



Services and Solutions Wind Power



Power Electronics

- Services
- Control Systems (PLC-AC500 Controller)
- Grid Stabilization
- Grid interconnection

Reactors

- Liquid-Filled

Semiconductors

- IGBT and Diode Modules

Transformers

- Service
- Dry-type

High Voltage Products

- Service
- Circuit Breakers
- Gas-Insulated Switchgear

Medium Voltage Products and Systems

- Service
- Instrument Transformers
- Reclosers
- Battery Energy Storage Systems
- Distributed Energy Storage Modules
- Switchgear and Motor Control

Drives, inverters and converters

- Drive Services

Motors and Generators

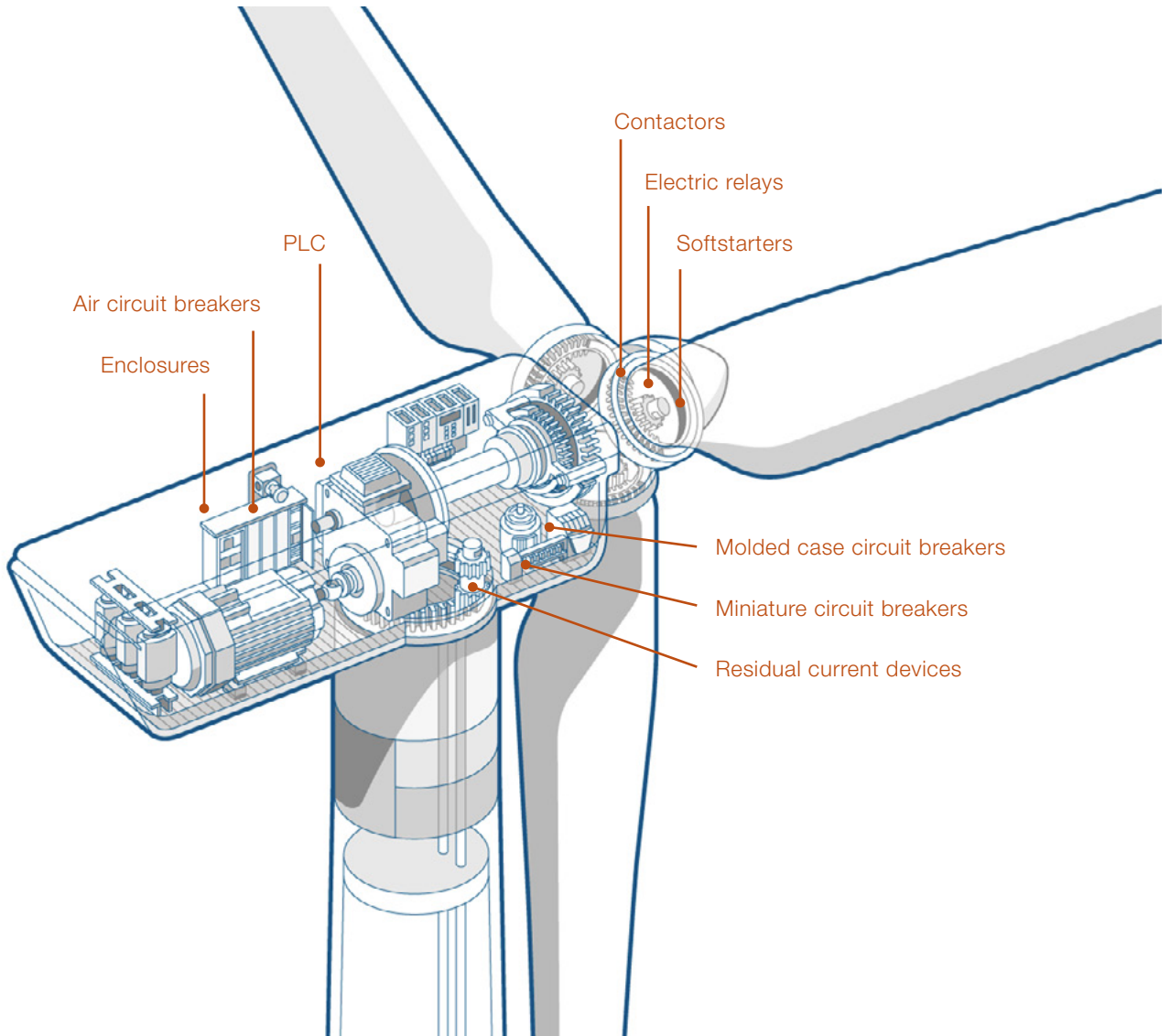
- Service
- Wind Power Generators

Low Voltage Products and Systems

- Service
- Contactors
- Circuit Breakers
- Door Entry Systems
- Enclosed Switches
- Modular DIN Rail Products
- Software Tools

Transformer Components

- Bushings
- Composites
- Distribution Components
- Insulation Materials
- Oil Treatment
- Power Components
- Tap Changers



As a proven leader in the Wind Power Industry, and with continued investment and expansion of service products and solutions, ABB is uniquely positioned to support and optimize the performance of your production systems throughout the entire lifecycle.

Contact us to learn more about how our services and solutions can help you to:

- Keep production running
- Maximize system performance
- Optimize process performance
- Deliver operational excellence

Related Brochures

- [Products and services for wind turbines](#)
- [Wind turbine generators](#)
- [Low voltage wind turbine converters](#)
- [Medium voltage wind turbine converters](#)
- [Protection and control on wind turbine applications](#)
- [Vacuum cast coil dry type transformers for wind power](#)
- [Multi-megawatt electrical drivetrain testing laboratory](#)

Contents

Did you know? 4

Service Offerings 5

 Advanced Services 5

 Spare Parts and Repair 5

 Evolution and Retrofit Services 6

 Engineering and Consulting 6

 Remote and Technical Support 7

 Maintenance and Field Services 7

 Training 8

 Installation and commissioning
 Application Engineering
 Full Service
 Service Agreements 8

Wind Power Plant Solutions 9

Expertise 9

Wind Power Products 10

Contact Us 12

About this document



Scan this QR code, or visit <http://goo.gl/2xFXy>, to receive a PDF version of this document, which includes hyperlinks to additional ABB.com information.

Did you know?



ABB is the largest supplier of electrical components, systems and services to the wind power industry

