

Ultra Low Capacitance Probe

ULCP



Accessory for use with the PPA range power analyzer in applications where capacitance to ground must be minimized.

APPLICATION

In order to minimize high frequency noise components that may be present in a power measurement application, most power analysis instruments incorporate high voltage decoupling capacitors at the input stage of the voltage and current measurement channels. The capacitance to ground of a power analyzer input channel is therefore a combination of parasitic and decoupling capacitance and this is typically in the order of 50pF.

While this capacitance provides useful high frequency noise attenuation and is not detrimental to most power measurement applications, it can in certain cases be problematic. Examples of this include applications with high frequency high voltage waveforms such as high switching speed inverter drives or where capacitive loading must be minimized such as the start up of low power ballasts.

SOLUTION

The Ultra Low Capacitance Probe uses a differential input arrangement that is optimized for minimum capacitance to achieve an input capacitance to ground less than 1pF while maintaining an input voltage range up to $\pm 3\text{kVpk}$.

OPERATION

The ULCP inputs are connected directly to the voltage connection points of a DUT and a touchproof BNC cable connects the output of the ULCP to the external voltage input of a PPA series power analyzer.

SPECIFICATION

Capacitance to ground:	$\leq 1\text{pF}$	Bandwidth:	dc to 2MHz $\pm 1\text{dB}$
Voltage rating:	1kVrms, $\pm 3\text{kVpk}$	Nominal attenuation:	1000:1
Voltage connections:	4mm safety sockets	PPA Interface:	BNC connection
Dimensions:	100 x 80 x 50 mm	Weight:	400 g
Input power:	9V ac adaptor supplied		standard or $\pm 12\text{V dc}$