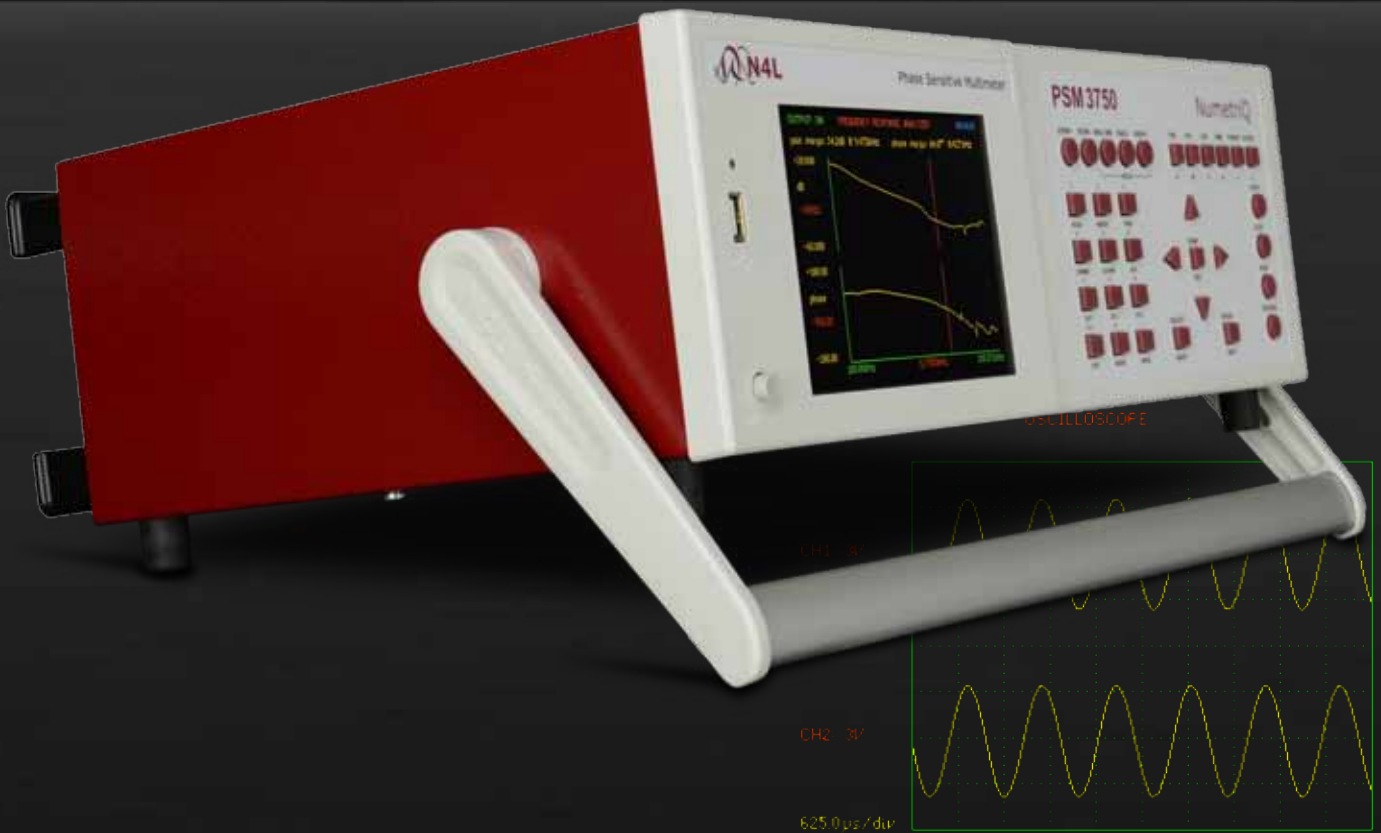




PSM3750

OUTPUT: ON FREQUENCY RESPONSE ANALYZER

| | | |
|-----------|------------------|---------|
| | CH1: 3V | CH2: 3V |
| magnitude | 1.4151V | 1.4153V |
| | ch2/ch1 | |
| gain | 1.0001 | |
| gain | +0.001dB | |
| phase | +000.000° | |
| delay | 1.0000ms | |
| frequency | 1.0000kHz | |

