Wind power Technology
DEIF A/S

»Quality, Reliability and Lifetime are a vital part of the future for green energy from wind turbines. The smallest component can cause the turbine to fail, every component for our AWC 500 controller is therefor carefully selected and tested against the toughest requirements to fulfill a lifetime of up to 20 years.«
Mr. Jacob Danielsen, Product Manager at DEIF WindPower Technology

The customer

Country: Denmark
Industry: Windpower Technology
Founded: 1933
Employees: 500+
Website: www.deifwindpower.com

The challenge

Maintenance and repairs are complicated in wind turbines, therefore the reliability of the applied controllers need to be of the highest levels to keep repairs at a minimum. The quality, reliability and life expectations of the applied components is therefore of vital importance.

The solution

DEIF has chosen the reliable Fujitsu JS-5N-K-V3 relay, which is able to provide the galvanic isolation in the controller application, necessary to assure safe separation between primary control circuit and the controller outputs. The relay contact switching capability provides the necessary broad contact ratings that are required to achieve the specified controller output range.

The customer

DEIF is a global supplier of green, safe and reliable control solutions for decentralized power production, marine/ offshore and wind turbines. The advanced wind turbine controller AWC500 is a critical component inside the wind turbine, controlling the availability to produce wind power as well as protecting its components. The DEIF controller solutions have specific and wide specifications and are even able to manage the wind turbine's heating and lubrication to protect the components and ensure a long lifetime.

The DEIF Advanced Wind Turbine Controller (AWC) series is the latest addition to the DEIF controller solutions. The AWC500 series is known to be the most robust solution on the market and includes controller hardware, robust software packages, a proven wind turbine control strategy and is operated worldwide.

DEIF yearly installs worldwide roughly 1,000 turbines annual containing DEIF controllers.

The challenge

Wind turbines face harsh environments: from high humidity in India to very high altitudes in the mountains of South China. Wind turbines are installed nearly everywhere in the world, often in deserted places, only reachable by helicopter. Maintenance or repair works on systems and components inside the wind turbines needs to be limited to a minimum. This is why quality of the applied components in the controller is essential!

The benefit

- The Fujitsu relay offers a reliable solution contributing to a long wind turbine controller life preventing additional difficult and hazardous repair and maintenance operations.
- The Fujitsu relay provides the customer the freedom to use any outputs for any type of load.

The solution

DEIF has found their controller relay requirements met by the high quality Fujitsu JS-5N-K-V3 relays. The Fujitsu JS-5N-K-V3 relays have a 1-form-C change-over switching configuration and are utilized to perform the switching function of the controller outputs. The relays provide the necessary galvanic isolation and are capable of switching basically any controller output load. The actual contact load of the relay is determined by the controller output wiring to the diverse loads in the wind turbine.

The broad application range of the JS-5N-K-V3 relay and its large range of contact load switching capability allows for the freedom to use any available output of the controller. The relays 3µm gold plating enables switching signal load applications down to as low as 5VDC/5mA.

The relay's base contact material allows for a power switching load of 250VAC/8A. This power switching capability is able to drive high current contactor coils, which are used to control the hydraulic pump motors of the wind turbine. The JS-5N-K-V3 relay combines this level of power switching load with a low coil power dissipation. The Fujitsu JS-5N-K-V3 relay has a UL/cUL safety certification. This assures a reliable switching function during the required lifetime, even when switching in such severe environmental conditions that require de-rating of the relay's switching capacity.

The conclusion

Fujitsu is proud to have been able to match DEIF's stringent technical and quality requirements, ensuring a reliable and safe operation during the life time of the advanced wind turbine controller.

In collaboration with

DEIF -power in control

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