



RENEWABLE CATALOGUE

PV AND WIND ENERGY

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Zigor, leading company on the technology market offers you tailor-made energy solutions in accordance with your requirements both for on-grid applications and for off-grid solutions.



Zigor, Leader in Power Quality Customized Solutions, Solar Photovoltaic and Wind Power Systems and Turnkey Power Electronics solutions.

Zigor supplies Renewable, Industry, Electrical and Telecom energy markets with the broadest range of customised solutions to revolutionise the energy sector, guaranteeing the construction of a future based in uninterrupted, incident-free power supply, allowing you to achieve a quick return of investments and optimizing Energy Savings.

INDEX

SOLAR POWER

PV ON-GRID

Single-phase inverter

SUNZET SP: from 2 to 7 kW 4

Wall-mounting three-phase inverter

SUNZET XTR: from 10 to 20 kW 6

Three-phase inverter

SUNZET TP: from 30 to 166 kW (T & TL) 8

SUNZET MV: 125 & 166 kW 12

SUNZET Central: from 100 to 300 kW 14

SUNZET POWER STATION: Integral stations for PV from 0,5 to 2,1 MW 16

BAT GEN: Battery charger inverter from 50 to 100 kVA (T & TL) 18

MINI-GRID & HYBRID SYSTEMS

Single-phase hybrid inverter system

HIS Compact: from 4 to 7 kW 20

Three-phase hybrid inverter system

HITC: from 30 to 100 kW 24

PV OFF-GRID

HIS inverter: from 4 to 8 kW 26

JUPITER inverter: from 350 to 3000 W 28

VENUS PWM regulator: 8 & 20 A 30

SATURNO MPPT regulator: from 20 to 60 A 32

WIND POWER

Mini Wind Turbines: LET-ZIGOR from 300 to 6000 W 34

Single-phase wind inverter: WINDZET SP from 4 to 7 kW 40

Three-phase wind inverter: WINDZET TP from 30 to 100 kW 42

CONNECTIVITY AND OPTIONS

Web server 44

SCADA SWS 1000/2000 50

GSM modem 52

Router wireless

SUNZET Meteo

String configurator software 53

SUNZET STRING BOX: string box concentrator

ADDITIONAL DATA

List of products-connectivity/accessories/software 54

Warranty of inverters

Zigor's Maintenance and Service Technical Department 55

Customised maintenance services assistance 56

SINGLE-PHASE INVERTER

SUNZET SP

Single-phase On-grid string inverters range

Description



The SUNZET SP string inverters are easy operation devices that have been designed to cover the needs of all mains connected solar generation plants. In an effort to improve the yield of solar plants, the SUNZET SP inverters offers a very high efficiency, exceeding 97%.

The SUNZET SP stands out due to its Web server application, accessible through its SNMP connection. In addition to this, the new SUNZET SP range provides a LCD display, where the customer is able to access all inverter information, including production data.

The SUNZET SP can work at input DC voltages between 120 to 500 VDC and its housing has IP54/IP65.



Sunzet SP 5



LCD gráfico

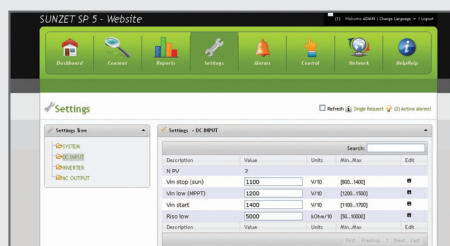
Features

- > Maximum power point tracking (MPPT)
- > High energy efficiency, higher than 97%
- > Very low harmonic distortion, THD <3%
- > Direct mains connection
- > Unlimited parallel connection arrangements
- > Anti-islanding protection with automatic shut down
- > Monitoring from the unit with LCD
- > Protection against: inverse polarity, short-circuits, overvoltages, isolation failure
- > SNMP connection: Web server included
- > Range of input DC voltages (120-500 VDC)
- > Compact size, light weight, easy installation
- > Built-in production log capacity
- > 2 MPPT inputs

Connectivity and accessories

> Sunzet Web server integrated

This is a PC-based Web server programme to provide full access to the inverter data and to monitor and communicate with three-phase SUNZET TP inverters. The Web server let the user to communicate with the inverters in different languages and record the following data.



See more information about connectivity and options on page 44

on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

telecom back up

wind energy



NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS					
Model	Sunzet SP 2	Sunzet SP 3.6	Sunzet SP 4	Sunzet SP 5	Sunzet SP 7
Reference	301203	301204	301221	200075	301205
Max. Output power	2 KW	3,68 KW	4 KW	5 KW	6,6 KW
DC INPUT					
Nominal DC voltage	360V				
Maximum DC voltage	500V				
Operating range DC	120-500V				
Operating range DC for MPPT	150-450V				
No. Independent MPPT	1(14.6 A Max)	2(12.2 A Max)	2(14 A Max)	2(17.65 A Max)	2(23.4 A Max)
AC OUTPUT					
No. Phases/No. Wires	1- phase/2- wires or 1 – phase/ 3 – wires (LNG)				
Nominal voltage AC	230V				
Nominal frequency	50/60 Hz				
Nominal output current AC	8.7 A	16 A	17.4 A	21.7 A	28.7 A
Harmonic distortion range for nominal current	<3%				
Power factor	Over 0.99 (at nominal output current)				
Maximum efficiency	97%	97%	97,10%	97,10%	97,10%
European efficiency	96,5%	96,6%	96,6%	96,8%	96,7%
PROTECTION					
Input	Ground fault / DC isolation fault				
Output	Over-under voltage/ Over-under frequency / Islanding				
Protection class	IP 65 (electronics) / IP 54 (others)				
COMMUNICATIONS					
Protocol	MODBUS (RTU, TCP/IP, ASCII) y SNMP				
Standard	TCP/IP Ethernet				
Optional	RS485				
ENVIRONMENTAL CHARACTERISTICS					
Temperature	-20°C to +50°C/ -4°F to 122°F				
Relative humidity	0-90% without condensation				
Altitude	< 2000m				
MECHANICAL CHARACTERISTICS					
Dimensions mm (WxHxD)	470x525x195				
Estimated weight kg	20				
STANDARDS					
Certificates	CE Marking				
Directives	2004/108/CE 2006/95/CE				
Standards	UNE-EN 61000-6-3, UNE-EN 61000-6-2 UNE-EN 50178 IEC 62116				
Countries standards					
Italy	CEI 0-21				
Germany	VDE 0126-1-1				
England	G83/1-1				

These specifications may be changed without notice.

WALL-MOUNTING THREE PHASE INVERTERS

SUNZET XTR

New three-phase On-grid solar inverters range

Description



The SUNZET XTR string inverters are easy operation devices that have been designed to cover the needs of all mains connected solar generation plants. In an effort to improve the yield of solar plants, the SUNZET XTR inverters offers a very high efficiency, exceeding 97%.

The SUNZET XTR stands out due to its new web server application, accessible through its SNMP connection. In addition to this the new SUNZET XTR range provides a LCD display, where the customer is able to access all inverter information, including production data.

The SUNZET XTR can work at input DC voltages between 300 to 800 VDC and its housing has IP54.



Sunzet XTR 20 kW

Features

- > Maximum power point tracking (MPPT)
- > High energy efficiency, higher than 97%
- > Very low harmonic distortion, THD <3%
- > Direct mains connection
- > Unlimited parallel connection arrangements
- > Anti-islanding protection with automatic shut down
- > Monitoring from the unit with LCD
- > Protection against: inverse polarity, short-circuits, over voltages, isolation failure
- > SNMP connection: Web server included
- > Range of input DC voltages (300-800 VDC)
- > Compact size, light weight, easy installation
- > Built-in production log capacity

Connectivity and accessories

> Sunzet Web server integrated

This is a PC-based Web server programme to provide full access to the inverter data and to monitor and communicate with three-phase SUNZET XTR inverters. The Web server let the user to communicate with the inverters in different languages and record the following data.

- Status
- Parameters
- Events
- Event Log
- Production

See more information about connectivity and options on page 44

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mid voltage solar plants

hybrid generation

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NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS				
Model	Sunzet XTR 10	Sunzet XTR 13	Sunzet XTR 15	Sunzet XTR 20
Reference	301763	301764	301765	301766
Nominal output power	10 KW	13 KW	15 KW	20 KW
SYSTEM				
Conversion mode	High frequency PWM			
Electromechanical method	Low loss transformer (optional)			
DC INPUT				
Nominal DC voltage	640 V			
Maximum DC voltage	1000 V			
Operating range DC	300-800 V			
No. Independent MPPT	3(12 A Max)	3(15,6 A Max)	3(18 A Max)	3(25 A Max)
AC OUTPUT				
No. Phases/No. Wires	3- phase/3- wires or 3 – phase/ 4 – wires			
Nominal voltage AC	3x400V			
Nominal frequency	50/60 Hz			
Nominal output current AC	14,5 A	19 A	22 A	29 A
Harmonic distortion range for nominal current	<3%			
Power factor	Over 0.99 (at nominal output current)			
Maximum efficiency	97,7%			
European efficiency	96,8%			
PROTECTION				
Input	Ground fault / DC isolation fault			
Output	Over-under voltage/ Over-under frequency / Islanding			
Protection class	IP 65 (electronics) / IP 54 (others)			
COMMUNICATIONS				
Protocol	MODBUS (RTU, TCP/IP, ASCII) y SNMP			
Standard	TCP/IP Ethernet,RJ11, USB			
Optional	RS 485			
ENVIRONMENTAL CHARACTERISTICS				
Temperature	-20°C to +50°C/ -4°F to +122°F			
Relative humidity	0-90% without condensation			
Altitude	< 2000m			
MECHANICAL CHARACTERISTICS				
Dimensions mm (WxHxD)	480 x 665 x 220			
Estimated weight kg	39			
Cooling	Optimized refrigeration			
STANDARDS				
Certificates	CE Marking			
Directives	2004/108/CE 2006/95/CE			
Standards	IEC 60146, IEC 62116 EN 62109-1, EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3			
Countries standards				
USA	UL 1741, IEEE 1547			
Italy	CEI 0-21			
Germany	VDE 4105			
England	G83/1-1, G59/2			

These specifications may be changed without notice.

THREE PHASE INVERTER

SUNZET TP

Three-phase central inverters range with and without transformer

Description

The SUNZET TP three-phase central inverters range goes from 20 to 166 KW and combines design and versatility with easy operation and modularity.

An outstanding feature of SUNZET TP inverters is their 96% efficiency with transformer (T model) and 98% (TL model) without it. SUNZET TP inverters provide high reliability and guaranteed operation. Another outstanding function is the high-energy efficiency of its MPPT, which is over 99%. As an important feature, its automatic regulation of reactive power and built in communications tools. All its parameters are configurable both locally and remotely. SUNZET TP inverters operate with an output voltage 3x400 V and comply with most European regulations concerning the support of voltage sags without disconnection. Due to their double-conversion architecture they never generate dangerous overvoltages when disconnecting from mains.



Sunzet TP 30 TL

Sunzet TP 100 TL

Features

- > Range of input DC voltage (300-700 VDC)
- > Maximum power point tracking (MPPT)
- > High energy efficiency MPPT > 99%
- > Very low harmonic distortion, THD < 3%
- > Selectable power factor
- > Direct mains connection (T & TL model)
- > Unlimited parallel connection
- > Anti-islanding protection with automatic shut down
- > Monitoring from the unit with LCD
- > Galvanic isolation through the transformer (T model)
- > Strings current monitoring (with option "Sunzet String Box")
- > IP21 protection level
- > Protection against: inverse polarity, short-circuits, overvoltages, insulation failure with output to relay
- > Service life of more than 20 years
- > Automatic reactive energy regulation
- > PC-based Web server programme for full access to inverter data
- > Maximum yield of solar plants
- > Modularity
- > Output voltage 3x 400 V (T & TL model)
- > DC and AC surge protections included
- > Compatible with thin film modules
- > ETHERNET communications ports
- > Easy access through any web browser
- > Remote SCADA (SWS 1000): communications system, parameter display, inverter records control, production data storage (optional)

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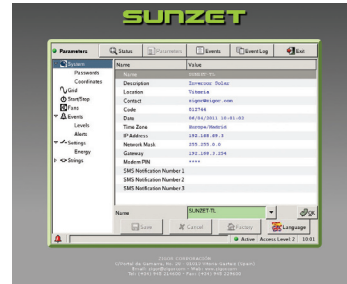
ZIGOR

Web server for three-phase SUNZET TP inverters

This is a PC-based Web server programme to provide full access to the inverter data and to monitor and communicate with three-phase SUNZET TP inverters.

The Web server let the user to communicate with the inverters in different languages and record the following data.

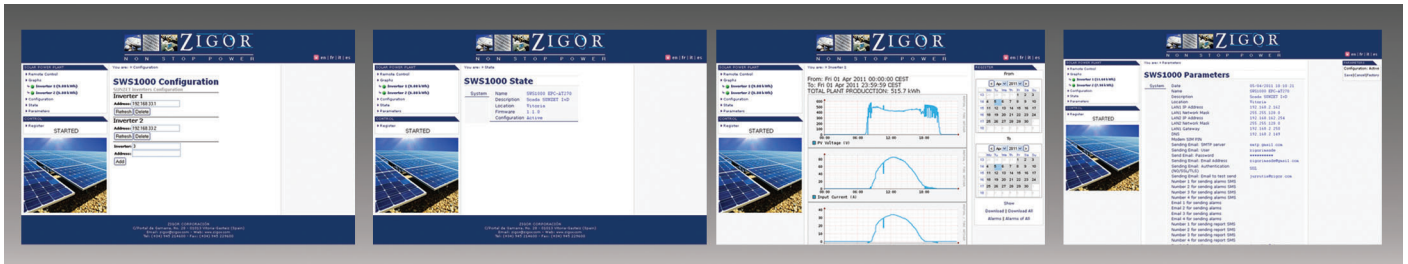
- > Status
- > Parameters
- > Events
- > Event Log
- > Production



SWS 1000 SCADA system for SUNZET three-phase TP inverters

The SWS 1000 Scada system is a platform for monitoring and register variables, check and modify the settings as well as customise all parameters from the three-phase SUNZET TP inverters. It can control up to 20 units, which makes the SWS 1000 a suitable tool to monitor a generation plant through a unique fixed IP address.