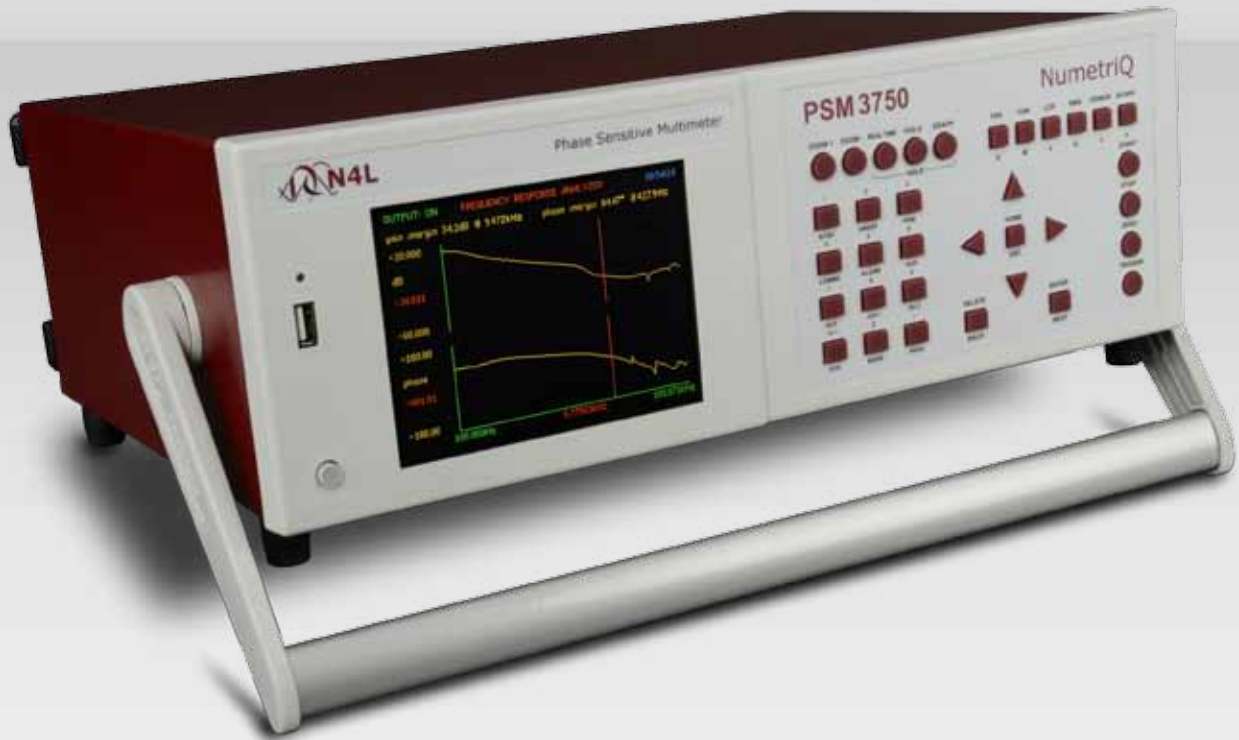


High Accuracy - Wide Bandwidth - 500Vpk Inputs

| | |
|------------------------------|---|
| Leading wideband accuracy | Basic 0.02dB with class leading high frequency performance |
| Wide frequency range | DC, 10uHz to 50MHz |
| High Voltage Floating Inputs | Galvanically Isolated fully floating Inputs - 500Vpk range |
| Fully Isolated Generator | Enables direct connection to feedback loops with no need for isolation transformers |
| Leading Phase Accuracy | 0.025 degrees |
| Versatile Interfaces | RS232, USB, LAN and GPIB |
| PC Software Options | Remote control, tables, graphs and database management of results |
| Various Measurement Modes | FRA, PAV, POWER, LCR, RMS Voltmeter, Scope |

Frequency Response Analysis

The PSM3750 offers a complete solution for high frequency, high accuracy frequency response measurements. Featuring a unique 10Vrms output, 500Vpk isolated generator and 500Vpk isolated inputs the PSM3750 is an innovative step forward in frequency response measurement. The PSM3750 also offers market leading gain and phase accuracy (0.01dB, 0.025deg) for an isolated input frequency response analyzer.