Experience plays an important role when choosing a partner for products, systems and services. Over 100 years of experience and collaboration with power utilities, process automation and OEMs, enables ABB to convert know-how and application understanding into products and solutions to benefit the wind power industry.

Sustainable solutions, reliability and knowledge of industry specifics, such as grid codes, have made ABB the leading partner for wind power.

Did you know:

ABB is the world's largest supplier of electrical products and services to the wind industry.

ABB is the only company that can provide solutions for every major wind generator technology.

ABB is the world's largest supplier of the electrical heart of wind turbines.

ABB has more than 20 years experience providing products and technology for wind generators.

ABB has supplied products and solutions for more than 25,000 wind generators.

ABB has installed thousands of transformers in wind power globally.

ABB has installed thousands of substations at wind farms around the world.

ABB offers one of the most comprehensive ranges of low-voltage products for wind energy.

Service Offerings



Advanced Services

Analyzing and utilizing automation data effectively is paramount to decision-making and response time. ABB process and asset optimization services use a proven, continuous improvement methodology, special tools, and knowledge of the systems and processes in your operation to identify improvement opportunities.

- Life Expectancy Analysis Program (LEAP)
- MACHsense-P
- Energy efficiency
- Cyber security:
 - Antivirus management
 - Microsoft patch mgmt
 - System backup/restore management
 - Control system security validation
 - Risk assessment
 - Power quality and grounding audit
 - Remote monitoring and operations room
 - Maintenance of system recovery plan
- Operational excellence reliability
 - Service environment
 - Management of underpinning contracts
 - Plant integrity support
 - System ownership support, technical account management
- Gap analysis and services design
- NIDS/HIDS management
- User management
- Virus removal
- Create asset register
- Criticality classification
- Infrastructure for services delivery
- Support creation of a security organization
- Support security policy creation

Spare Parts and Repair Services

ABB's global logistics network is strategically positioned to provide fast parts and repair service throughout the world, 24 hours a day. Our organization uses standardized processes, tools and metrics to ensure that components are delivered efficiently to your site.

