

1146C AC / DC Current Probe

Introduction

The Keysight Technologies 1146C AC/DC current probe enables accurate measurement and display of currents ranging from 100 mA to 100 A peak, from DC up to 100 kHz, without the need to break the circuit. Built-in battery-level and overload indicators help ensure reliable readings. The probe connects directly to an oscilloscope via a 2-meter coaxial cable with an insulated BNC connector. The 1146C is ideal for capturing transient current signals in motor controllers, switching power supplies, inverters, and current amplifiers driving inductive loads.



Electrical Specifications and Characteristics

Specification	1146C		
Bandwidth ¹	DC to 100 kHz (–3 dB)		
Current range	100 mV/A:100 mA to 10 A peak 10 mV/A:1 to 100 A peak		
Output signal	1000 mV peak max		
AC current accuracy ¹	Range: 100 mV/A (50 mA to 10 A peak) Accuracy: 3% of reading ±50 mA	Range: 10 mV/A (500 mA to 40 A peak) Accuracy: 4% of reading ±50 mA	Range: 10 mV/A (40 A to 100 A peak) Accuracy: 15% max at 100 A
Noise	Range 10 mV/A: 600 µV		Range 100 mV/A: 5 mV
Insertion impedance	0.01 Ω (50/60 Hz)		
Compatibility	Compatible with Keysight InfiniiVision and Infiniium Series oscilloscopes with 1 MΩ input		
Maximum working voltage	600 VRMS CAT II or 300 VRMS CAT III		
Maximum common mode voltage	600 VRMS CAT II or 300 VRMS CAT III		
Influence of adjacent conductor	< 0.2 mA/A AC		
Influence of conductor position	< 0.2 mA/A AC		
Power	USB	Battery: 9 V alkaline (NEDA 1604A, IEC 6LR61) Low battery indicator: Green LED on when ≤ 6.5 V Battery life: 55 hours typical	

1. Denotes warranted specifications, all others are typical.

Note: Reference conditions 23 ± 5 °C, (73.4 ± 41 °C) 20 to 75% relative humidity, dc to 1 kHz, probe zeroed, 1-minute warmup, batteries at 9 V + 0.1 V, external magnetic field < 40 A/m, no dc component, no external current carrying conductor, 1 MΩ/100 pF load, conductor centered in jaw.

Ordering Information

Product Description	Model Number	Services
AC / DC Current Probe, 100 kHz, 100 A	1146C	1-year warranty with the option to extend to 3 and 5 years

Related Literature

Literature Description
Infiniium Oscilloscope Probes and Accessories Data Sheet
Understanding Oscilloscope Probe Specifications Application Note



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