The SWS 1000 has a Web server in several different languages (selectable by the user) where the following functions can be run:



SWS 1000

See more information about connectivity and options on page 44

> Sunzet TP model with transformer

ELECTRICAL CHARACTERISTICS							
Model	Sunzet 20 TP T	Sunzet 25 TP T	Sunzet 30 TP T	Sunzet 50 TP T	Sunzet 75 TP T	Sunzet 100 TP T	Sunzet 133 TP T
Reference	16112	13038	17698	17173	16113	17038	301206
Continuous output power	20 KW **	25 KW **	30 KW	50 KW	75 KW ***	100 KW	133 KW
Nominal DC power	≥ 21 KW	≥ 27 KW	≥ 31 KW	≥ 52 KW	≥ 78 KW	≥ 105 KW	≥ 140 KW
Nominal AC voltage AC	380-400 V 3P+N						
Nominal frequency	50 Hz						
Power factor	1 adjustable ± 0.8						
Nominal line current AC	30 A	37 A	44 A	73 A	109 A	145 A	193 A
Current distortion AC ⁽¹⁾	< 3% THD of nominal power						
Maximum open circuit voltage DC ⁽²⁾	880 V						
Power tracking range (MPPT) DC *	300 to 720 V						
Maximum input current DC	70 A	90 A	103 A	173 A	260 A	350 A	462 A
Maximum efficiency	96%						
European efficiency	94.95%						
ENVIRONMENTAL AND MECHANICAL FEATURES							
Range of ambient temperatures	-10°C +50°C						
Type and grade of environmental protection	IP21						
Estimated weight	270 Kg	290 Kg	310 Kg	390 kg	1020 Kg		950 Kg
Dimensions (HxWxD)	2150 X 800 x 600				2150 x 1200 x 600		
Operating height ⁽³⁾	<1000 m						
Relative humidity	0 a 95% without condensation						
GENERAL FEATURES							
Cooling method	Internal forced ventilation External fan control (6 A max.)						
Protection functions	Inverse polarity / Over/Sub-voltage AC / Over/Sub-frequency / Over-voltage DC						
User interface	LCD screen						
Breakers (AC and DC)	Integrated in the system						
Communication software	Web server through Ethernet connection						
Equipment supervision: self diagnostic	Yes						
Data acquisition	SNMP						
SWS 1000 scada system (option)	Ethernet / GSM modem (option) / Data logger / Monitoring programme						
External measurements	2 analogue inputs for monitoring (option) Digital Inputs/Outputs						
STANDARDS							
Certificates	CE Marking, VDE, ENEL						
Directives	2004/108/CE (UNE-EN 61000-6-2 / UNE-EN 61000-6-3) 2006/95/CE (EN 50178)						
Standards	IEC 62116 (2008) - Anti-islanding protection						
Countries standards							
Spain	PO 12.3						
Germany	VDE 0126-1-1						
Italy	DK5940 (Chapter 8.2 Allegato 17. TERNA Regolazione)						
UK	G83						
France	Decret: Arrête du 23 avril 2008						

(1) For THD V< 1% and Nominal Power.

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

(3) No power derating for ambient temperatures under 44° C.

* Minimum voltage 250V working with thin film solar modules at nominal power.

** This units are the Sunzet 30 TP T with output power limited by software.

*** This unit is the Sunzet 100 TP T with output power limited by software.

These specifications may be changed without notice.

> Sunzet TP model transformerless

ELECTRICAL CHARACTERISTICS								
Model	Sunzet 20 TPTL	Sunzet 25 TPTL	Sunzet 30 TPTL	Sunzet 50 TPTL	Sunzet 75 TPTL	Sunzet 100 TPTL	Sunzet 150 TPTL	Sunzet 166 TPTL
Reference	16114	16115	16116	17174	16117	15754	200186	200104
Continuous output power	20 KW **	25 KW **	30 KW	50 KW	75 KW ***	100 KW	150 KW	166 KW
Nominal DC power	≥ 20.4 KW	≥ 25.5 KW	≥ 30.6 KW	≥ 51 KW	≥ 76.5 KW	≥ 102 KW	≥ 160 KW	≥ 170 KW
Nominal AC voltage AC	400 V AC 3P							
Nominal frequency	50 Hz							
Power factor	1 adjustable ± 0.8							
Nominal line current AC	30 A	37 A	44 A	73 A	109 A	145 A	218 A	241 A
Current distortion AC ⁽¹⁾	< 3% THD of nominal power							
Maximum open circuit voltage DC ⁽²⁾	880 V DC							
Power tracking range (MPPT) DC *	300 to 720 V							
Maximum input current DC	66.6 A	83.3 A	102 A	170 A	255 A	340 A	533 A	475 A
Maximum efficiency	98 %						97,60 %	97,13 %
European efficiency	96,78%						96,27 %	95,79 %
ENVIRONMENTAL AND MECHANICAL FEATURES								
Range of ambient temperatures	-10°C a +50°C							
Type and grade of environmental protection	IP21							
Estimated weight	230 Kg	250 Kg	270 Kg	320 Kg	490 Kg	450 Kg	580 Kg	
Dimensions (HxWxD)	2150 X 800 x 600							
Operating height ⁽³⁾	<1000 m							
Relative humidity	0 a 95% without condensation							
GENERAL FEATURES								
Cooling method	Internal forced ventilation External fan control (6 A max.)							
Protection functions	Inverse polarity / Over/Sub-voltage AC / Over/Sub-frequency / Over-voltage DC							
User interface	LCD screen							
Breakers (AC and DC)	Integrated in the system							
Communication software	Web server through Ethernet connection							
Equipment supervision: self diagnostic	Yes							
Data acquisition	SNMP							
SWS 1000 scada system (option)	Ethernet / GSM modem (option) / Data logger / Monitoring programme							
External measurements	2 analogue inputs for monitoring (option) Digital Inputs/Outputs							
STANDARDS								
Certificates	CE Marking, VDE, ENEL							
Directives	2004/108/CE (UNE-EN 61000-6-2 / UNE-EN 61000-6-3) 2006/95/CE (EN 50178)							
Standards	IEC 62116 (2008) IEE 1547							
Countries standards								
Spain	PO 12.3							
Germany	VDE 0126-1-1							
Italy	DK5940 (Chapter 8.2 Allegato 17. TERNA Regolazione)							
UK	G83							
France	Decret: Arrête du 23 avril 2008							

(1) For THDV< 1% and Nominal Power.

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

(3) No power derating for ambient temperatures under 44° C.

* Minimum voltage 250V working with thin film solar modules at nominal power.

** This units are the Sunzet 30 TP TL with output power limited by software.

*** This unit is the Sunzet 100 TP TL with output power limited by software.

These specifications may be changed without notice.

THREE PHASE INVERTER

SUNZET MV

Modular three-phase central inverter for mid voltage plants

Description



The SUNZET MV has been specially designed for mid voltage grid connected solar generation plants. An outstanding feature of SUNZET MV 125 and 166 KW inverters is their 98% efficiency.

SUNZET MV inverters provide high reliability and guaranteed operation. Another outstanding function is the high-energy efficiency of its MPPT, which is over 99%.

Another important feature is its automatic regulation of reactive power and communications tools between it and the centralised supervision and control system. All its parameters are configurable both locally and remotely.

SUNZET inverters operate with an output voltage 3x450 V and are adapted to meet with the requirements of response against voltage sags in accordance with several European Regulators.



Sunzet 125 MV

Features

- > Range of input DC voltage (300-720 VDC)
- > Maximum power point tracking (MPPT)
- > High energy efficiency MPPT > 99%
- > Very low harmonic distortion THD < 3%
- > Selectable power factor
- > Unlimited parallel connection
- > Anti-islanding protection with automatic shut down
- > Monitoring from the unit with LCD
- > Strings currents monitoring (with option "Sunzet String Box")
- > IP21 protection level
- > Protection against: inverse polarity, short-circuits, over voltages, insulation failure with output to relay
- > Automatic reactive energy regulation
- > PC-based Web server programme for full access to inverter data
- > Maximum efficiency
- > Modularity
- > DC and AC surge protections included
- > Compatible with thin film modules
- > ETHERNET communications ports
- > Easy access through any web browser
- > Remote SCADA (SWS 1000): communications system, parameter display, inverter records control, production data storage etc, (optional)

Connectivity and accessories

> Sunzet Web server integrated

PC-based Web server programme for full access to inverter data by Zigor to monitor and communicate with SUNZET MV inverters (integrated).

> SWS 1000

The SWS 1000 Scada system is a platform for monitoring and register variables, check and modify the settings as well as customise all parameters from the SUNZET MV inverters (optional).

See more information about connectivity and options on page 44

on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

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wind energy



NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS		
Model	Sunzet 125 MV	Sunzet 166 MV
Reference	17570	200103
Continuous output power	125 KW	166 KW
Maximum recommended PV power	+5% to +20%	
Nominal DC power	≥ 128 KW	≥ 170 KW
Nominal AC voltage	3x450 V	
Nominal frequency	50 Hz	
Power factor	1 adjustable ± 0.8	
Nominal line current AC	162 A	215 A
Current distortion AC ⁽¹⁾	<3% THD of nominal power	
Maximum open circuit voltage DC ⁽²⁾	880 V	
Power tracking range (MPPT) DC	300 to 720 V	
Maximum input current DC	360 A	575 A
Maximum efficiency	98%	97,60 %
European efficiency	97,34%	96,27 %
ENVIRONMENTAL AND MECHANICAL FEATURES		
Range of ambient temperatures	-10°C to +50°C	
Type and grade of environmental protection	IP21	
Approximate Weight	490 Kg	450 kg
Dimensions (HxWxD)	2150 x 800 x 600 mm	
Operating height ⁽³⁾	<1000 m	
Relative humidity	0 to 95% without condensation	
GENERAL FEATURES		
Refrigerating method	Internal forced ventilation External fan control (6 Amax.)	
Protection functions	Inverse polarity, Over/Sub-voltage AC Over/Sub-frequency, Overvoltage DC	
User interface	LCD screen	
Breakers (AC and DC)	Integrated in the system	
Communication software	Web server through Ethernet connection	
Equipment supervision: self diagnostic	Yes	
Data acquisition	SNMP	
SWS 1000 Scada System (option)	Ethernet, GSM modem (option), Data logger, Monitoring programme	
STANDARDS		
Certificates	CE Marking, VDE, ENEL	
Directives	2004/108/CE (UNE-EN 61000-6-2 / UNE-EN 61000-6-3) 2006/95/CE (EN 50178)	
Standards	IEC 62116 (2008) IEE 1547	
Countries standards		
Spain	PO 12.3	
Germany	VDE 0126-1-1	
Italy	DK5940 (Chapter 8.2 Allegato 17. TERNA Regolazione)	
UK	G83	
France	Decret: Arrête du 23 avril 2008	

(1) For THDV< 1% and Nominal Power.

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

(3) No power derating for ambient temperatures under 44° C.

These specifications may be changed without notice.

THREE PHASE INVERTER

SUNZET CENTRAL

Modular three-phase central inverter utility scale solar plants

Description



The SUNZET CENTRAL has been specially designed for improving the efficiency and utility scale of solar generation plants. This three-phase solar inverters range from 100 to 300 kW stand out by their efficiency of their MPPT, higher than 98,5%. The SUNZET CENTRAL inverters provide high reliability and guaranteed operation.

One of the features from Sunzet CENTRAL inverters to highlight is their unbeatable power density per volume, enabling a significant space reduction in medium-large size Solar Plants.

Another important feature is its automatic regulation of reactive power and communications tools between it and the centralised supervision and control system. All its parameters are configurable both locally and remotely. SUNZET inverters operate with an output voltage 3x400 V and are adapted to meet with international grid codes.



Sunzet Central

Features

- > Range of input DC voltage (590-1000 VDC)
- > Maximum power point tracking (MPPT)
- > High energy efficiency MPPT > 99%
- > Very low harmonic distortion THD < 3%
- > Selectable power factor
- > Unlimited parallel connection
- > Anti-islanding protection with automatic shut down
- > Monitoring from the unit with LCD
- > Strings currents monitoring (with option "Sunzet String Box")
- > IP21 protection level
- > Protection against: inverse polarity, short-circuits, over voltages, insulation failure with output to relay
- > Automatic reactive energy regulation
- > PC-based Web server programme for full access to inverter data
- > Maximum efficiency 98.5%
- > Modularity
- > DC and AC surge protections included
- > Compatible with thin film modules
- > ETHERNET communications ports
- > Easy access through any web browser

Connectivity and accessories

> Sunzet Web server integrated

PC-based Web server programme for full access to inverter data by Zigor to monitor and communicate with SUNZET CENTRAL inverters (integrated).

on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

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NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS			
Model	Sunzet Central 100	Sunzet Central 150	Sunzet Central 300
Continuous output power	100 kW	150 kW	300 kW
Recommended PV power	+5% to +20%		
Nominal AC voltage	3x400 V		
Nominal frequency	50/60 Hz		
Power factor	1 adjustable ± 0,8		
Nominal line current AC	145 A	217 A	435 A
Current distortion AC ⁽¹⁾	< 3% THD of nominal power		
Maximum open circuit voltage DC ⁽²⁾	1000 V		
Power tracking range (MPPT) DC	590 to 850 Vdc		
Maximum input current DC	137 A	260 A	521 A
Maximum efficiency	98,3%	98,5%	98,5%
European efficiency	97,5%	97,9%	98,2%
ENVIRONMENTAL AND MECHANICAL FEATURES			
Range of ambient temperatures	-10°C to +50°C		
Type and grade of environmental protection	IP21		
Approximate Weight kg	350	350	450
Dimensions (HxWxD) mm	1600x800x600	1600x800x600	2150x800x600
Operating height ⁽³⁾	1000 m		
Relative humidity	0 to 95% without condensation		
GENERAL FEATURES			
Refrigerating method	Internal forced ventilation External fan control (6 Amax.)		
Protection functions	Inverse polarity, Over/Sub-voltage AC Over/Sub-frequency, Overvoltage DC		
User interface	LCD screen		
Breakers (AC and DC)	Integrated in the system		
Communication software	Web server through Ethernet connection		
Equipment supervision: self diagnostic	Yes		
STANDARDS			
Certificates	CE, VDE, ENEL		
Directives	2004/108/CE (UNE-EN 61000-6-2 / UNE-EN 61000-6-4) 2006/95/CE (IEC 62109-1 / IEC 62109-2)		
Standards	IEEE 1547		
Countries standards			
Spain	P.O. 12.3		
Germany	BDEWTG		
Italy	CEI 0-16		
UK	G83/1-1 +G59/2		

(1) For THDV< 1% and Nominal Power.

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

(3) No power derating for ambient temperatures under 44° C.

These specifications may be changed without notice.

THREE PHASE INVERTER

SUNZET POWER STATION

Concrete building containing inverters, medium-voltage transformer & medium-voltage cells

Description



Zigor Corporación offers PV solar market a plug-and-play solution to reduce the engineering and civil works while designing and building a Megawatt PV plant.

The Sunzet Power Station, available in 250 KW, 500 KW and 1 MW power is the key solution to improve reliability and yield of solar plants. It has been designed to optimize wiring and size as well as to easy PV plant construction.

The Sunzet Power Station is delivered completely finished with the internal wiring fully done. The customer has only to connect the solar field and the Grid to the building inlets.



