

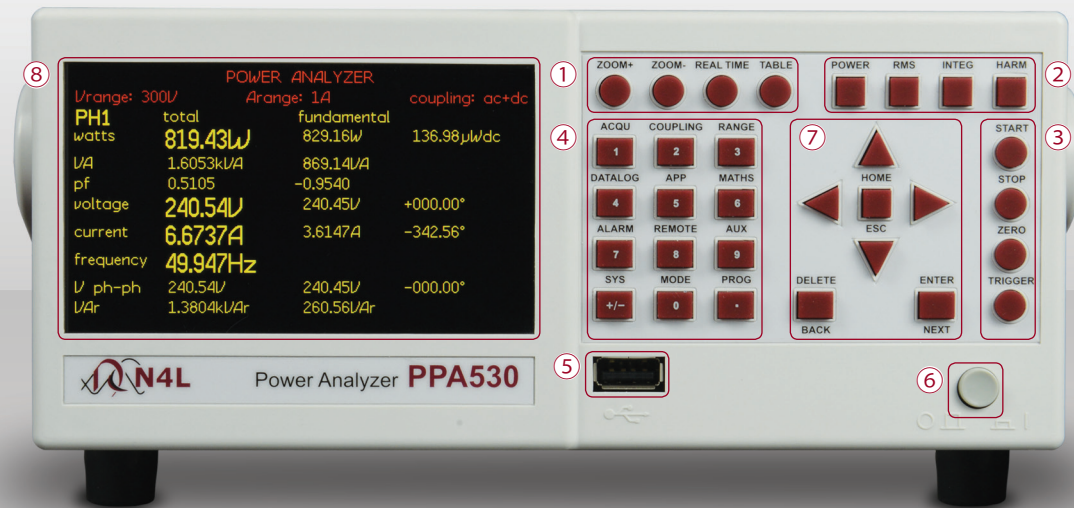
PPA500 Series



High Accuracy - Low Cost

| | |
|---------------------------------------|---|
| Leading wideband accuracy | Basic 0.05% with class leading high frequency performance |
| Wide frequency range | DC, 10mHz to 500kHz |
| Fast sample rate and No-Gap | 1M samples/s - High accuracy in noisy applications |
| Leading phase accuracy | 0.005 degrees plus 0.01 degrees per kHz |
| Built in high precision current shunt | 20Arms 300Apk or 30Arms 1000Apk direct plus a wide range of external sensors |
| Versatile interfaces | RS232, USB and optional LAN |
| Range of PC software options | Remote control, monitoring and recording of real time data, tables and graphs |

PPA5xx Precision Power Analyzer



FRONT VIEW

① SCREEN DISPLAY OPTIONS

Zoom, Real time and Table

② MEASUREMENT FUNCTION SELECTION BUTTONS

• POWER ANALYZER • TRUE RMS VOLTMETER and AMMETER • POWER INTEGRATOR • HARMONIC ANALYZER

③ START, STOP, ZERO AND TRIGGER

Trigger button refreshes measurement, Zero resets datalog or allows an offset trim
Start and Stop buttons provide manual control of a measurement period

④ MEASUREMENT SETTINGS BUTTONS

Acquisition settings - Sets wiring configuration, Smoothing and data logging, Set coupling to AC, DC or AC+DC, Range - Internal or external attenuator, autoranging settings, scale factors, Application mode - Ballast, inrush current and standby power

⑤ FRONT USB PORT

USB memory port allows data and colour screen prints to be saved directly to a USB pen drive

