



SFRA45



Standalone High Accuracy Transformer Analysis

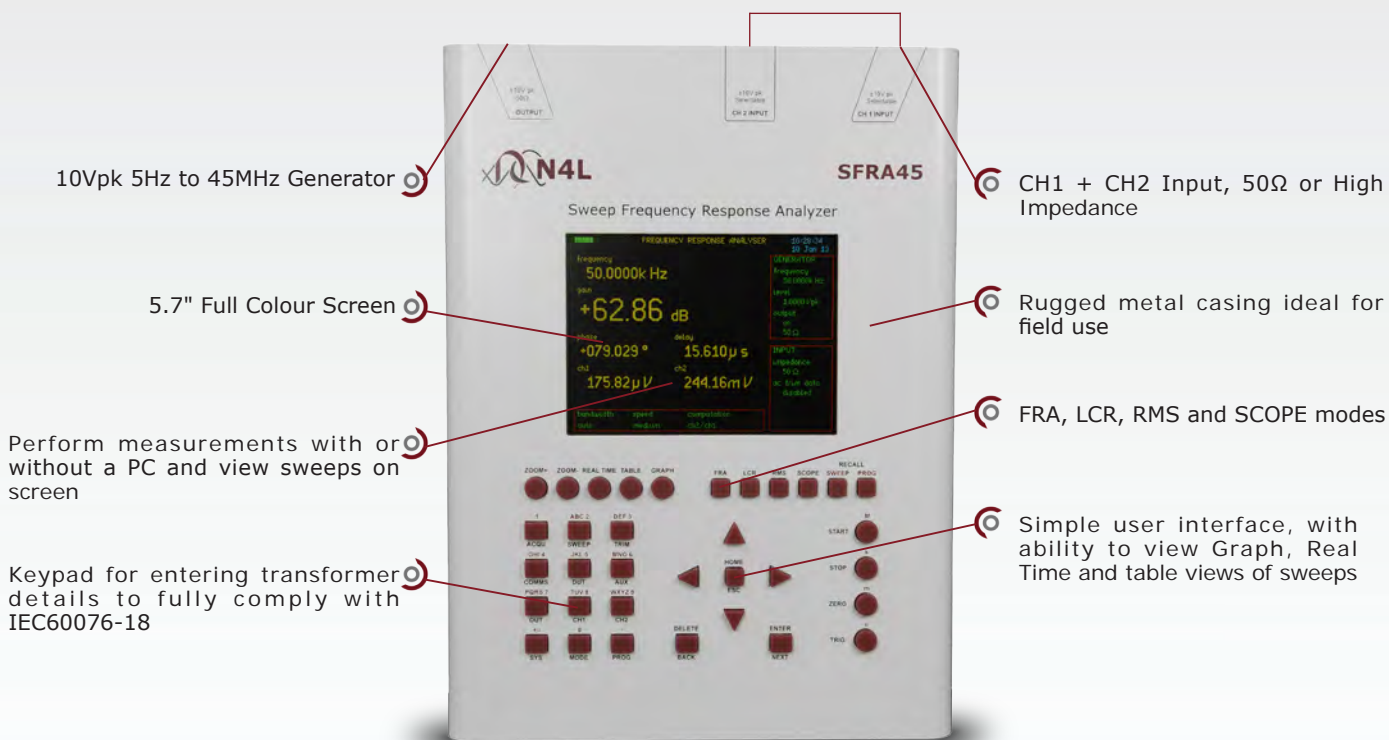
Leading wideband accuracy	Basic 0.02dB with class leading high frequency performance
Wide frequency range	5Hz to 45MHz
Full Colour VGA Display	Enables engineer to perform and store measurements in the field without a PC
PC software included	Remote control, tables, graphs and database management of results
Leading phase accuracy	0.05 degrees basic
Versatile interfaces	RS232, USB, optional LAN
LCR mode	Fully functional LCR meter to measure transformer LCR parameters
Various measurement modes	FRA, RMS, LCR, Scope
Import/Export Supported Formats	Import .txt, .csv, .xml, .sfra, .pax Export .csv, .xml, .xmlx