Sunzet Power Station

Features

The Sunzet Power Station includes:

- > Concrete building
- > PV inverters (250 KW, 500 KW or 1 MW)
- > Medium voltage transformer up to 36 KV (reduced losses)
- > Medium voltage cells according to National Grid Codes
- > Security and protective devices
- > Integrated cooling system to assure optimum performance
- > Lighting, power sockets, grounding network
- > AC protection board with breakers
- > Complete internal wiring between devices
- > Start-up at the site

Options:

- > Concentration boxes - Level II
- > SWS 1000 SCADA System for monitoring
- > Metering equipment



Sunzet Power Station

on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

telecom back up

wind energy

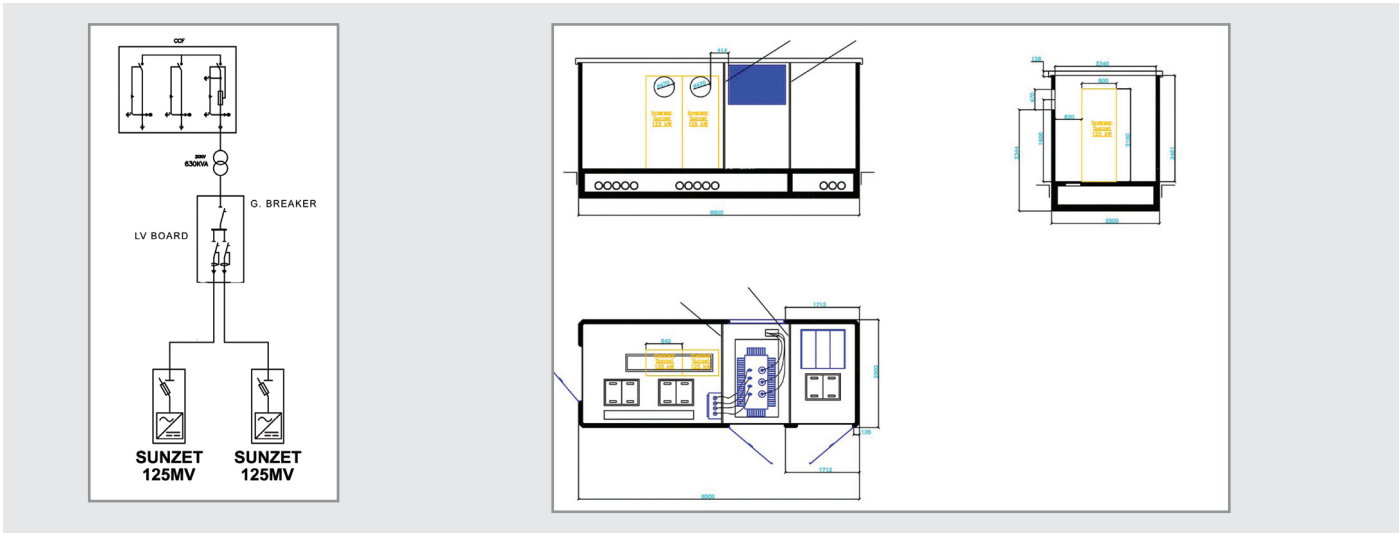


NON STOP POWER

ZIGOR

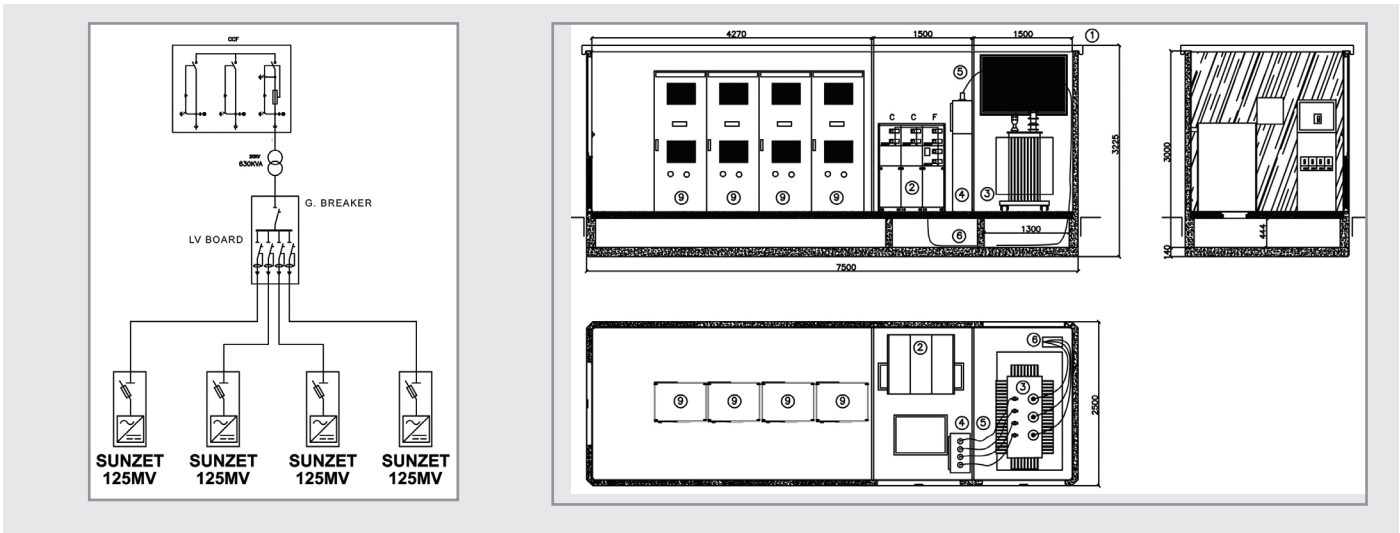
> **Model 250 KW.**

Electrical scheme and configuration



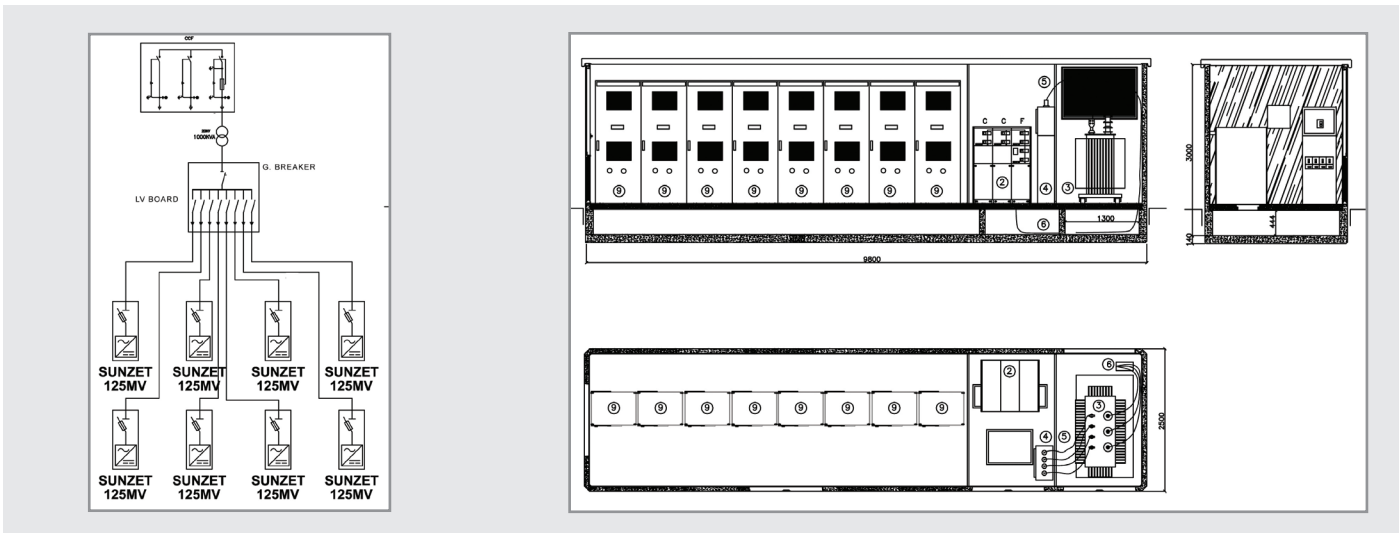
> **Model 500 KW.**

Electrical scheme and configuration



> **Model 1MW.**

Electrical scheme and configuration



THREE PHASE INVERTER

BAT GEN

3 Phase battery Charger/Discharge On-Grid inverters range

Description

The BAT GEN range of Reversible Battery Charger 3 phase on-grid inverters is designed to cover the needs of all mains-connected solar battery base plants.

The BAT GEN 30/50/100/150 KW combines design and versatility with ease of operation and modularity that allows multiple MVA installations and it's compatible most available battery technologies (Lead-acid, Ni-cd, Li-ion, Redox)



BAT GEN

Features

- > Range of DC battery voltage (300-700 VDC)
- > High energy efficiency 97%
- > Very low harmonic distortion, THD < 3%
- > Selectable power factor
- > Direct connection to distribution Network
- > Unlimited parallel connection
- > Anti-islanding protection with automatic shut down
- > Monitoring from the unit with LCD
- > Galvanic isolation through the transformer (T models)
- > IP21 protection level
- > Protection against: inverse polarity, short-circuits, overvoltages, insulation failure with relay signalling
- > Service life of more than 20 years
- > Automatic reactive energy regulation
- > PC-based Web server programme for full access to BATGEN data
- > Maximum efficiency
- > Modularity
- > Output voltage 220/480 V
- > No Data logger is required for monitoring system parameters
- > DC and AC surge protections included
- > ETHERNET and RS-485 communications ports for monitoring
- > Ride through complying with most countries grid code
- > Optional Dump Load for V/F control
- > Lead-acid, Ni-cd, Li-ion, Redox compatible

Connectivity and accessories

> Sunzet Web server integrated

PC-based Web server programme for full access to inverter data by Zigor to monitor and communicate with BAT GEN system (integrated).

See more information about connectivity and options on page 44

on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

telecom back up

wind energy



NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS

System	Bat Gen 30		Bat Gen 50		Bat Gen 100		Bat Gen 150
Models	30 KVA T	30 KVA TL	50 KVA T	50 KVA TL	100 KVA T	100 KVA TL	150 KVA TL
Continuous output power	30 KW AC		50 KW AC		100 KW AC		150 KW AC
Nominal DC power	≥ 31 KW		≥ 52 KW		≥ 105 KW		≥ 158 KW
Nominal AC voltage	T 380-400 V Three phase						
Nominal frequency	50/60 Hz						
Power factor	1 adjustable ± 0.8						
Nominal line current AC	44 A		73 A		145 A		218 A
Current distortion AC ⁽¹⁾	<3% THD of nominal power						
Maximum DC voltage ⁽²⁾	880 V						
Maximum input current DC	103 A	105 A	173 A	175 A	350 A	350 A	533 A
Maximum number of parallel units	Nx30 KW		Nx 50 KW		Nx100 KW		Nx150 KW
Maximum efficiency	96%	98%	96%	98%	96%	98%	97,60%
Battery Capacity	from 50 Ah to 1500 Ah						

ENVIRONMENTAL AND MECHANICAL FEATURES

Range of ambient temperatures	-10°C to +50°C						
Type and grade of environmental protection	IP21						
Estimated weight	500	270	600	320	1020	490	450
Dimensions (HxWxD) mm	2150 x 800 x 600		2150 x 800 x 600		2150x1200 x600	2150x800x600	2150x800x600
Operating height ⁽³⁾	<1000 m						
Relative humidity	0 to 95% without condensation						

GENERAL FEATURES

Refrigerating method	Internal forced ventilation External fan control (6 A max.)						
Protection functions	Inverse polarity Over/Sub-voltage AC Over/Sub-frequency Overvoltage DC						
User screen	Standard LCD						
Breakers (AC and DC)	Integrated in the system						
Communication software	Software for communication						
Equipment supervision: self diagnostic	Yes						
External communication	Ethernet / SNMP/ Web server / Data logger						
Monitoring options	GSM modem						

STANDARDS AND SAFETY

Certificates	CE Marking						
Directives	2004/108/CE (UNE-EN 61000-6-2 / UNE-EN 61000-6-4) 2006/95/CE (EN 50178)						
Standards	IEC 62116 (2008) - Anti-islanding protection						

(1) For THDV< 1% and Nominal Power.

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

(3) No power derating for ambient temperatures under 44° C.

These specifications may be changed without notice.

SINGLE-PHASE HYBRID SYSTEM

HIS COMPACT

Hybrid Reliable Micro-grid

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

Description

The **HIS 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 **HIS 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 **HIS 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 HIS Compact systems are capable to manage the functioning of the assigned Gen Set, keeping them stopped when their energy is not needed.

The Zigor **HIS 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.



HIS 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

> HIS Compact Web server integrated (optional)

The Hybrid Inverter from **HIS 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 an Internet Browser, the user gets direct access to all information about the HIS 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 HIS 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.

on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

telecom back up

wind energy



NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS: OUTPUT MODULE + RENEWABLE MANAGEMENT

Model	HIS Compact 4	HIS Compact 5	HIS 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	-10°C to +50°C		
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		

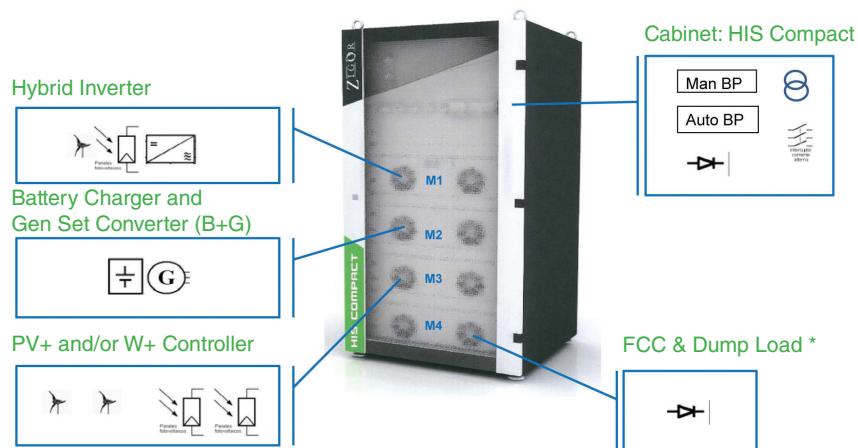
(1) Basic configuration.

(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

HIS 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

THREE PHASE HYBRID INVERTER SYSTEM

HITC

Three-phase hybrid inverter

(for solar or wind generation, batteries and grid or emergency)

Description



The range of HITC hybrid inverters is designed to meet power requirements in locations not covered by the grid, as well as hybrid rural electrification and/or distributed generation.

The main feature of hybrid HITC inverters is that they are capable of generating electricity from Solar or Wind resources, from Batteries, from the Grid or Genset.

Zigor three-phase HITC hybrid inverters have been designed to add energy from several different sources while controlling all of them from a unique management system.



HITC 100 KW

Features

- > Grid or Genset
- > Wind Turbine or PV field input through internal regulator
- > Back-up battery
- > Range of input DC voltages (450-700 VDC) for solar panels
- > Maximum power point tracking (MPPT) for solar panels
- > High energy efficiency MPPT > 99%
- > Very low harmonic distortion THD < 3%
- > Monitoring from the unit with LCD
- > Galvanic isolation via transformer
- > Strings Currents monitoring for solar panels (option)
- > IP21 protection level
- > Protection against: Inverse polarity, short circuits, overvoltages, isolation failure with relay output
- > Hybrid mains connection consumption points with limited power capacity or in which energy saving is a necessity
- > Web server through Ethernet communication port
- > Easy access through any web browser
- > Remote SCADA (SWS 2000): communications system, parameter display, inverter records control, production data storage etc, (optional)

Connectivity and accessories

> HITC Web server integrated

PC-based Web server exclusive programme for full access to inverter data by Zigor to monitor and communicate with HITC inverters (integrated).

