



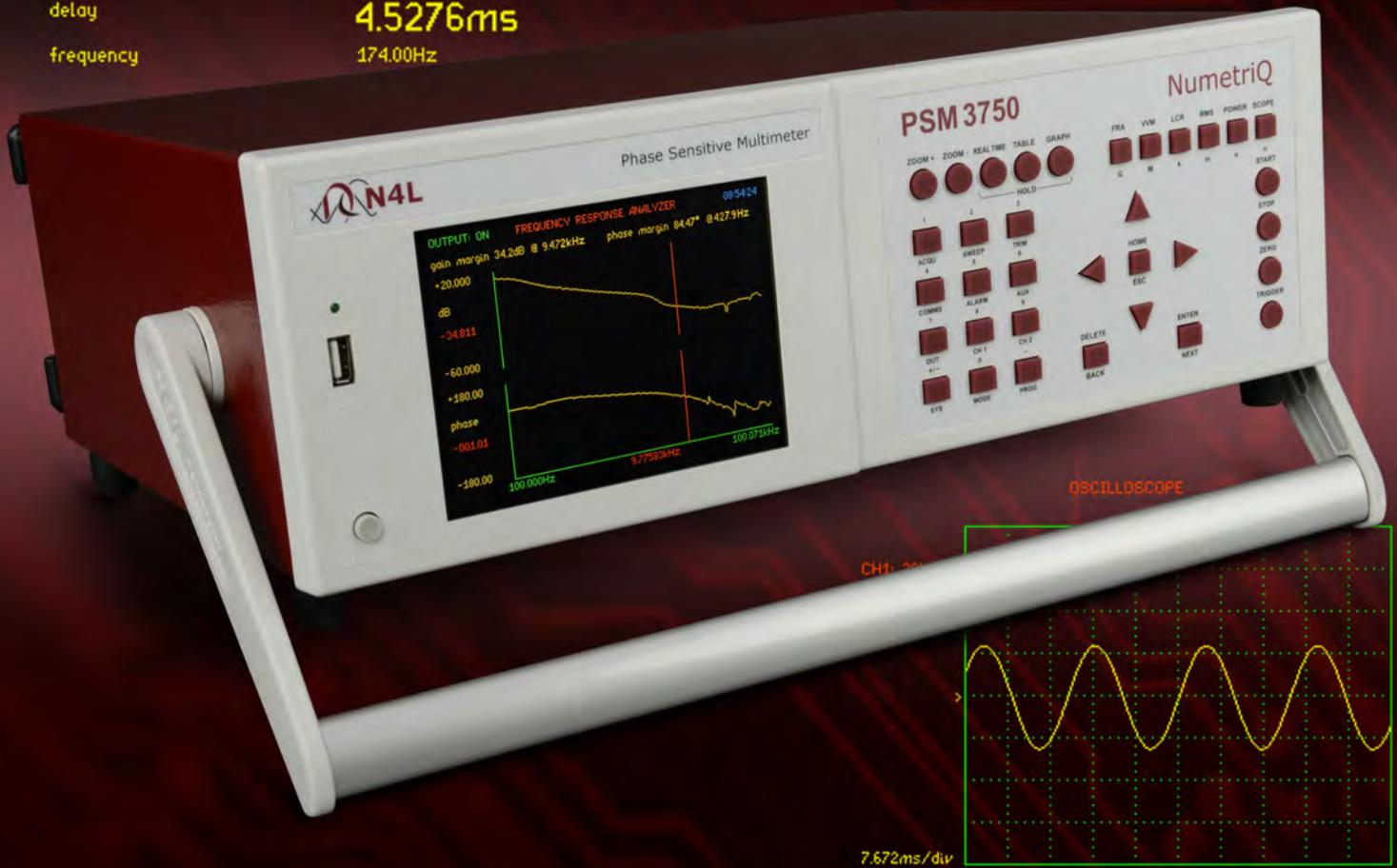
# 频率特性/响应分析仪

## PSM3750

OUTPUT: ON    FREQUENCY RESPONSE ANALYZER    21:38:01

CH1: 100mV/    CH2: 100mV/  
 magnitude    7.7551mV/    27.267mV/

ch2/ch1    3.5160  
 gain    **+10.92dB**  
 phase    +076.395°  
 delay    **4.5276ms**  
 frequency    174.00Hz

