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Single-Phase Universal Breakout Box

Mains to 4mm Safety Connection 1Φ 10Arms

Simplifying the analysis of input power to an AC-mains powered device, our Universal Breakout Box offers the safe and convenient connection of any PPA series power analyzer to the input of any single phase DUT consuming up to 10Arms.

Fitted with an IEC inlet connector and universal shuttered outlet socket to accommodate a wide range of international power plugs, this accessory can be used by engineers anywhere.

Clear labeling of the power measurement connection terminals guides a user to select the optimum voltage connection point for any device under test.

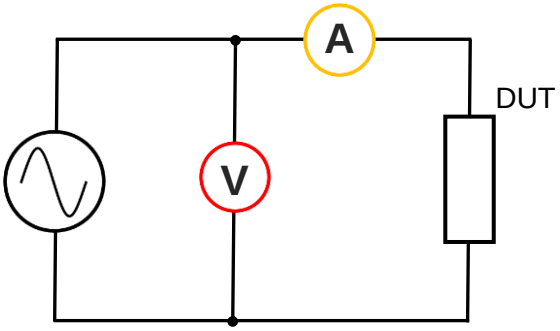
Parameter	Specification
Rating	265Vrms ~ 10Arms
Input Connection	IEC Flange mounted inlet
DUT Connection	Universal shuttered CE compliant socket
PPA Connectors	4mm touchproof safety
Box type	ABS Plastic
Dimensions (WDH mm)	155 - 80 - 56

Optimising Accuracy

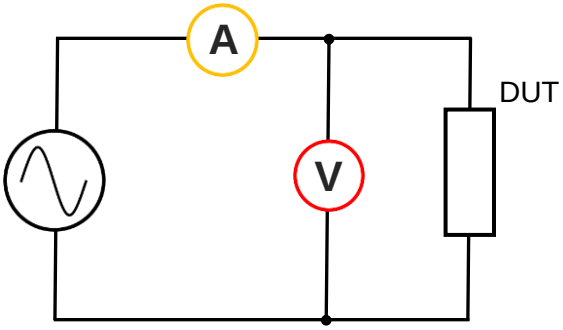
When measuring the power of a DUT, there are four possible configurations of the voltage and current connection. Current can be measured in the high (live) or low (neutral) supply lines and the voltage measurement can be made either before or after the current measurement.

Many measurement instrument suppliers choose to measure current on the low supply line since this reduces the common mode signal level and is therefore easier for a measurement device. However, this method has the disadvantage for a user that leakage current of a DUT flowing via capacitive coupling from the high line will not be included in measurements. It is for this reason that N4L recommend current measurements made on the high line.

The two options for voltage connection are as follows.



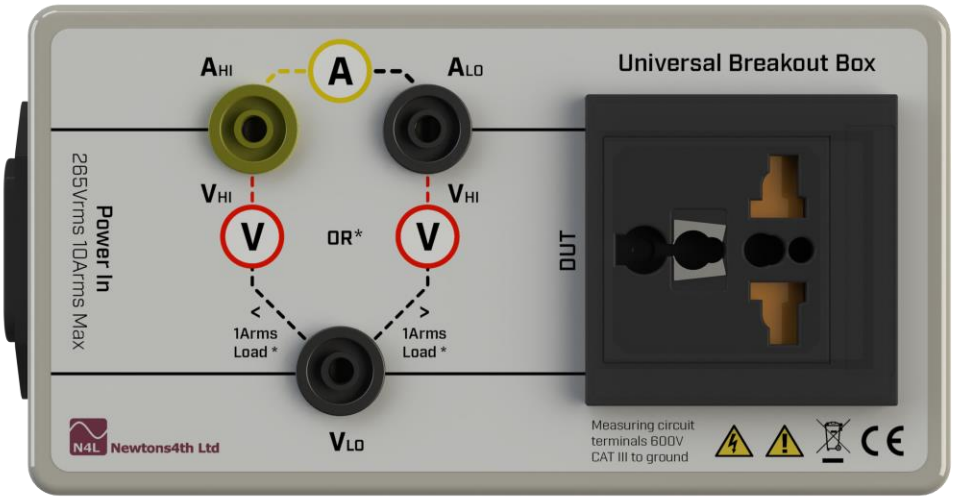
Optimum for less than 1Arms Load



Optimum for more than 1Arms Load

With a low power DUT, power measurement error is dominated by a small amount of current flowing through the voltage sensor. This error is avoided by measuring current after the voltage sensor connection.

With a high power DUT, power measurement error is dominated by a small voltage drop across the current shunt. This error is avoided by measuring voltage after the current shunt.



Designed for use with stackable colour coded 4mm safety connectors supplied standard with all PPA power analyzers.

Simple, safe, accurate and reliable power measurement.