

BGB LIGHTNING PROTECTION SYSTEM

Protecting Wind Turbines from Lightning Damage

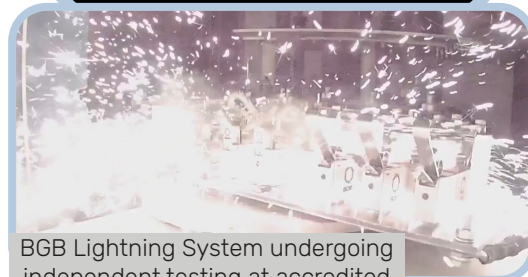
Wind turbines are a critical component of renewable energy infrastructure, but their size, location and exposure to harsh weather conditions make them susceptible to lightning strikes.

A robust lightning protection system is essential to safeguard wind turbine components and ensure long-term performance and reliability.

The importance of lightning protection for wind turbines

Every wind turbine design must account for the potential of lightning strikes during its operational life. Lightning can cause significant damage, particularly to the main rotor bearing, leading to pitting, abrasion, and reduced lifespan. In some cases, the rotor bearing's usable life may be reduced by up to a third due to the effects of a strike.

The costs of repairing or replacing critical components such as the rotor bearing are substantial, often requiring the removal of the entire rotor assembly. These repairs not only incur financial costs but also result in downtime that can impact energy generation and operational efficiency.



BGB Lightning System undergoing independent testing at accredited test laboratory



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BGB's comprehensive lightning protection systems

BGB specialise in designing and providing lightning protection systems tailored for wind turbines. Our products are integral to safeguarding key components and mitigating the detrimental effects of lightning strikes.

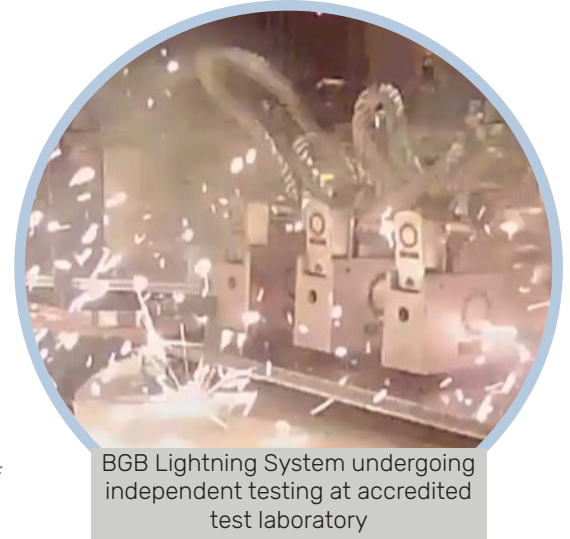
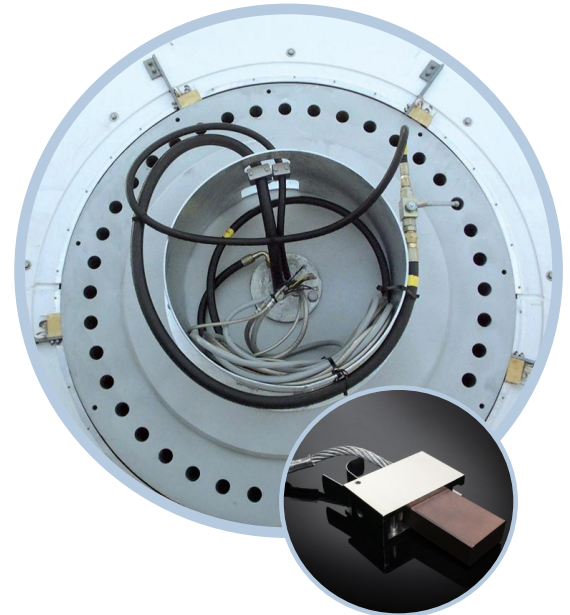
One of our key offerings is a lightning protection product that creates a low-impedance path, bridging the interface between the rotating hub bearing and the nacelle. This ensures that electrical currents from a strike are safely conducted, protecting critical components from damage.