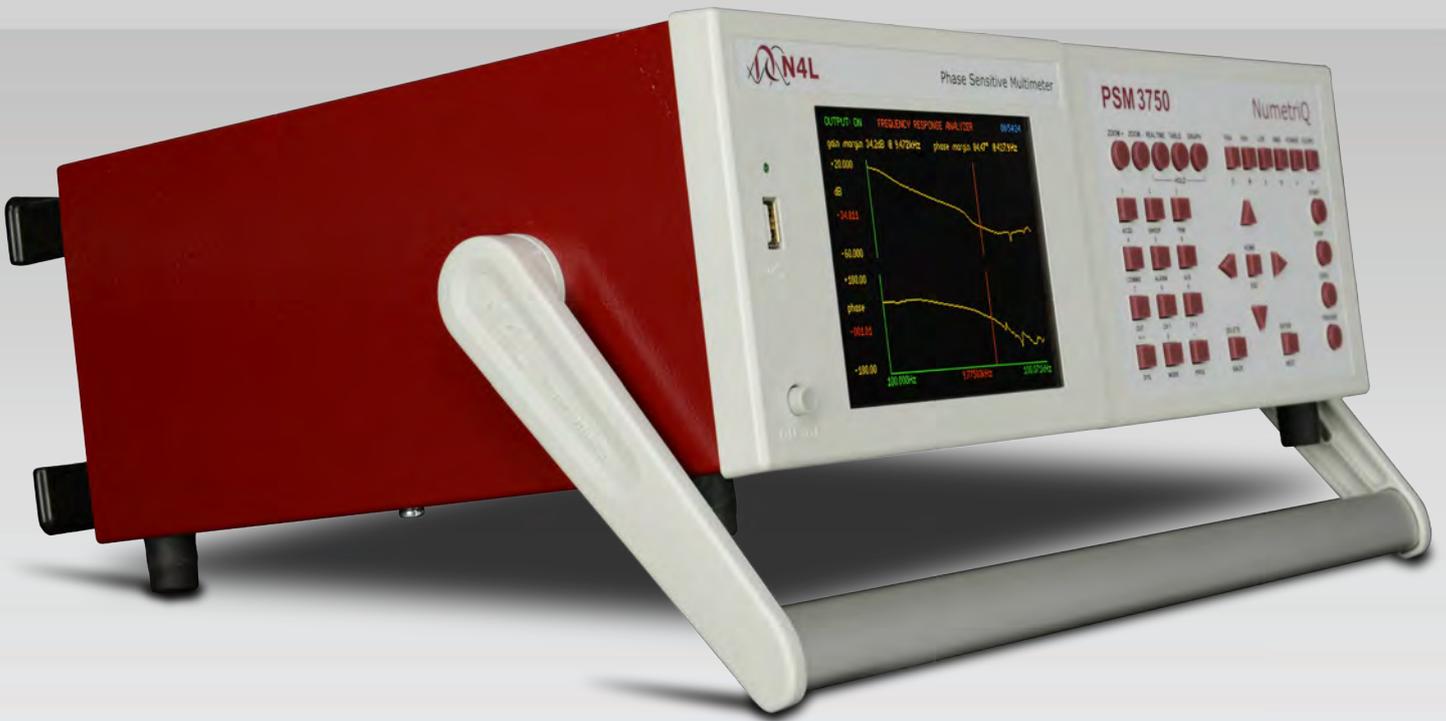


### 高精度 - 宽带宽 - 500Vpk 输入电压

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 optional GPIB
PC Software Options	Remote control, tables, graphs and database management of results
Various Measurement Modes	FRA, PAV, POWER, LCR, RMS Voltmeter, Scope

# 频率响应分析

PSM3750为高频率，高精度频率响应测试提供了一套完整的解决方案，以独特的10Vrms输出，500Vpk隔离触发和500Vpk隔离输入功能使PSM3750频率分析仪在频率响应测试领域迈进了创新的一大步；作为一个隔离的输入频率响应分析仪，PSM3750也提供了市场领先的增益和相位精度（0.01分贝，0.025度）。



