

ICMsys8



ICMsys8 - True Eight-Channel Digital PD Detector

Instruments

The ICMsys8 is specifically designed to meet the requirements of partial discharge acceptance tests on large power transformers. The instrument builds on the acquisition core of the standard ICMsystem. However, by introducing an individual amplifier plug-in for each channel, true parallel acquisition of the discharge magnitude of eight channels is achieved. The instrument can be equipped with optional features like RIV or acoustic PD measurement.

Using the eight-channel ICMsys8 greatly simplifies partial discharge acceptance tests on large power transformers. With the true parallel acquisition of the partial discharge activity on eight channels, the overall testing period is substantially shortened.

Independent Channels

For each of the eight partial discharge measurement channels an independent quadrupole, pre-amplifier, and amplifier plug-in is provided. Internally, the system controller processes the discharge readings acquired for each channel in a true bipolar peak amplitude acquisition. Optionally, the PD readings can be weighted according to IEC60270-2000. Besides the eight partial discharge channels, the instrument offers eight inde-

pendent channels for the measurement and sampling of the AC voltage signal provided by the quadrupole.

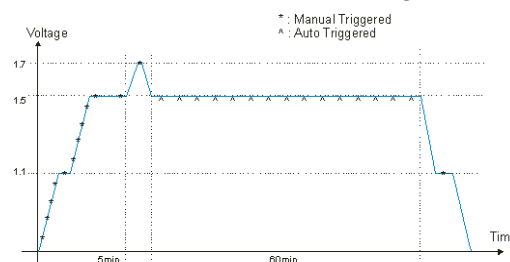
True eight-channel partial discharge acquisition

Pattern Acquisition

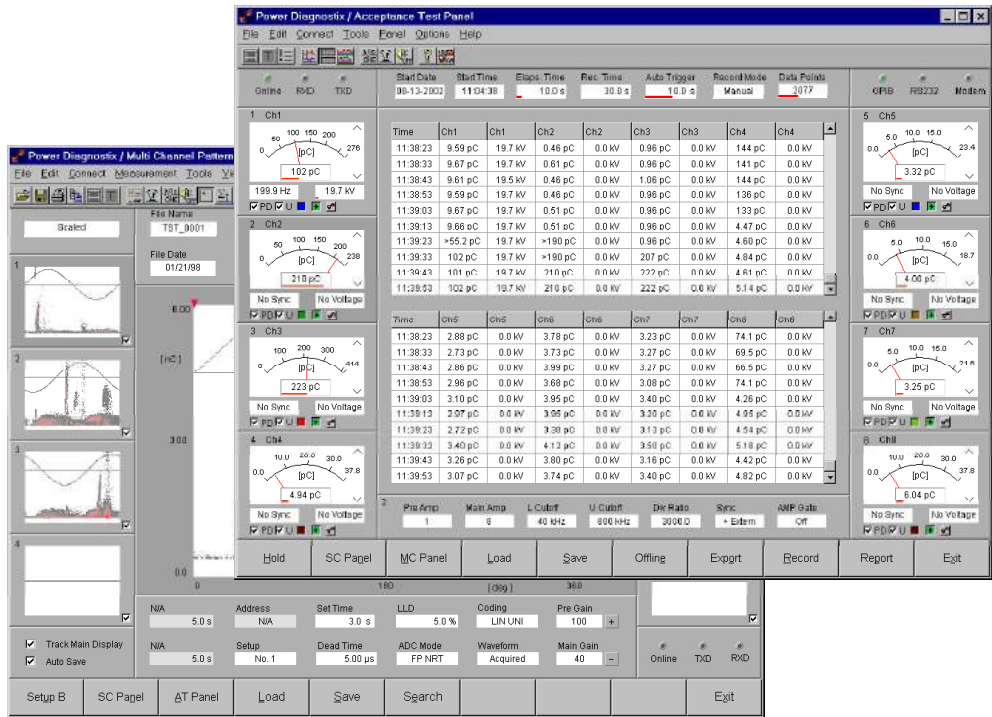
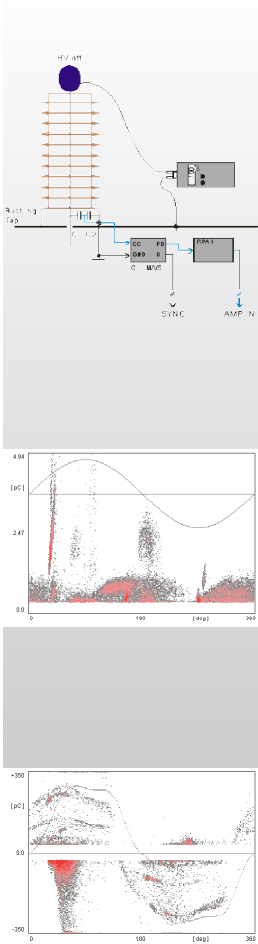
In addition to the parallel acquisition of the PD activity for the meter and strip-chart displays, the pattern acquisition core known from the standard ICMsystem offers the defect identification capabilities of the phase-resolved partial discharge analysis. The influence of power frequency harmonics on the PD pattern, often found with power transformers, can be clearly identified, as the waveform of the AC voltage is available for each channel.

Software

The control software to run the eight-channel ICMsys8 offers manual and automatic modes for the acceptance test.



Typical test sequence for HV transformer



Reporting is simplified with MS Word and plain text output formats. The reports are based on user-selectable templates.

channel consecutive pattern acquisition, movie-like replay, or statistical evaluation, for instance.

In acceptance test mode, the software shows eight meter displays, each indicating PD level, voltage, and frequency of the specific channel. With the center display, the automatically or manually triggered values are presented in list mode or as a strip-chart. Further, during calibration, the cross-coupling matrix between the channels is built up, which eventually can help locating the source of PD activity. Additionally, the ICMsys8 software provides the user with all the features known from the standard ICMsystem, such as multi-



ICMsys8 installed in a control room

The ICMsys8 for power transformer acceptance testing is the first commercially available partial discharge detector with true parallel acquisition on eight channels. The ICMsys8 and its software greatly simplify the testing procedures and, thus, reduce the time the transformer needs to stay in the acceptance test lab.