



Hydro-Québec sniffer

## SNIFFER

### First-Level Partial-Discharge Detector

Partial discharges (PDs) in an underground power system are the sign of a problem, which may cause a short circuit depending on its nature.

To ensure worker safety during jobs in underground structures, Hydro-Québec's research institute thus developed a diagnostic system called the "sniffer" to check for PDs from underground distribution system components. Based on conclusive pilot project findings, Hydro-Québec has installed sniffers in 32 thermography trucks providing service to its entire underground distribution system.

#### ***Greater accuracy and reliability***

The sniffer has numerous advantages over existing tools. It is a first-level PD detector that can accurately determine the presence of PDs in about 10 seconds per component tested. It has been designed for non-expert users.

Once the sniffer detects a suspicious signal, an additional tool is used to confirm beyond doubt that the signal is coming from the component. That tool is the partial discharge analyzer (PDA), which reliably locates the precise source of signals.



Using the Hydro-Québec sniffer on grid equipment

## Specifications

The sniffer-PDA kit includes a smart probe connected by a 23-m cable to a measurement station (laptop PC) with a two-channel high-speed (1-Gsample/s) data acquisition card, and an interface card for acquisition control and signal conditioning. The sniffer and PDA share the same acquisition and processing unit.

The system supports centralized management of measurement stations over a network connection. It also has a self-check feature that performs a complete self-test (probe, cable and measurement station) every time it is turned on. Each measurement station can be configured to save the signals measured in a local or central (server) database.

## Quick, simple and efficient detection method

- > User-friendly: The sniffer requires minimal training to operate.
- > Versatile: The tool can be used on all components (splices and terminals) of an energized underground system with or without load.
- > Quick: The measurement and diagnostic takes 10 seconds, minimizing worker exposure.
- > Highly reliable

## For information:

### Research

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### Commercialization

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### Business partner

NDB Technologies  
(negotiations ongoing)

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