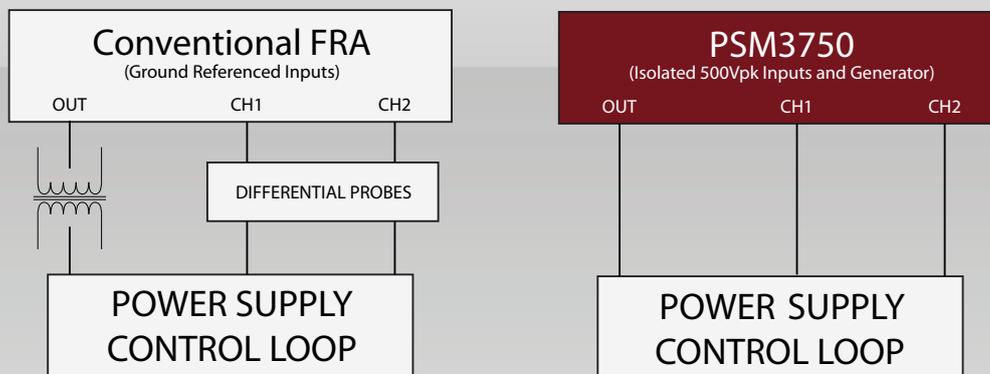
## 搭配IAI2实现阻抗分析功能

PSM3750搭配IAI2可为LCR测试提供一个精确的测试方案，N4L公司利用多年来的技术经验总结出：不需要外接分流器，利用4线开尔文技术，IAI2带宽可以达到50MHz，使N4L公司在阻抗测试领域具备有很宽测试范围的专利技术。



## 隔离功能：高压反馈回路分析

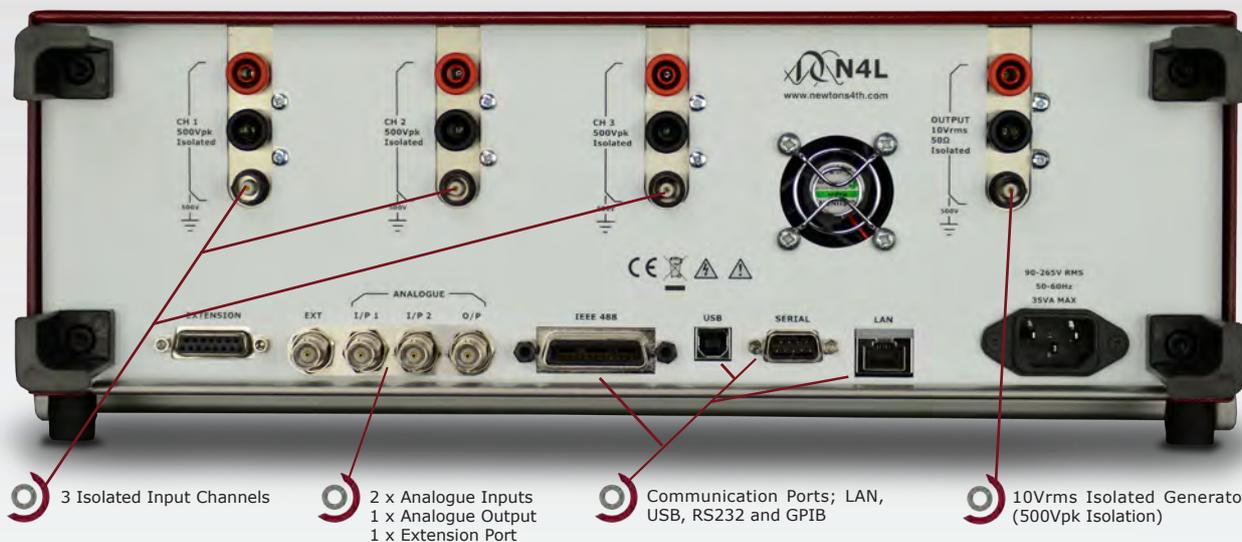
PSM3750拥有500Vpk的隔离触发器，这就使工程师可以直接接触反馈回路而不需要额外加隔离变压器，通过一个真实的隔离板卡提供DC & 10uHz到50MHz的带宽，在大多数情况下由于有500Vpk隔离输入，故不需要衰减器，就可以实现使反馈分析更简单，更快捷和更灵活。