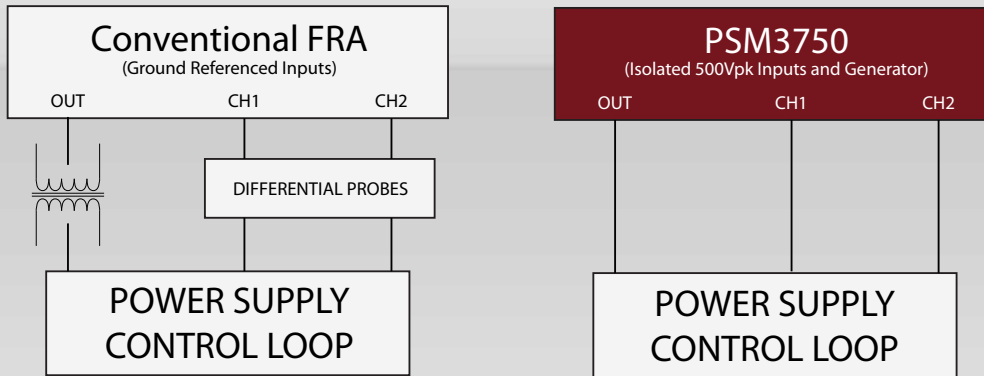
Impedance Analysis with the IAI2

When combined with the IAI2 (Impedance Analysis Interface) the PSM3750 provides an accurate solution for LCR measurements, using a true 4 wire Kelvin technique without the need for external shunts. The IAI2 has a bandwidth up to 50MHz, with a wide measurement range this technology builds on years of expertise Newtons4th has gained in the impedance measurement field.



Isolation for High Voltage Feedback Loop Analysis

The PSM3750 features a 500Vpk isolated generator, this enables the engineer to connect directly to the feedback loop with no need for an injection transformer. This has been made possible through the development of a truly isolated generator card providing DC & 10uHz up to 50MHz injection bandwidth. In most cases there will be no requirement for attenuators due to the presence of 500Vpk isolated inputs, making feedback analysis simple, fast and flexible.



As illustrated above, the PSM3750 eliminates the requirement for an isolation transformer and differential probes. Another disadvantage when using conventional FRA instruments whilst performing analysis over a wide frequency band is that many different isolation transformers will be required for the different frequency ranges of the test. The PSM3750 eliminates this problem and generates frequencies throughout its entire frequency range from a single output.

Connections

The rear of the PSM3750 features up to 3 isolated input channels and an isolated generator. All 3 input channels and the output channel offer both BNC and 4mm safety connectors. With LAN, RS232, GPIB and USB offered as standard, the PSM3750 is equipped for all modern communication environments.



3 Isolated Input Channels

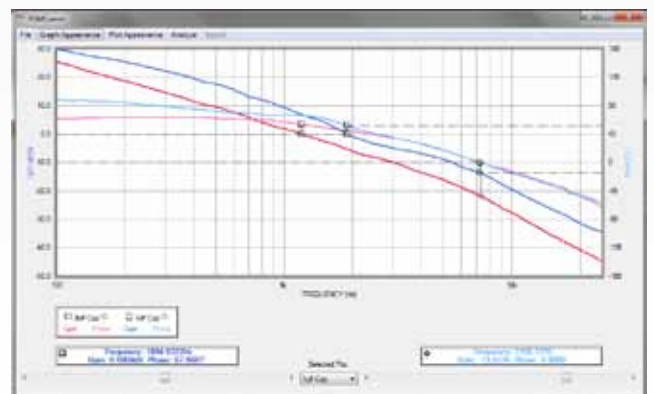
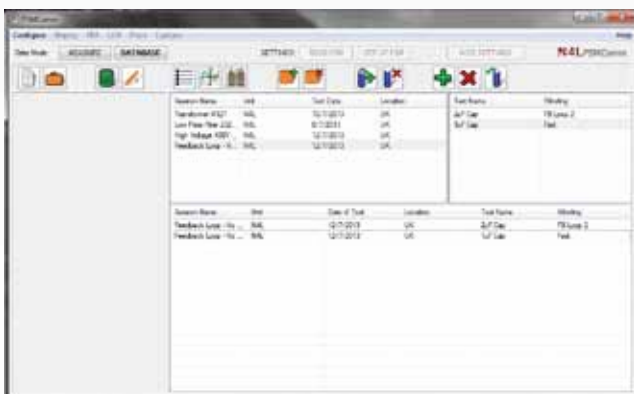
2 x Analogue Inputs
1 x Analogue Output
1 x Extension Port

