Power transformers are crucial components of generating stations and substations. Losing one is a major expense. Gas formation in the insulating oil of a power transformer is generally the sign of a problem.

To protect power transformers, Hydro-Québec’s research institute, IREQ, has developed an effective technique for locating gas-generating partial discharges and hot spots by detecting the ultrasonic waves they emit. The AE-150, marketed under licence by NDB Technologie, is a portable partial-discharge locator based on this technique.

**Innovative, practical and cost-effective**

The AE-150 is made up of four acoustic sensors arranged in an X and is held by magnets to the outer surface of the transformer. Maintenance staff can thus easily move the unit around to thoroughly inspect the transformer.

The AE-150 uses wireless communications to transmit data to a computer, making the locator very safe to use even in a hostile environment. The interface software comprises five modules for viewing the acoustic emission waveform, the partial discharge signals and their phase relationship with the power system, the partial discharge locations in 2-D and 3-D, and a table of measurements.

The user-friendly AE-150 helps to determine where partial discharges originate in the transformer.
Key advantages

› Portable, weather-proof unit
› Easy to install and use
› Simultaneous analysis of acoustic emissions and partial discharge signals
› Wireless communication with laptop computer and system phasing module
› Plug-in or battery-powered
› Local user interface

Technical specifications

› Acoustic sensors (arranged in an X with adjustable arms to fit transformer wall)
› Magnetic attachments to hold unit against transformer wall
› Channel for measuring electrical partial discharge signal
› Sync channel for filtering outside noise
› Display of the calculated direction of the partial discharge source
› Wireless synchronization with phasing module
› Wireless communication with laptop computer

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