possible to help the customer to know the usability of the inverter. In on-grid models, this will aid in calculating the sale amount for the power fed into the grid.

For pleasant viewing of inverter parameters such as voltages, currents, power factor etc., a large, high resolution TFT display with touch screen is provided.

Optional Module to adjust the orientation of the panel to track the Sun's position is available. This will effectively maximize the power output of the panel at any given time/lighting condition

Product Range



1 Single Phase Systems (Off-grid model)

Up to 5kW Standalone inverters produce 230V 50Hz / 110V 60Hz Sine Wave outputs. These are suitable for small businesses and homes. Battery capacity will be provided based on backup time required.

2 Three Phase Systems (Off-grid model)

Up to 10kW Standalone inverters produce 230V 50Hz / 110V 60Hz Sine Wave output. These are suitable for large size homes and Industries. Battery capacity will be provided based on backup time required.



3 Three Phase Systems (On-grid model)

Up to 10kW, Three-Phase Systems with Grid Storage option produce 3-ph 230V 50Hz / 110V 60Hz Sine Wave output. These are suitable for apartment complexes, communities, hospitals, educational institutions, and industries. The on-grid systems can be cascaded to generate virtually any amount of power. Excess electricity produced can be sold to Grid for use by other consumers.



Technical Specification

Model	1-Ph(Off-grid)	3-Ph(Off-grid)	3-Ph(On-grid)	
Configuration	230V 50 Hz / 110V 60 Hz 1-Ph	230V 50 Hz / 110V 60 Hz 3-Ph Star	230V 50 Hz / 110V 60 Hz 3-Ph Star	
End Customer	Small homes	Medium homes, Small businesses	Large Homes, Communities, Hospitals	
INPUT	Number of Phases	1	3	
	Solar Panel Type	Mono Crystalline/ Poly Crystalline/ Filmtypes		
	Nominal Solar Panel Array Voltage	Up to 340V DC (10 Panels)	Up to 1085V DC (32 panels)	Up to 1085V DC (32 panels)
OUTPUT	Rated watts	Up to 5kW	Up to 10kW	Up to 10kW
	Overload Capacity	+20%	+20%	+20%
	Output Voltage	230VAC 50Hz +/- 5%, Pure Sine Wave, <2% THD		
BATTERY BACKUP	Nominal Voltage	336 V (28 x 12V)	1080 V (90 x 12V)	1080 V (90 x 12V)
	Storage Capacity	120AH Each	80AH Each	80AH Each
	Min. Backup time	7 Hrs with rated load	10 Hrs with rated load	10 Hrs with rated load
		12A	8A	8A
INVERTER	Conversion Efficiency	Above 95%		
	Principle	Variable PWM - Space Vector Modulation for the maximum conversion efficiency and minimal size through IGBTs		
	Safety Features	<ol style="list-style-type: none"> Over and under Voltage Monitoring of Panel Over and under voltage monitoring of Battery Over and Under Voltage monitoring of AC Output Over temperature monitoring of IGBTs 		
	Special Features	<ol style="list-style-type: none"> RS-485 Communication port for link to host. 2G/3G Connectivity for server connection Emergency shutdown. 		
	Operating Temperature	0 degrees C to 70 degrees C		
	Storage Temperature	0 degrees C to 70 degrees C		
	Relative Humidity	< 95% non-condensing		
Environmental Conditions	Environment	In a ventilated area with low humidity		
	Solar Panels	In open area with direct sun radiation and free from shadows throughout the day.		
Warranty	Solar Panels	As offered by the manufacturer		
	Battery	As offered by the manufacturer		
	Electronics	5 Years		



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