

Agilent Technologies 34135A Current Probe

Product Overview

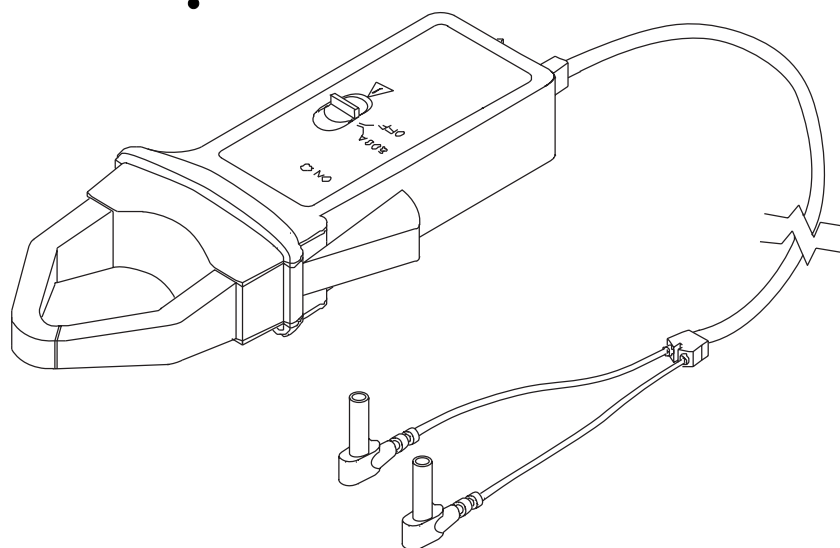
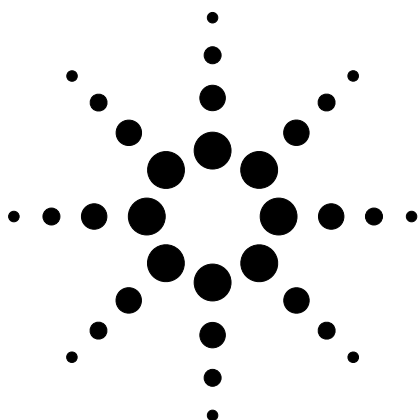


Figure 1. The Agilent 34135A current probe has proportional mV output for direct readings on multimeters, recorders, loggers and other instruments accepting banana plugs.

The Agilent Technologies 34135A measures 400 A AC (600 A peak), 600 A DC. It has proportional mV output for direct readings on multimeters, recorders, loggers and other instruments accepting banana plugs.

Hall sensor technology senses the magnetic field produced by the current measured and generates a millivolt DC or AC output signal. The electronics and batteries are self-contained in the probe handle.

The output of the AC/DC probe is 1mV/A. When taking DC measurements, a mechanical DC zero allows adjustment for any DC offset. There is no output filtering and true RMS with DC components is possible. Phase shift is excellent, making this probe well suited for power and power quality applications.

The 34135A current probe is compatible with any multimeter, voltmeter, or other voltage measuring instrument which has the following features:

- Input jacks that accept 4 mm shrouded banana plugs
- Range and resolution capable of displaying 1 mV of output per amp of measured current
- Voltmeter accuracy of 0.3% or better to take full advantage of the probe accuracy
- Input impedance of 1 M Ω / 100 pF or greater

When the probe is making a measurement, the current-carrying conductor is not broken and remains electrically isolated from the probe output. As a result, the probe output common may be either floated (isolated) or grounded.



