Control your future, transform theirs

ABB Ability™ Power Transformer

- World’s first digitally native power transformer
- Designed for the changing energy landscape
- Future proof solution
Electricity is the spark at the heart of modern life. And power transformers are vital in enabling the efficient and reliable flow of electricity to keep the world moving. ABB is the market leader in power transformers, with over 100 years of innovation in meeting the evolving needs of our customers.

This heritage puts us in an ideal position to meet the challenges posed by the ongoing energy revolution. Renewable energy, e-mobility and data centres are all radically impacting the grid.

In this evolving power landscape, ABB has created a new paradigm to make its transformers inherently smarter.

The ‘digitally native’ power transformer

Introducing the new ABB Ability™ Power Transformer, the world’s first digitally-enabled power transformer, setting a new industry standard with integrated digital capabilities right ‘out of the box’.

At the heart of this digital solution is ABB’s transformer monitoring capability – aggregating, analyzing and managing transformer health data collected through sensor based technology.

Plug and play sensor kits are easily integrated and can be tailored to meet customer requirements so that users can measure even more vital signs.

Users can download this data directly from the device, connect the digital hub to their station level control room or upload this information to a higher level system such as ABB Ability™ Ellipse® Asset Performance Management System.
Take control of your digital future
With the ABB Ability™ Power Transformer

ABB’s approach to digitalization spans from advanced digital design tools and manufacturing capabilities, up to expert services. All supported by a strong foundation of cyber security.

Reliable
• Monitoring and diagnostics in real time – avoid unplanned outages with early warnings and prevention of failure
• Higher confidence on equipment integrity with condition based and predictive maintenance
• Improved safety - Remote access and asset management capabilities minimizing human exposure to substation environment

Efficient
• Turning data into actionable intelligence for optimized asset performance and utilization
• Reduced Total Cost of Ownership - measurable business outcomes
• Dynamic fleet management and benchmarking
• Active Network Management for increased renewables integration
• Intelligently manage the grid under fluctuating load conditions and with shorter response times

Future Proof
• New industry standard: Digitally integrated and ready to connect
• Modular and scalable platform with full ecosystem of smart devices, software and service solutions
• Building block for digital substations, future-proof investment
• State-of-the-art cybersecurity
Know more with smart devices

A range of additional plug and play devices are available for customers to unlock even more value from the ABB Ability™ Power Transformer.

- CoreSense
  - Detect fast forming faults by measuring Hydrogen and moisture
  - No consumables or maintenance for 15 years

- CoreSense M10
  - Detect and analyze faults by measuring 9 gases and moisture
  - No consumables or maintenance for 10 years

- eSDB – Self Dehydrating Breather
  - Automatic dehydration
  - Continuous moisture absorption
  - No Silicagel replacement or disposal

- eOLI – Oil Level Indicator
  - Continuous oil level monitoring
  - Optional separate viewer

- eWTI / eOTI Thermometers
  - Continuous oil and winding temperature monitoring
  - Bourdon technology: less maintenance and more precise, no aging effect.

- eBR – Buchholz Relay
  - Continuous gas accumulation monitoring
  - Settable alarm and trip thresholds

- ePRD – Pressure Relief Device
  - Continuous pressure monitoring through pressure transducer
  - Settable alarm thresholds
  - Adjustable change-over contacts for forewarning
Do better
With ABB Ability™ Ellipse®

ABB Ability™ Ellipse® unifies world-class functionality of enterprise asset management, workforce management and asset performance management.

The ABB Ability™ Power Transformer and additional devices are part of a wider digital ecosystem that is joined together by ABB’s expertise and includes:

- Transformers and smart devices
- Software solutions
- Wide range of services

Do more
With the transformer monitoring platform - CoreTec™ 4

ABB’s transformer monitoring capability is designed to aggregate, manage and analyze data for a single transformer.

Detect faults
Avoid unplanned outages by continuously measuring oil temperature, load and gas formation. Variations in these health thresholds are flagged by CoreTec™ 4 in real time and can trigger advanced investigations when needed, not when scheduled.

Reduce insulation aging
Oil and paper aging is linked to temperature, moisture and oxygen variations. CoreTec™ 4 tracks key parameters and activates the coolers sooner than conventional systems to delay insulation aging.

Increase load capacity
Make informed decisions on overloading your transformer. CoreTec™ 4 tracks current environmental conditions and uses international standards to provide an overview of the short-term overload capacity. This allows the operator to consider transformer aging versus increased throughput and revenues.

Delay replacement of a sick transformer
CoreTec™ 4 can help operators with a sick transformer by enabling them to run it below recommended critical limits for temperature and gas generation. Ultimately, this helps to better plan for maintenance or delay replacement.
Together
With expert services

ABB provides the whole solution which enables our customers to access and fully leverage our expertise on a strong foundation of cyber security.

The ABB Ability™ Power Transformer, combined with ABB’s expertise, enables you to provide reliable energy for future generations and help shape a stronger, smarter and greener grid.

ABB specialists are ready to interpret data from the transformer and provide services such as:

- Fault root cause analysis
- Advanced studies
- Recommendations for maintenance scheduling