WIND ENERGY: WIND INVERTER

WINDZET

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 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 program 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

ELECTRICAL CHARACTERISTICS		
Model	**Windzet 30**	**Windzet 100**
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	880 V (1)	
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	0ºC a + 50ºC (2)	
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	<1000m without power loss	
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, Overvoltage 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 program	
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) Under 40º C, the system operates with nominal values, at 50º C, nominal values are maintained for two hours.

These specifications may be changed without notice.

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 speed, as well as delivering a higher output than the competition at higher wind speed. 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 dumpload. Simply put, this means that when the batteries are full, any excess energy is simply diverted to a dumpload. 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 ampHours 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 marinades construction from powder coated / anodized aluminum 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 that any other turbine in its class

ELECTRICAL CHARACTERISTICS				
Model	**LET 300**	**LET 600**	**LET 2000**	**LET 6000**
References				
Model / Voltage	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	-

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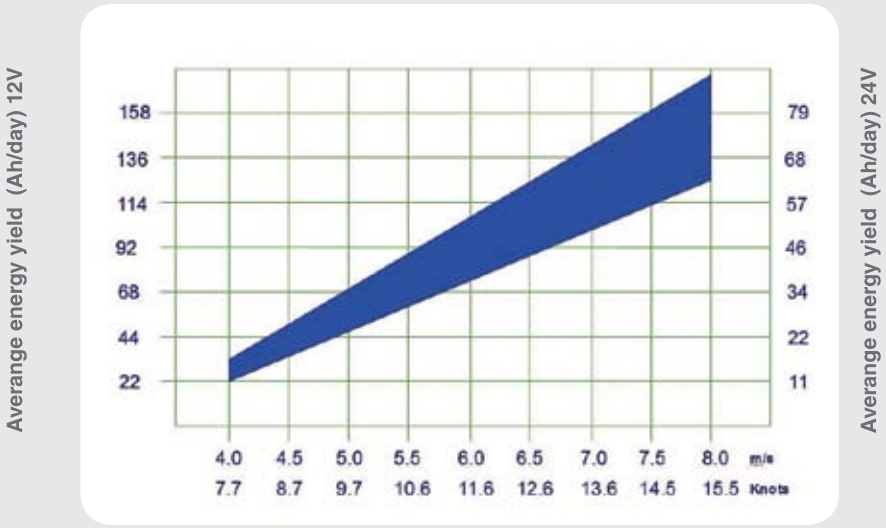
Averange daily energy production (estimated)