Communication Ports; LAN,
USB, RS232 and GPIB

10Vrms Isolated Generator
(500Vpk Isolation)

N4L PSMComm Software - PSMComm2

The PSM3750 is supplied with a free comprehensive software package, PSMComm2. This enables the user to perform multiple sweeps during development and compare the sweeps on one single plot. PSMComm2 also includes a database function in which the user can store their projects and organise large amounts of data in a manageable, structured format.



MEASUREMENT SPECIFICATION

| Frequency Response Analyser | |
|-----------------------------|---|
| Measurement | Magnitude, Gain (CH1/CH2, CH2/CH1), Gain (dB), offset gain (dB), phase(°) |
| Frequency Range | 10uHz - 50MHz |
| Gain Accuracy in dB | 0.01dB + 0.1dB/MHz < 5MHz 0.31dB + 0.04dB/MHz < 50MHz |
| Phase Accuracy | 0.025° < 10kHz 0.05deg + 0.00015deg/kHz < 50MHz |
| Frequency Source | Generator or CH1 Input |
| Measurement | Real Time DFT, no missing data |
| Speed | Up to 100 reading per second |
| Filter | Selectable from 0.2 seconds |

| Phase Angle Voltmeter | |
|-----------------------|---|
| Measurement | In Phase, Quadrature, Tan Ø, Magnitude, Phase, in-phase ratio, rms, rms ratio, LVDT differential, LVDT ratiometric |
| Frequency Range | 10uHz - 50MHz |
| Basic Accuracy (AC) | 0.075% range + 0.075% reading + 50uV < 10kHz 0.075% range + 0.25% + 0.001%/kHz rdg + 50uV < 1MHz 0.075% range + 0.01% + 0.00025%/kHz rdg + 50uV < 50MHz |

| L C R Meter | |
|-------------------------|--|
| Functions | L, C, R (AC), Q, Tan Delta, Impedance, Phase - Series or Parallel Circuit |
| Frequency Range | 10uHz - 50MHz |
| Current Shunt | External or Optional IAI2 Impedance Interface |
| Ranges (External Shunt) | Inductance 1uH to 100H Capacitance 100pF to 100uF Resistance 1Ω to 1MΩ |
| Basic Accuracy | 0.1% + Tolerance of Shunt |
| Sweep Capability | all AC functions |

| True RMS Voltmeter | |
|---------------------|--|
| Channels | 2 (Optional 3rd Channel Available) |
| Frequency Range | DC to 5MHz 5MHz to 50MHz fundamental only |
| Measurement | RMS, AC, DC, Peak, CF, Surge, dBm |
| Basic Accuracy (AC) | As PAV + 0.05mV |
| Basic Accuracy (DC) | 0.1% range + 0.1% reading + 0.5mV |

| Power Meter | |
|------------------|---|
| Measurements | W, VA, PF, V, A, - Total, Fundamental and Integrated, Power Harmonics |
| Frequency Range | DC & 10mHz to 5MHz 5MHz to 50MHz fundamental only |
| Current Shunt | External |
| Current Accuracy | As Voltage + External Shunt Tolerance |
| Watts Accuracy | 0.1% VA range + 0.1% reading + external shunt tolerance |

| Signal Generator | |
|--------------------|--|
| Type | Fully isolated 10Vrms output protected to 500Vpk. Direct Digital Synthesis |
| Frequency | 10uHz to 50MHz |
| Waveforms | Sine, Square, Triangle, Sawtooth, White Noise |
| Accuracy (no trim) | Frequency ±0.05% Amplitude ±5% < 10MHz, Amplitude ±10% < 50MHz |
| Impedance | 50 Ohm ± 2% / 100pF to Chassis |
| Output Level | 35mVrms to 10Vrms |
| Offset | ±10Vdc, Resolution 20mV |

