



# ProWind Stator Contactor Upgrade Kit

## Stator Contactor Upgrade for ProWind-I 1.5MW / 2.0MW Converters

Technological innovation and improvements are an integral part of new feature introduction of GE Power Conversion products. New product features are being developed based on customer experience in order to improve products performance, availability and reliability. Customers can rely upon GE to bring improved features through our upgrade programs.

### WIND TURBINE PROTECTION

Legacy Doubly Fed Induction Generators (DFIG) type wind turbines equipped with GE's ProWind converter systems generate renewable sustainable energy to power millions of homes.

ProWind frequency converters from 1.5MW – 3.4MW, operate at variable speed so that energy can be extracted over a wide range of wind strengths. In the event of a fault being detected, the ProWind converter system will trigger the release of the appropriate main circuit breaker. The stator contactor upgrade kit will improve the converter security because the main circuit breaker could fail due to the heavy duty cycles reached and is unable to open the contacts anymore. This will cause damages severely to the converters which are very expensive and can not be replaced through the end of life of main components.

ProWind II, III and IV range converters are fitted already with the stator line contactors to reduce the need of de-energizing and releasing the DFIG main circuit breaker. The contactors ensure that the main circuit breaker will only be released in case of emergencies or a request over a wind turbine plant (WTP) operating system, thereby switching is avoided and protected adequately by the stator line contactor alone. It reduces the amount of switching cycles of the main circuit breaker and greatly extends the useful life of the main circuit breaker (MCB).

**The MCB is a secure switching element in the converter to protect the turbine environment as well as the converter** and is a costly device with limited switching operation. The upgrade kit can save maintenance time & costs and can cut the extended downtime to restart or reset and bring the wind turbine back into operation.

### PROPOSED UPGRADE SOLUTION



**3 phase, 3 pole stator contactor unit**

GE offers an upgrade kit and the software modification for your ProWind I 1.5MW and 2.0MW converters. This includes the necessary parts, auxiliary contact blocks, cable assemblies and a complete work instruction. The work instruction provides a step by step procedure for installation, testing, inspection and finally returning the converter back into operation.

During retrofitting, no special tools are necessary. However for performing all kinds of electrical works in the power cubicle, GE's work instructions will adhere to the safety LOTO procedures, isolation procedures and checks for absence of voltage outlined.

### BENEFITS

- Stator contactor upgrade kits are cost effective.
- Since the upgrade kit will be installed in the existing main supply power cubicle, the footprint remains the same.
- Fully tested and certified solution for installation in legacy wind turbines.
- Training available for OEM service & maintenance staff to roll out upgrade installation to wind farm.