

BTPS 6500 Wind Turbine - Blade Tip Power System



A wind turbine like no other. Always turning.

Today's wind energy...



Blade Tip Power System

Gearless Blade Tip Power System – the future of wind power

The innovative Blade Tip Power System (BTPS) is the patented technology created by WindTronics™. The WindTronics Wind Turbine utilizes a system of magnets and stators surrounding its outer ring capturing power at the blade tips where speed is greatest, practically eliminating mechanical resistance and drag. Rather than forcing the available wind to turn a generator, the perimeter power system becomes the generator by swiftly passing the blade tip magnets through the copper coil banks mounted onto the enclosed perimeter frame. The Blade Tip Power System addresses past constraints such as size, noise, vibration and output. The enclosed perimeter shrouds the system and is more distinguishable to wildlife. WindTronics' proprietary systems are breaking traditional technological barriers across multiple markets, for homes and businesses, for both energy generation and energy recapture even in moderate winds.

Introducing a breakthrough wind energy system for home and business

The WindTronics Wind Turbine is a gearless wind turbine that measures just 6 feet (1.8 m) in diameter, weighs 185 lbs (84 kgs) and produces on average 1500 kWh per year plus or minus depending on site location, height and wind speed in your area. The WindTronics Wind Turbine's BTPS perimeter power system and unique design of multi-stage blades allows the system to react quickly to changes in wind speed. This ensures that the maximum wind energy is captured without the typical noise and vibration associated with traditional wind turbines.

The WindTronics Wind Turbine has an increased operating span over traditional turbines with a start-up speed as low as 0.5 mph (0.2 m/s), with an auto shut off at 38 mph (17.0 m/s), traditional gearbox turbines require minimum wind speeds of 7.5 mph (3.5 m/s) to cut in and start generating power. The WindTronics Wind Turbine is designed to be installed by a licensed electrician wherever energy is consumed, turning homes and businesses from points of total consumption to distributed energy sources, in a cost effective and efficient manner.

Turbine Technology Comparison Traditional Wind Turbine VS Blade Tip Power System



Turning a wind turbine into a wind generator by eliminating the gear box.

like no other.



Turbine Mounting Options: At 185 lbs (64 kgs) and 6 feet (1.8 m) it's versatile – like no other.

Flat Roof (Commercial)

QuadPod and Ballast Mount



Pitched Roof (Residential)

QuadPod and Roof Box



Pole Mount (Commercial or Residential)



Cell Tower Mount

Mounted near top of tower



Directional Fins

The directional fins continuously guide the turbine for maximum wind exposure. The system starts turning at 0.5 mph (0.2 m/s), automatically shuts down in high winds (+38 mph [+17.0 m/s]) and is engineered for winds up to 140 mph (62.6 m/s).

Wind Energy Recommendations and FAQ's

The WindTronics Wind Turbine data for energy generation is measured against class 4 (DOE) wind speeds at steady state, (33 feet [10.0 m] high, unobstructed) however many factors will affect the output of the turbine at each location depending on placement. Your location can be affected by trees, terrain and obstructions such as buildings next door, even placement on one end of a building

or the other can affect the output. Correct site assessment is important to enhance the performance of your turbine regardless of your product choice.

- Always seek the highest elevation and lowest obstruction field as possible (33 feet (10.0 m) minimum, the higher the better).
- You may advise your city, town or neighbors that you're installing a new generation wind turbine, but at 185 lbs (84 kgs), 6 feet (1.8 m), 35 dB at 10 feet (3.1 m), it may be not necessary. We're here to help you.
- An average annual wind rating of 10 mph (4.5 m/s) is recommended as a good minimum wind speed to keep in mind, off grid locations might consider less.
- The WindTronics Wind Turbine is designed for all environments from hot to cold

temperatures and from coastal locations to mountaintops.

- Electrical connection is very similar to a backup generator connected to the building or solar power to the grid.
- The system is designed to be installed by a licensed electrical contractor.
- Our Smart Swap warranty program allows contractors to replace components easily.

WindTronics™ has created a range of tools to assist in identifying proper site selection based on wind, rates and rebates.

www.windknowledge.com

Easy look up of US and Canada wind rates, electrical rates, rebates and incentives.

www.windestimator.com

Global wind statistic, predominant wind direction and wind strength analysis.



Award Winning Technology



Edison Awards Gold Winner in the Energy & Sustainability category

Popular Mechanics

One of the Most Brilliant Products of 2009 by Popular Mechanics Magazine



2009 UNIDO Top Ten New Technologies for Renewable Energy Utilization



Built like no other - Automated assembly lines.

Product Certification

ETL listed, conforming to UL 1741 and CAN/CSA C22.2 No.107.1.