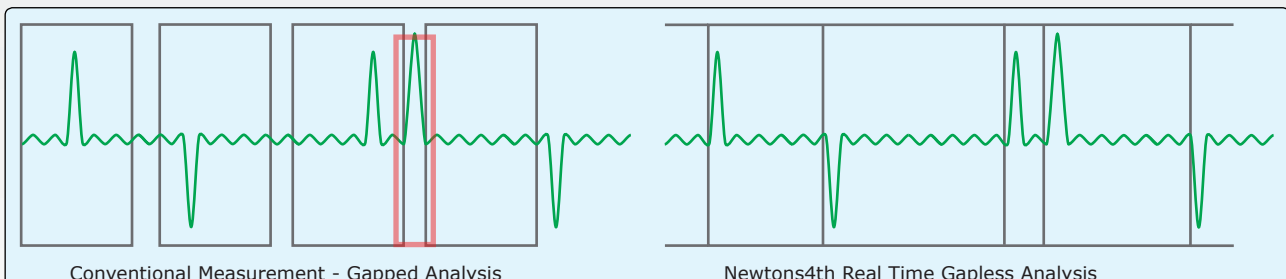
⑥ POWER BUTTON ⑦ MENU SELECTION AND CURSOR CONTROL

⑧ DISPLAY SCREEN

White LED backlight colour TFT display with high contrast and wide viewing angle

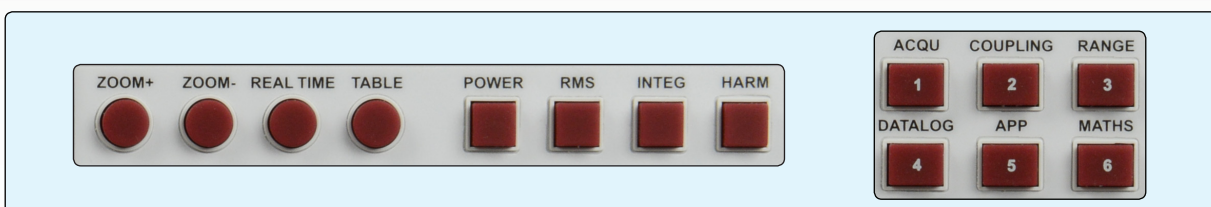
Real Time No Gap Analysis

The PPA5xx series Power Analyzers use a real time no gap analysis technique unique to Newtons4th that enables real time measurements to be taken with no gap in incoming data from the ADC. This ensures that no events are missed, which is particularly important for the correct measurement of asynchronous waveforms.



Intuitive User Interface Simplifies Setup

The PPA5xx user interface has been developed with ease of use in mind. A simple button layout simplifies setup of the instrument allowing the engineer to commence measurements quickly with no fuss.



Example Applications

Example Application : Standby Power Measurement IEC62301

The PPA5xx is the perfect instrument for tests such as IEC62301 Standby Power Testing. PC software that provides simple testing and reporting for IEC62301 is available from the N4L website.

Clear, Flexible Display
Backlit LED display with zoom functions to customise the parameters displayed

External USB Port
Datalogs, Results and instrument configurations can be saved to internal memory, an external USB device or directly into N4L software.

Meets or exceeds the requirements and methodology of U.S. EPA (Energy Star), U.S.DOE, California Energy Commission (CEC), among others.

Example Application : AC-DC Power Supply Efficiency Testing using a PPA520/PPA530

The PPA520 or PPA530 can be used in 2 Phase 2 Wattmeter configuration for efficiency testing of power supplies, ballasts and many other devices.

On-screen efficiency readings
The PPA500 can be configured to display the real time efficiency of a system.

1, 2 or 3 Phase measurements
The PPA510 (1 Phase), PPA520 (2 Phase) and PPA530 (3 Phase) use fully isolated and independent measurement channels.

