

ICMcompact



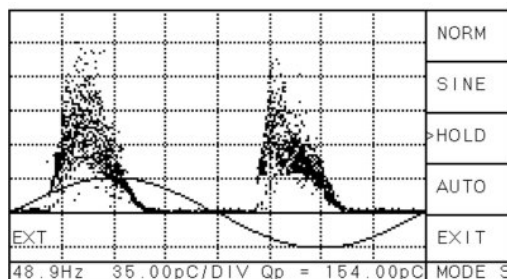
ICMcompact - Digital Partial Discharge Detector

Instruments

The ICMcompact is part of the Power Diagnostix ICMseries of digital partial discharge detectors. The ICMcompact is a compact, stand-alone instrument for evaluating the condition of medium and high voltage insulation. It is often used in quality assurance and quality control tests in manufacturing.

Stand-Alone Instrument

Partial discharge (PD) measurements are a proven method for effective, nondestructive evaluation of electrical insulation. The Power Diagnostix ICMcompact provides a simple push-button interface and on-screen menus in an embedded LCD panel. The LCD display modes include a simple PD charge meter with adjustable "needle" sensitivity, monochrome phase-resolved PD patterns for characterization of defects, and a scope-like display showing phase-summed charge pulses superimposed with a sine wave.



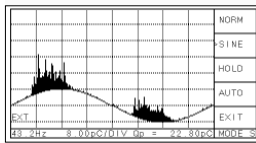
Phase-resolved PD pattern

Although the ICMcompact is an autonomous unit, it can be connected to a computer installed with Power Diagnostix software to capture screenshots or to implement remote control of the unit.

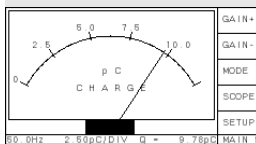
Applications

Instantly displaying information in an intuitive interface, the ICMcompact is a good choice for applications such as quality control tests in manufacture of electrical products, and for quality assurance of industrial and utility equipment from capacitors and bushings to gas-insulated switchgear, voltage transformers, power plants, and others. A wide range of accessories adapts the ICMcompact to specific testing applications and noise conditions.

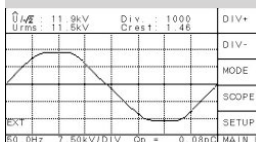
The ICMcompact DSO option can be used to locate partial discharge defects in power cable. Using time domain reflectometry, in which the PD and its "echoes" travel the length of the cable under test, the ICMcompact provides the proportional distance of the PD fault along the cable.



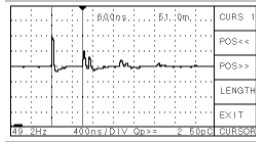
SCOPE display (SINE mode)



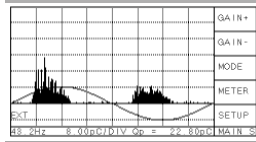
METER display



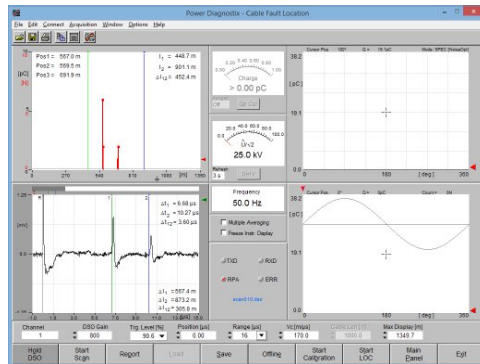
HVM display



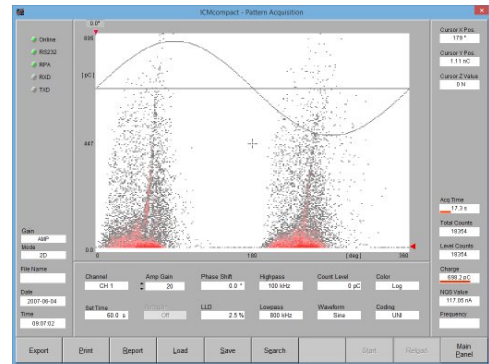
DSO display



SCOPE display (NORM mode)



Software panel for cable fault location



Software panel for pattern acquisition

PD Spectrum Analysis Option

Observing the frequency spectrum of a harshly disturbed PD signal allows selecting frequency bands with fewer disturbances. Using this selected frequency for a PD acquisition gives a largely improved signal-to-noise ratio resulting in a clear pattern acquisition. The combination of spectrum analyzer and PD detector within one instrument opens a broad field of new possibilities when analyzing isolation defects even with large noise.

The SPEC mode shows the frequency spectrum of the input signal with a selectable span of up to 10 MHz. Three spectrum traces of the current input channel can be stored, compared, and analyzed. A variable cursor serves to set the center frequency for the PD pattern acquisition.

Further Options

To adapt the basic ICMcompact unit to suit special measurement requirements, it can be equipped with various options:

- Voltage measurement. Adds the HVM oscilloscopic display showing

the waveform of the high voltage and calculates \hat{U} , $\hat{U}/\sqrt{2}$, U_{rms} , etc.

- Cable PD location. This option allows sampling the PD signal at 100 MSamples.
- Analog gating to cancel external disturbance. This option offers sensitive measurements even in noisy environments.
- MUX4. Four-channel multiplexer for testing three-phase equipment, such as power transformers. For each channel the unit maintains an individual setup and calibration.
- MUX12. This option a built-in 12-channel multiplexer or a remote 12-channel switching box offers cost-efficient acceptance testing on large power transformers.
- AUX4. For long-term testing up to eight additional parameters can be captured as 0(4)-20 mA or 0-10 V signals.
- RIV measurement. Adds a radio influence voltage measurement function to the instrument (needs the SPEC option and includes the MUX4 option).

The easy portability, simple operation, and flexibility of the Power Diagnostix ICMcompact make it a good choice for routine PD testing in a variety of utility and industrial applications.