

Wind Solutions

BOLTcontrol - Bolt Breakage Detection System

Monitor fractures in blade-bearing T-Bolts

BOLTcontrol is an innovative monitoring system that detects broken bolts or studs that fasten the blade root to the hub. This bolted connection is exposed to dynamic loads, making it vulnerable to failures. In addition to immediately alerting operators when a failure occurs, the detector plates hold the bolt fragments firmly in place, preventing them from falling into the hub and damaging pitch systems and other critical components.

By continuously monitoring the rotor blade bolts, BOLTcontrol minimizes down times, reduces repair costs and ensures the safe, highly-efficient operation of the turbine.



Prevention of damage

Holds broken bolts securely in place to avoid damage to hub and components



Ensure continued operation

Improves on-site safety and a reduction of climbs



Safe and economical

Reduction of downtimes and repair costs by continuously monitoring the blade bolts



Quick and easy to retrofit

Adaptable to different turbine types

BOLTcontrol

Fine-tune your O&M activities

Using real time data, on-site decision making can improve with BOLTcontrol. Prioritize inspections based on conditions of the blade root connection and be one step ahead with spare part needs.

Comprehensive monitoring

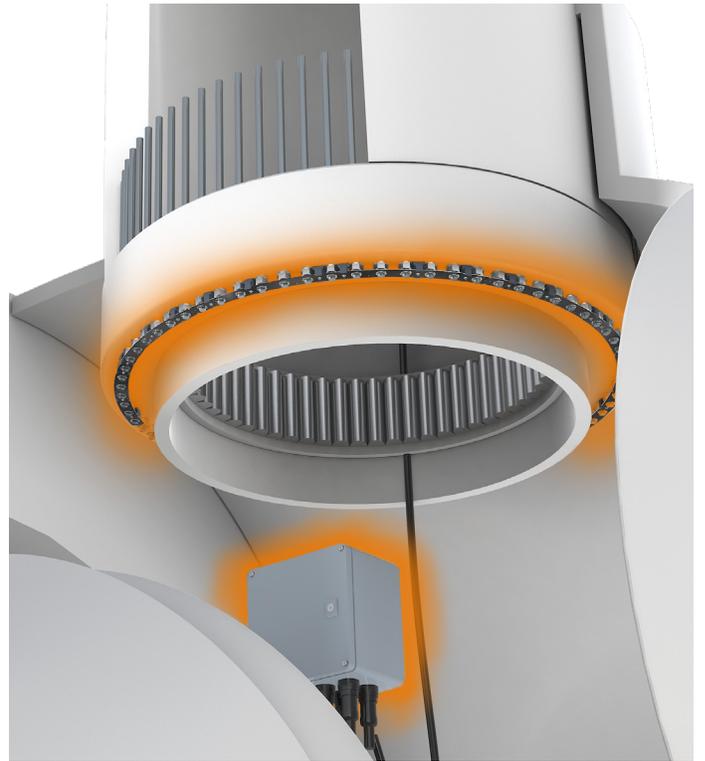
Whether a partial area or 360 degree coverage, BOLTcontrol alerts you when a fracture occurs. High-strength magnets allow the system to be quickly installed and easily removed for maintenance torque checks.

Support for continued operation certification

24/7 monitoring eliminates the need for expensive, labor intensive on-site inspections of the bolts, resulting in considerable cost savings and help with Lifetime Extension Assessments.

Adaptability

BOLTcontrol can be customized for any type of turbine. An alarm message can be sent via an interface to the pitch system or to the customer's SCADA.



BOLTcontrol solution components

Our BOLTcontrol system consists of detection plates and an evaluation unit. The detection plates and their mounting magnets can be adapted to different wind turbines for specific applications. The evaluation unit is available in either control cabinet or DIN rail form factors. BOLTcontrol is a patented system that can be set-up in various ways to achieve the goal of notifying asset owners of broken blade bolts, controlling O&M costs and ultimately improving site safety.



Detection plate with holding magnets



Evaluation unit as control cabinet variant



Evaluation unit as DIN rail variant

The typical error pattern depends on the turbine type. We will be happy to advise you on selecting the right condition monitoring solution for your turbines.



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