



xunzel™

applied Solar and Wind Energy™

PRODUCT NOTE

WINDFORCE™ Series

Off-Grid and Off-Shore Wind Generators with MPPT Wind Charge Controller included

WINDFORCE™ Series – XUNZEL

Off-Grid and Off-Shore Wind Generators with MPPT Wind Charge Controller included for battery charging

Product Overview

The Wind Generators WINDFORCE™ of XUNZEL allow charging 12V, 24V and 48V battery banks (automatic detection). Thus they are the ideal solution for off-grid, off-shore and backup power applications.

The included MPPT wind charge controller prevents batteries from the overcharge and ensures an optimal charge (3-stage charging method) and maintenance for your solar deep cycle batteries (GEL, AGM and Flooded). Generate power day and night. Low noise aerodynamics and designed to perform in low wind speeds.

The WINDFORCE6000 and WINDFORCE6000-MA (Marine) models charge both 12V and 24V battery banks (automatic detection). The WINDFORCEI0000 24V and 48V models charge 24V or 48V battery bank respectively. The WINDFORCEI5000 model, charges 24V battery banks. All WINDFORCE™ of XUNZEL include the MPPT wind charge controller.

The marine version is ideal for salt and marine applications; this generator comes with a corrosion resistant powder coated aluminum cast body for superior durability and its MPPT wind charge controller features a corrosion and water resistant heat sealed casing to insure longevity in the marine environment.

These wind generators are capable of supplying power to help run your appliances and electronics. Ideal for charging 12V, 24V and 48V battery banks, cabins, remote power and back-up power. Moreover, they are useful for refrigeration, auto-pilot, water maker, lights, navigational equipment, communication equipment and more.

Available Models

WINDFORCE6000	12/24VDC
WINDFORCE6000-MA	12/24VDC
WINDFORCEI0000	24VDC
WINDFORCEI0000	48VDC
WINDFORCEI5000	24VDC

Optional Accessory: Wind Turbine Tower KIT of XUNZEL – TOWEOLSU (8.8m)

WINDFORCE™ Features and Benefits

- **Designed** to perform in low wind speeds
- The models WINDFORCE6000 and WINFORCE6000-MA are versatile, they are capable of charging both 12V and 24V battery banks.
- **Endurance.** WINDFORCE6000-MA has a weatherproof marine grade industrial design.
- **Low noise.** Aerodynamic fiberglass blades.
- **Do-it-yourself.** Maintenance free installation.
- Safe and efficient charging is provided with the **Maximum Power Point Tracking Charge Controller** (included) that maximizes power output for optimal charging capability and battery health.
- **Compact Design and Lightweight.** Anodized aluminum casing

WINDFORCE6000
With MPPT Wind Charge Controller 12/24V included

WINDFORCE6000-MA
With MPPT Wind Charge Controller 12/24V included

WINDFORCEI0000-24V/48V
With MPPT Wind Charge Controller 24V or 48V included

WINDFORCEI5000
With MPPT Wind Charge Controller 24V included

WIND GENERATOR → CHARGE CONTROLLER → BATTERY*

*Not included

Industry Leading Technology for Off-Grid, Off-Shore and Backup Power Applications



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Off-Grid and Off-Shore Wind
Generators with MPPT Wind Charge
Charge Controller included

Model	WINDFORCE™ 6000-12/24V WINDFORCE™ 6000-12/24V-MA	WINDFORCE™ 10000-24V WINDFORCE™ 10000-48V	WINDFORCE™ 15000-24V
Related Speed	45 Km/h (12.5 m/s, 28 MPH)	50.4 Km/h (14 m/s, 31.3 MPH)	50.4 Km/h (14 m/s, 31.3 MPH)
Related Power	600W	1000W	1500W
Voltage with MPPT	<u>12/24 V DC</u> 12/24 V DC	<u>24 V DC</u> 48 V DC	24 V DC
Rotor Diameter	1.31 m	1.7 m	1.7 m
Start-up Wind Speed	>3.6 Km/h (1 m/s, 2.2 MPH)	>3.6 Km/h (1 m/s, 2.2 MPH)	>3.6 Km/h (1 m/s, 2.2 MPH)
Cut-in Wind Speed	7.2 Km/h (2 m/s, 4.5 MPH)	9 Km/h (2.5 m/s, 5.6 MPH)	9 Km/h (2.5 m/s, 5.6 MPH)
Survival Wind Speed	180 Km/h (50 m/s, 111 MPH)	180 Km/h (50 m/s, 111 MPH)	180 Km/h (50 m/s, 111 MPH)
Number of Blades	3	3	3
Blade Material	Plastic compound with glass fiber	Plastic compound with glass fiber	Plastic compound with glass fiber
Suggest Battery Capacity	>5.76 Kwh	>11.5 Kwh	>11.5 Kwh

Model	WINDFORCE™ 6000-12/24V WINDFORCE™ 6000-12/24V-MA	WINDFORCE™ 10000-24V WINDFORCE™ 10000-48V	WINDFORCE™ 15000-24V
Rated Output Power	600W	1000 W	1500 W
Nominal Battery Voltage	<u>12/24 V DC</u> 12/24V DC	<u>24 V DC</u> 48 V DC	24 V DC
Battery Voltage Range	<u>10~15 V DC</u> 20~30 V DC	<u>20~30 V DC</u> 40~60 V DC	16~31 V DC
Input Voltage Range	5-75 V AC rms	5-75 V AC rms	5-75 V AC rms
Low battery Voltage Protection	<u>10 V DC</u> 20 V DC	<u>20±2 V DC</u> 39.6~41.6 V DC	20±2 V DC
High Battery Voltage Protection	<u>15.3±0.4 V DC</u> 31±1 V DC	<u>31±2 V DC</u> 61.2±2 V DC	31±1 V DC
Rated Charge Current	<u>25A±2 A</u> 17A±2 A	<u>34A±4 A</u> 20A±4 A	Hi:40 ± 3 A Lo: 20 ± 3 A
Over-Speed Braking	> 1400 rpm	> 1400 rpm	> 1400 rpm

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