

Amphenol

Wind Energy



www.amphenol.com



Wind market

At Amphenol we understand that the wind power industry has unique interconnect needs. We know that wind turbines are in service for more than 20 years in some of the harshest environments on the planet, whether on-land or offshore.

Amphenol's Wind Energy products withstand:

- vibration
- salt spray
- humidity
- dust
- EMI/EMC
- temperature extremes

Whether you need power connectors, signal connectors, backplane connectors, rugged data cables and switches, complete cable assemblies, fiber optic connectors and assemblies, or system attachments, we have the right solution for your wind power application.

We also know that you need a partner with a global footprint of service and support. Amphenol has over 85 facilities in 30 countries and due to our culture of cost control and operating discipline we are able to prosper in all economic climates.

Amphenol's background in producing high reliability connectors for the harshest environments on Earth and in Space gives us the unique experience needed to produce extremely reliable, cost effective, industry standard products for the wind energy industry. If you have the need for a customized solution our engineers will work with yours to produce the right customized interconnects for your application.

Amphenol connectors are approved by UL/CSA, VDE and other international standards.





Amphenol

Since 1932 Amphenol has been the interconnect technology provider of choice to industry leading companies throughout the world. With a broad and diverse product portfolio, Amphenol is able to develop the right solutions for our customers across the diverse segments of the rapidly expanding electronics market.

With dedicated employees working at 85 facilities in more than 30 countries, Amphenol has the unique advantage of having both diversified global reach while still being a focused organization. Our focus comes from our entrepreneurial management team dedicated to specific markets and regions.



POWER:



RADSOK

Amphenol's exclusive RADSOK vibration resistant hyperbolic contact is one of the most efficient contact designs in the industry. With the combination of up to 65% contact coverage in a design with very low insertion force. This high level of contact coverage allows more power in a much smaller space with extremely low insertion resistance. Available in a wide variety of sizes and incorporated into all of Amphenol's power interconnects, RADSOK is the ideal power contact for wind energy applications both onshore and offshore.



VORTEX GT

Ideally suited for use in wind turbines, the Vortex GT features Amphenol's patented RADSOK contact which allows for extremely high power in a compact package with low mating forces. The connector has low insertion force, a wide temperature band, and is designed for high vibration environments. 800+A and 2000+ V. Plating options include a hard anodized coating derived from oil and gas industry which resists 300 days of salt spray.



AMHTC

The Amphenol High Tension Connector is a rugged and cost effective high power interconnect originally designed for the rail mass transit industry. This low-cost connector can handle high voltage (4Kv+) and high amperage (400+). This comes in a package designed specifically for harsh environments where high vibration, temperature extremes, corrosives, and long service life are the norm.



IEC 309

Amphenol has all the standard IEC 309 plugs and receptacles. These standard power connectors are available in a wide variety of versions up to 690 V and up to 250 A. These connectors are dustproof, waterproof, rot proof, explosion proof, and they resist extreme temperatures.



