ZIGOR SOLAR HIS1 COMPACT

Hybrid Reliable Micro-grid

Single-phase modular hybrid inverter for Solar & Wind generation, Batteries and Grid or Generator

Description

The ZIGOR SOLAR HIS1 COMPACT series has been designed to provide Power Supply for those applications where accessibility to grid or cost of electricity is a big issue:

- Off-grid areas
- Rural electrification
- Electricity provided by Diesel Generators

The main feature of Zigor ZIGOR SOLAR HIS1 COMPACT series of Hybrid Inverters is the capability to manage energy from various and different sources like PV Field, wind Turbines, Batteries, Diesel Generator and/or Grid.
In addition to this, the ZIGOR SOLAR HIS1 COMPACT Hybrid Systems are able to accommodate and sum-up the energy from various sources while controlling all of them through its unique management system. Likewise, the ZIGOR SOLAR HIS1 COMPACT systems are capable to manage the functioning of the assigned Gen Set, keeping them stopped when their energy in not needed.
The Zigor ZIGOR SOLAR HIS1 COMPACT series of Hybrid Inverters have a modular and scalable concept where it is very easy to increase the capability by increasing the size of the PV field, the number of Wind Turbines, the power of AC input and/or the size of the battery bank.

ZIGOR SOLAR HIS1 COMPACT

Features

> Best Efficiency
> Competitive Distributed Generation
> Professional Rural Electrification
> Hybrid Solar, Wind, Battery, Grid, GS
> Reliable Energy Micro Grid
> Maintainable, Modular and Scalable
> Easy to Transport, Install and Repair
> Web Server Remote Monitoring (optional)
> Compatible with Lithium Batteries
> Maximum power point tracking (MPPT) for renewable inputs
> Protection against: Inverse polarity, short circuits, over voltages, isolation failure with relay output
> Galvanic isolation through the transformer

Connectivity and accessories

> **ZIGOR SOLAR HIS1 COMPACT Web server integrated (optional)**

The Hybrid Inverter from ZIGOR SOLAR HIS1 COMPACT Series is equipped with an internal Web server to provide full access to the system, to monitor in real time the status and variables of the operation as well as to communicate with them.
The beauty of this communication facility is that the user doesn't need any special software to be loaded into the computer or a special communication hardware to be configured for it. By having an Ethernet network (TCP/IP), giving a valid IP address to the Hybrid Inverter and launching a Internet Browser, the user gets direct access to all information about the ZIGOR SOLAR HIS1 COMPACT System, this is:

- Status
- Parameters
- Events log
- Alarms

This unique tool provides the user a graphic and friendly environment to completely monitor and manage the ZIGOR SOLAR HIS1 COMPACT system. The Web server is also capable to advise the user by sending mails, about any possible dysfunction of the System. This allows not only to reduce inoperative time of the system but to improve maintenance tasks and the availability of the System.

ELECTRICAL CHARACTERISTICS: OUTPUT MODULE + RENEWABLE MANAGEMENT			
Model	ZIGOR SOLAR HIS1 COMPACT 4	ZIGOR SOLAR HIS1 COMPACT 5	ZIGOR SOLAR HIS1 COMPACT 7
Nominal output power	4 kW	5 kW	6,6 kW
Nominal output frequency	50 / 60 Hz		
Power factor at full load	1		
Voltage distortion AC	<3% at full load (2,5%)		
Nominal output voltage	100/120/220/230 (single-phase) 108+108 V (bi-phase)		
Renewable source Nominal Power	2 x 3,3 kW		
Renewable Maximum current	2 x 23,4 A		
Maximum voltage DC	500 Vdc (3)		
MPPT voltage range	150 V ÷ 450 Vdc		
MPPT efficiency	99%		
Number of MPPT inputs	2	2	2
BATTERY MANAGEMENT/GENERATOR SET MODULE (1)			
Gen set Nominal power	6 kVA	7,5 kVA	10 kVA
Gen set Nominal voltage	100/120/220/230 (single-phase) 108+108 V (bi-phase)		
Gen set Nominal frequency	50 / 60 Hz		
Gen set Maximum current	50/26 A	63/33 A	83/44 A
Battery Nominal voltage	264 Vdc		
Battery Voltage range	150 to 350 Vdc		
Battery Maximum charge current	45 A		
Battery Maximum discharge current	49 A		
WIND/PV MANAGEMENT MODULE (2)			
Renewable source Nominal Power	2 x 6,6 kW		
Renewable Maximum current	2 x 46,8 A		
Maximum voltage DC	500 Vdc (3)		
MPPT voltage range	150 V ÷ 450 Vdc		
MPPT efficiency	99%		
Number of MPPT inputs	2	2	2
SYSTEM INFORMATION			
Maximum power efficiency	>96% (including transformer)		
Internal consumption in operation	<1% at full load		
Isolation transformer	Internal		
AC / DC Switches	Optional		
Local monitoring and supervision	Autochecking / Data and event log		
User interface	2-line display, keyboard and 3 leds		
External interface	Option: Ethernet, SNMP / Option: GSM modem		
Operating temperature range	-10ºC to +50ºC		
Cooling	Forced Air		
Relative Humidity	0% to 95% Non condensing		
Operating altitude	<1000 m without loss of power		
Enclosure rating	IP21 - standard		
STANDARDS			
Certificates	CE Marking		
Directives	2006/95/CEE-93/68/CEE 2004/108/CEE		
Standards	IEC-62109-1		