> SWS 2000

The SWS 2000 Scada system is a platform for monitoring and register variables, check and modify the settings as well as customise all parameters from the hybrid inverters HITC (optional).

See more information about connectivity and options on page 44

on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

telecom back up

wind energy



NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS				
Model	HITC 30	HITC 50	HITC 100	HITC 150
Reference	016288 (400V) 016289 (220V)	300552 (400V) 300553 (220V)	016290 (400V) 016291 (220V)	303675 (400V)
Maximum Continuous output power	30 KW	50 KW	100 KW	150 KW
Recommended PV for rated power	≥ 31 Kwp	≥ 52 Kwp	≥105 Kwp	≥157 kWp
Nominal output frequency	50 / 60 Hz			
Power factor at full load	>0,99			
Maximum output current per phase	83/45 A	139/76 A	278/152 A	228 A
Voltage distortion AC	<3% at full load (2,5%)			
Nominal output voltage	208/220/240 or 380/400/440 Vac (3F+N)			380/400/440 Vac
Maximum power efficiency	>96% (including transformer)			
MPPT efficiency	99%			
Internal consumption in operation	<1% at full load			
Isolation transformer	Internal			
AC / DC Switches	Internal			
Monitoring and supervision	Autochecking / Data and event log / Graphics software for communications			
User interface	2-line display, keyboard and 3 leds			
External interface	Standard: Ethernet, SNMP / Option: GSM modem			
INPUT GENERATOR SET				
Nominal power	≥ 30 KW	≥ 50 KW	≥ 100 KW	≥ 150 kW
Nominal voltage	208/220/240/380/400/440 Vac (3F+N)			
Nominal frequency	50 / 60 Hz			
Maximum current per phase	139/76 A	194/106 A	389/213 A	289 A
BATTERY				
Nominal voltage	350 Vdc			
Voltage range	300 / 420 Vdc			
Charge maximum current	50 A	50 A	100 A	100 A
Discharge maximum current	103 A	173 A	350 A	500 A
INPUT PV				
MPPT voltage range	420 / 700 Vdc			
Maximum current	74 A	125 A	250 A	375 A
Maximum voltage ⁽¹⁾	880 Vdc			
Number of inputs	1			
GENERAL INFORMATION				
Operating ambient temperature range	-10°C to +50°C			
Cooling	Forced Air and external fan control (6 A)			
Relative Humidity	0% to 95% Non condensing			
Operating altitude	<1000 m without loss of power			
Enclosure rating	IP21 - standard			
Cabinet dimensions (HxWxD) (mm)	1950x1200x630 (400 Vac model) 1950x1200x730 (220 Vac model)		2150 x 1600 x 630	
Cabinet Weight	830 Kg	850 Kg	1320 Kg	1450 kg
STANDARDS				
Certificates	CE Marking			
Directives	2006/95/CEE-93/68/CEE 2004/108/CEE			
Standards	IEC-62109-1			

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

These specifications may be changed without notice.

HIS

Single-phase hybrid inverter for batteries and grid or emergency generator

Description



The range of HIS hybrid inverters is designed to meet power requirements in locations not covered by the grid or where electricity is very expensive.

The main feature of hybrid HIS inverters is that they are capable of generating electricity from Batteries, from the Grid or Emergency Generator, in a controlled manner.

Hybrid HIS inverters combine the power from a fossil fuel to the DC resource, prioritising the consumption from DC energies over the rest.

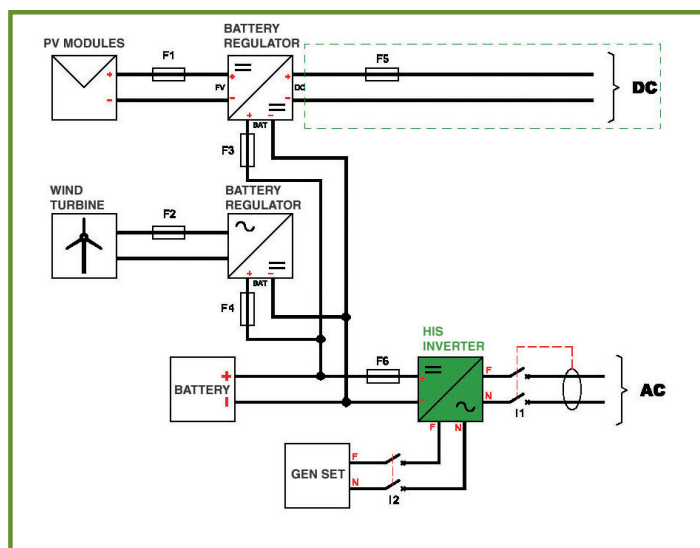
This function allows high energy savings in installations fitted with an emergency power generator. Optionally, they implement management strategies oriented towards energy saving.



HIS 6 & 8 models

Features

- > Grid or Emergency Generators Input
- > Wind Turbine and PV field compatible through external battery charge regulator
- > Back-up battery
- > Very low harmonic distortion THD< 3%
- > Monitoring from the unit with LCD
- > Galvanic isolation via transformer
- > IP21 protection level
- > Protection against: Inverse polarity, short circuits, overvoltages, isolation failure with relay output
- > As back-up or for clients with high power availability requirements: Telecom installations, IT installations
- > ECO mode available: inverter will not work if there's no consumption
- > Output to start external emergency Generation



on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

telecom back up

wind energy



NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS						
Model	HIS 1,2	HIS 2,4	HIS 3,6	HIS 5	HIS 6	HIS 8
Reference	18718	18717	18716	18715	18714	18712
VA / Watts	1.2KVA/800W	2.4KVA/ 1600W	3.6KVA/ 2400W	5KVA/4000W	6KVA/6000	8KVA/8000
Nominal Input Voltage	220VAC(+20%~-45%) ; 120VAC(+20%~-45%) ; 50 Hz(±10%) ; 60 Hz (±10%)					
Output Voltage	220VAC (230V or 240VAC readjustable by means of the LCD panel) 110 VAC (115V or 120VAC readjustable by means of the LCD panel)					
Voltage regulation	< 3% of the efficient value for the entire voltage range of the battery					
Output frequency	50Hz or 60Hz					
Frequency Regulation (Battery Mode)	± 0.1Hz					
Power Factor	0.8				1.0	
Waveform	Pure sinusoidal wave					
Efficiency	AC-AC >98% DC-AC > 75%	AC-AC >98% DC-AC > 75%			AC-AC >98% DC-AC > 80%	
Overload Protection	110% ~ 150% for 30sec. >150% for 200ms					
Typical Transfer Time	< 8 ms.					
BATTERY						
Battery voltage	24V				48V	
Reserve time (with complete load)	In function of battery power range					
Maximum charging current	> 20A	> 30A			> 60A	
GENERAL FEATURES						
Acoustic Noise (dB)	<55 dBA (at 1m)					
Type of Protection	IP20					
Temperature Range	0°C ~ +40°C : 32 ~ 104°F					
Relative Humidity	0-95% without condensation					
Dimensions (WxHxD) mm	298x400x150	298x450x190		415x600x260		
Weight (Kg)	14	21	23	49.2	51.4	53.6
STANDARDS						
Certificates	CE Marking					
Directives	73/23/CEE-93/68/CEE 2004/108/CEE					
Standards	EN 62040-1-1 EN 62040-2, EN 61000-3-2, EN 61000-2-2, EN 55022					

These specifications may be changed without notice.

JUPITER

Range of sinusoidal inverters for isolated systems

Description



Jupiter inverters made by Zigor for off-grid applications are the appropriate systems to manage the power from batteries and offer a sinusoidal AC output ensuring the stability of the supply.

The range of Jupiter inverters made by Zigor can be used either built into energy systems or on an individual basis. They are capable of protecting batteries against deep discharges that might reduce the service life of them.

They are designed to ensure correct operation under aggressive environmental conditions, thanks to their broad range of operating temperatures.

The Jupiter range output power, from 350 to 3000 W and input voltages of 12/24/48V; allows a great deal of flexibility in individual use and can be easily integrated into power systems.



Jupiter

Features

- > Power range (350-3000 W)
- > Appropriate for all loads
- > Excellent overload capacity (200%)
- > High reliability
- > High performance
- > Protection against battery (LVD)
- > Disconnection due to battery under/overvoltage
- > Protection against:
 - Over-temperature
 - Short-circuit
 - Overload
 - Under/Overvoltage
 - Inverse polarity
- > Easy connection
- > Include standard outlet connections
- > Reduced consumption in stand-by
- > Optimum solution for isolated applications
- > Maximum efficiency
- > Withstands reactive loads
- > Pure sinusoidal wave form
- > Stand-alone operation
- > Easy to handle

Applications

- > Isolated applications
- > Street lighting
- > Rural Electrification
- > Signposting, traffic
- > Pumping systems
- > Relay Stations
- > Telecommunications and remote signal measurement

on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

telecom back up

wind energy



NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS

Model	Jupiter 350		Jupiter 700		Jupiter 1000			Jupiter 2000			Jupiter 3000	
Nominal power	350W		700W		1000W			2000W			3000W	
Power peak	700W		1400W		2000W			4000W			6000W	
Input voltage	Range of operating voltages											
12Vdc	10,5 ~ 15Vdc		10,5 ~ 15Vdc		10,5 ~ 15Vdc			10,5 ~ 15Vdc			-	
24Vdc	21 ~ 30Vdc		21 ~ 30Vdc		21 ~ 30Vdc			21~30Vdc			21 ~ 30Vdc	
48Vdc	-		-		42 ~ 60Vdc			42 ~ 60Vdc			42 ~ 60Vdc	
Output voltage	230VAC ± 3%											
Output frequency	50 / 60Hz ± 0.05%											
Wave form	Pure sinusoidal											
Harmonic distortion	THD < 3%											
Voltage	12V	24V	12V	24V	12V	24V	48V	12V	24V	48V	24V	48V
Efficiency	91%	93%	91%	93%	91%	93%	94%	91%	94%	95%	93%	94%

GENERAL FEATURES

Protections	Overload/Overvoltage/Undervoltage/Overtemperature/Short-circuit/Inverse polarity											
Indicators LED	Input/Load/Failure											

ENVIRONMENTAL AND MECHANICAL FEATURES

Dimensions (WxHxD) (mm)	185x147x60	295x187x72	383x182x88	422x208x166	452x208x166
Weight (kg)	1,4	2,7	4	9	9,8
Operating temperature	between 0 & +40°C				
Storage temperature	between -30 & +70°C				

STANDARDS

Certificates	CE Marking				
Directives	73/23/CEE-93/68/CEE 89/336/CEE				
Standards	EN60950-1, EN55022, EN61000-3-2, EN61000-3-3, EN55024				

JUPITER MODEL REFERENCES

Models	Jupiter 350	Jupiter 700	Jupiter 1000	Jupiter 2000	Jupiter 3000
Voltage					
12 V	18706	18707	18723	18727	-
24 V	18721	18722	18708	18709	18720
48 V	-	-	18724	18719	18725

These specifications may be changed without notice

VENUS

Range of PWM regulators for isolated photovoltaic systems

Description



The Venus range of regulators made by Zigor controls and optimises the energy production from solar panels for storage in battery avoiding overloading.

Venus regulators are the appropriate systems to manage power from PV panels to control battery charge, safeguard their service life and offer a protected output for the DC consumption.

The range of Venus regulators can be used in as many different fields as there are needs for isolated power generating systems. They are designed to manage power in 12/24 V systems.

Designed to ensure correct operation under aggressive environmental conditions, thanks to their broad range of working-temperature and natural convection cooling, the range of Venus regulators made by Zigor guarantee its functionality.



Venus 8

Venus 20

Features

- > PWM monitored battery charging control
- > Temperature compensated battery charging
- > Reinforced charging
- > Final charging voltage
- > Electromagnetic compatibility (EMC)
- > Automatic reconnection of loads
- > Low current consumption at nights
- > User interface by means of LED
- > On-the-spot adjustment of parameters
- > Operation in aggressive atmospheres
- > Protections:
 - Overload
 - Inverse polarity
 - Protection against deep discharge (LVD)
 - Protection against open circuit
- > Control of battery discharge

Applications

- > Isolated photovoltaic systems
- > Domestic consumptions
- > Water pumping
- > Battery charging
- > Telecom backup
- > Illumination
- > Traffic, signposting
- > Rural, camping

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wind energy



ELECTRICAL CHARACTERISTICS		
Model	Venus 8	Venus 20
Reference	20030	20033
Nominal current	8A	20A
Battery voltage	12 / 24Vdc	
PV maximum voltage	40 Vdc	
Recommended PV voltage	18 / 31 Vdc	
GENERAL FEATURES		
Protections	Overvoltage, Sub-voltage, Short-circuit, Inverse polarity	
Under-voltage	10,7 / 21,4 Vdc 2%	
Standby consumption	< 5mA	
Interface	2 led	
Protection type	IP20	
Temperature sensor	Integrate	External wire
ENVIRONMENTAL AND MECHANICAL FEATURES		
Operating temperature	-25°C +50°C	
Cooling	Natural convection	
Dimensions (WxHxD) (mm)	95x95x35	190x100x85
Weight (gr)	214	330
STANDARDS		
Certificates	CE Marking	
Directives	73/23/CEE-93/68/CEE 89/336/CEE	
Standards	EN 50081-1, EN 50082-1	

These specifications may be changed without notice.

SATURNO

Range of MPPT regulators for isolated photovoltaic systems

Description



The Saturno range of regulators made by Zigor controls and optimises the energy production from solar panels for storage in battery avoiding overloading.

Saturno regulators are the appropriate systems to manage power from PV panels, obtaining up to 30% more power than traditional systems to its MPPT function, to control battery charging, safeguard their service life and offer a protected output for the DC consumption.

The range of Saturno regulators can be used in as many different fields as there are needs for isolated power generating systems. They are designed to manage power in 12/24/36/48V systems and the energy can be stored in batteries of up to 600Ah (C10).

Designed to ensure correct operation under aggressive environmental conditions, thanks to their broad range of working-temperature, the range of Saturno regulators made by Zigor guarantee its functionality.