SFRA45 Portable Sweep Frequency Response Analysis

Full SFRA Testing System in one Case




Product Overview

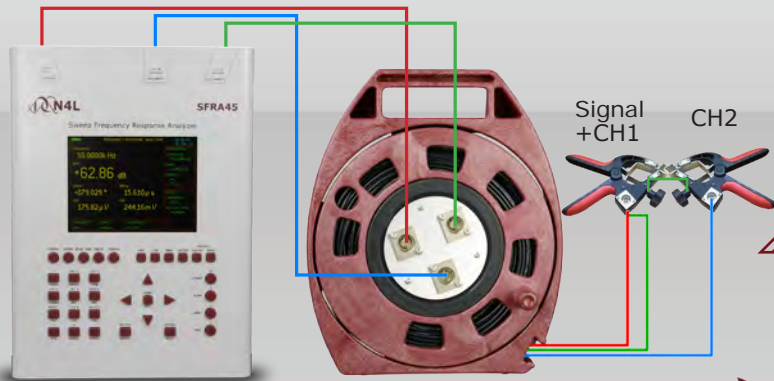


The SFRA45 offers both high precision and portability in a single package. Newtons4th have worked alongside one of the markets most respected power transformer manufacturers to provide a comprehensive package with all accessories required for reliable, repeatable measurements.

The Complete Solution in one package

SFRA in 4 steps


 Connect Lead set and Zero Check

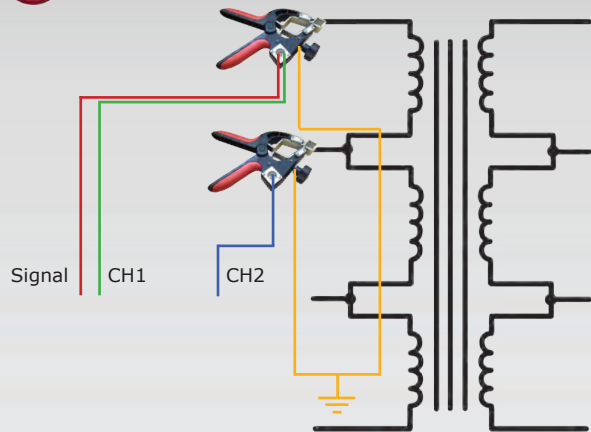


Step 1


Extend Cable reel, connect Gen and CH1 to clamp 1 and CH2 to clamp 2. Connect clamps together and check for 0dB throughout the sweep range.

Step 2

 Connect up to Transformer




Step 3

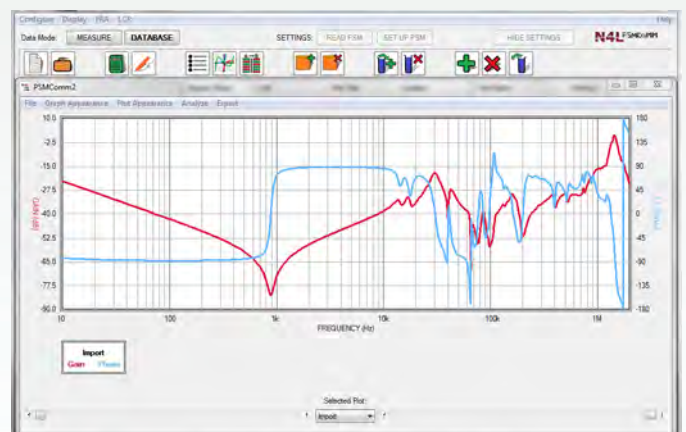
 Run sweep direct from front panel or via SFRAComm software



Set up the sweep and enter transformer parameters, save sweep to the SFRA45's 1GB internal memory