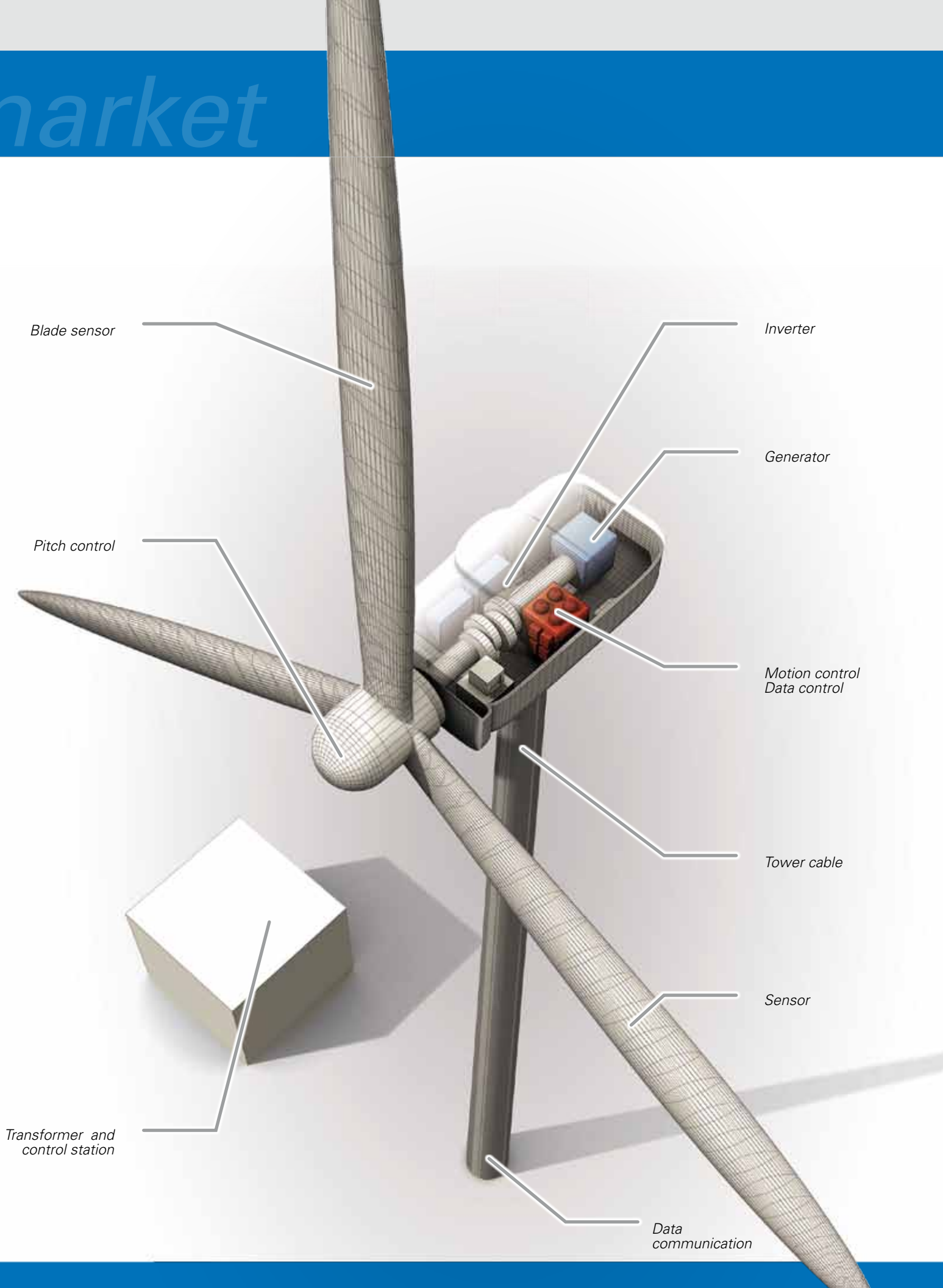
SURLOK

Amphenol's Surlok lug uses Amphenol's high power RADSOK contact with a simple locking feature which provides positive feedback that the Surlok is properly mated. Surlok comes in a variety of sizes and power ratings. Ideal for panel grounding all the way up to 1000A+. Surlok can be mated to standard bolts as well as machined pins.



LUGS

Amphenol's PowerLug cable termination is formed from continuous copper strand-ing, eliminating the crimp joint of standard ring terminals. This significantly increases cable termination reliability while reducing the MV drop inherent within a crimp joint. Amphenol also produces a wide variety of standard high power lugs.



CONTROL & SENSOR SYSTEMS:

**C146**

Amphenol is a leader in C146 with a broad line of standard solutions. Our C146 with cost effective crimp contacts is extremely cost competitive and greatly reduces assembly time. Our specially coated C146 connectors resist over 500 hours of salt spray. This testing was performed with the complete, assembled, mated connector – not just the housing which can resist over 1500+ hours with no notable corrosion. Engineered and built in Germany or Asia – our C146 product line has been used in wind energy for over a decade.

**D-SUB**

We have used our experience in harsh environment interconnect design to create a line of rugged, high reliability, harsh environment d-sub connectors specially suited for the wind energy industry. These standard interconnects remove the guesswork when using d-sub connectors in high vibration areas where normal d-sub connectors do not have the necessary electrical performance to allow reliable system operation. Available in a wide variety of pin counts, angles, and mating technologies such as board mount, solder, and crimp.

**M12, M23, & M40**

Amphenol's M series connectors are a staple in factory automation and the industrial machine market. These standard interconnects and cable assemblies are specially designed for the harsh environments found in an industrial setting. Amphenol has a wide variety of M-series connectors and can supply complete standard and over-molded cable assemblies as well as junction boxes.

**C091**

Amphenol's C091 is used in various systems within world leading wind turbines. This metal circular connector with screw coupling is specially suited to industrial settings. Currently used in control systems such as solenoid actuators for hydraulic pitch control systems, this connector has a multitude of potential applications within wind turbines. Available in a variety of IP classifications.

**FIBER OPTICS (INCLUDING HARSH ENVIRONMENT SFP)**

Amphenol produces standard as well as highly specialized fiber optic interconnects and cable assemblies to suit any need in a wind turbine. Whether you are looking for a harsh environment connector for use in all elements outside the nacelle or a rugged cable assembly with standard connectors for down-tower use – Amphenol has you covered. In addition, Amphenol is a leader in 10G Ethernet and has developed special harsh environment SFP optical modules based on standard components to serve the wind market.

RJ SWITCH / RJ FIELD

Ethernet is becoming more prevalent within wind turbines. Amphenol has a broad range of harsh environment Ethernet products from switches, to connectors, to cable assemblies. Our products are available in a variety of different styles and IP classifications.



CABLE HARNESSES, BUS BARS, TERMINAL BLOCKS, AND CABLE GLANDS



CABLE HARNESSES

Amphenol has the capabilities to create all varieties of cable harnesses. Whether a simple power cable with Amphenol lugs or a complex hybrid harness with power and signal, Amphenol can produce what you need in whatever volume you require. Our cable harnesses are extremely cost effective and cut down on excess vendors in your supply chain. We have cable harness facilities in all regions worldwide.



BUS BARS

Amphenol is a major supplier of bus bar power distribution systems for many industries, including wind energy. Our bus bars are custom designed for specific applications where they can greatly simplify complex wiring harnesses while providing increased durability, power handling, and airflow.



TERMINAL BLOCKS

Amphenol can supply a wide variety of standard terminal blocks used throughout wind turbines. Our terminal blocks are screw type, board mount, or DIN rail. These cost effective solutions are very competitive in the market place.



CABLE GLANDS

Where connectors are not used, cable glands can be a very robust and cost effective solutions for bringing wires through a panel or bulkhead. Amphenol uses the same industry leading expertise that we bring to the connector market to our own cable glands. Available in a wide variety of sizes, shapes, materials, and classifications – Amphenol has the cable glands you need for any application.



OFFSHORE

Amphenol has taken its unique expertise as a world leader in offshore oil and gas interconnects to create connectors which are specially suited to offshore wind turbines. These connectors have special plating and sealing options to resist corrosion for the life of your wind turbines. You can be confident that our interconnects will perform to spec even in the harshest environments imaginable. For your mission critical offshore connectors trust the leader in harsh environments – Amphenol.

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