Saturno 60

Saturno 30

Features

- > MPPT monitored battery charging control
- > Temperature compensated battery charging
- > Reinforced charging
- > Final charging voltage
- > Electromagnetic compatibility (EMC)
- > Automatic reconnection of loads
- > Low current consumption at night
- > User interface by means of LED/LCD (60A model)
- > On-the-spot adjustment of parameters (60 A model)
- > Operation in aggressive atmospheres
- > Protections:
 - Overload
 - Inverse polarity
 - Protection against deep discharge (LVD) = 60A non integrated in regulator
 - Protection against open circuit
- > Energy optimisation (up to 30% more) in battery charging
- > Control of battery discharge

Applications

- > Isolated photovoltaic systems
- > Domestic consumptions
- > Water pumping
- > Battery charging
- > Telecom backup
- > Illumination
- > Traffic, signposting
- > Rural, camping

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wind energy



ELECTRICAL CHARACTERISTICS			
Model	Saturno 20	Saturno 30	Saturno 60
Reference	20039	20040	20036
Nominal current	20A	30A	60A
Battery voltage	12 / 24Vdc		36 / 48Vdc
PV voltage range	5 ~ 70Vdc		70 ~ 140Vdc
PV maximum voltage	70Vdc		140Vdc
Recommended PV voltage	35Vdc		110Vdc
GENERAL FEATURES			
Protections	Overvoltage, Sub-voltage, Short-circuit, Inverse polarity		
Under-voltage	10,5 / 21Vdc		31,5 / 42Vdc
Standby consumption	< 1mA		< 30mA
Interface	3 LED		Display
Auxiliary output	No		Yes
ENVIRONMENTAL AND MECHANICAL FEATURES			
Operating temperature	-25°C ~ +60°C		
Refrigeration	Natural		Forced
Dimensions (WxHxD) (mm)	190x112x59		190x335x100
Weight (kg)	0,87	0,89	3
STANDARDS			
Certificates	CE Marking		
Directives	73/23/CEE-93/68/CEE 89/336/CEE		
Standards	EN 50081-1, EN 50082-1, EN 55022 Class B, EN 61000-4-2, EN 61000-4-3		

These specifications may be changed without notice

WIND POWER: SMALL WIND TURBINES

LET-ZIGOR WIND TURBINES

Range of wind turbines from 300 W to 6000 W

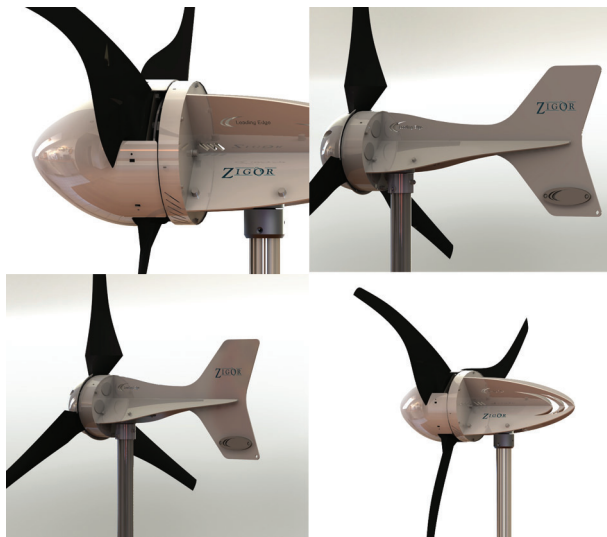
Description



The LET-ZIGOR wind turbines range goes from 300 to 6000 W. They are incredibly quiet, light and with fantastic power production, making LET-ZIGOR wind turbines ideal for marine power needs as well as on-grid/off-grid renewable energy systems.

The LET-ZIGOR wind turbines feature a fully integrated 3-phase Permanent Magnet Generator (PMG) that uses the latest, most powerful neodymium iron boron magnet technology. This gives them a very low cut-in speed allowing the turbines to generate power at low wind speeds, as well as delivering a higher output than the competition at higher wind speeds. The turbine blades are incredibly UV resistant and extremely tough. Of equal importance, is the LET-ZIGOR wind turbines' ability to run at high output during high winds for prolonged periods as it is designed to run through even the highest winds.

The charge controller prevents the turbine overcharging the battery by using a dump load. Simply put, this means that when the batteries are full, any excess energy is simply diverted to a dump load. The advantage of this system is that the turbine can continue to spin under load. This means it continues to operate quietly, as opposed to being turned on and off as with other charge controllers, which is noisy and is not good for turbine longevity. The LET-ZIGOR wind turbines will generate more amp Hours compared to competitor products.



LET-ZIGOR wind turbines

Features

- > High power output in all wind conditions
- > Low RPM rotor blades mean exceptionally quiet operation
- > Designed to run through severe weather conditions
- > All-up weight of just 8.8kg (LET 300 W)
- > Unique bearing configuration resulting in low friction, low bearing noise and low maintenance needs
- > 'X-wing' chassis design gives excellent yaw response in gusty conditions
- > All bearings are lubricated and sealed for life
- > Anti-vibration fixings and mounts used throughout
- > Fully marinated construction from powder coated / anodized aluminium and stainless steel
- > Unique axial flux generator design, using powerful neodymium magnets, allows effortless start up in low winds and reduces 'generator hum'
- > Tail fin especially designed for excellent response to turbulent wind conditions
- > Quieter and more efficient than any other turbine in its class

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energy saving

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NON STOP POWER

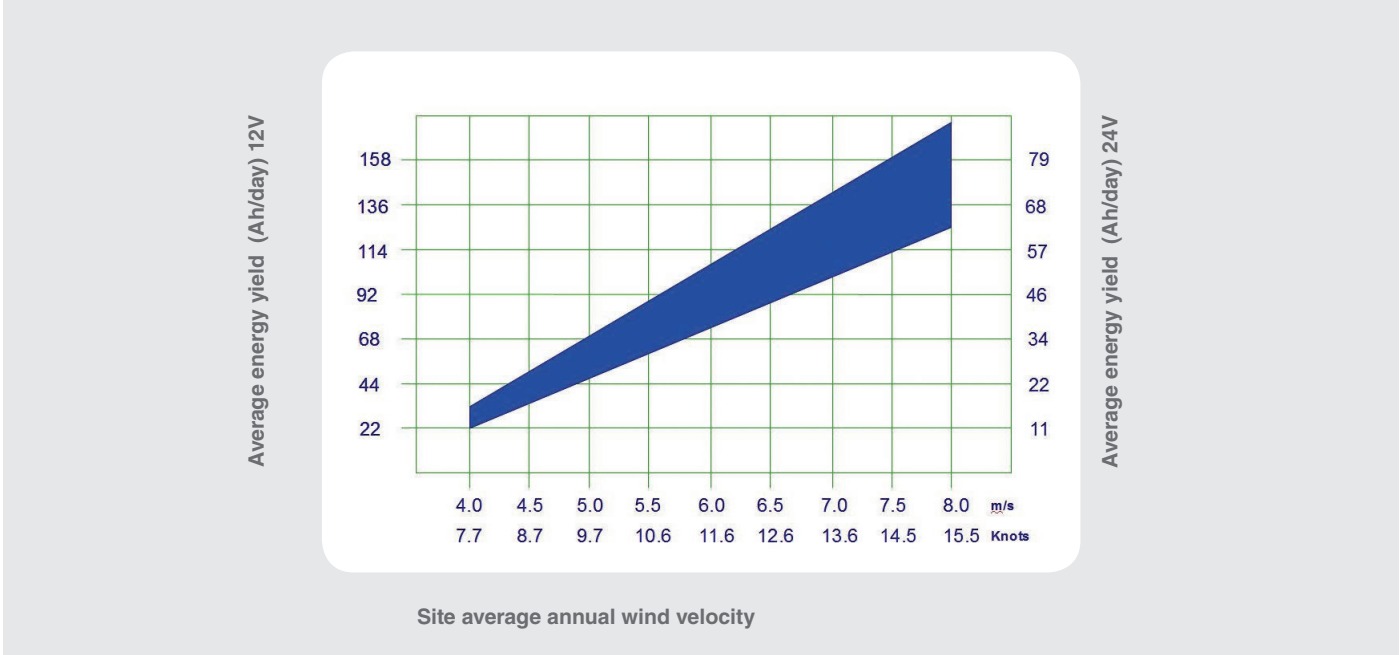
ZIGOR

ELECTRICAL CHARACTERISTICS					
Model	LET 300		LET 600	LET 2000	LET 6000
References					
Model	LET 300	LET 600	LET 2000	LET 6000	
	12 V	20130	-	-	-
	24 V	20131	20132	20136	-
	48 V	-	20133	20137	-
	On-grid	-	-	20139	-
Rotor Type	3-Blade upwind	3-Blade downwind			
Blade Material	Glass Reinforced Nylon		Glass Reinforced Composite		
Rated Output	85watts @ 8m/s (18mph)	160 watts @ 7.2m/s (16.2mph)	1100watts @ 8m/s (17mph)	5000watts @ 11m/s (24mph)	
Peak Output	300 watts	700 watts	2500 watts	6000 watts	
Cut-in speed	3m/s (6.7mph)				
Estimated AEP (per year) Depending on site location & wind	250-400kWh	250-1900kWh	2000-4500kWh	7000-20,000kWh	
Generator Type	3-Phase Brushless NIB rotor PMA		3-Phase Brushless NIB dual rotor PMA		
Off-grid output voltage	12 or 24V	24 or 48V	24V or 48V		
On-grid output voltage	-	-	300V DC Grid tie		
GENERAL FEATURES					
Lifetime & Servicing	20 years. Annual inspection recommended				
Warranty	2 years				
Control system	-	-	Flight Computer, Auto Shut-down Over Voltage	Flight Computer, Auto Shut-down Over Voltage, Mechanical Brake	
Grid-Tie Equipment:	Windzet inverter of Zigor				
ENVIRONMENTAL AND MECHANICAL FEATURES					
Weight	6.5 Kg	19.5Kg	60kg (head)	265kg (head)	
Rotor Diameter	1 metre	1.54 metres	3 metres	6.0 metres	
Acoustic level	-	-	53dB(A)		
ACCESSORIES					
Model	LET 300	LET 600	LET 2000	LET 6000	
	Guyed tower kit	Guyed tower kit	Free Standing Tower Hydraulic Lift Arm Frame Windzet inverter SP 2 KW	-	

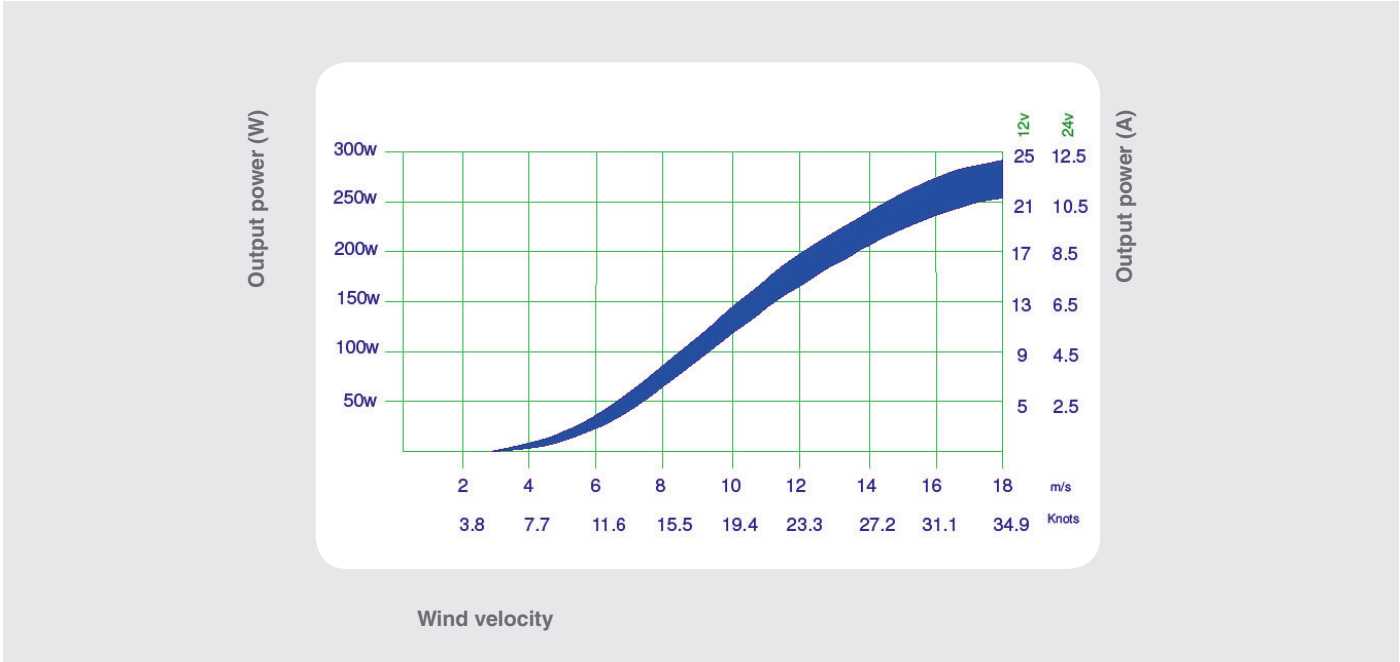
These specifications may be changed without notice.

> LET-ZIGOR 300 range

Average daily energy production (estimated)