- Repairs
 - Parts Repair Service
 - Parts Refurbishment Service
 - Remote Troubleshooting
 - Corrective maintenance
 - On-site repair
 - Off-site repair
 - Factory Repair
- Parts and inventory management
 - Parts Fingerprint
 - Inventory Access Program
 - Lease to own spare parts
 - Parts contracts
 - Guaranteed parts delivery
- Parts Test Service
- Emergency Parts Service
- Replacement parts
 - Parts exchange services
 - Business OnLine
 - Parts maintenance, repair, and overhaul (MRO)
 - Services for process analyzers
 - Spare Parts Service
 - Parts kits
- Preventive Maintenance Kits
- Update service for spare parts
- Extended warranty time
- Capital Spare Parts
- Operational Spare Parts

Service Offerings



Evolution and Retrofit Services

The ABB lifecycle management model provides the framework used to develop and provide evolutionary services that maximize availability and performance throughout the life of ABB equipment. This model enables ABB to provide optimum support to end-users and a smooth transition to new software and equipment when a product reaches the end of its lifecycle. Most ABB products provide useful service for twenty years or more. Throughout the product lifecycle, we work to provide solutions that expand the functionality and extend the lifecycle of your equipment, while maintaining your core investment.

- Software management
- Hardware upgrades
 - Motor and Generator Upgrades
 - Component Upgrades
- Light Detection and Ranging (LIDAR)

Engineering and Consulting

Wind turbines require sophisticated engineering. ABB's engineers work with turbine manufacturers during the product specification phase to ensure all of the technical questions and issues are addressed. ABB offers consulting services to identify key potential for improvement in the areas of industrial asset management, production processes and operations' infrastructure. Our highly qualified experts have an in-depth knowledge of the needs as well as best practices in the Oil, Gas and Petrochemical industry, whether you have a single or a comprehensive technical/organizational issue.

- Ventyx Advisory Services: transmission risk, wind storage, spinning reserve and others
- MotorAdvantage
- Engineering services
- Industrial Energy Efficiency
- Telecommunications
- Environmental Consulting
- Operational improvement
- Safety
- Validation Consulting
- Consulting services
 - Advanced process control
 - Energy efficiency improvements
 - Reliability and plant performance improvement
- Engineering, design and drafting
- Health, safety and environment quality assurance
- Engineering configuration
- Engineering planning and specifications
 - Lifecycle Analysis
 - Site Audit
 - Site Survey
- Project management, EPCI delivery for EICT

Service Offerings



Remote and Technical Support

The rapid advancement of automation and information technology in the oil and gas industry requires a high level of expertise in maintaining and managing resources. ABB also understands the importance of ensuring security and optimization at all times. The ABB Service Environment™ has been developed specifically to meet these challenges.

- [Remote troubleshooting](#)
 - [SupportLine](#)
 - [Wireless remote](#)
 - [Park/Farm service desk with technical product support and incident resolution](#)
- [Remote Access Link](#)
- [Drive Monitor: Remote enabled service for MV Drives](#)
- [Technical support](#)
 - [SolutionsBank](#)
- [Remote condition monitoring](#)

Maintenance & Field Services

Effective predictive, preventive and corrective maintenance practices maximize the performance of your automation and production equipment. ABB service personnel are trained in the latest diagnostic, repair and maintenance practices to ensure high value for your maintenance investment. Maintenance solutions such as condition monitoring help to predict equipment failure and prevent costly downtime.