SPECIFICATION

| Frequency Range | | | | |
|--|---|---|---------------------------------------|--|
| | Normal | DC, 10mHz ~ 500kHz | | |
| | x10 | DC, 10mHz ~ 100kHz | | |
| Voltage Input | | | | |
| Internal | Range | Normal | 1Vpk ~ 2500Vpk(1000Vrms) in 8 ranges | |
| | | x10 | 100mVpk ~ 300Vpk in 8 ranges | |
| | Accuracy | Normal | 0.05% Rdg+0.1% Rng+(0.005%×kHz)+5mV | |
| | | x10 | 0.05% Rdg+0.1% Rng+(0.01%×kHz)+1mV | |
| External | Range | 1mVpk ~ 3Vpk in 8 ranges [BNC connector 3Vpk max input] | | |
| | Accuracy | 0.05%Rdg+0.1%Rng+(0.005%×kHz)+5µV | | |
| Current Input | | | | |
| Internal | PPA500 20Arms Shunt 4mm Safety Connectors | Ranges | Normal | 100mApk ~ 300Apk(20Arms) in 8 ranges |
| | | | x10 | 10mApk ~ 30Apk in 8 ranges |
| | | Accuracy | Normal | 0.05% Rdg+0.1% Rng+ (0.005%×kHz)+500µA |
| | x10 | | 0.05% Rdg+0.1% Rng+ (0.01%×kHz)+100µA | |
| | PPA500-HC 30Arms Shunt 4mm Safety Connectors | Ranges | Normal | 300mApk ~ 1000Apk(30Arms) in 8 ranges |
| | | | x10 | 30mApk ~ 100Apk in 8 ranges |
| Accuracy | | Normal | 0.05% Rdg+0.1% Rng+ (0.005%×kHz)+1mA | |
| | x10 | 0.05% Rdg+0.1% Rng+ (0.01%×kHz)+300µA | | |
| External input (External shunt Current sensor) | BNC connector (Max input 3Vpk) | Ranges | 1mVpk ~ 3Vpk in 8 ranges | |
| | | Accuracy | 0.05% Rdg+0.1% Rng+(0.005%×kHz)+5µV | |
| Phase Accuracy | | | | |
| | Normal | 0.01deg+(0.01deg×kHz) | | |
| | x10 | 0.01deg+(0.02deg×kHz) | | |
| General | | | | |
| Crest Factor | 20 (Voltage and Current) | | | |
| Sample Rate | 1Ms/s on all channels, No-Gap | | | |
| Standby Power | IEC62301 Compliance | | | |
| Application Modes | Ballast, Inrush, Standby Power | | | |

| Power Accuracy | | |
|---|--|--|
| | Normal | [0.1%+0.1%/pf+(0.01%×kHz)/pf] Rdg+0.1%VA Rng |
| | x10 | [0.1%+0.1%/pf+(0.02%×kHz)/pf] Rdg+0.1%VA Rng |
| 40-400Hz | 40-400Hz | As standard spec with range error reduced from +0.1%V,A,VA Rdg to +0.05%V,A,VA Rng |
| CMRR - Common Mode Rejection Ratio | | |
| | 250V @ 50Hz - Typical 1mA (150dB) | |
| | 100V @ 100kHz - Typical 3mA (130dB) | |
| Measurement Parameters | | |
| | W, VA, Var, pf, V & A - rms, rectified mean, AC, DC, Peak, Surge, Crest Factor, Form Factor, Star to Delta Voltage | |
| | Frequency (Hz), Phase (deg), Fundamentals, Impedance | |
| | Harmonics, THD, TIF, THF, TRD, TDD | |
| | Integrated Values, Datalog, Sum and Neutral values | |
| Datalog - Up to 4 user selectable measurement functions (60 with PC software) | | |
| Datalog Window | No-Gap analysis, Minimum window 10ms | |
| Memory | RAM up to 16,000 records | |
| Communication Ports | | |
| | RS232, LAN (Option L), USB, Extension (Aux) | |
| Standard Accessories | | |
| Leads | Power, RS232, USB | |
| Connection Cables | 20A (Std version) or 30A (HC version) 1.5m long 4mm stackable terminals. 1x red, 1x yellow and 2x black per phase | |
| Connection Clips | 4mm terminated alligator clips - 1x red, 1x yellow and 2x black per phase | |
| Instruction Manual | User manual, Communications manual | |
| Other Documents | Calibration certificate, Quick start guide | |
| Mechanical and Environmental | | |
| Display | 480×272 dot full colour TFT, White LED Backlit | |
| Dimensions | 92H×215W×312D mm excluding feet | |
| Weight | 3.3kg(1 Phase), 4kg(3 Phase) | |
| Safety Isolation | 1000Vrms or DC(CATII), 600Vrms or DC(CATIII) | |
| Power supply | 90 ~ 265Vrms, 50 ~ 60Hz, 40VAmx | |
| Operating Conditions | 5°C to 40°C Ambient Temperature (or air intake temperature when rack mounted), 20-90% Non-Condensing Relative Humidity | |

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

The N4L product range includes Frequency Response and Impedance Analyzers, Selective Level Meters and Laboratory Power Amplifiers
High Performance Power Analyzers Voltage Probes, Current Shunts, Clamps and Rogowski Coils



Contact your local N4L Distributor for further details

Newtons4th

Newtons4th Ltd (abbreviated to N4L) was established in 1997 to design, manufacture and support innovative electronic equipment to a world-wide 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

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