

## Pocket AE-Power™

### Screening Tool for PD/Particle Problems in GIS and for PD/Gassing Problems in Power Transformers

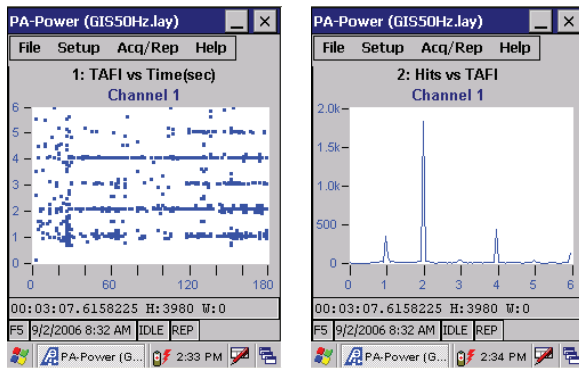
#### Introduction and Overview

Introducing Pocket AE-Power™, an innovative turnkey hand-held system that detects partial discharge and/or bouncing particles on gas insulated substations and components, such as circuit breakers. This portable unit is also ideal for problem screening /detection, characterization and area location of PD/gassing problems in power transformers.

Built upon current PDA computer technology, Pocket AE-Power runs under Windows CE™, utilizing specialized software for partial discharge identification on GIS and Power transformers.

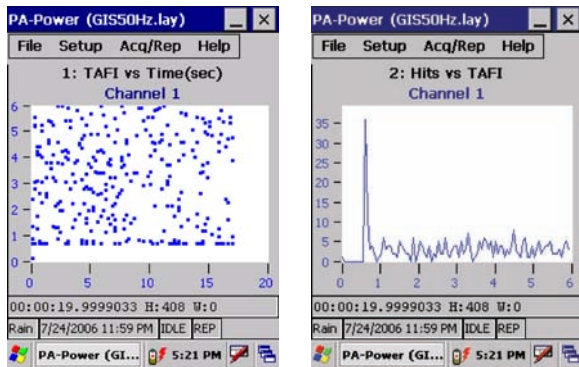


Pocket AE-Power system.



(a)

(b)



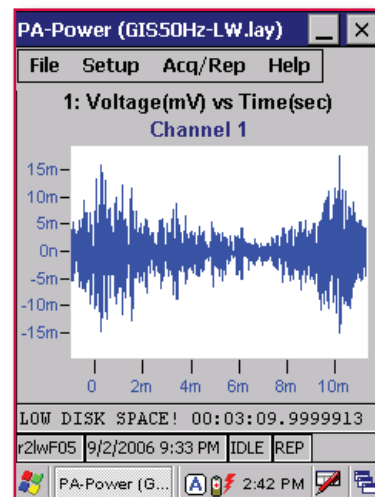
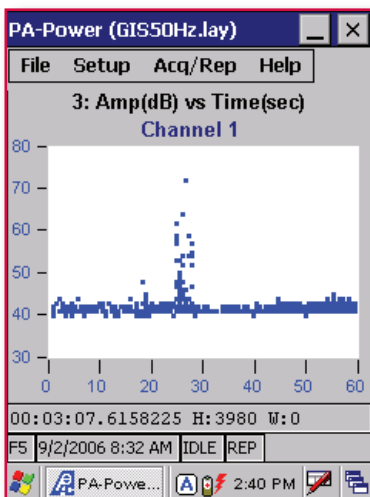
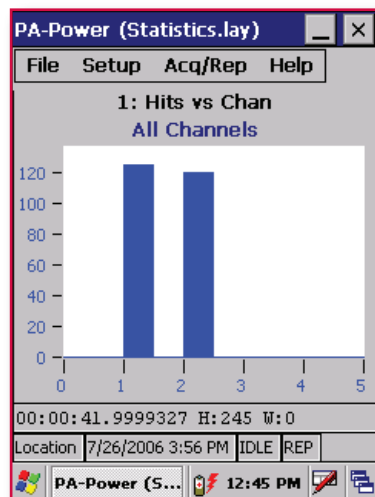
(c)

(d)

*This innovative proprietary technology correlates the acoustic pulse with the electrical pulse (discharge) directly, eliminating the need to use other synchronized inputs. Specific partial discharge patterns can be observed, which distinguish them (a & b) from extraneous noise signals (c & d).*

#### Features

- Applies to both GIS and power transformers
- Incorporates full AE test system capabilities including: synchronized data feature extraction, filtering and waveform acquisition; powerful graphic and numerical representation of features, waveforms and FFT / Spectrum
- Offers hand-held portability and light weight (1.1 kg with internal battery) construction that is ideally suited for on-site inspection
- Operates using complete and easy-to-use turnkey software and default expert setup for partial discharge detection
- Employs newly developed proprietary technology for straight-forward visual presentation of partial discharge patterns
- Eliminates the need for electrical synchronization, since the system automatically identifies electrical frequency discharge with the acoustic emission signals
- Includes two acoustic emission channels and one auxiliary input channel for temperature or load
- The two-channel configuration covers a larger area than one channel and is able to conduct linear location of the partial discharge



Graphs showing total partial discharge pulses detected within the test time (Left) amplitude change (Center) and waveform of two partial discharge pulses with about 10 ms interval (Right).

- Operates via rechargeable internal battery power or DC/AC power adapter
- Includes multiple language support
- Provides signal recording and data storage with internal flash memory and easy data transfer to laptop or desktop PC through USB or compact flash card

### Technology Description

The Pocket AE-Power is not only the first acoustic emission partial discharge system built upon PDA technology, but it also is the first system to implement the proprietary technology to a commercial unit for partial discharge identification in GIS and partial discharge or other gassing sources in Power Transformers. It provides a targeted solution that allows users to automatically identify partial discharge.

### Applications

The Pocket AE-Power system is specifically designed for partial discharge detection on both GIS and Power Transformers. Internal defects, such as free metallic or non-metallic particles, protruding parts on conductors, floating or loose shield (etc.) on GIS and Power Transformers could lead to internal partial discharge activities and subsequent flash-over events. The Pocket AE-Power can detect the existence of the partial discharge or loose particles, assess the insulation condition, and store the acoustic emission data generated from partial discharge activities. Detecting partial discharge in its early stages allows for planned outages and maintenance work to be carried out before severe problems arise.



On-site real time partial discharge screening test with a Pocket AE-Power.

**For information or a demonstration of the Pocket AE-Power, contact your local MISTRAS sales representative or e-mail [sales.systems@mistrasgroup.com](mailto:sales.systems@mistrasgroup.com).**

**We also invite you to visit our web site at [www.mistrasgroup.com](http://www.mistrasgroup.com)**