- [Life Expectancy Analysis Program for motors](#)
- [Preventive maintenance](#)
 - [Remote condition monitoring](#)
 - [ServicePro 3.0 Service Management System](#)
 - [Resident engineer](#)
 - [Inspection and diagnostics](#)
 - [Predictive maintenance](#)
 - [Preventive Maintenance](#)
 - [Maintenance Contracts](#)
 - [Mid-Life Refurbishment](#)
 - [Self Maintainer / Demand Support](#)
- [On-site condition monitoring](#)
 - [MACHsense-P condition monitoring for motors](#)
 - [Monitoring](#)
- [Inspection and diagnostics](#)
 - [Diagnostics and Condition Assessments](#)

Service Offerings



Training

Wind turbines are complex machines. Understanding how to efficiently integrate and operate ABB products provides the basis for improved product quality and reduced production costs. ABB training is available for many products. Wind turbine manufacturers, power plant operators and service providers may attend training at ABB training centers, online through e-learning classes, or even at their own site. Training also helps keep wind turbine manufacturers and wind power plant operator engineers up-to-date with the latest product developments and information.

- [ABB University](#)
- [Discount programs](#)
- [Coaching services](#)
- [Customer Training](#)
 - [Data Manager](#)
 - [Inferential Modeling Platform](#)
 - [Loop Performance Manager](#)
 - [Predict & Control](#)
- Classroom training
- On-site training
- Maintenance and Operator Training

Installation and commissioning

ABB service engineers, who understand your process and system, deliver expert on-site Installation & Commissioning services for ABB products and systems. Services range from self-maintenance support to consulting, support and full project management and complete outsourcing solutions.

Application engineering

ABB experienced application engineers are available to meet key application-specific service requirements by providing the additional capabilities required to maintain site asset performance at the required level.

ABB Full Service®

ABB Full Service is a structured reliability management program that improves and sustains the performance of production assets. It brings together world-class maintenance and reliability methodologies, parts and logistics management, online tools, professional maintenance and P&L leadership. It delivers increased asset effectiveness while reducing maintenance costs.

Service agreements

ABB provides the turbine manufacturer or wind power plant operator with the right mix of services with service contracts. Contracts can be made at any stage of product ownership, throughout the products life cycle. Contracts may be comprised of multiple service types, including spare parts agreements, preventive or corrective maintenance agreements, technical support, and training.

Service contracts provide customers with improved cost controls, increased operational efficiency, lower capital expenditures, reduced downtime and extended product life.

- [Automation Sentinel](#)

End-of life services

- Disposal and recycling



Wind Power Plant Solutions

Our transmission and distribution experience helps to guarantee the best possible value for wind power customers. The offer includes everything from electrical design to project management, installation and commissioning.

Our Offering:

- Substations
- Grid Connections
- Power Transmission Systems
- FACTS For Wind Power
- Network Management
- HVDC Light

Expertise

ABB's wind industry expertise ensures our products are designed for long life cycles and are able to withstand changing industry regulations.

Grid Codes- Grid codes, which outline grid fault conditions and the expected wind turbine behavior in response to these conditions, are becoming more demanding, and vary from country to country. The wind turbine converter plays an important role in helping the turbine meet these grid code requirements and obtain the necessary operational certification.

Permanent Magnet Generator Technology- ABB has been developing permanent magnet applications since the mid 90's, for both the wind industry and the demanding marine industry. This experience allows for the most critical factors in the efficient operation of a permanent magnet generator to be addressed.

Turbine Concepts- Expert ABB engineers are available to work with the manufacturer to discuss and integrate ABB products into the turbine engineering drawings, specifications, and plans. Turbine manufacturers are able to benefit from ABB's experience, resulting in design cost savings and increased efficiency.



Wind Power Products

Turbines are comprised of many subsystems working in unison so that the turbine can efficiently and safely produce power. ABB products are used throughout these subsystems, from the emergency stop button to the generator.

Electrical Drivetrain Products

This system is the main electrical production system of the turbine and is comprised primarily of the generator and converter, as well as the stator contactor and breaker.

Grid Connection Products

This system is responsible for connecting power produced from an individual turbine to the wind power plant's network connection point (connection to the power collection system). This includes the turbine's transformer and switchgear components.

Control and Protection Products

This system is responsible for turbine control and operation, including rotor speed, turbine orientation, startup and shutdown. The protection function guards against conditions such as over-speed, generator overload, and even excessive vibrations.