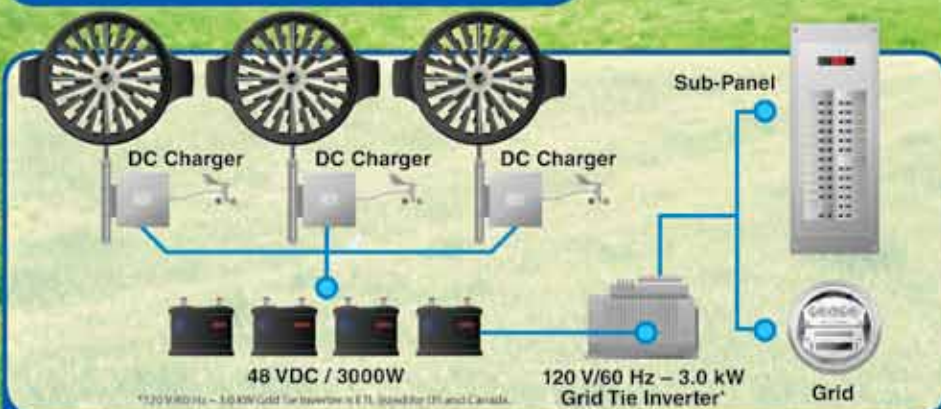
Connect to Building/House, Utility or 12/24/48V Batteries
Converts your wind – like no other.



Non-Grid Tie *connects to the building*



Direct DC 12/24/48 V battery charging



Grid Tie *connects to the utility - 1 to 3 turbines*

*For 230 VAC/50 Hz Grid Tie applications, use WindTronics Wind Turbine (BTPS6500), DC Charge Controller (DCCC-6500) which can be connected to the utility protocol inverter specified in each country.

Configuration Options			
Available Products	Description	Battery Pack	Rated Output Power
	Non-Grid Tie	24 VDC	1.5 kW
	Direct DC	12 VDC 24 VDC 48 VDC	250 W 500 W 1 kW
	Grid Tie	48 VDC	3.0 kW*

*Rated output power will depend on the number of turbines connected to the Grid Tie system.



Blade Tip Power System

Addresses:

- Size (Small 6 feet – 1.8 m)
- Weight (Light 185 lbs – 84 kgs)
- Noise (Quiet 35 dB at 10 feet - 3.1 m)
- Blades (Shrouded, Enclosed)
- Vibration (Negligible, No Gear Box)

Energy Management System

The SmartBox Control System incorporates a proprietary control system that is specifically designed to capture the most efficient power from wind at its unpredictable patterns and dynamics. It functions as a sophisticated energy management system and also provides a simple and seamless interconnection to the grid. The WindTronics Wind Turbine and the SmartBox offers cutting-edge

turbine technology to the individual, enabling each to harness, utilize and manage the energy at their local wind zone. The SmartBox is the control system that consists of a charge controller and a non-grid tie 1.5 kW inverter. Included within the charge controller is an automatic AC transfer switch that will automatically switch between your AC grid and power generated via the turbine.



SmartBox Control System incorporates:

- Optimal Power Transfer Controller
- True Sine Wave Inverter
- Battery Power Management System
- Wind Direction & Speed Measurement Control System



A new classification on wind power

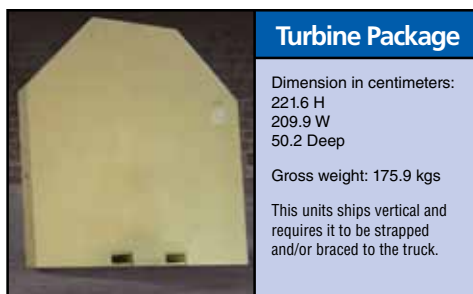
The WindTronics Wind Turbine is designed to be installed where the power is being consumed and can produce 1500 kWh/yr plus or minus depending on location and wind speed. The Blade Tip Power System is a class in itself. **The WindTronics Wind Turbine is the technology of choice for cities and towns.**

WindTronics Model BTPS 6500 Specifications
Enclosed Blade Tip Power System (BTPS)
BTPS Permanent Magnet Electric Generator, Patents Pending
ETL Listed, Conforming to UL 1741 & CAN/CSA C22.2 No. 107.1
Blades – Glass Filled Nylon Composite
Tip to Tip Blade Dimension 5.7' (1.7 m)
Wide Wind Acceptance – Auto Directional
Cut in wind speed 0.5 mph (0.2 m/s)
Acoustic Noise Emissions < 35dB at 10 feet (3.1 m)
Built for winds up to 140 mph (62.6 m/s)
SmartBox™ 120 VAC 60 Hz / SmartBox™ 230 VAC 50 Hz
Shut down wind speed 38 mph (17.0 m/s)
Renewable Electric Generation 2752 kWh/yr - Class 4 Steady State Winds (D.O.E. average US household electric 11,000 kWh/yr)
5 Year Limited Warranty
Annual CO2 Displacement 2.2 Tons