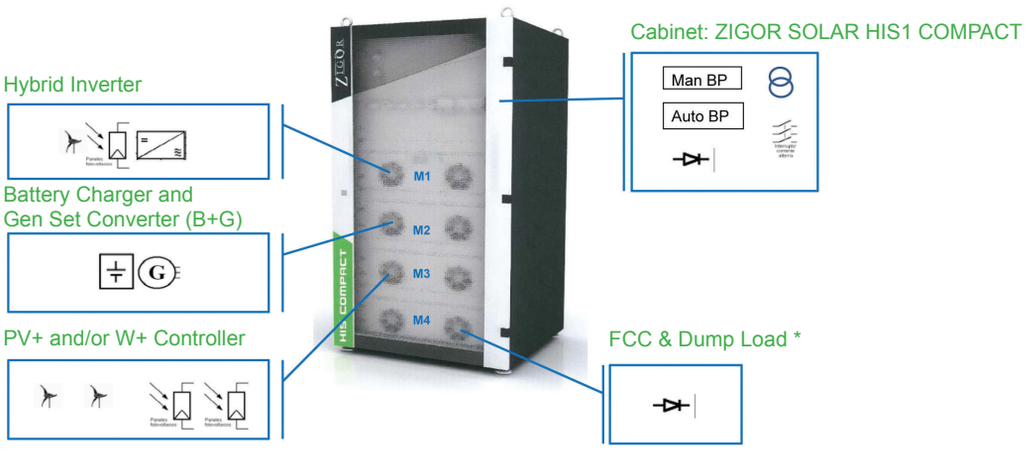
(1) Basic configuration.

(2) To increase PV field or wind turbines, additional wind/PV management modules could be added to the system.

(3) This voltage must not be exceeded under any circumstances.

These specifications may be changed without notice.

> His Compact Possible Configurations



** M4 is reserved for FCC & Dump Load when configuring wind turbines LE2000 or LE6000. LE600 do not require FCC*

SOLAR PANELS CONFIGURATION				
Basic Solar				
Module Type	M1	M2	M2	M4
Hybrid Inverter	x			
Battery Charger and Gen Set Converter (B+G)		x		
				Up to 6,6 kWp (2 MPPT)
Medium Solar				
	Module Rack Position			
Module Type	M1	M2	M3	M4
Hybrid Inverter	x			
Battery Charger and Gen Set Converter (B+G)		x		
Solar Panel Controller (PV+)			x	
				Up to 19,8 kWp (4 MPPT)
Big Solar				
	Module Rack Position			
Module Type	M1	M2	M3	M4
Hybrid Inverter	x			
Battery Charger and Gen Set Converter (B+G)		x		
Solar Panel Controller (PV+)			x	x
				Up to 33 kWp (6 MPPT)
WIND CONFIGURATION				
Basic Wind				
Module Type	M1	M2	M2	M4
Hybrid Inverter	x			
Battery Charger and Gen Set Converter (B+G)		x		
				Up to 6,6kW (1 or 2 turbines)
Medium Wind				
	Module Rack Position			
Module Type	M1	M2	M3	M4
Hybrid Inverter	x			
Battery Charger and Gen Set Converter (B+G)		x		
Wind Controller (W+)			x	
				Up to 19,8kW (4 turbines)

SOLAR AND WIND CONFIGURATION				
Basic Solar and Wind				
Module Type	M1	M2	M3	M4
Hybrid Inverter	x			
Battery Charger and Gen Set Converter (B+G)		x		
				Up to 3,3kWp (1 MPPT) and 1 turbine < 3,3 kW
Medium Solar and Wind				
	Module Rack Position			
Module Type	M1	M2	M3	M4
Hybrid Inverter	x			
Battery Charger and Gen Set Converter (B+G)		x		
PV+ or W+			x	
				Up to 3,3kWp (1 MPPT) and 1 turbine < 3,3 kW and + 13,2kWp (2 MPPT) or + 13,2kW Wind (2 turbines)
Big Solar and Wind				
	Module Rack Position			
Module Type	M1	M2	M3	M4
Hybrid Inverter	x			
Battery Charger and Gen Set Converter (B+G)		x		
PV+			x	x
				Up to 3,3kWp (1 MPPT) and 1 turbine < 3,3 kW and + 20kW PV (4 MPPT)

BATTERY CONFIGURATION	
Charging Parameters	Depending on battery technology
Charging Current	0 to 50 Amps
Battery Voltage	150 to 350 VDC
Battery technology	Lead Acid, Li, Ni-Cd, Flow

GENERAL CHARACTERISTICS	
ZIGOR SOLAR HIS1 COMPACT output Power	4kW, 5kW and 6,6kW
Output Voltage	110V, 230V, 100V+100V
System Frequency	50Hz/60Hz
Recommended Gen Set Power	1,5 x Output Power

HIS COMPACT CABINET OPTIONS
Web Server
Gen Set Rectifier and Automatic ByPass (230)
Gen Set Rectifier and Automatic ByPass (110)
PV and Wind Breakers Basic Configuration
PV and Wind Breakers Medium Configuration
PV and Wind Breakers Big Configuration
Battery Breaker
Earth Leakage Detector (230)
Earth Leakage Detector (110)
AC Breaker (230)
AC Breaker (110)
FCC 2000