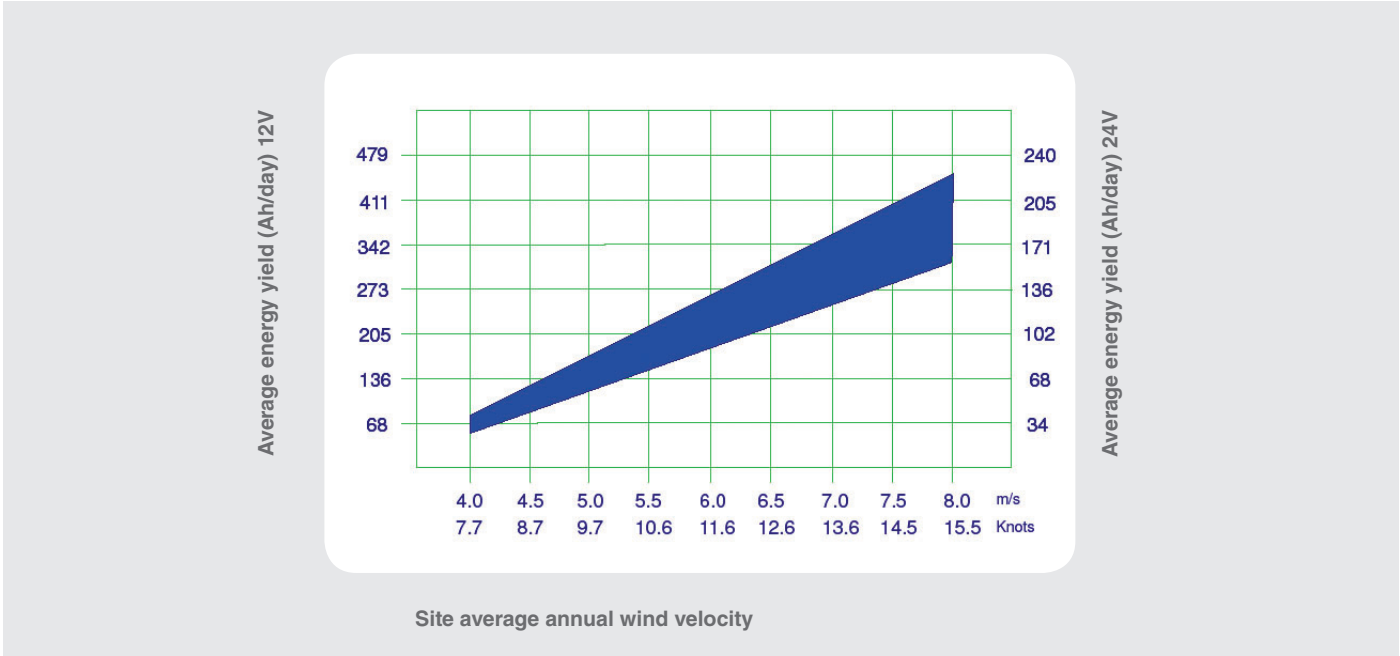


Power curve

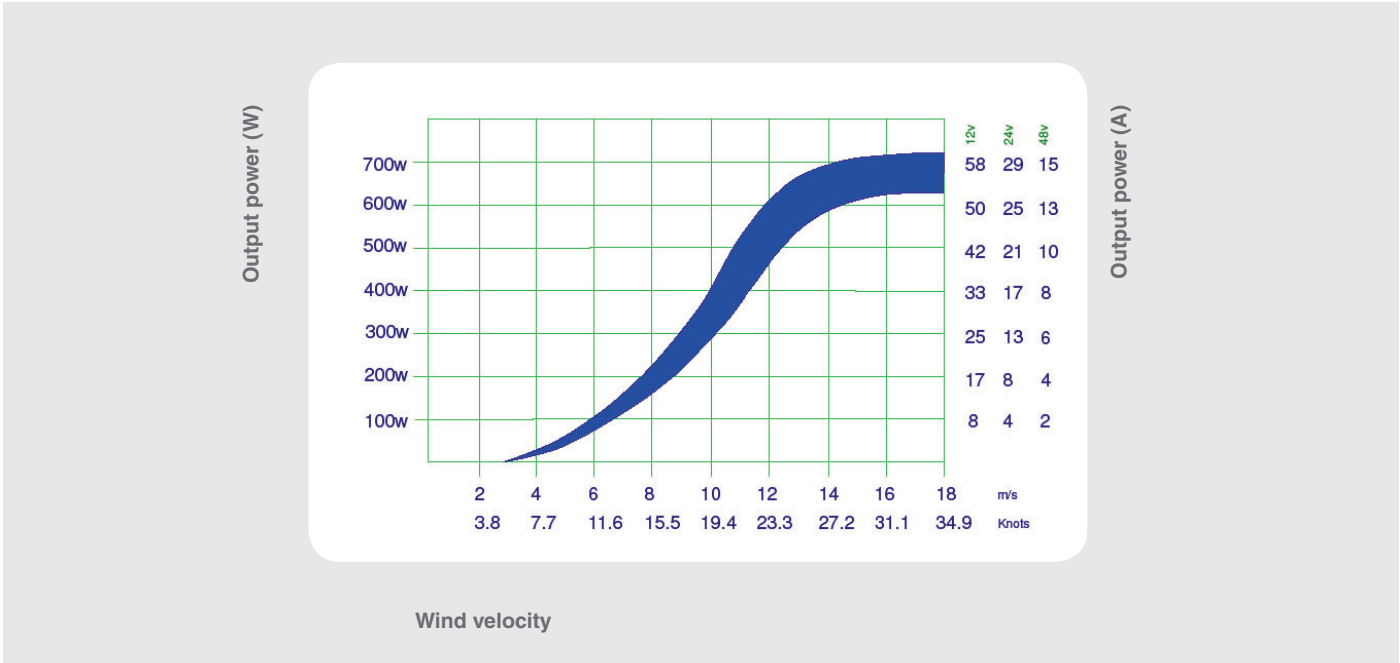


> LET-ZIGOR 600 range

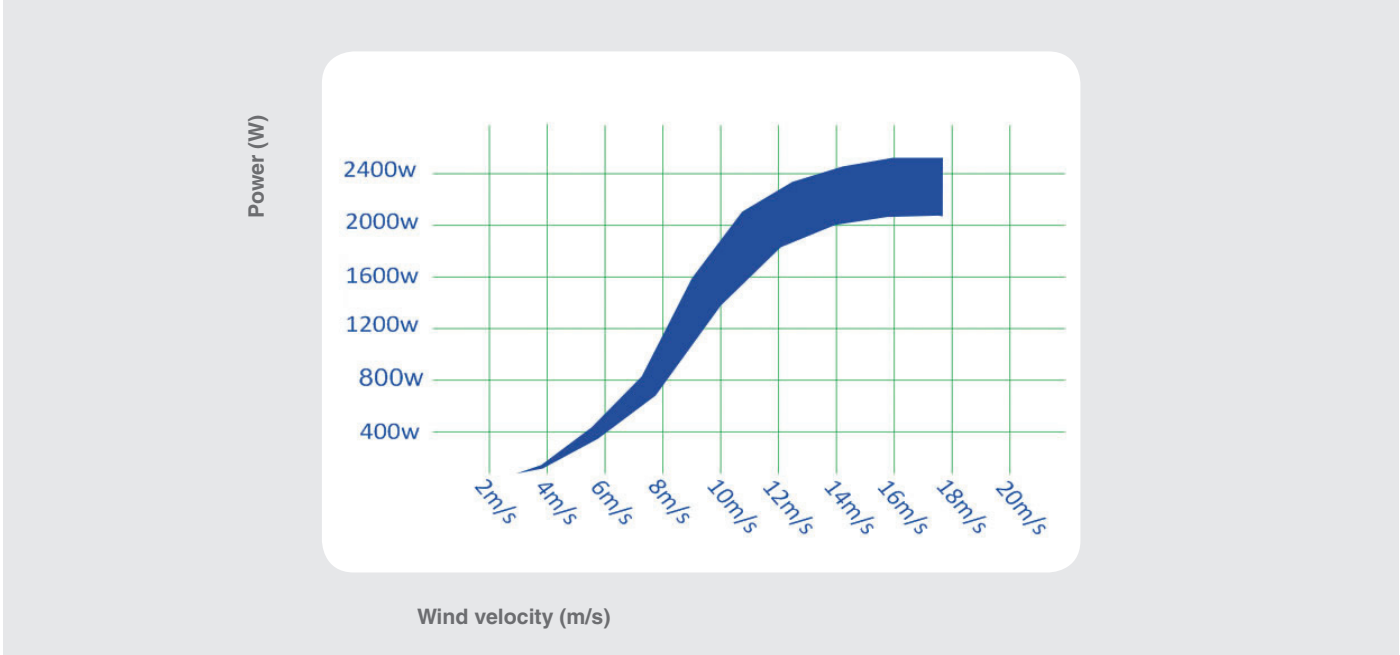
Average daily energy production (estimated)



Power curve

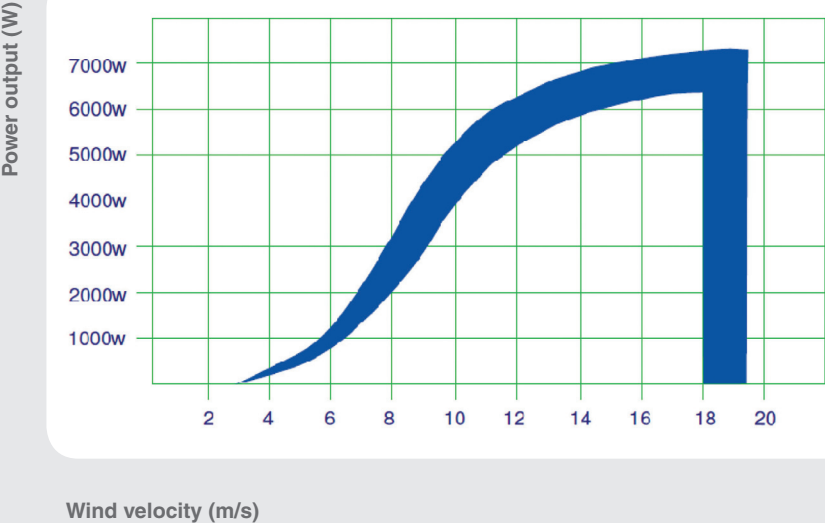


Instantaneous power curve

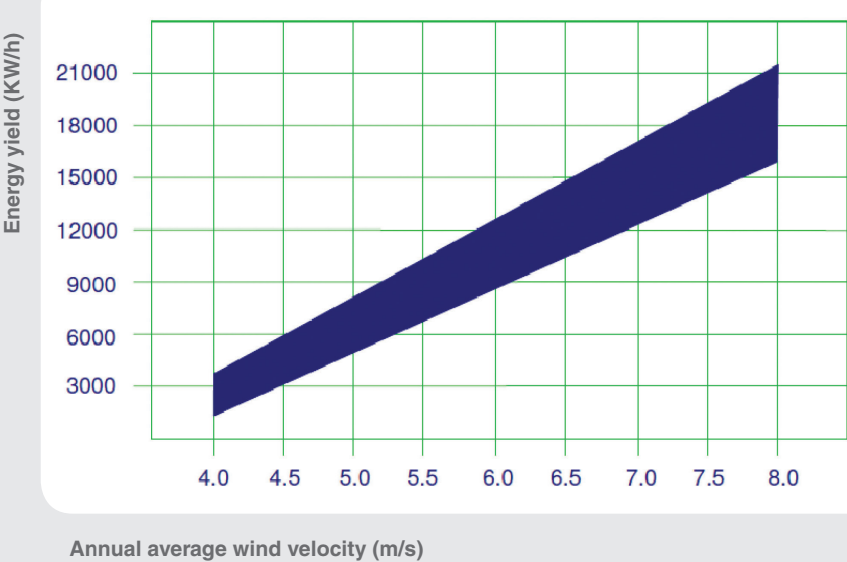


> LET-ZIGOR 6000 range

Estimated power curve



Estimated annual energy production



WIND POWER: SINGLE-PHASE INVERTERS

WINDZET SP

Single-phase On-grid inverters range for wind generation

Description



The range of single-phase inverters WINDZET SP is capable to work with two wind turbines up to 3,3 kW or with one wind turbine up to 6,6 kW, cover the needs of all mains connected wind turbines. In an effort to improve the yield of wind generation plants, the WINDZET SP inverters offer a high power production, thanks to its advanced and fast maximum power point tracking and its maximum efficiency of 97%. The WINDZET SP inverters stand out due to its powerful and easy operation web server application. It provides MODBUS (TCP/RTU (ASCII) and SNMP. In addition to this the new range of inverters WINDZET SP has graphic LCD with access to all inverter information, including production data. The WINDZET SP series can work at input DC voltages between 80-500 VDC and its housing has IP54/IP65.



Windzet SP 5 KW



Graphic LCD

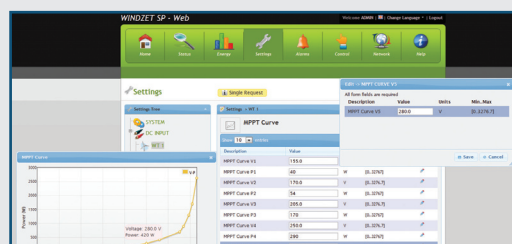
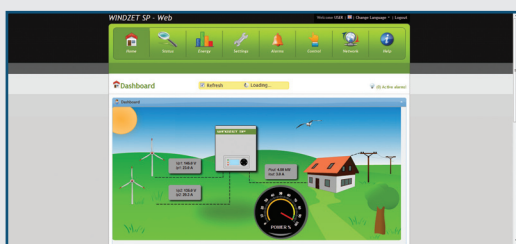
Features

- > Ultra fast Maximum Power Point Tracking (MPPT)
- > Maximum efficiency 97%
- > Very low harmonic distortion, THD <3%
- > Direct mains connection
- > Unlimited parallel connection arrangements
- > Anti-islanding protection with automatic shut down
- > Monitoring from the unit with graphic LCD
- > Protection against: inverse polarity, short-circuits, over voltages, isolation failure
- > MODBUS and SNMP connection. Embedded Web server
- > Wide range of input DC voltages (80-500 VDC)
- > Compact size, light weight, easy installation
- > Easy configuration of power curve via Web
- > Built-in production log capacity
- > Remote SCADA: communications system, parameter display, inverter records control, production data storage etc, (optional)

Connectivity and accessories

> Windzet Web server integrated

Embedded Web server for full access to inverter data to monitor and communicate with WINDZET SP inverters. It allows an easy parametrization of wind turbine power curve.



> Eco Mode

The Web server program has two operation modes: Eco Mode monitoring if it is powered by the wind turbine only and no Eco Mode where monitoring is powered from the grid.

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NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS			
Modelo	Windzet SP 4	Windzet SP 5	Windzet SP 7
Max. output power *	3.4 KW	5 KW	6,6 KW
SISTEM			
Conversion mode	PWM High frequency		
Galvanic Isolation transformer	Low losses galvanic isolation transformer		
DC INPUT			
Nominal DC voltage	360V		
Maximum DC voltage	500V		
Operating range DC	80-500V		
No. independent MPPT	2x11,4 A/1x22 A Max	2x16,7 A/ 1x33,4 A Max	2x22 A/1x44 A Max
AC OUTPUT			
No. phases/No. wires	1- phase/2- wires or 1 – phase/ 3 – wires (LNG)		
Nominal voltage AC	230V		
Nominal frequency	50/60 Hz		
Nominal output current AC	14,8 A	21,75 A	28.7 A
Harmonic distortion range for nominal current	<3%		
Power factor	Over 0.99 (at nominal output current)		
Maximum Efficiency	97%		
PROTECTION			
Input	Inverse polarity/Ground fault		
Output	Short circuit/Over-sub voltage/ Over-sub frequency		
Protection class	IP 65 (electronics) / IP 54 (others)		
INTERFACE			
Standard	TCP/IP Ethernet/USB/MODBUS(TCP/RTU/ASCii)		
ENVIRONMENTAL CHARACTERISTICS			
Temperature	-20°C to +50°C/-4°F to 122°F		
Relative humidity	0-90% without condensation		
Altitude	< 2000m		
MECHANICAL CHARACTERISTICS			
Dimensions mm (WxHxD)	470x525x195		
Estimated weight kg	30		
Refrigeration	Internal forced ventilation		
STANDARDS			
Certificates	CE		
Directives	2004/108/CE - 2006/95/CE		
Standards	UNE-EN 61000-6-3, UNE-EN 61000-6-2 UNE-EN 50178 IEC 62116		
Countries standards			
USA	UL 1741		
Italy	CEI 0-21/Allegato 70		
Germany	VDE 4105		
UK	G83/1-1		

* For the full range of operation temperature and between 150 to 500 VDC.
These specifications may be changed without notice.

WIND POWER: THREE-PHASE INVERTERS

WINDZET TP

Range of wind power inverters from 25 to 100 KW

Description



The range of WINDZET wind power inverters is designed to cover the needs of all wind power generating plants connected to mains networks.

The WINDZET 25/100 KW combines design and versatility with easy handling and modularity. WINDZET inverters offer outstanding 96% efficiency with a transformer and 98% without transformer. WINDZET units provide high levels of reliability and guaranteed operation.

Another important feature is automatic regulation of reactive power and built in communications tools. All their parameters are configurable both locally and remotely. Data and parameters could be displayed via Internet browser.