Compliance with international standards

BGB's Lightning Protection Systems are designed to meet the highest industry standards. We comply with:

- > **EN 61400-24, Table D4** – Addressing lightning protection for wind turbines.
- > **IEC 62305** – Providing rigorous tests for safeguarding generator components.

The certifications ensure the resistance of lightning protection systems are verified through a series of high-current tests at 200KA in a fraction of a second to simulate lightning impulse current and long-term current.



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We are proud to have achieved the highest Lightning Protection Level, Class 1, which corresponds to:

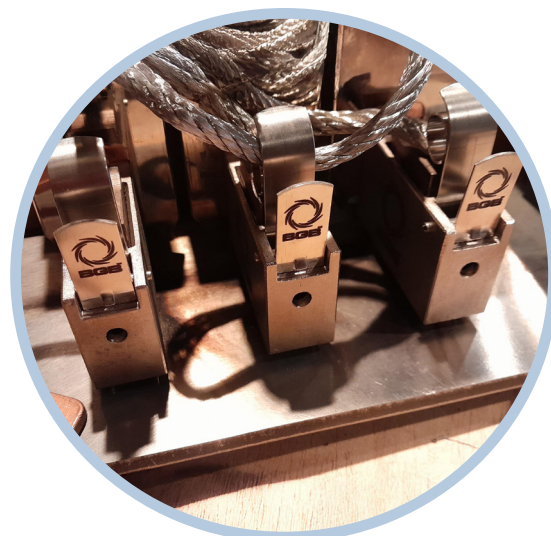
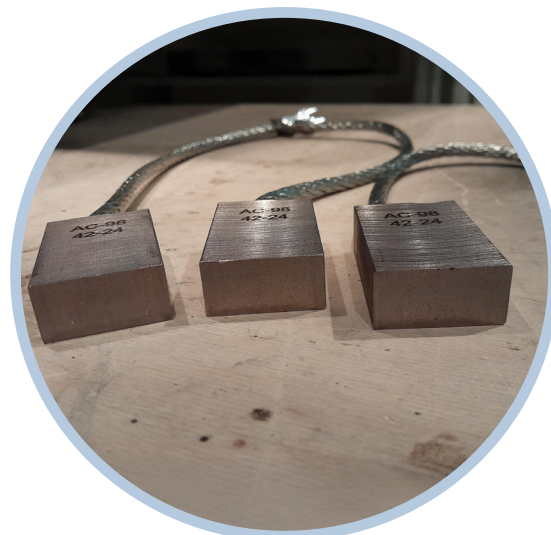
- > **Surge current pulses:** 10/350 μ s, 200kA.
- > **Long-duration current:** 200C.

These stringent tests demonstrate the reliability and effectiveness of our systems in protecting wind turbines against high-energy lightning strikes.

Benefits of BGB lightning protection systems

By incorporating BGB's solutions into wind turbine designs, our customers experience:

- > **Enhanced protection:** Our systems minimise the risk of damage to critical components.
- > **Reduced repair costs:** Preventing significant damage helps avoid expensive repairs or replacements.
- > **Improved operational uptime:** Reliable lightning protection ensures turbines remain operational for longer periods, maximising energy generation.



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Trusted solutions for wind turbines and beyond

BGB's lightning protection solutions are proven to safeguard not only wind turbines but also other large-scale applications requiring robust lightning protection. With our advanced technology and compliance with international standards, we provide peace of mind for operators and manufacturers alike.

Investing in a comprehensive lightning protection system is crucial for the longevity and efficiency of wind turbines. BGB's industry-leading solutions offer unparalleled protection, reducing damage, lowering repair costs, and enhancing operational performance.

To learn more about our lightning protection systems and how they can benefit your wind turbine platform, get in touch with BGB today.

Or browse our catalogue of lightning protection products online:

www.bgbinnovation.com/catalogue/wind-specific/lightning-protection



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January 2025