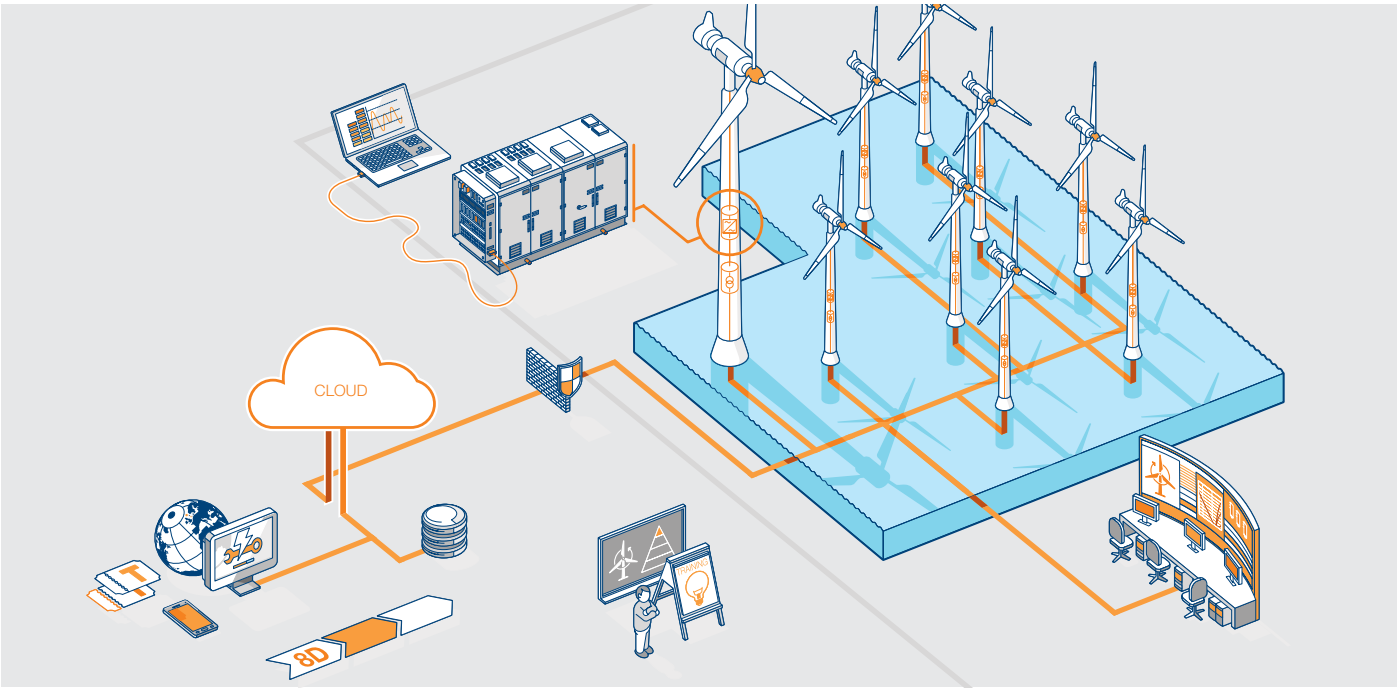
Service note
Support and remote service tools for PCS6000 medium voltage wind turbine converters



Support and remote service landscape

A set of service tools, for the PCS6000 wind turbine converter, lets customers and ABB service engineers remotely monitor performance and react early to alarms, initiate service routines, track support requests and access life cycle data.

Collectively the tools significantly enhance the converter's reliability, availability and performance, reducing unplanned downtime and lowering the levelized cost of energy (LCoE).

The tools provide easy and instant access to all converter related information, thereby giving customers complete transparency of status and health of their wind turbine converters.

ABB provides basic and expert training courses which authorize customers to perform the monitoring and service tasks independently.

The PCS6000 support and remote service tools are thoroughly tested in ABB's Device Security Assessment Center and comply with ABB's strict standards on cyber security.

