

Largest Wind Turbine in the World with Rittal Technology

REpower 5M wind power generator in Brunsbüttel equipped with enclosure technology made in Herborn, Germany.

Herborn, 15 February 2005 – With a 5 megawatt rated output and 126.5 meter rotor diameter, the REpower 5M is currently the largest wind power generator in the world. The prototype of the generator is already being tested at its site in Brunsbüttel in Schleswig-Holstein, Germany, and was officially inaugurated on February 2. To protect the sensitive electronics in the heart of the wind turbine, the gondola, the German company Rittal developed special enclosure and housing systems.

The REpower 5M wind power generator will produce about 17 million kilowatt hours at the onshore site in Brunsbüttel, which is enough power for 4,500 three-person households. In the future, the multi-megawatt generator will especially be used in offshore wind parks in the sea. However, reliable operation under extreme weather conditions requires the highest quality standards for components and systems. What's needed when building these power generators are, among other things, enclosures with high load capacities for installation in the gondola of the wind turbine. "When enclosures are placed in the offshore towers at heights of over 100 meters above sea level, they are subject to extreme impacts under normal operation and during an emergency shutdown" is what Heinz-Jürgen Wilms, Rittal consultant, said regarding the technical requirements. In addition to extreme mechanical loads and vibrations, large temperature fluctuations and extremely adverse weather can cause problems for the wind power generators. "This protection is provided by the enclosures from Rittal because of,

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among other things, their increased corrosion protection, obtained using electrophoresis dipcoat priming", according to the expert. In addition to the use of special enclosure solutions from the TS 8-series in which converters were integrated, Rittal climate control experts, in co-operation with SEG Kempen, also provided a special climate control solution. The converters used, which generate extreme amounts of heat, can only be cooled using a water-based cooling system. Rittal developed the entire pump management system for this problem to implement a redundant climate control solution.

Rittal has been in high demand for many years as a partner for safe packaging solutions for the wind power generation industry. Renowned wind power generator manufacturers such as Alstom, Enercon, GE Wind, Vestas, Repower, Nordex, NEG Micon, and Bonus, among others, trust Rittal's know-how.

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Photos:

REpower 5M figure: With a 5 megawatt rated output and 126.5 meter rotor diameter, the REpower 5M is currently the largest wind power generator in the world.

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