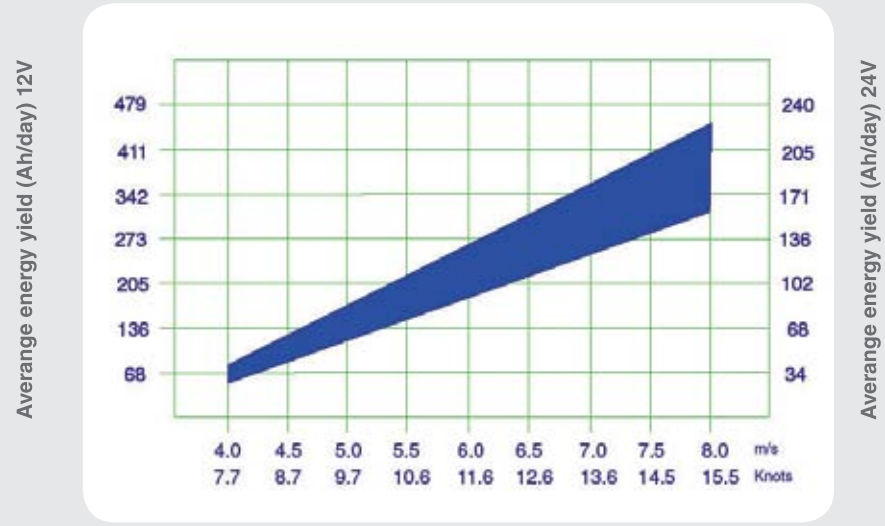
Site averange annual wind velocity

Power curve

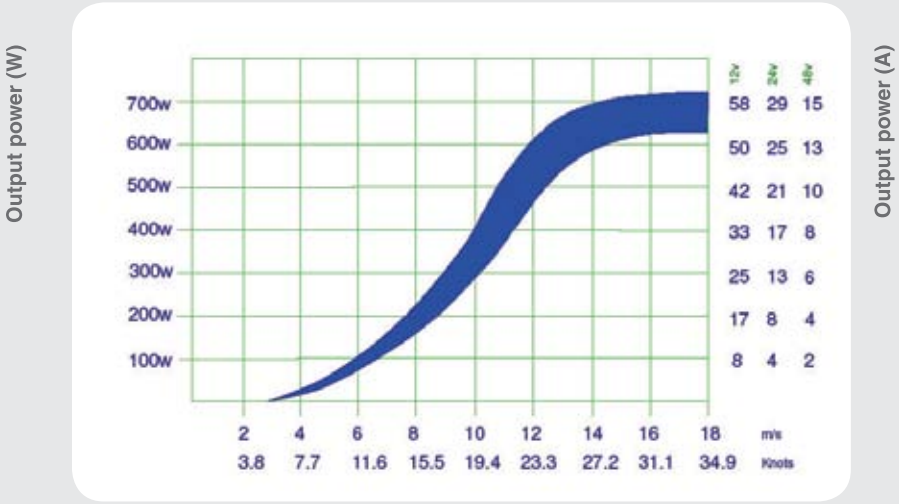
Wind velocity

plantas pv on-grid | plantas pv media tensión | generación híbrida | ahorro energético | respaldo telecom | **energía eólica**

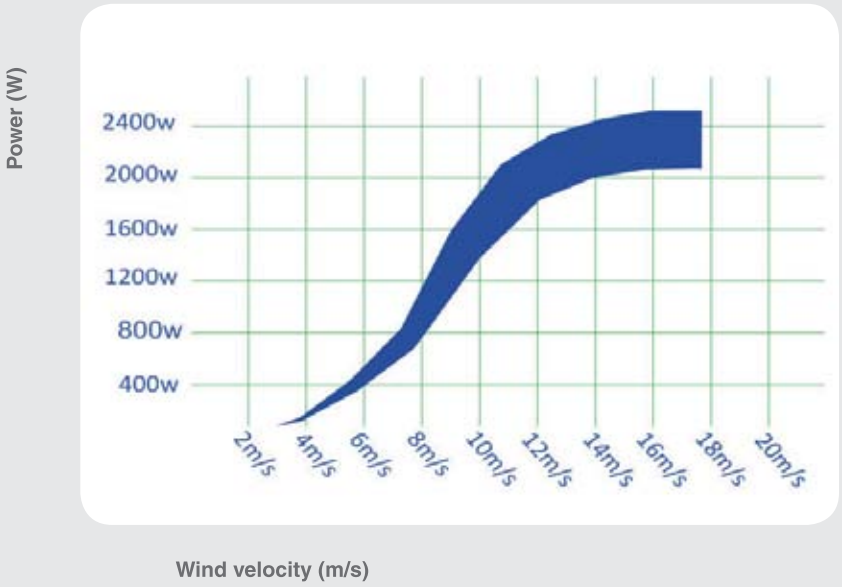
Averange daily energy production (estimated)



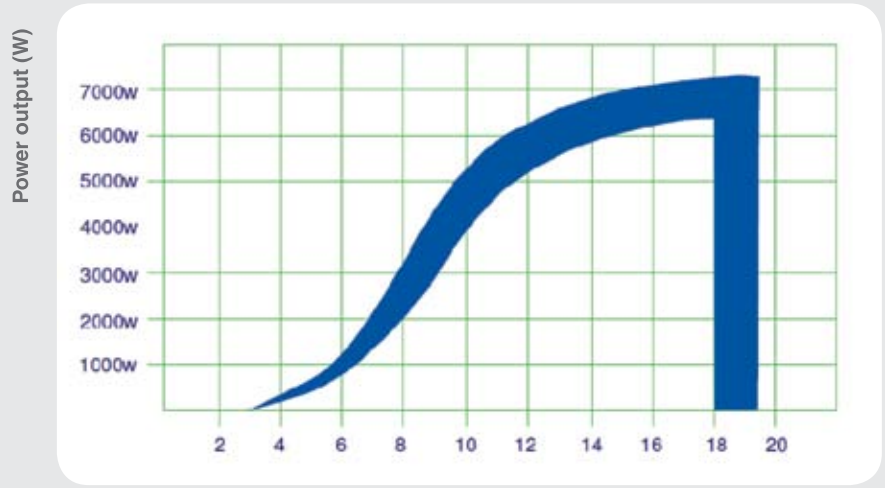
Power curve



Instantaneous power curve



Estimated power curve



Estimated annual energy production