

Accuracy to IEC62301 and



Compliance to IEC62301 requires the ability to maintain defined measurement accuracy when measuring any DUT in standby mode. PPA2500 series power analyzers provide complete assurance by being well within the required accuracy.

Required Watts accuracy @ $> 0.5W = 2.0\%$

PPA2530 Measured accuracy is within 0.2%

Required Watts accuracy @ $< 0.5W = 0.01W$

PPA2530 Measured accuracy within $0.001W$

The standard states that approved meters will include a “Power resolution of 1mW or better” and also that “Measurements of power of less than 0.5 W shall be made with an uncertainty of less than or equal to 0.01 W at the 95% confidence level”. The ideal measurement solution will therefore provide a resolution of 0.0001W.

Note: IEC62301 also specifies test conditions under which power measurements should be made. Total Harmonic Content of the supply voltage (up to and including the 13th harmonic) must be less than 2%.

Voltage Crest Factor should be between 1.34 and 1.49.



Complete solution to IEC62301

The 'Standby POWER' program makes testing that is compliant to IEC62301 a simple 4 step process.

Step 1:

Enter details of DUT and Test Environment.

Date, Time and Measurement Instrument details are entered by a button click.

N4L Standby POWER - 62301

N4L Newtons4th Ltd.
Standby POWER

Connected to PPA
Export To .xls

Test Details | Test Conditions | Test

Device Under Test

Brand	Company ABC
Model	123 ABC
Serial No.	10001
Rated Voltage	230V
Rated Current	200mA
Rated Frequency	50-60Hz
Rated Power	46W

Test Environment

Lab Name	N4L Lab
Location	Mountsorrel, Lought
Date	10/03/2009
Time	09:26
Temperature	22 C
Humidity	35%
Test No.	0001

Measurement Instrument

Manufacturer	NEWTONS4TH
Model	PPA2530 KnetiQ
Serial No.	00308
Firmware Level	1.70

Get Date/Time | Read Data

DUT Notes
5 minute DUT warm up before test

Test Notes
Test made with AC source



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Step 2:

Nominal test conditions are tested by clicking on a 'read data' button.

All values will be measured against the required limits.

N4L Standby POWER - 62301

N4L Newtons4th Ltd. Standby POWER

Connected to PPA

Export To .xls

Test Details Test Conditions Test

Nominal Test Conditions

Voltage (Vrms)	230.117			
Frequency (Hz)	49.9938			
	Measured Value	Lower Limit	Upper Limit	Test Result
Vthd (%)	0.0822019	0	2	PASS
Crest Factor	1.41316	1.34	1.49	PASS

Read Data

Complete solution to IEC62301

Step 3:

Start a test with either manual 'start' – 'stop' buttons or set a test period, then 'run' and Standby POWER Will start, count down the requested time and then stop.

N4L Standby POWER - 62301

N4L Newtons4th Ltd.
Standby POWER

Connected to PPA
Export To .xls

Test Details | Test Conditions | **Test**

Standby Power	Present Reading	Min Reading	Max Reading	Test Result
Power (W)	1.17804	1.17228	1.18173	STABLE
Crest Factor	1.41526	1.41272	1.41651	PASS
Average Power (W)	1.17746			
Accumulated Power (Whr)	0.098448			

Monitor

Vrms	230.048	Total Power Factor	0.31126	Supply Frequency (Hz)	49.9929
Arms	0.0164522	Apparent Power (VA)	3.78463	Load Duty Cycle (Hz)	49.9975

Test - Automatic

Test Period	Mins. 00	Secs. 00
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Elapsed Time: 05 : 00

Test - Manual

Start Stop

Run Abort



Complete solution to IEC62301

Step 4:

At the end of a manual or automatic test, click on the 'Export to .xls' button and a spreadsheet will open with all test details, test conditions and test results automatically entered.

The spreadsheet can be saved to any file and is pre-formatted for direct printing.

N4L - Standby Power Test Report - IEC 62301				
Test Details				
Device Under Test				
Brand	Company ABC			
Model	123 ABC			
Serial No.	10001			
Rated Voltage (Vrms)	230V			
Rated Current (Arms)	200mA			
Rated Frequency (Hz)	50-60Hz			
Rated Power (W)	46W			
DUT Notes	5 minute DUT warm up before test			
Test Environment				
Lab Name	N4L Lab			
Location	Mountsorrel, Loughborough, LE12 7AT, UK			
Date	10/03/2009			
Time	09:26			
Temperature	22 C			
Humidity	35%			
Test No.	1			
Test Notes	Test made with AC source			
Measurement Instrument				
Manufacturer	NEWTONS4TH			
Model	PPA2530 KinetiQ			
Serial No.	308			
Firmware Level	1.70			
Nominal Test Conditions				
Voltage (V)	230.117			
Frequency (Hz)	49.9938			
	Measured Value	Lower Limit	Upper Limit	Test Result
Vthd (%)	0.0822019	0	2	PASS
Crest Factor	1.41316	1.34	1.49	PASS
Test Results				
Monitor				
Vrms	230.048			
Arms	0.01645			
Total Power Factor	0.31126			
Apparent Power (VA)	3.78463			
Supply Frequency (Hz)	49.9929			
Load Duty Cycle (Hz)	49.9975			
Elapsed Time (mm:ss)	05:00			
Standby Power				
	Measured Value	Lower Limit	Upper Limit	Test Result
Power (W)	1.17804	1.17228	1.18173	STABLE
Crest Factor	1.41526	1.41272	1.41651	PASS
Average Power (W)	1.17746			
Accmulated Power (Whr)	0.098448			