Key benefits
Higher reliability and availability
Minimized downtime
Improved reliability and performance
Reduced operating risks
Lower levelized cost of energy (LCoE)
Up-to-date information on converter history throughout its entire lifetime
Complete transparency on wind converter's status and health

PCS Service Suite

ABB's PCS Service Suite is an intelligent monitoring and service tool that allows authorized customers to monitor wind turbine converters remotely, identify possible performance issues at an early stage and initiate service tasks.*

The Service Suite consists of an industrial PC, placed in the converter control unit, and software tools for monitoring and controlling the converter, software installation and upgrade and collecting converter data related to errors or faults.

With the PCS Service Suite, customers can remotely perform the following monitoring and service tasks:

Commissioning and testing

The Suite facilitates the integration of the converter into the wind turbine. Interfaces to the upper turbine controller and sub-systems connected to the converter can be tested and operating conditions simulated. Commissioning time is considerably reduced.

Remote condition monitoring and performance improvements

Data that shows the operating status of the converter, such as voltage, power, reactive power, temperature and speed, can be accessed remotely. Trained and authorized customers and ABB service personnel can analyze this data and perform corrective actions to improve the converter's efficiency or performance.

Failure prevention and analysis

Such remote access to operating data ensures that any potential failures are anticipated and a suitable response initiated. If a control value exceeds its preset level, an alarm is triggered, allowing the customer to implement corrective actions to prevent a failure. This significantly enhances the converter's availability and reduces unplanned downtime.

Should a failure occur, the events preceding it are captured in a log file. Based on this information, a detailed failure analysis can be conducted.

Maintenance activities

Trained and authorized customers can easily upload the latest software and change parameter settings within a certain range. They can trigger the transient recorder and view the status of the converter including actual trips and alarms. Thus, maintenance costs can be reduced by minimizing on-site work.

Accessing the converter's data in real time, helps to plan maintenance activities, preventing unpredicted downtime.

Timely and qualified assistance from ABB

ABB service engineers can log on to the PCS Service Suite to analyze the converter's data or guide the customer through a fast and efficient troubleshooting process.

* All signals for supervising normal operation can be monitored via the wind turbine controller

PCS Support Line

PCS Support Line is an online ticketing system, which allows ABB service engineers and authorized customers to track and monitor service request, related findings and the status of implemented corrective actions.

The system provides timely and qualified remote technical support, troubleshooting and diagnostics. The service is available via phone or e-mail.

Support case tracking and monitoring

Support Line uses a ticketing system, which allows ABB to carefully track each support case and ensure fast resolution. In addition, customers can track and monitor the progress of their support case anytime via the Internet by logging into ABB's Support Line customer portal.

Root cause analysis for continuous product improvement

ABB adopted the proven 8D (Eight Disciplines) quality process from the automotive industry to continuously improve its products. PCS Support Line supports this by triggering an 8D process every time a case is entered.

With the help of the 8D process, ABB analyzes the root cause of the problem, develops actions to eliminate the root cause and implements corrective actions. After the analysis, the customer receives an 8D report which outlines the problem and how it will be solved in the short and long-term.

Life cycle database

With access to ABB's PCS6000 life cycle database, customers have all relevant information on their wind turbine converters at their fingertips.

ABB maintains a database which stores the entire lifetime data of its customers' wind turbine converters. Serial number, installation and commissioning dates, the complete maintenance history, including upgrades and software adjustments, warranty and 8D reports are recorded and stored in the system.

Transparency on equipment status helps to reduce downtime

On request, customers can access their wind turbine converter data. This provides transparency on status and health of a wind turbine converter. Having instant access to the converter's complete maintenance history helps to speed up the trouble-shooting process, thereby reducing downtime.

For more information contact your local ABB representative or visit:

www.abb.com/windconverters
www.abb.com/windpower

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