

How can a sensor-based wind turbine control system reduce the load?

A sensor-based, optimized wind turbine control system can significantly reduce the loads in a wind turbine. This results in a noticeable reduction in component size and material cost. Leine Linde provides strain sensors for different needs and with different levels of system integration, for tower and wind turbine strain monitoring.

What is a generator shaft encoder?

Generator shaft encoders have a key role in the wind turbine control loop system, and they have to be robust, durable and reliable. Be it doubly-fed asynchronous or synchronous equipment, the requirements that need to be met by the communications unit in the generator system are constantly increasing.

Are Leine Linde generator encoders easy to install?

The Leine Linde generator encoders are easy to install. Their product design and mounting solutions are well thought-through. For example, the Bearingless 2000 series, which are robust magnetic ring encoders with a diameter up to two meters, were developed especially for the gearless direct drives and hybrid drives of wind turbines.

How to measure the rotational speed of a wind turbine?

No matter if the shaft is large or small, slow or fast, we have the suitable robust encoder! For wind turbines with gearless drives or medium-speed hybrid drives, the simplest and most reliable solution is often to measure the rotational speed by an encoder directly on the main shaft.

Why do wind turbine generators need high-resolution speed feedback?

High-resolution speed feedback in the wind turbine generator system can ensure a stable operation by enabling efficient control of power and torque. Generator shaft encoders have a key role in the wind turbine control loop system, and they have to be robust, durable and reliable.

What is a Leine Linde 500 series encoder?

And the versatile 500 series contains both absolute and incremental 58 mm encoders with a multiplicity of different output signals and resolutions. All Leine Linde encoders are robust and withstand the harsh conditions to provide problem-free service-life. Find out more about some typical product series and solutions from Leine Linde.

Finally, the encoder signal is verified to be an alternative tool for the fault diagnosis of wind turbine gear by real experimental cases. And without any prior knowledge and the least input ...

Azimuth motors rotate the nacelle of the wind turbine, ensuring it is optimally aligned. Precise positioning of the nacelle is made possible by encoders. The requirements for such encoders include high precision and

robustness.

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Wind turbines are rated by how much available wind energy they can capture and utilize. Because the wind is never constant, turbines never achieve 100% generational capacity. In simple terms, a 1 megawatt (MW) wind turbine has a ...

Recent encoders have been designed for wind turbine applications. The devices indicate the angular position of a rotating shaft and are often described as incremental or absolute. But there are variations. ...

IXARC magnetic incremental encoders can provide an impressive combination of accuracy and durability for wind turbine speed control systems. POSITAL's reliable incremental encoders are available with environmental protection ...

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