Windzet TP 100

Features

- > Very low harmonic distortion THD< 3%
- > Selectable power factor
- > Direct mains connection
- > Possibility of unlimited parallel connection
- > Anti-islanding protection with automatic shutdown
- > Monitoring from the unit with LCD
- > Galvanic isolation through transformer
- > IP21 protection level
- > Protection against: inverse polarity, short-circuits, overvoltages with output to relay
- > Service life of more than 20 years
- > Web server programme for PC for full access to Windzet data
- > Maximum efficiency
- > Modularity
- > Unlimited parallel connections
- > Automatic reactive power regulation
- > Inverter output at 400 V with
- > DC and AC surge protections included
- > ETHERNET communications
- > Easy access through any web browser

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NON STOP POWER

ZIGOR

ELECTRICAL CHARACTERISTICS		
Model	Windzet 30 TP	Windzet 100 TP
Reference	015703	301202
Continuous output power AC	30 KW	100 KW
Nominal DC power	≥ 31 KW	≥ 105 KW
Nominal AC voltage	380-400 V	
Nominal frequency	50 Hz	
Power Factor	1 adjustable ± 0.8	
Maximum line current AC	45 A	180 A
AC current distortion	< 3% THD at nominal power	
Maximum open circuit voltage DC ⁽¹⁾	880 V	
Power tracking range (MPPT) DC	300 to 720 V	
Maximum input current DC	75 A	350 A
Surge efficiency	98 %	
European efficiency	> 94,95 %	
ENVIRONMENTAL AND MECHANICAL FEATURES		
Range of ambient temperatures	0°C a + 50°C	
Type or grade of environmental protection	IP21	
Weight	330 KG	1020 KG
Dimensions (HxWxD) (mm)	1980 x 800 x 600	2150 x 1200 x 600
Operating altitude ⁽²⁾	<1000 m	
Relative humidity	0 a 95% without condensation	
GENERAL FEATURES		
Cooling method	Forced internal ventilation Control of external fan (6A Max.)	
Protection functions	Inverse polarity, Over/ sub-voltage AC, Over/ Sub-frequency / Over-voltage DC	
User interface	LCD screen	
Breakers (AC and DC)	Integrated in system	
Insulation transformer	Integrated in system (optional)	
Communications software	Web server through SNMP	
Equipment supervision: Self-diagnostic	Yes	
Data acquisition and recording	Adjustable	
SWS 1000 Scada system (option)	Ethernet, GSM Modem (optional) Remote failure control RS-485, Monitoring programme	
External measurements	2 analogue inputs for monitoring (optional) Digital Inputs/Outputs	
STANDARDS AND SAFETY		
Certificates	CE Marking	
Directives	2004/108/CE 2006/95/CE	
Standards	EN 61000-6-2 EN 61000-6-3 / EN 61000-6-3/A11 UNE-EN 50178	

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

(2) No power derating for ambient temperatures under 44° C.

These specifications may be changed without notice.

Web server for single-phase SUNZET SP inverters

This is a PC-based Web server programme to provide full access to the inverter data and to monitor and communicate with single-phase SUNZET SP inverters.

The Web server let the user to communicate with the inverters in different languages and record the following data.

- > Status
- > Parameters
- > Events
- > Event Log
- > Production

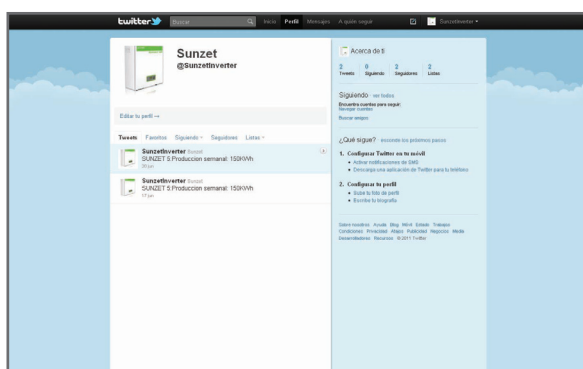
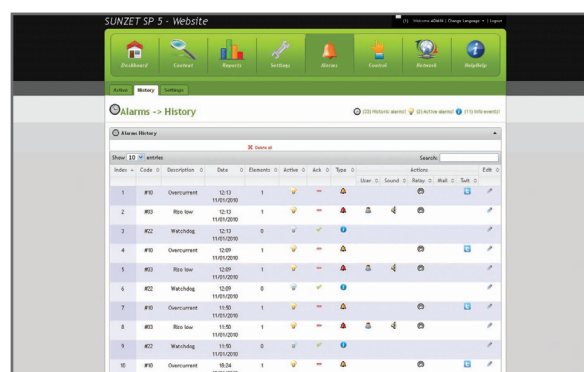
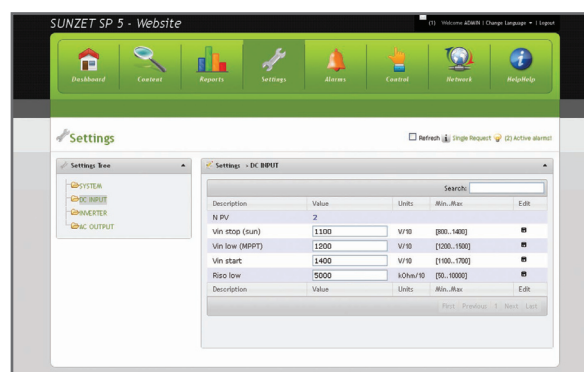
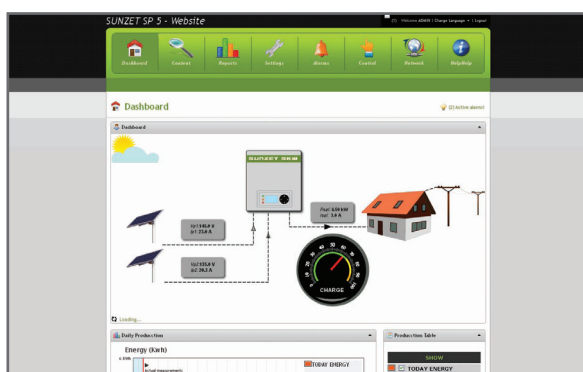
The SUNZET SP range can be monitored remotely via the built-in Web server available in all models.

In order to use this monitoring tool, the inverter has to be connected to a TCP/IP network and to have a valid IP address within the LAN.

It's needed a computer also connected to the same LAN and, in order to get access to the inverter's Web server, a browser program. Once launched the browser, the user has to type the IP address of the inverter to get access to it.

This tool provides the user a graphic and friendly environment to completely manage the solar plant.

The Web server is also capable to advise the user by sending e-mails of any possible disfunction of the system in order to improve the maintenance tasks as well as the yield of the solar plant.



Web server for Sunzet SP inverter

Web server for three-phase SUNZET inverters



This is a PC-based Web server programme to provide full access to the inverter data and to monitor and communicate with three-phase SUNZET inverters.

The Web server let the user to communicate with the inverters in different languages and record the following data.

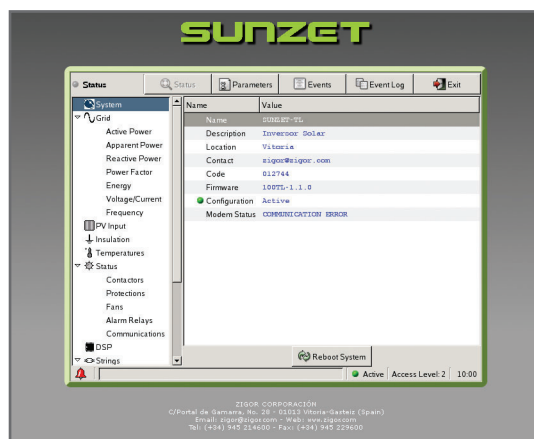
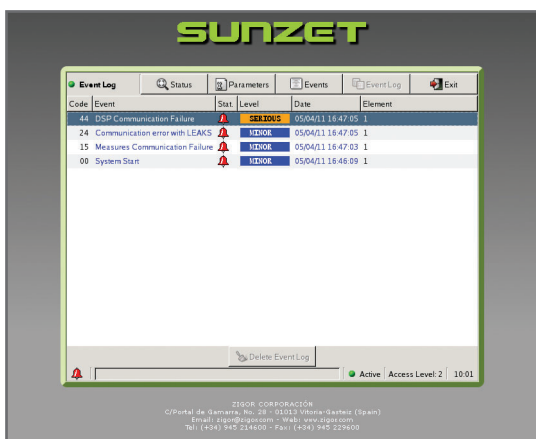
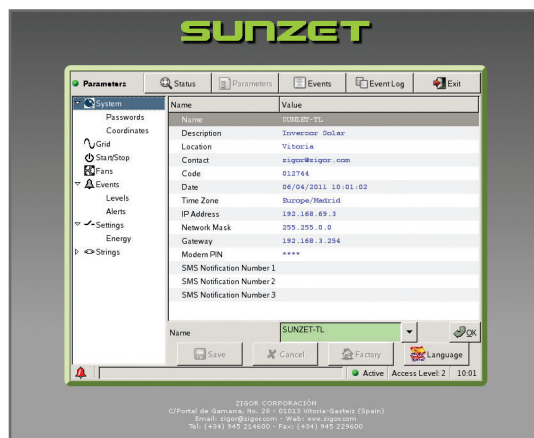
- > Status
- > Parameters
- > Events
- > Event Log
- > Production

The range of three-phase SUNZET can be monitored remotely via the built-in Web server available in all models. In order to use this monitoring tool, the inverter has to be connected to a TCP/IP network and to have a valid IP address within the LAN.

It's needed a computer also connected to the same LAN and, in order to get access to the inverter's Web server, a browser program. Once launched the browser, the user has to type the IP address of the inverter to get access to it.

This tool provides the user a graphic and friendly environment to completely manage the solar plant.

The Web server is also capable to advise the user by sending e-mails of any possible disfunction of the system in order to improve the maintenance tasks as well as the yield of the solar plant.



Web server for three-phase Sunzet inverters

Web server for HITC



This is a PC-based Web server programme to provide full access to the inverter data and to monitor and communicate with three-phase hybrid inverters HITC.

The Web server let the user to communicate with the inverters in different languages and record the following data:

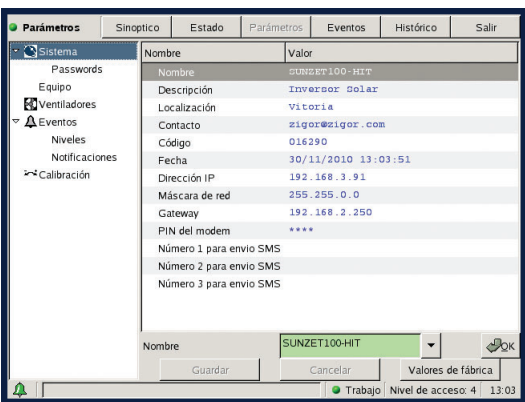
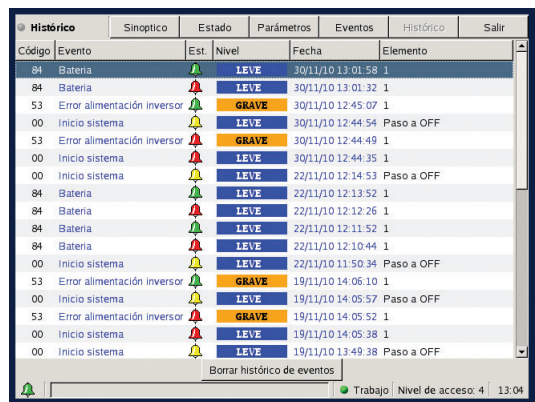
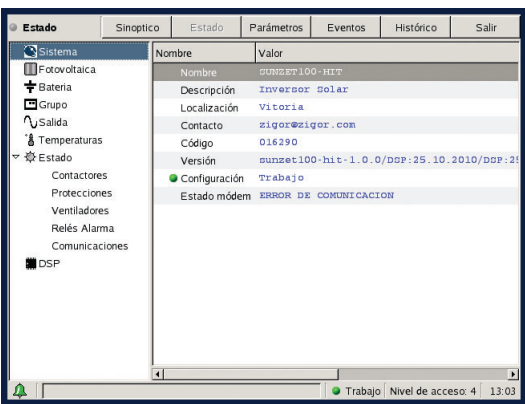
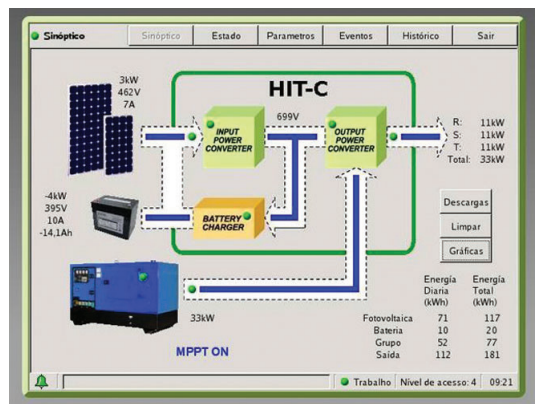
- > Status
- > Parameters
- > Events
- > Event Log
- > Production

The range of HITC can be monitored remotely via the built-in Web server available in all models.

In order to use this monitoring tool, the inverter has to be connected to a TCP/IP network and to have a valid IP address within the LAN.

It's needed a computer also connected to the same LAN and, in order to get access to the inverter's Web server, a browser program. Once launched the browser, the user has to type the IP address of the inverter to get access to it.

This tool provides the user a graphic and friendly environment to completely manage the solar plant. The Web server is also capable to advise the user by sending e-mails of any possible disfunction of the system in order to improve the maintenance tasks as well as the yield of the solar plant.



Web server for hybrid inverter HITC

Web server for BAT GEN system



This is a PC-based Web server programme to provide full access and to monitor and communicate with BAT GEN systems.

The Web server let the user to communicate with the BAT GEN systems in different languages and record the following data:

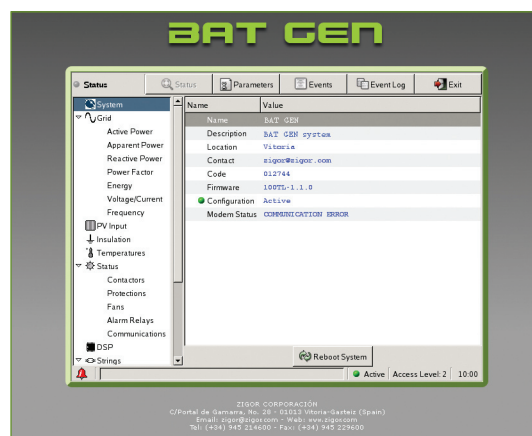
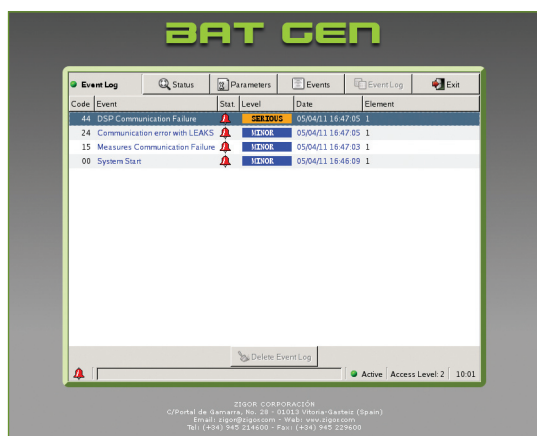
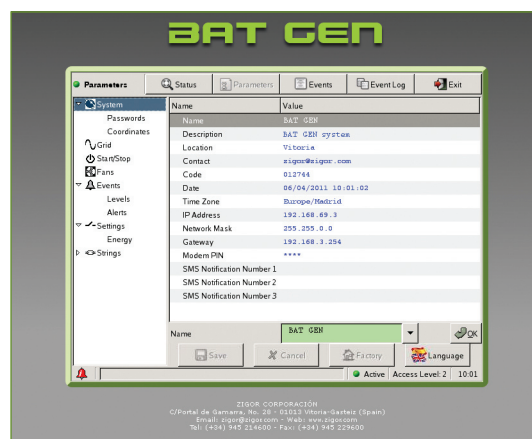
- > Status
- > Parameters
- > Events
- > Event Log
- > Production

The range of BAT GEN systems can be monitored remotely via the built-in Web server available in all models.

