Wind Power Conversion
Richardson RFPD offers active and passive components, global design support and assembly of complete inverter subsystems for wind power energy management.

Components ➔ Designs ➔ Assemblies

Component Selection
Choose from an extensive inventory of high-power components from the industry’s leading manufacturers. Capacitors, heatsinks, thyristors, IGBTs, ultracapacitors, resistors, and integrated power-converter modules designed to meet the requirements of your wind power application.

Design Review
Our global engineering team can review your design goals, provide specific assistance or suggest alternatives to help meet your project’s performance and budget objectives.

Turn-Key Assemblies
We offer the assembly expertise and capabilities to provide the complete power stage for your wind power inverter.

Wind Power Inverter with Grid Tie-In

Providing Design Support for:
- Wind Power Inverters
- Wind Turbine Pitch Control Systems
- Energy Storage Systems
- Thermal Management Systems

Your Global Source for RF, Wireless & Energy Technologies
### Active Devices

**Mitsubishi Electric**

- **IGBTs / IPMs**
  - Full family of IGBT and IPMs for wind power inverters
  - IPMs designed to handle extreme temperatures and overload conditions
  - Small package designs with reduced power loss (NX-S Series of Ultra Low-Loss IGBTs)

- **Application tools**
  - Provide leverage for your finite technical resources
  - Online simulation software to validate electrical performance helps minimize time to market

- **Easy installation and wiring design**
  - Allows application equipment to be reduced in size and weight

**Powerex**

- **Diodes / IGBTs / SCRs**
  - High Power IGBT modules rated from 1200V to 6500V
  - Circuit configurations include single switch, dual switch, chopper, half bridge and bi-directional options
  - IGBT technology developed in-house from R&D thru fully tested modules

**Dynex Semiconductors**

- **IGBTs / IPMs**
  - Flexible high power SKiiP IPMs optimized for wind applications
  - Water and air-cooled solutions for 1.5 MW to 2.5 MW wind converters
  - Gate driver, current sensors and protective functions already integrated, thermally matched

**SEMIKRON**

- **IGBTs / IPMs**
  - Low Profile IGBT and Diode Modules for improved efficiency
  - 600-1200V, 15A-100A Fast Recovery Diodes
  - Full line of discrete 500V to 1200V MOSFET’s and IGBT’s

**Tamura**

- **Current / Voltage Transducers**
  - Open Loop and Closed Loop Hall Effect Current Sensors
  - Critical component monitoring of turbine current levels
  - Reduced lead times ensure product availability

### Passive Devices

**Kendall**

- **Screw Terminal and Snap-Type Electrolytic Capacitors**
  - Up to 20,000 life hours
  - Capacitance values to 1.5F
  - Voltage to 500 VDC
  - Foil etching/formation facility for control of raw material flow

**CDE Cornell Dubilier**

- **947C Power Film Capacitors**
  - Replacement for screw terminal electrolytics
  - Capacitance values to 1500µF
  - Voltage to 1300 VDC
  - Ripple current ratings to 100A

**Maxwell Technologies**

- **Ultracapacitors**
  - Back-up power for wind turbine pitch control systems, reducing maintenance and extending turbine life
  - More reliable performance than batteries over wider temperature range (-40 to +65 °C)
  - Extensive inventory of 300F to 3000F individual cells (2.7V) plus multi-cell modules from 16V to 125V

**Kemet**

- **C44U and C4DE Power Film Capacitors**
  - Replacement for screw terminal electrolytics
  - Capacitance values to 600µF
  - Voltage to 1300 VDC
  - High capacitance density

**Microsemi Power Products Group**

- **Thermal Management**
  - Extrusions, Bonded Fin & Chill Plates for wind turbine inverters
  - Up to 50 extrusion profiles in stock eliminating tooling cost
  - Economical custom fabrication solutions

**Wakefield Solutions**

- **Power Resistors**
  - GW Series – Balancing resistors for DC Link circuits
  - Wirewound – up to 1000W (variable and fixed values)
  - Thick Film – Up to 2000W
  - High Energy – ceramic and carbon composition

**Ohmite**

- **Ultracapacitors**
  - Replacement for screw terminal electrolytics
  - Capacitance values to 600µF
  - Voltage to 1300 VDC
  - High capacitance density

### Contact Information

Contact your local sales representative or learn more about Richardson RFPD Energy Management online at [www.rell.com/energy](http://www.rell.com/energy).

Your Global Source for RF, Wireless & Energy Technologies

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