



Wind Solutions

Elevate your blade performance

Expert condition monitoring onshore and offshore

Protecting the investment and optimizing the energy yield are the top priorities when operating wind turbines. If rotor blades suddenly come to a stop because of unexpected damage, this can mean long-term yield loss. If undetected, small anomalies, such as broken screws, can develop into massive damage.

Therefore, it is important to constantly monitor the crucial components of the wind turbine. BLADEcontrol® rotor blade monitoring, BOLTcontrol blade bolt monitoring and TwinCap® screw monitoring for blade bearings from Weidmüller enable this monitoring system. Reliable deviation detection makes it possible to plan service tours before serious damage occurs. At the same time, maintenance schedules can be optimized and system stops for maintenance work can be planned for low wind phases.



More information on our website:
[Blade Condition Monitoring](#)

Your advantages:

- Detect early damage to help fine tune your O&M activities
- Use condition-based maintenance with real-time data for better decision making
- Enhance asset reliability and reduce repair costs
- Partner with an experienced CMS manufacturer with a strong global footprint

Our condition monitoring solutions for your turbines

Rotor blade monitoring with BLADEcontrol®

With BLADEcontrol® you can detect even the smallest damage to rotor blades, including blade tip damage caused by lightning strikes, trailing edge cracks, web separation, bonding defects or blade bearing damage. This is achieved by measuring inside the blade, at the point where the damage occurs.

Your advantages with BLADEcontrol®:

- Lower life cycle costs through reduction of repair and downtime costs
- Yield optimization through early detection of rotor blade misalignment
- Continuous data collection and information on the condition of the rotor blades
- Durable, high-precision sensor technology
- Easy access to data, analyses and information via our online visualization and analytics platform WebVis



Blade CMS BLADEcontrol®



Bolt CMS BOLTcontrol

Bolt breakage detection with BOLTcontrol

The patented BOLTcontrol monitoring system detects broken bolts and prevents consequential damage to wind turbines. Blade bolts act as the essential connection between the hub and rotor blade and are therefore permanently exposed to dynamic loads.

Your advantages with BOLTcontrol:

- Detection of broken blade bolts
- Secures bolt fragments, preventing consequential damage to critical hub components
- Maximum safety
- Reduction of downtime and repair costs
- Adaptable to different turbine types

Blade bearing monitoring with TwinCap®

A cracked nut is an indicator of a crack in the blade bearing. The TwinCap® sensors detect cracks in bolt nuts and disconnect the circuit as soon as a nut bursts open. An evaluation unit signals the damage to the control unit in order to switch it off.

Your advantages with TwinCap®:

- Early failure detection and communication
- Easy mounting and wiring due to magnets and series connection (plug & play)
- Integrated LED for visual detection of damaged nuts
- Suitable for offshore applications (protection class IP68)
- Field proven and easily installed



Blade bearing CMS TwinCap®

Optimize your system availability with us and make service calls easier to plan. We will be happy to advise you on your individual requirements.

Let's connect!



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