

**Wind energy is breaking more and more new ground: both onshore and offshore. The trend towards more powerful wind turbines with maximum energy yield calls for variable speed generator systems that meet the highest demands in terms of availability and economic efficiency.**



### **Reliability is our top priority**

Converteam frequency converters feature flexible communication concepts and powerful visualization and operating software. They can be integrated into wind farm management systems via all common types of fieldbus.

We minimise the time required for commissioning on-site by subjecting every ProWind drive to a thorough integrated system test with an original generator before it leaves our factory. Standard components and light weight result in a particularly high degree of user friendliness.

### **Benefits for users**

- Good price-performance ratio
- Flexible solutions for optimized applications
- Good grid compatibility
- High power density
- Short commissioning time
- Easy to maintain

### **A host of possibilities**

The IGBT-based phase modules are fitted either with a finned heat sink for forced air cooling or with water heat sinks. The dimensions are identical for both versions.

Converteam has been supplying converter/generator systems since the beginning of wind energy in megawatt turbines. The ProWind frequency converter is the result of constant innovation and the experience we have gained from almost 2500 wind turbine installations, combined with other demanding drive technology applications.

### **Made-to-measure drive equipment**

The ProWind frequency converter is characterised by a compact, modular design

with a high power density. Our highly skilled wind turbine specialists will be pleased to advise you on how to adapt series-produced modules to your specific needs. In our in-house facilities we will assemble the perfect drive for your application. The overall concept is based on largely identical phase modules for all power classes, which are suitable for the specific climatic conditions and meet the particular technological requirements associated with harnessing the wind to generate electrical power.

Modules designed for operation in an extremely cold climate are fitted with direct heaters. The smallest cubicle unit with six air-cooled phase modules enables a four-quadrant frequency converter with a power of 690 kVA to be realised. This allows wind turbines with a power of up to 2 MW to be implemented with a rotor-fed asynchronous machine.

The water-cooled variant, with an installed power of 2 MVA in a standard cubicle panel (600 x 600 x 2200 mm), impresses thanks to its extremely compact design, as well as a host of other special features, such as automatic closing of coolant valves, which allow modules to be replaced without the need for tools and with no water leakage.



| Front view of control and phase module



| Water-cooled phase module



| Air-cooled phase module

Thanks to newly designed power electronics and Converteam's tried-and-tested control electronics, ProWind frequency converters are well equipped for all kinds of requirements for wind power installations. This is also true for utility companies' stricter requirements concerning grid stability.

#### **Always available – expert teleservice for wind turbines**

Teleservice means: rapid and effective support from our specialists. Whenever you need them, our experts can respond to you from any location, no matter where you are. Consequently, optimum operation and a high degree of availability can be achieved throughout a turbine's life cycle. The manner in which support is provided will depend on the equipment level of the turbine concerned as well as the intended scope of the support agreement.

#### **Technical Data**

##### **Phase module**

System power range: 0.5 to 6 MW  
 Grid supply voltage: 3 AC / 690 V  
 Grid frequency: 50 Hz  
 Rated module current: 580 A, 760 A  
 Pulse frequency: 3 kHz  
 Maximum weight per module:  
 22 kg / 29 kg  
 Cubicle protection:  
 IP21, optional up to IP54  
 Ambient temperature:  
 -25° C to +40° C

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