Wind turbine generator winding temperature

Generator wind temperature range directly impacts 34% of unexpected turbine shutdowns globally. Well, you might be thinking: "Isn"t wind cooling enough?" Actually, recent data from the 2024 Renewable ...

Determining the maximum temperatures of such elements as winding insulation and permanent magnets that are most sensitive to overheating is a task that includes determining the ...

The analysis of temperature characteristics in the generator for bladeless wind power generation is achieved by actually expected operating frequency range between 100 ...

In this paper a thermal model is presented that estimates the stator winding temperature of a 2 MW wind turbine generator. The model and the parameter determination are introduced.

Generator stator winding temperature is a significant representation of the health status of wind turbines. Accurate prediction of winding overheating can help us timely formulate operation and maintenance ...

Because of the popularity of the wound rotor and squirrel cage induction generators in modern wind turbines, these two generators are the focus of this paper. Type III machines utilize a wound rotor, ...

The aim of this work is to provide further insight into practical uses and limitations of implementing normal behaviour temperature models in practice, to inform practitioners, as well as assist in ...

The developed mathematical model of the thermal state of a wind turbine generator has made it possible to identify the key factors influencing the temperature of the generator windings.

In this paper, a new condition monitoring method based on the Nonlinear State Estimate Technique for a wind turbine generator is proposed. The technique is used to construct the normal behavior model of ...

To address the potential disruption that sensor faults in wind turbines could introduce to system stability, this study presents a fault diagnostic model for stator winding temperature sensors ...

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