Relevant Applications			
Application	Product Offering		
	Non-Grid Tie	Direct DC	Grid Tie
Residential	•		•
Commercial – Condo Real Estate	•	•	•
Light Industrial	•	•	•
Agricultural - Wind Farms - ER	•	•	•
12/24/48 DC Charging		•	
Remote - Developing Markets	•	•	
Wireless Tower		•	
Hospitality – Hospital – Education	•	•	•
Each System Includes:	Wind Turbine BTPS 6500	Wind Turbine BTPS 6500	Wind Turbine BTPS 6500
	Junction Box	DC Charge Controller	DC Charger Controller
	SmartBox Controller		Grid Tie Inverter/Controller
	Anemometer	Anemometer	Anemometer
Inverter Capability:	1500 W	1000 W	3.0 kW (up-to-3 turbines)
Connection To:	Sub-Panel	Battery System	Grid
Batteries / Box: (not included)	24 VDC	12 VDC/250 W	48 VDC
		24 VDC/500 W	
		48 VDC/1000 W	
Available Mounting Options			
Flat Roof - adjustable			
6' QuadPod (ballast base avail)	•	•	•
Pitched Roof - adjustable			
6' QuadPod (ballast base avail)	•	•	•
Pole Mount (coupler avail)			
	•	•	•

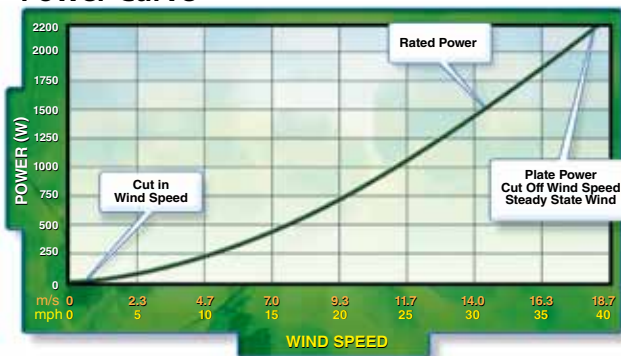
Description	Product Dimensions					
	Part Number	GTIN/ UPC	Weight (kgs)		Dimensions (cm)	
			Unit	Shipping	Unit	Shipping
BTPS 6500 Wind Turbine	BTPS6500	824309100021	84	175.9	199.9 W x 215.9 H x 55.9 Deep	221.6 L x 209.9 W x 52.1 H - 50.2 Deep
SmartBox™ 120V/60Hz NGT (Non-Grid Tie)	SB6500-120NGT	824309200028	23.6	27.3	50.8 L x 51.1 W x 22.9 H	63.5 L x 63.5 W x 60.4 H
SmartBox™ 230V/50Hz NGT (Non-Grid Tie)	SB6500-230NGT	824309200073	23.6	27.3	50.8 L x 51.1 W x 22.9 H	63.5 L x 63.5 W x 60.4 H
3000W 120V/60Hz Grid Tie Inverter w/Battery Backup	OB-GTFX3048	824309400022	28.2	31.4	41.3 L x 21.0 W x 35.6 H	55.9 L x 33.0 W x 55.9 H
DC Charge Controller 12/24/48V	DCCC-6500	824309400015	6	6.8	37.3 L x 30.2 W x 16.8 H	46.1 L x 31.6 W x 31.6 W
QuadPod™ Fixed Mount (adjustable 36" - 72")	MQP6500	824309300049	75	77.3	182.9 L x 116.8 W x 30.5 H	188 L x 121.9 W x 30.5 H
QuadPod™ Ballast Attachment	MQP6500-B	824309300056	170	170	116.8 L x 114.3 W x 15.2 H	116.8 L x 114.3 W x 15.2 H
WindPro System Data Logger	WPD6500	824309300032	0.2	0.5	12.7 L x 17.8 W x 7.6 H	15.2 L x 20.3 W x 7.6 H

*For 230 VAC/50 Hz Grid Tie applications, use WindTronics Wind Turbine (BTPS6500), DC Charge Controller (DCCC-6500) which can be connected to the utility protocol inverter specified in each country.



If Smart Cube packaging is used the dimensions are
232.4 H x 215.9 W x 67.3 Deep (174.5 kgs).

Power Curve



Power Output

- 1,500 Watts at 31 mph (steady state wind)
- 2,200 Watts at 38 mph Peak Rating (steady state wind)
- 2752 kWh/yr in Class 4 Winds (steady state)