In order to use this monitoring tool, the system has to be connected to a TCP/IP network and to have a valid IP address within the LAN.

It's needed a computer also connected to the same LAN and, in order to get access to the BAT GEN's Web server, a browser program. Once launched the browser, the user has to type the IP address of the system to get access to it.

This tool provides the user a graphic and friendly environment for a complete management. The Web server is also capable to advise the user by sending e-mails of any possible disfunction of the system in order to improve the maintenance tasks as well as the yield.



Web server for BAT GEN system

SWS 1000
SCADA system for three-phase SUNZET inverters and SUNZET SP inverters

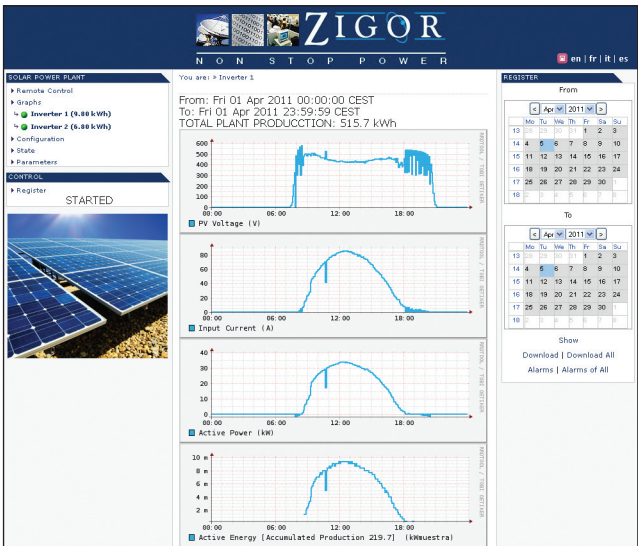


The SWS 1000 Scada system is a platform for monitoring and register variables, check and modify the settings as well as customise all parameters from the three-phase SUNZET inverters and SUNZET SP. It can control up to 20 units, which makes the SWS 1000 a suitable tool to monitor a generation plant through a unique fixed IP address.

The SWS 1000 is compatible with three-phase SUNZET inverters and single-phase SUNZET SP inverters.

The SWS 1000 has a Web server in several different languages (selectable by the user) where the following functions can be run:

- > Monitor any registration of variables of every SUNZET three-phase and SUNZET SP
- > IP address settings, both of SUNZET inverter and Scada system
- > Define and set the variables from the inverters to be queried
- > Display the set values of every inverters on a selected date
- > Download the variables from every inverter on a CSV format file



SWS 1000

When there's not any Ethernet network available, the SWS 1000 Scada system can be access by using the Modem GSM (optional) offered by Zigor.

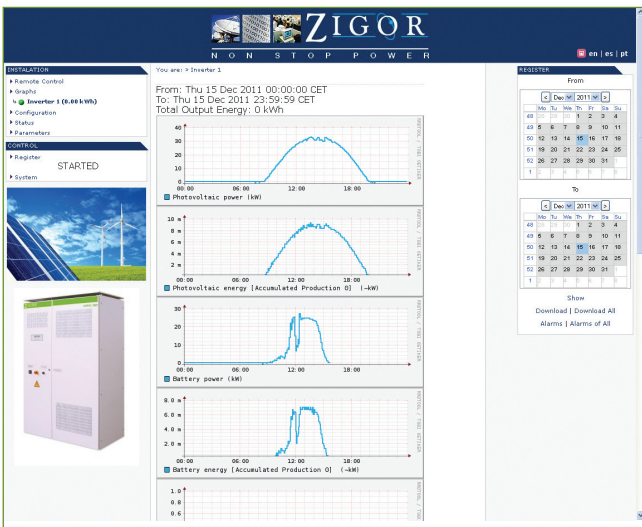
SWS 2000
SCADA system for hybrid inverters HITC

The SWS 2000 Scada system is a platform for monitoring and register variables, check and modify the settings as well as customise all parameters from the hybrid inverters HITC. It can control up to 20 units, which makes the SWS 2000 a suitable tool to monitor a generation plant through a unique fixed IP address.

The SWS 2000 is compatible with hybrid inverters HITC.

The SWS 2000 has a Web server in several different languages (selectable by the user) where the following functions can be run:

- > Monitor any registration of variables of every hybrid inverter HITC
- > IP address settings, both of HITC inverter and SCADA system
- > Display the set values of every inverters on a selected date
- > Download the variables from every inverter on a CSV format file



SWS 2000

When there's not any Ethernet network available, the SWS 2000 Scada system can be access by using the Modem GSM (optional) offered by Zigor.

GSM MODEM

Access through mobile network



For installations where there are independent three-phase SUNZET systems, a connection point to the exterior may be defined by means of a MODEM.

This MODEM is installed inside of the door of the three-phase SUNZET. All the information on the inverter can be accessed via this connection point. When there's not any Ethernet connection available, the optional modem gives any SUNZET inverter complete access and monitor capability.



GSM modem

Router wireless



Zigor has developed its wireless connectivity solution for remote supervision/monitoring of equipment. Zigor offers advanced connectivity by GPRS and 3G (HSPA) that provides internet connection and enables higher speed up to 7,3 Mbps and besides support for router/modem/GPRS/3G.

Web access for real-life screen variables monitoring:

- > Parameters
- > Events and logs supervision systems
- > Warnings by email and sms



Router wireless

Valid for isolated inverter as SWS1000 systems

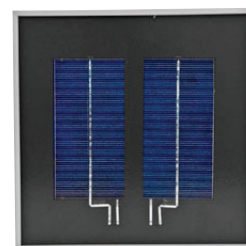
Weather Station: SUNZET METEO



Zigor offers the SUNZET METEO as optional. This weather station manages the locations where the inverter is installed in order to let the user have all the weather measures published on inverters graphical environment.

Following data can be measured:

- > Solar radiation, by a radiation cell
- > Ambient temperature, by a temperature probe PT-100
- > Solar panel temperature, whenever all the solar panels of solar plant have the same temperature, the temperature of radiation cell is measured by a probe PT-100
- > Wind speed, this measure is an option of SUNZET METEO, measure is taking by an anemometer



Calibrated cell

The SUNZET METEO is connected to inverter and needs external direct current supply between 6 and 28 V and RS-485 connection port.

String configurator software

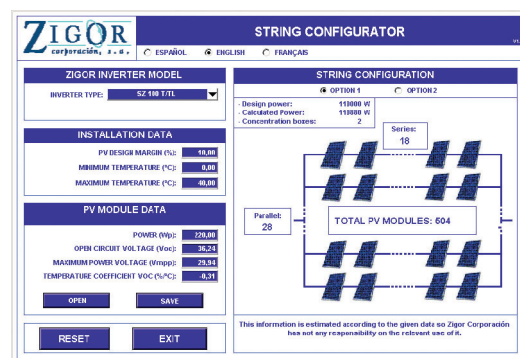


Zigor Corporación offers its Customers and Partners a PC based software to help them with the proper configuration of the solar field to get connected to any model of SUNZET inverter range.

This friendly software is prepared for both Single and Three Phase On Grid SUNZET inverters and let the user to create its own library of solar panels so that they can log the most used models for their designs and avoid entering the technical data for every calculation.

The software always provides two different configurations of the panels as well as the number of STRING BOXES to be used if necessary.

This is a Multilanguage Software very easy to get installed in a PC.



String configurator software

SUNZET STRING BOX

String box concentrator



Traditionally, the strings of photovoltaic field panels were connected in parallel or, at the most, with fuse protections. This configuration works, but does not provide information on the status of the photovoltaic field as the measurements provided correspond to the inverter. It may happen that one of the strings does not generate energy but there is no information on that.

In order to solve this lack of information, Zigor has developed the SUNZET STRING BOX, an intelligent string concentrator with 8 double inputs (could be connected up to 16 strings). The SUNZET STRING BOX is equipped with a RS485 to be connected to the corresponding SUNZET INVERTER and provide information on the current generated in each string of panels, DC overvoltage trips and cabinet output isolating switch trips. The effect of all this information is a greater control of production and of possible failures in the photovoltaic field. Likewise, the cabinets are provided with two fuses in each series, one on the positive side and another on the negative side, protecting the photovoltaic field against short-circuits in the panels.

Every SUNZET STRING BOX can be connected with the corresponding SUNZET inverter through the RS485 serial port. The all information concerning DC current from every string can be monitored along with the rest of parameters from inverter. This could be monitored with the built-in Web server of every SUNZET inverter.



Sunzet String Box

ADDITIONAL DATA

List of products-connectivity/accessories/software

	STRING BOX	GSM MODEM	SWS 1000	SWS 2000	WEBSERVER*	SUNZET METEO
SUNZET SP						
SUNZET XTR						
SUNZET TP						
SUNZET MV						
SUNZET CENTRAL						
BAT GEN						
HIS Compact						
HITC						
WINDZET SP						
WINDZET TP						

* Web server is integrated in the inverters

Warranty of inverters/solar modules/components

SINGLE-PHASE INVERTERS	SUNZET SP	WINDZET SP		
	60 months			
THREE PHASE INVERTERS	SUNZET XTR	SUNZET TP/MV/CENTRAL WINDZET TP	SUNZET POWER STATION	BAT GEN
	60 months		Consult	36 months
HYBRID INVERTERS	HIS	HITC	HIS Compact	
	24 months			
PV-OFFGRID	SOLAR PANELS	INVERTERS	REGULATORS	
	60 months	24 months	24 months	

Zigor Technical Service



Zigor wants to provide full support and add value to its customers through a concept of Integrated Service and Supply Management, through its Technical Service Department. From the development of technological solutions for electronic systems and battery management to maintenance and service not only of our systems but other vendors systems as well.



TECHNICAL CONSULTING AND ANALYSIS

- > Energetic audits of the installations.
- > Pre-sales consulting.
- > Units replacement analysis.
- > Technical training.

TECHNICAL SUPPORT

- > Technical support: at **+34 945 290 360** and through the mail **sac@zigor.com**.
- > Start up and commissioning.
- > Corrective and preventive maintenance.
- > Battery state analysis and replacement.
- > 24 Phone assistance **24 h-365 days**: contact Zigor and ask for a quotation.
- > Customised and professional attention by technical experts of Zigor Technical Service.

SERVICES

- > Maintenance contracts.
- > Customised warranty extensions.
- > Communication and managing systems: Upsilon 2000/Power Manager/Net Agent.
Control, supervision, monitoring and batteries (BACS II) maintenance.
- > Training courses.
- > Continuous improvement proposals.
- > **RMA** processing through **www.zigor.com** website.

Customised maintenance services and assistance

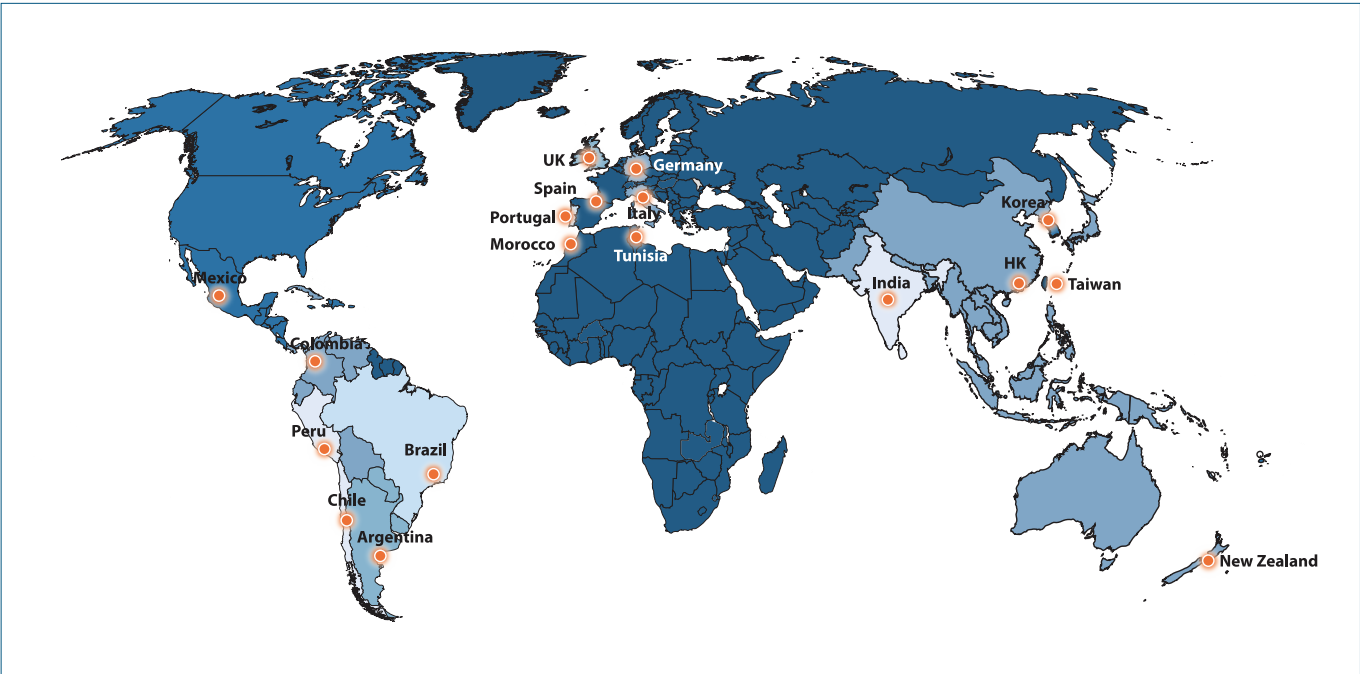
> Zigor Corporación S.A. offers personalised support and technical assistance according to the customer needs by mean of diverse maintenance formulas:



MAINTENANCE FORMULAS	
MP	Preventive maintenance
MPCH	Corrective-preventive maintenance with 24 hours phone service. Assistant at customer premises in less than 24 h during working hours (8-18 h) from Monday to Friday
MPCSH	Corrective-preventive maintenance with 24 hours phone service. Assistant at customer premises in less than 24 h during working hours (8-18 h) from Monday to Sunday

> Service and Technical support: work areas

Visit www.zigor.com to get information about your closest technical service



INFORMATION

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ASIA: China-Hong Kong | India | Taiwan

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