aixACCT systems

TFAnalyzer Series

Dear Customer,

Stephan Tiedke
CEO aixACCT System

For more than 15 years our Analyzer systems are used for sophisticated testing in the field of ferroelectrics.
Starting with the world record in testing single cell capacitors of an FeRam, the Analyzers has been continuously enhanced and are core part of our complex piezoelectric test system. Even our production control systems for MEMS fabrication are based on this technology.
This shows that our concept has been proofed and expected by industry world wide.

I am sure that one of those systems will be the right choice for your demands.

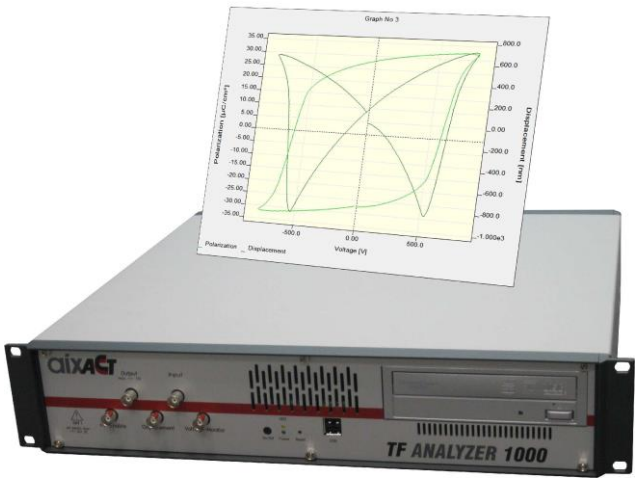
Sincerely yours,

TF Analyzer modular design concept

Based on the idea of a modular and flexible designed measurement system, aixacct created the TF Analyzer platforms. To close the gap between pure electrical testing with reduced requirements and high specialized testing solutions for production control aixacct developed a variety of Analyzer platforms, ranging from EasyCheck to TFA3000.

TF1000

The ferroelectric test system TF Analyzer 1000 is designed to allow various measurements on ferroelectric materials to determine its main electric characteristics.
The TF Analyzer 1000 includes a built-in function generator, an analog input board, and a wide bandwidth virtual ground amplifier with driving unit. This system offers hysteresis measurements from 0.1 Hz to 1000 Hz bandwidth depending on the excitation voltage in virtual ground mode



Standard features of the TF Analyzer 1000 are
· Dynamic Hysteresis measurement - DHM
· Fatigue measurement - FM
· Retention measurement - RM
· Imprint measurement - IM
· Leakage current measurement - LM
and optional
· C(V) measurement - CVM
· Piezo measurement - PZM
· Pulse Measurement – PM
· Static Hysteresis measurement – SHM

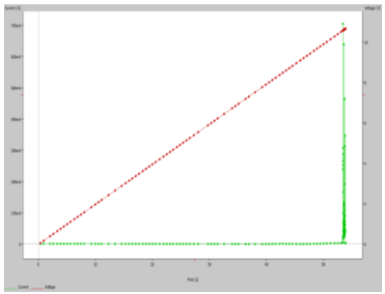
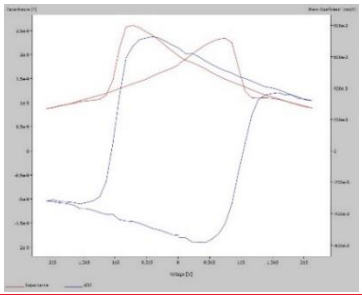
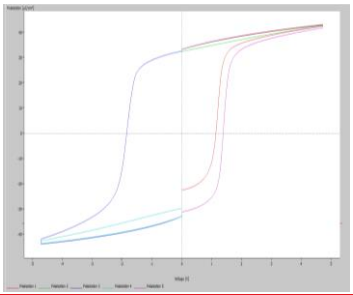
TF2000

The TF Analyzer 2000 E is one of the most sophisticated analyzer of electro ceramic material and devices. Thus it represents the most used core product of our aixPES systems.
The test equipment is based on a modular idea, where four different probe heads can be connected to one and the same basic unit. Each of the four probe heads represents a different characterization method

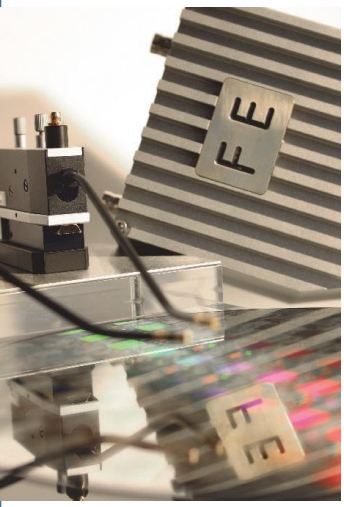
The ferroelectric test module (FE module) is designed to perform various measurements on ferroelectric materials to determine its main electronic characteristics.

