M5300

M5300 Sweep Frequency Response Analyzer (SFRA)

M5300:
Sweep Frequency Response Analyzer (SFRA) For Transformer Core & Winding Movement Diagnosis

Comes with built in PC

A tool for detecting "hidden" transformer faults

The M5300 detects mechanical failure or movement of windings due to short circuits, mechanical stresses or transportation. Use it to ensure transformer performance, reduce maintenance cost, and increase the service life of transformers.

A major advance in transformer condition analysis.

The M5300 uses Sweep Frequency Response Analysis, a proven technique for making accurate and repeatable measurements. Pioneered by Doble the sweep approach has become the industry standard and is the preferred method for making frequency domain measurements.

Here's how SFRA works: The M5300 sends an excitation signal into the transformer and measures the returning signals across a broad frequency range. By comparing this response to baseline and other results (such as from similar units), you can identify deviations and confirm internal mechanical problems.

DIAGNOSE problems early.
PREVENT expensive equipment breakdowns.
Take CONTROL.

Why wait for problems to develop? With the M5300's non-intrusive test technique, you can test your power apparatus any time you suspect a problem. Or just use it as part of your regular maintenance program. Either way, you identify problems before they lead to failure, such as:

- Core movement
- Winding deformation and displacement
- Faulty core grounds
- Partial winding collapse
- Hoop buckling
- Broken or loosened clamping structures
- Shorted turns and open windings

M5300 SFRA Technical Specifications

Input Power:	**Universal**
Voltage Output:	10 V peak-to-peak at 50 Ohms
Calibration Interval:	Laboratory Recertification ...3 years
PC:	Windows XP…built in speed and size
Data Collection:	
Test Method:	Sweep Frequency Response Analysis
Frequency Range:	10 Hz – 25 MHz
Number of Points:	1800 logarithmically spaced
Accuracy:	±1 dB to –80 dB
IF Bandwidth:	10% of active frequency
Data Display:	
Scaling:	Linear/Log
Frequency Range:	10 Hz – 25 MHz, user defined within frequency range
Plotting:	Frequency vs. Magnitude/Phase Operating
Temperature:	0 to 50°C
Dimensions:	10.0 H x 16.0 W x 15.5 D inch 25.4 H x 40.6 W x 39.4 D cm
Weight:	16 lbs (7.5 kg)
Analysis:	Difference, Sub-band Cross-Correlation

The M5300 comes with a carrying strap for easy transportation.

Doble is certified ISO 9001: 2000

Knowledge is Power SM

The World Leader is Diagnostic Test Instruments and Knowledge Services for Electric Power

M5300 Technical Merits

Range

The M5300 provides a frequency response for 1250 measurement points across the full diagnostic range of 20 Hz to 2 MHz. (Actual capability 10Hz-25MHz). The diagnostic frequency range covers the most important diagnostic areas:

- Core and Magnetic Properties
- Winding Movement and Deformation
- Interconnections – Leads and Tap Changers

Resolution

The M5300 measures the frequency response at logarithmically spaced frequency intervals of 1.2%. A constant excitation level is maintained for each frequency measurement. The M5300 has the ability to auto-scale each frequency measurement providing an overall dynamic range +80 to –80 dB with a ± 1 dB accuracy. This gives the highest combination of dynamic range and accuracy available.

Repeatability

The M5300 is a field-ready instrument for high quality measurements. The sweep frequency approach combined with Doble's world class engineering means that frequency response measurements are highly repeatable and even subtle changes can be used for diagnostic purposes.

Test Leads

We provide simple, robust test leads to handle the rigors of site testing. International tests have proven repeatedly that we have the most reliable and repeatable test leads available.

Practicality

The M5300 is supported by Doble's world class Client Service Engineers and decades of field experience. We have learned through practice and experimentation what constitutes good field technique and know how to gain value and benefit from the SFRA measurement. Let us work with you to bring that value and benefit to your company!

Specifications are subject to change without notice.

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