综上所述，PSM3750取消了对隔离变压器和差分探头的需求，另外PSM3750从根本上解决了通常在执行分析超过很宽的频率段时，通常在不同频率段测试需要有很多不同的隔离变压器来支持的缺点，PSM3750通过一个单一的输出端口可满足全频率段的测试和分析。

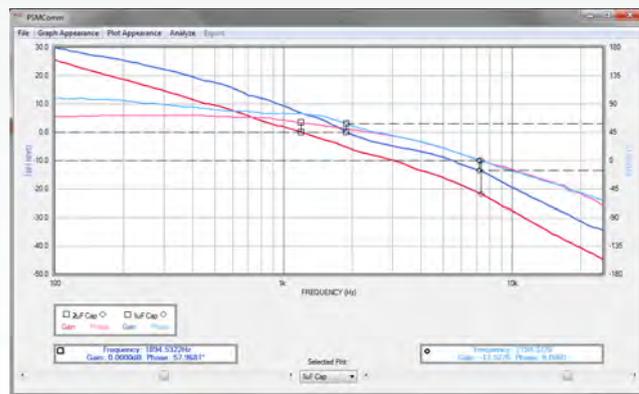
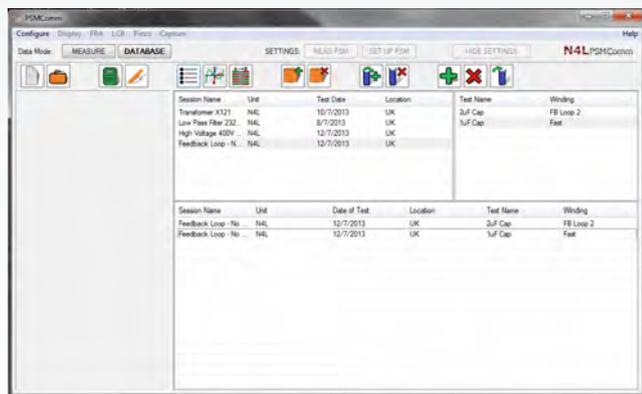
## 连接方式

PSM3750后端有3个隔离的输入通道和一个隔离的触发器；3个输入通道和输出通道可以提供BNC和4mm的安全连接，配合LAN,RS232, USB和GPIB接口，PSM3750频率分析仪可以匹配多种的通讯连接方式。



## N4L PSMComm 软件 - PSMComm2

PSM3750提供全套PSMComm2软件包，这就使得用户可以就某一个单点在开发和比较阶段执行多项扫描，PSMComm2软件还包括一个数据函数，在这个数据库里用户可以存储和组织大量的数据在可管理和结构化的格式中。



## 测试规格

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)	Basic : 0.075% range + 0.075% reading + 0.05mV < 1kHz Basic + 0.001%/kHz < 10kHz Basic + 0.2% + 0.00025%/kHz < 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 IA12 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%
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

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.



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

深圳市宇捷弘业科技有限公司  
SHENZHEN YUJIEHONGYE SCIENCE TECHNOLOGY CO., LTD



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Input Ranges	
Inputs	2 or 3 x Isolated Inputs 500Vpk
Connectors	Isolated BNC
Coupling	AC+DC, AC (<10VDC), AC (<500VDC)
Max Input	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 <sup>-9</sup> to 1x10 <sup>9</sup>
Ranging	Full auto, Up only or Manual
Input Impedance	1M Ohm

## Model Numbers

Available Packages	
PSM3750-2CH	2 Channel PSM370
PSM3750-3CH	3 Channel PSM370
PSM3750-2CH+IAI2	2 Channel PSM370 + IAI2
PSM3750-3CH+IAI2	3 Channel PSM370 + 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	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 (Option L)	10/100 base-T Ethernet auto sensing RJ45
GPIB (Option G)	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	480x272 dot full colour TFT, White LED backlight
Dimension	92Hx215Wx312D 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

