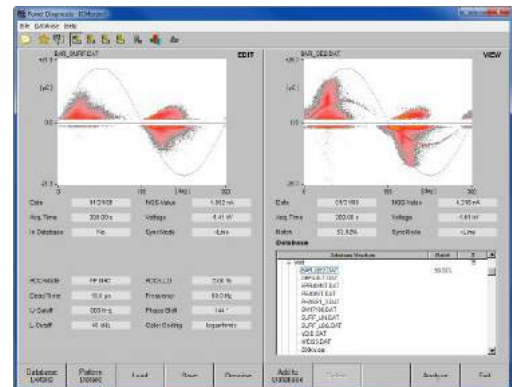# ICM*series* Accessories: Special Software

ICM*expert*

ICM*expert* is a database software for managing partial discharge (PD) patterns and extends the possibilities of Power Diagnostix programs like ICM*compact*, ICM*monitor*, ICM*system*, HV*pilot*, ICM*flex,* and GIS*monitor*. This easy-to-use tool offers functions for three main tasks occurring regularly when doing PD measurements:

*Database overwiew panel of the ICM*expert *software*

- Classification of pattern according to their PD fault(s),

- Pattern editing to correct deficiencies of the set-up, erase disturbances, and highlighting pattern regions characterizing typical PD faults,

- Adding and maintaining additional information to recorded pattern.

For each of these tasks ICM*expert* provides a separate software panel.

The database structure is customizable according to different applications and user requirements. Additionally, the ICM*expert* software supports the export of complete clones or parts of the database. Clones can be used to operate with the same database structure on different computers staying compatible with each of the used database files.
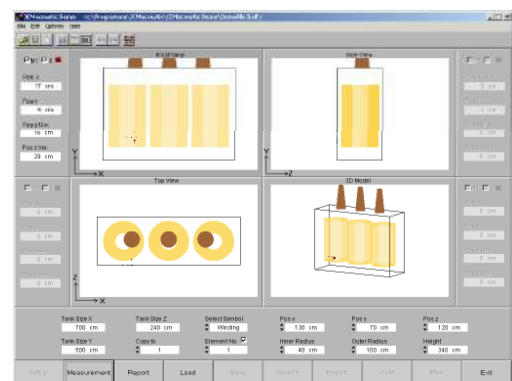
ICM*acoustic*

For PD location purposes the ICM*acoustic* software offers simple and full control of the FO*system* FOS4 or an oscilloscope of the Tektronix 20xx family. The software provides a virtual instrument to run the FOS4 or the oscilloscope under Windows XP/7 (32bit). Critical frequencies can easily be detected and filters can be set for in-depth analysis.

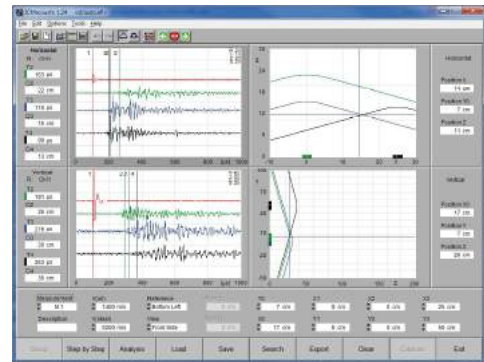*ICM*acoustic *software, analysis panel*

Contained functions are:

- Simultaneous display of up to 12 channels of the FOS4

- Accurate fault location by triangulation with freely configurable parameters for the different propagation velocities in oil and steel

- Screenshot functions

Accessories

- Analysis and visualization of measurement results through customizable 3D models
- Extensive report and export functions for measuring results and graphical representation of the fault location
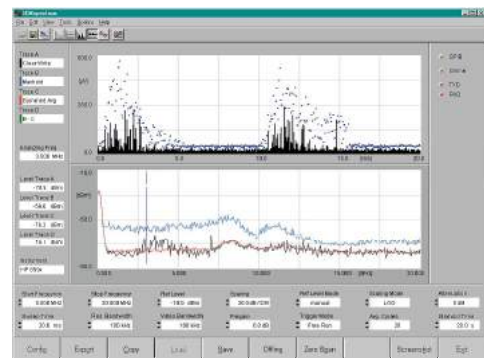- Convenient step-by-step wizard during the measurement

ICMacoustic measurement panel

ICMspectrum

Generally, a spectrum analyzer is an excellent tool to identify partial discharge and noise spectra, as well as the signal to noise ratio. Further, if appropriately used in zero-span mode, a spectrum analyzer offers an oscilloscope-like phase resolved display. However, as spectrum analyzers are designed primarily for other measurements, they are found in general not easy to use.

In order to ease this operation and to remove the hassle of controlling a multitude of menus and sub-menus, the ICMspectrum software was written. This software allows full control of analyzers of the Agilent/HP 856xE, 859xE and ESA family as well as the FSL3 (R&S). The software is reduced to the functions needed for on-site PD testing. It offers convenient data acquisition and storage. Graphs can be directly pasted into Word documents or Excel sheets. Screen shots can be taken, stored, and pasted.

Operation panel of the ICMspectrum software in duplex screen mode

Originally, the ICMspectrum software was written for the spectrum analyzers of the Agilent 859xE family that was discontinued in the meantime. Most of the new spectrum analyzers come with a Windows based operating system, which has an impact on response times and does not really improve the instruments. However, we have fully integrated the new analyzers as well. Thus, the ICMspectrum software controls the new units via the GPIB interface and offers comparable screenshots regardless the analyzer used.

Power Diagnostix' specialized control and analysis software extends the standard software for instruments of the ICMseries. It runs on personal computers and laptops with Windows operating system.