Yaw and Pitch System Products

The yaw system orients the turbine by rotating the nacelle into the desired position. This system uses motors and gears for the rotation, and braking systems to retain the orientation. The pitch system controls the orientation of the turbine blades in relation to the wind.

Electrical Protection Products

The protection system ensures that the turbine's electrical subsystems are protected against unsafe conditions resulting from fault conditions, and isolates those failures from other electrical systems in the turbine. The electrical disconnect system exists to ensure that the turbine's electrical system can be disconnected safely allowing for maintenance and other in-turbine work.

Lightning Protection Products

This system protects the turbine's electrical systems from adverse effects caused by lightning strikes on the turbine.

Hydraulic and Cooling System Products

These systems are responsible for ensuring the flow of liquids and air used in the turbine. These may include liquid-cooling systems, heat-exchange systems, or braking systems.

Auxiliary System Products

Auxiliary systems are any other system or subsystem within the turbine that do not fall within one of the mentioned systems.

- Motor control and protection
- Low voltage motors
- Softstarters
- Switch mode power supplies
- Back-up breaker/Short-circuit limiter
- Push buttons, switches and pilot lights
- Enclosures
- Terminal blocks
- DIN-rail products

Contact us

→ 1 800 HELP 365

(1 800 4357 365)

Outside USA/Canada: +1 440 585 7804

Telephone menu options

1 Robotics:

- Paint, Powertrain, Body-in-White, Flexpicker, Press Automation, Weld.
- 1 Technical Support or Field Service
 - 2 Parts
 - 4 Training
 - 5 General Inquiries

2 Process Control and

Network Management Systems:

Process Control Systems: Decathlno, Industrial IT System 800xA, Advant/ MOD 300, Symphony Harmony/INFI 90, Symphony DCI/DCI System Six.

Network Management Systems: EMS/ SCADA, DMS, BMS.

Service for Control Systems

- 1 Field Service
- 2 Parts
- 3 Technical Support
- 4 Training

3 Instrumentation and Process

Analytics:

Service for Measurement Products

- 1 Field Service
- 2 Parts
- 3 Technical Support
- 4 Training

4 Drives, Motors:

Field Service, Parts, Tech Support, Training.

Service for drives, inverters and converters

5 Quality Control Systems (QCS):

Quality Control Systems: Advant/ Master, Accuray, 1180, 1190, ULMA, Measurex.

- 1 Field Service
- 2 Parts
- 3 Technical Support
- 4 Training

6 Low Voltage Products and Systems

($\leq 480V$): Circuit & Motor protection, Electronic Controls, PLCs, Panel Switches, Capacitors, Relays, Soft s.
Brands Include: SSAC, Entrelec, SACE.
Service for Low Voltage Products and Systems

7 Power Products (>600V–800kV):

Medium and High Voltage Products: Transformers, Relays, Switchgear, Breakers, Capacitors, Switches.
Brands Include: ASEA, Westinghouse, BBC, ITE, BerMac.

Service for Medium Voltage Products and Systems

Service for High Voltage Products
Service for Transformers

8 Substation Automation:

PCM, Combiflex, IED, Protection Relays, Microscada, RTU Controls.

9 Power Generation and Water

Utilities:

Field Service, Parts, Tech Support, Training.

0 ABB Help Desk (General Assistance):

- 1 SupportLine
- 2 Subscriptions
- 3 New Products
- 4 Account Support
- 0 Speak to Representative

E-mail

Field Service:

USServiceRequest@us.abb.com

Parts and Repair:

PartServices@us.abb.com

Technical Support:

AutomationSupportLine@us.abb.com

ABB University:

ABBUniversity@us.abb.com

Help Desk:

ABB.HelpDesk@us.abb.com

Web

General Services:

www.abb.com/service

Parts and Repair:

<http://online.abb.com>

On-line Product Support:

<http://SolutionsBank.abb.com>

ABB University:

www.abb.com/abbuniversity

Other service links and contacts

Motors and Generators

sales.us@baldor.com

Power Electronics

Daniel Peters: 262 785 3440

Turbocharging

Tel (24/7): 281 930 8383

Metallurgy Products

Power and productivity
for a better world™