Step 4

 Remotely control and record direct to software or transfer data later



SFRAComm software offers a database facility to compare numerous sweeps

MEASUREMENT SPECIFICATION

Frequency Response Analyser	
Measurement	Magnitude, Gain (CH1/CH2, CH2/CH1), Gain (dB), offset gain (dB), phase(°)
Frequency Range	5Hz - 45MHz
Gain Accuracy in dB	0.02dB < 50kHz 0.02dB + 0.05dB/MHz < 5MHz 0.1dB + 0.04dB/MHz < 45MHz
Phase Accuracy	0.05° < 10kHz 0.07° + 0.0009°/kHz < 5MHz 5.05° + 0.0001°/kHz < 45MHz
Frequency Source	Generator
Measurement	Real Time DFT, no missing data
Speed	Up to 100 readings per second
Filter	Selectable from 0.2 seconds
Resolution	5 or 6 digits
Input Impedance	50 Ohm or 1M Ohm High Impedance (Selectable)
Dynamic Range	120dB
L C R Meter	
Functions	L, C, R (AC), Q, Tan Delta, Impedance, Phase - Series or Parallel Circuit
Frequency Range	5Hz - 5MHz
Current Shunt	50R Internal or External
Ranges	Inductance Capacitance Resistance
Basic Accuracy	0.5% + 2%/MHz
Sweep Capability	All AC functions
Impedance Range	100mOhm to 100kOhm
True RMS Voltmeter	
Channels	2 (Ground Referenced)
Frequency Range	5Hz - 5MHz
Measurement	AC RMS, Peak, CF, Surge, dBm
Basic Accuracy (AC)	0.05% range + 0.05% reading + 0.1mV < 1kHz 0.15% range + 0.15% reading + 0.1mV < 10kHz 0.5% range + 0.5% reading + 0.025%/kHz + 0.4mV < 5MHz
Signal Generator	
Type	Direct Digital Synthesis, Single Frequency or Sweep
Frequency	5Hz to 45MHz
Waveforms	Sine, Square, Triangle, Ramp, White Noise
Accuracy	Frequency 5ppm over all temperature range Amplitude ±5% < 10MHz, Amplitude ±10% < 45MHz
Impedance	50 Ohm ± 2%
Scaling	1x10 ⁻⁹ to 1x10 ⁹
Output Level	50mVpk to 10Vpk
Input Ranges	
Inputs	2 x 10Vpk
Connectors	Ground referenced BNC
Coupling	AC
Max Input	10Vpk from earth
Input Ranges	Peak Ranging 1mV, 3mV, 10mV, 30mV, 100mV, 300mV, 1V, 3V, 10V
Scaling	1x10 ⁻⁹ to 1x10 ⁹
Ranging	Full auto, Up only or Manual
Input Impedance	50 Ohm or 1M Ohm High Impedance Selectable

ACCESSORIES AND PORTS

Instrument Accessories	
Leads	3x BNC to BNC (Output, CH1, CH2), RS232, Power
Software	CommView, SFRA CoMM
Documentation	Calibration Certificate, User Manual
Newtons4th SFRA Transformer Connection System	
Bushing Clamps	2x Bushing Connection Clamps
BNC Cable Reel	N4L 18m Cable reel (Signal, CH1, CH2)
Earth Braid	2x 5 metre Earthing Braid
Earth Clamps	2x
Spare Earth Braid	1000mm
USB Stick	2 GB
Ports	
RS232	Baud Rate to 19200, RTS/CTS flow Control
USB	USB Port
LAN (Option L)	10/100 base-T Ethernet auto sensing RJ45

SYSTEM SPECIFICATIONS

Sweep	
Functions	FRA, Impedance
Steps	Up to 2000 Steps
Window	From 50ms with no gap between each log
Memory	1 GB Internal or External USB
General	
Display	5.7" ¼VGA colour high brightness backlit
Dimensions (Instrument)	305Hx230Wx45D mm "Tablet Style"
Weight (Instrument)	2.7kg
Dimensions (Carry Case)	760mm x 420mm x 150mm
Weight (Full system including case)	14.9kg
Program Stores	100, Location 1 loaded on power up
Sweep Stores	2000, all parameters in any sweep function
Remote Operation	Full Capability, Control and Data
Temperature	-5 to 50°C ambient temperature, 20 to 90% non-condensing RH
Power Supply	9 – 18V @ 3A, AC adapter or 12V dc from car or external batteries
Battery type and Battery life	Lithium Ion Up to approx 2 hours
Display Resolution	6 digit freq, 5 digit dB, 5 digit voltage
Real Time Clock	Time and Date Stamp for Data Stores
Import / Export	Import .txt, .csv, .xml, .sfra, .pax
Formats Supported	Export .csv, Excel (which can then be saved as .xml)



All specifications at 23°C ± 5°C . These specifications are quoted in good faith but Newtons4th Ltd reserves the right to amend any specification at any time without notice

Newtons4th

Newtons4th Ltd (abbreviated to N4L) was established in 1997 to design, manufacture and support innovative electronic equipment to a worldwide market, specialising in sophisticated test equipment particularly related to phase measurement. The company was founded on the principle of using the latest technology and sophisticated analysis techniques in order to provide our customers with accurate, easy to use instruments at a lower price than has been traditionally associated with these types of measurements

Flexibility in our products and an attitude to providing the solutions that our customers really want has allowed us to develop many innovative functions in our ever increasing product range

Contact your local N4L Distributor for further details



Newtons4th Ltd are ISO9001 registered, the internationally recognised standard for the quality management of businesses



In recognition of the technical innovation and commercial success of the PPA series, N4L received the "Innovation 2010" Queen's award for enterprise

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