KEYSIGHT TECHNOLOGIES (AGILENT HP)

N2781B

The Keysight N2781B is a high-current, high-bandwidth AC/DC active current probe designed for accurate current measurements up to 150 A RMS. With a flat frequency response from DC to 10 MHz, it offers reliable current analysis on digital oscilloscopes when powered by the compatible N2779A power supply.

SPECIFICATIONS

General

Interfaces	BNC (output signal), proprietary power connector for N2779A
Compatible Oscilloscopes	Any oscilloscope with a 1 MOhm BNC input

Physical

Power Supply	Requires external N2779A power supply (±12 V ±0.5 V, 5.3 VA max)
Operating Temperature	0 °C to +40 °C °C
Dimensions (W×H×D)	176 mm × 69 mm × 27 mm mm
Weight	0.5 kg kg

Electrical Performance

Bandwidth	DC to 10 MHz (-3 dB)
Rise Time	≤ 35 ns (calculated)
Maximum Continuous Current	150 A AC/DC RMS
Maximum Peak Current	300 A peak (non-continuous)
Output Voltage Rate	0.01 V/A (10 mV/A)
Amplitude Accuracy	±1.0% of reading ± 100 mA (DC, and 45 Hz to 66 Hz, 0 to 150 A)
Equivalent Input Noise	≤ 25 mA RMS (on 20 MHz bandwidth limited oscilloscope)

Physical Measurement Capabilities

Maximum Conductor Diameter	20 mm

Safety & Compliance

Maximum Rated Voltage to Earth	300 V CAT III, 600 V CAT II (insulated conductor)

Physical Characteristics

Cable Length	2 m

Environmental

Operating Humidity	80% RH or less (no condensation)
Storage Temperature	-10 °C to +50 °C
Storage Humidity	80% RH or less
Operating Altitude	Up to 2000 m

Performance

Delay Time	230 ns (typical)
Insertion Impedance at 50/60 Hz	1 mΩ or less
Insertion Impedance at 1 MHz	0.1 Ω
Insertion Impedance at 10 MHz	0.5 Ω
Effect of External Magnetic Fields	Equivalent to 150 mA or less (in a magnetic field of 400 A/m, DC or 60 Hz)

Outputs

Output Connector	BNC

Power Requirements

Power Consumption	5.3 VA max
Compatible Power Supply	N2779A

TECHNOLOGY

Active AC/DC Current Probe

APPLICATIONS

High-current waveform analysis, power supply design, and motor drive testing