Standard measurements that can be performed with the FE-Module are

Hysteresis measurement
Fatigue measurement
Static hysteresis measurement
Leakage current measurement
PUND measurement
Retention measurement
Imprint measurement

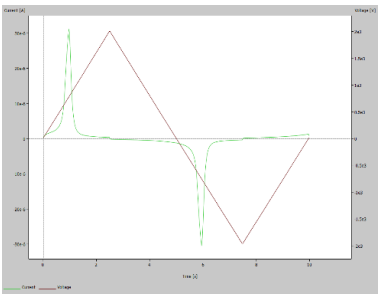
TF3000

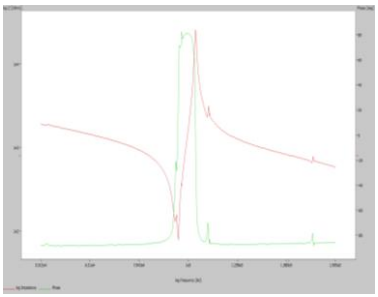


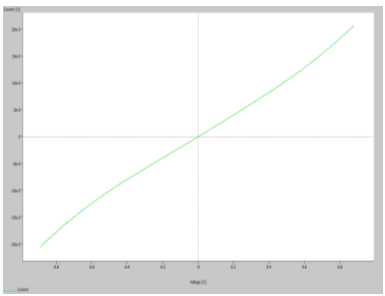
The TF Analyzer 3000 is the flagship of the TF Analyzer family. It offers the highest frequency ranges. Without any restriction regarding input resolution. Therefore it is the ideal partner for dedicated high speed testing of electro ceramic material and devices. The TF Analyzer is also used in High Speed PES and CMA systems.

The test equipment is based on the same modular idea like the TF2000E, where four different probe heads can be connected to one and the same basic unit. Each of the four probe heads represents a different characterization method. In combination with the FE-Module enhanced it offers a 1MHz frequency range for hysteresis measurement of ferroelectric materials. No other system on the market allows a higher frequency for those measurements.

The system is optionally available with high frequency 150V built in amplifier that covers a frequency range of 1MHz.







Specification

TF2000

TFANALYZER 2000E hardware
Arbitrary waveform generator 1MHz, 16bit, +/-5V
Analog Input channels 1MS/s, +/- 10V, 16 bit
IEEE interface, optional
Serial interface
LAN adapter

FE module hardware
Driving unit:
Voltage range ±25 V other voltages on request
Output impedance 10 Ω
Maximum hysteresis frequency 5kHz
Min. pulse width 2 µs
Min. rise time 1 µs
Max. fatigue frequency 300kHz
Slew rate (typical) > 200 V/µs
Max. capacitive load (freq. dependent) 1 µF
Maximum output current ±1 A
Current amplifier:
Voltage virtual ground input
Current range 1 pA - 1 A
High-voltage protection

TF3000

TFANALYZER 3000 hardware

Output channel:
Arbitrary waveform generator up to 100 Ms/s
(*CMA option: additional 16bit Arbitrary Waveform generator)
1000 points in 10µs
Pulswidth down to 50ns
150V built-in amplifier with 1MHz bandwidth (optional)
Analog Input channels:
Up to 40MS/s, +/- 10V, 16 bit
Capture rate true 25ns without interlace
IEEE interface, optional
Serial interface
LAN adapter

FE module hardware
Driving unit:
Voltage range ±30V other voltages on request
Output impedance 10 Ω
Maximum hysteresis frequency with bandwidth current amplifier 250kHz
Max. hysteresis frequency with high speed integrator 1MHz
Min. pulse width 50 ns
Min. rise time 10 ns
Max. fatigue frequency 16 MHz
Slew rate (typical) > 200 V/µs
Max. capacitive load (freq. dependent) 1 nF
Maximum output current ±1 A

More specification on request

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