| Harmonic Analyser | |
|-------------------|---|
| Scan | Single or Series |
| Frequency Range | 20mHz to 5MHz 5MHz to 50MHz Fundamental only |
| Measurement | Harmonic, Series THD, Difference THD |
| Max Harmonic | 100 |

| Input Ranges | |
|---------------------|--|
| Differential Inputs | 2 or 3 x Isolated Inputs 500Vpk |
| Connectors | Isolated BNC |
| Coupling | AC+DC, AC (<10VDC), AC (<500VDC) |
| Max Common Mode | 500Vpk from earth |
| Input Ranges | 3mV, 10mV, 30mV, 100mV, 300mV, 1V, 3V, 10V, 30V, 100V, 300V, 500V, 300mV*, 1V*, 3V*, 10V* *High Voltage Attenuator |
| Scaling | 1x10 ⁻⁹ to 1x10 ⁹ |
| Ranging | Full auto, Up only or Manual |
| Input Impedance | 1M Ohm Differential / 100pF to Chassis |

Model Numbers

| Available Packages | |
|--------------------|--------------------------|
| PSM3750-2CH | 2 Channel PSM3750 |
| PSM3750-3CH | 3 Channel PSM3750 |
| PSM3750-2CH+IAI2 | 2 Channel PSM3750 + IAI2 |
| PSM3750-3CH+IAI2 | 3 Channel PSM3750 + IAI2 |

IAI2 - Impedance Analysis Interface

| Specification | |
|---------------------------------|--|
| Frequency Range | 10uHz to 50MHz |
| Measurement Parameters | L, C, R, Z, Phase, QF, Tan(δ), Series and Parallel circuit |
| Measurement Ranges | 10nH to 10kH, 1pF to 1000uF, 1mΩ to 500MΩ |
| Basic Accuracy + Phase Accuracy | 0.1% < 1kHz 0.2% + 0.002%/kHz < 1MHz 0.2% + 0.0005%/kHz < 35MHz 0.2% + 0.001%/kHz < 50MHz |
| Internal Shunts | 5Ω, 50Ω, 5kΩ, 500kΩ |

ACCESSORIES AND PORTS

| Accessories | |
|---------------|--|
| Probes | 4 off with 2 Channel, 6 off with 3 Channel |
| Leads | Output, RS232, Power |
| Software | CommView, PSMComm2 |
| Documentation | Calibration Certificate, User Manual |

| Ports | |
|-----------------------------------|---|
| RS232 | Baud Rate to 19200, RTS/CTS flow Control |
| Analog Output | Bipolar ±10V on any measured function - BNC |
| Sync output | Pulse synchronised to generator |
| Extension Ports (N4L accessories) | 2 15 pin female D type |
| LAN (Standard) | 10/100 base-T Ethernet auto sensing RJ45 |
| GPIB (Standard) | IEEE488.2 Compatible |

SYSTEM SPECIFICATIONS

| Datalog | |
|------------------|--|
| Functions | Up to 4 measured functions, user selectable |
| Datalog Window | From 10ms with no gap between each log |
| Memory | RAM or Non-Volatile Memory up to 16,000 records |
| General | |
| Display | 320 x 240 QVGA full colour TFT, White LED backlight |
| Dimension | 130H x 400W x 315D mm excluding feet |
| Weight | 3.3kg (2Channel), 3.5kg (3Channel) |
| 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 40°C ambient temperature, 20 to 90% non-condensing RH |
| Power Supply | 90-264Vrms 47-63Hz 30VA max |
| CMRR | 140dB @ 240Vrms - 50Hz, 120dB @ 100Vrms - 1kHz |
| Warranty | 3 Years |

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

Distributed By :

Newtons4th Ltd
1 Bede Island Road
Leicester
LE2 7EA
UK
Phone: +44 (0)116 230 1066
Fax: +44 (0)116 230 1061
Email: sales@newtons4th.com
Web: www.newtons4th.com