



Vortex GT

BACKGROUND

Large Scale (1.0 MW+) Wind Turbines supply power from a generator in the nacelle at the top, through a transformer and into the grid. The size and complexity of the turbines makes them very expensive to build and make operational. Harsh environments, dizzying heights, and expensive cranes and technicians mean that every minute counts. Traditionally, with fully hardwired designs, a lot of time was needed for qualified electricians to operate in dangerous conditions making all the electrical connections. An industry wide switch to modular tower builds, means less time in the field. Individual tower sections are fitted with ladders, lighting and wiring while they are still safely on the ground. Once the tower is erected, the connections are made at each section.

PROBLEM

Power Cables from the Generator are broken into four sections. A service loop between the moving nacelle and the top of the tower, and 3 sections down the tower. Each of these sections must be connected on sight, and that has to be done by a skilled electrician using butts and bolts to attach crimp lugs. The process is time consuming; with anywhere from eight to twenty-four separate lines. And it requires the technician to use tools in a dangerous area. There is inherent risk in incorrect wiring, and thorough inspections must be carried out throughout the life of the turbine to ensure the fasteners hold.

AIO SOLUTION

The Vortex GT was introduced, bringing a number of AIO's technologies together into one connector solution. Built on the proven GT Series, with aircraft grade aluminum shell construction, the Vortex has a reliable, vibration-resistant, reverse-bayonet coupling. It accommodates the large 18mm RADSOK contact, which allows for efficient handling of power up to 800 Amps. The materials withstand the demanding environment that Wind Turbines see around the globe, including temps to -40C. And the shells have a durable hardcoat, with a 300 Day Salt Spray Rating, making the Vortex ready to handle Offshore Wind Farm applications. The Vortex GT allows for quick hook up of the power cables and the elimination of expensive junction boxes within the tower. With less installation time, the result is a lower cost install and less maintenance... meaning the Turbine spends more time in operation making electricity, and making money.

