Lamda

Specialized Impedance Analyzer

Key features:

- Compact, desktop single channel impedance analyzer(stackable to more channels)
- 2, 3 and 4 electrode configurations(50Ω - 100cm BNC-Cable up to 100 MHz)
- Frequency range: 1 µHz...100MHz
- Impedance range: 10 mΩ – 250 TΩ
- Capacitance range: 1 fF – 1 F
- Inductance range: 100 nH – 100 H
- Precision ≤ 0.1 %
- Lowest measurable phase angle: 0.003°
- Voltage up to ±1.5 V(full AC + DC Bias range)
- PC-based measurement control (Eymea).
- Simple connection through Ethernet, GPIB, Full Speed USB or RS-485.
- Interfaces Instructions and libraries for full instrument control from Java, C etc.

Brief description

Lamda Specialized Impedance Analyzer provides fast and accurate measurements over a wide impedance range. Lamda samples and measures the voltage and the current signals directly without needing a balanced-bridge configuration. As a result it is capable of measuring at frequencies as low as 1μHz and providing reliable impedance measurements up to 250 TΩ and allowing for a faster impedance measurements(EL option).

Eymea Software

Eymea boosts a friendly user interface that helps the user to maximize work efficiency. It allows for auto identification of all supported analyzers and temperature controllers that are supported. It allows for almost infinite user measurement dimensions which can be defined in order to specifically tailor the measurements for every user's need. It contains a very flexible Plot program which allow users to plot live/saved measured values in a single keyboard key or shortcut. Instrument and user interface
settings can be saved and reloaded to minimize tedious tasks and to en-power the user to focus on the real matter at hand.

Detailed description

Using latest digital processing techniques, Lamda is capable of measuring wide impedance range and phase angle resolution. Using four wire configuration reduces the effects of lead inductance and stray capacitance which are important in impedance applications especially at high frequencies(with using 50Ω - 25cm, 50cm or 100cm BNC-Cable up to 100 MHz). At an affordable price, Lamda is capable of a excellent performance required to run any Specialized high impedance measurement.

Lamda comes with the Eymea software and connects to PC through GPIB, Full Speed USB, or Ethernet.
Eymea provide the graphical user interface to measure needed frequency points sequentially. Lamda(EL option) supports commands for fast measurement of points within a defined time window with time stamps for each measured point. This allows for very fast measured points upwards of 450 pts/s (according to frequency and range). Measured data from each analyzer can be stored as result file, vector graphics or a plain data file for further analysis or plotting in other software.
Measurement Setup allows for defining a user set amount of free variables(AC voltage, Bias, Time, Temperature, Higher harmonics, etc.) which the software will cycle through until the measurement is done. An analyzer setup can be copied to another one with a simple procedure.

Options

Lamda can be configured in multiple options to suite any particular budget and application requirements:

Basic Model:
1 mHz – 100 kHz.
Base Precision: 0.5% 0.03°
Impedance range: 10 mΩ – 10 TΩ.
Acquisition speed: 10 pts/s.
Connection: Ethernet.

Frequency options:
- Base: 1 mHz – 100 kHz
- FR-EX1: 1 μHz – 1 MHz
- FR-EX2: 1 μHz – 10 Mhz
- FR-EX3: 1 μHz – 100 Mhz

Limitation options:
- Base:
  described in basic model
- Enhanced:
  described in enhanced model

Precision option:
- NOR-PR: 0.5% 0.05°.
- HI-PR: 0.1% 0.005°.

Connection option:
- Base Connection: Ethernet
- EX-C1: USB
- EX-C2: GPIB
- EX-C3: RS-485