



WIRELESS POWER SOLUTIONS FOR WIND INDUSTRY DRIVE DOWN TURBINE COSTS

Wireless power technology is undergoing rapid evolution in hostile, dirty, and difficult-to-reach work environments as operation and maintenance costs, loss of revenue, and usability prompts a call for reliable and cost effective unplugged solutions.

PowerbyProxi has engaged with wind industry participants to develop advanced wireless power solutions that make

wind energy generation more cost-effective by increasing uptime and reliability and reducing maintenance costs.



THE PROXI-RING™ 480 CONTACTLESS SLIP RINGS

PowerbyProxi has just completed a successful trial of the Proxi-Ring™ 480, a frictionless and contact-free slip ring that provides wireless power and data to pitch control systems that drive blades in wind turbines. The technology was developed to replace mechanical slip rings which can be a source of problems for wind turbine operators due to the maintenance requirements and failures caused by physical connections and frictional rotation. The Proxi-Ring 480™ passes the required level of power and communication signals wirelessly and without friction. The plug and play technology can easily be applied to installed or OEM turbines.

IM FutuRe TO ROLL OUT TECHNOLOGY IN EUROPE

IM FutuRe, a specialist company in the maintenance, operation and management of facilities in electric energy production from renewable sources, trialled the technology in a hydraulic wind turbine in a Spanish wind farm for eight months. Due to the flawless performance of the Proxi-Ring™ 480 IM FutuRe will be rolling the technology out across all the wind farms they manage in Europe over the next three years to help operators decrease costs and reduce loss of earnings.

AVANTAGES OF WIRELESS POWER FOR THE WIND INDUSTRY

By eliminating the need for a physical or frictional power connection to electronic devices, PowerbyProxi solutions:

- Overcome the operational constraints of power cables and mechanical components.
- Enable the creation of highly differentiated products with unique competitive advantage.
- Solve continuity of delivery and equipment maintenance problems.
- Provide new design options for new and existing products.
- Reduce operations and maintenance costs in wet, dirty work environments and in applications with moving components.
- Proxi-Rings allow 360 continuous rotation and are corrosion-resistant and waterproof.
- Unlike mechanical slip rings Proxi-Rings do not require cleaning or maintenance as contaminants like oil or brake dust do not affect operation.

COMPELLING BUSINESS CASE FOR WIRELESS POWER

Lower maintenance and operation costs combined with increased uptime translates into significantly decreased costs and reduced loss of earnings for wind turbine operators.

PROXI-WAVE™ TECHNOLOGY

PowerbyProxi delivers solutions using its patented Proxi-Wave™ technology. Proxi-Wave technology is based on the principle of inductively coupled power transfer (ICPT). This approach enables the rapid development of solutions based on Proxi-Wave™ unique features.

Key capabilities of PowerbyProxi technology include:

- Energy efficiency of more than 90 per cent - comparable to many hard-wired solutions.
- Dynamically harmonized power management for variable load applications.
- Robust real world coupling.
- Effective heat management even in hermetically sealed applications.
- Scalable architecture: watts to kilowatts.
- Integrated wireless data that supports CAN-Bus, RS232 and other protocols.
- Soft switched: negligible EMI/EMC issues.
- Transmit power through all non-metallic materials, including liquids and gases.

CREATING STRATEGIC ADVANTAGE IN TOMORROW'S MARKETS

FORTUNE 100 companies serving a wide variety of industries are incorporating PowerbyProxi's patented wireless power technology into the next generation of wind, heavy machinery, aerospace, defence, marine, and electronics products to achieve strategic advantage in tomorrow's markets. Whether they are eliminating cables or batteries, PowerbyProxi can provide autonomous and volume recharging solutions and new ways to get power and data wirelessly to sensors and control systems.

For more information on PowerbyProxi's wireless power products go to www.powerbyproxi.com