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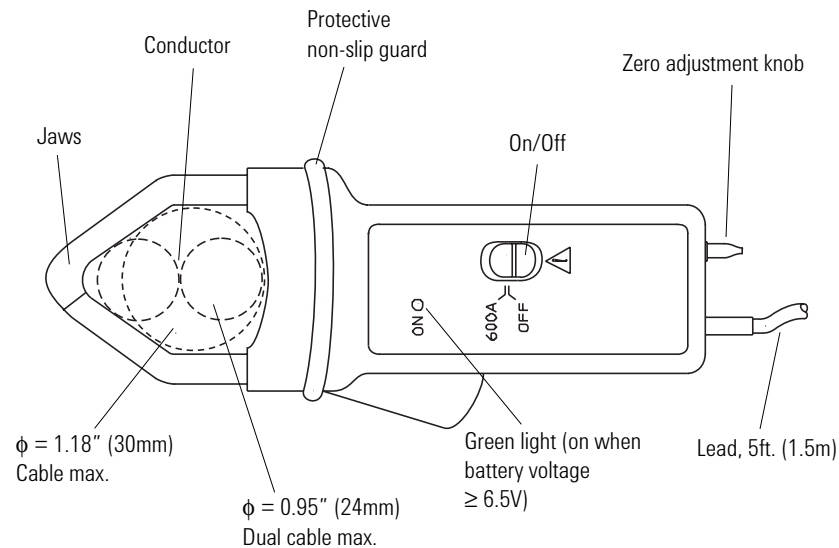


Figure 2. Agilent 34135A current probe control and connector identification

Specifications and Characteristics

Electrical, operating, and general characteristics of the 34135A current probe are shown below.

Electrical Specifications

Current Range	DC: 1 to 600 A AC: 1 to 400 A
Output Signal	1 mV/A
Accuracy*	1 to 100 A: 1.5% reading ± 1 A 100 to 400 A: 2% reading 400 to 600 DC only: 2.5% reading
Frequency Range	DC to 10 kHz @ -3 dB
Noise	DC to 1 kHz: ≤ 1 mV p-p DC to 5 kHz: ≤ 1.5 mV p-p 0.1 Hz to 5 kHz: $\leq 500\mu V$ p-p
Rise and Fall Time	Rise: $\leq 100\mu s$ from 90% V_{out} Fall: $\leq 120\mu s$ from 90% V_{out}
Phase Shift	45 to 65 Hz 10 to 100 A: ≤ 2.5 200 to 400 A: ≤ 2
Minimum input resistance of instrument	100 K Ω
Maximum input capacitance of instrument	100 pF
Overload	2000 A DC and 1000 A AC continuous up to 1 kHz

*Accuracies are given for ambient temperature 18 to 28° C, relative humidity of 20 to 75%, conductor centered in jaw window, probe zeroed, DC to 65 Hz, 1 M Ω ± 100 pF load, magnetic field < 40 A/m, and no common mode.

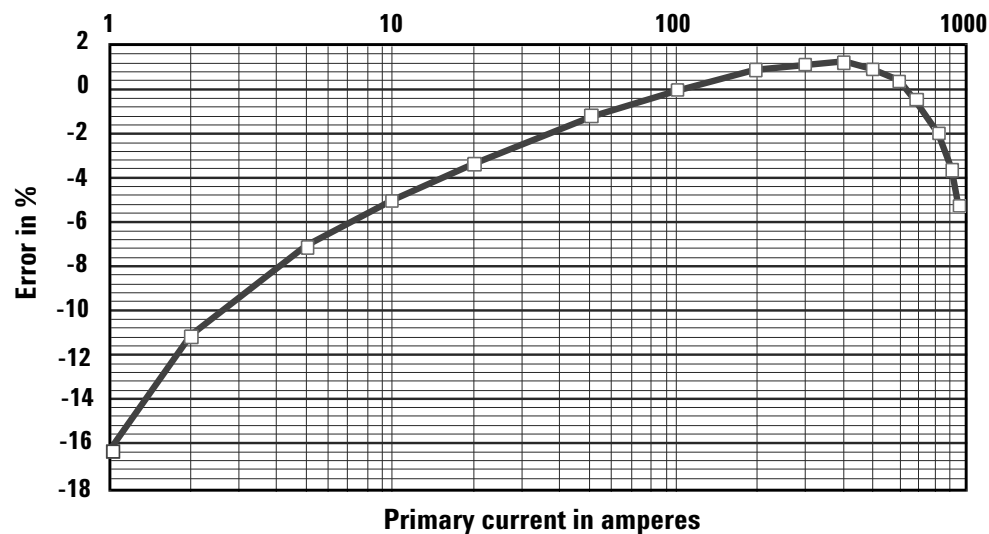


Figure 3. Typical Accuracy in DC

Environmental Characteristics

Operating Temperature	−10 to 55° C
Storage Temperature	−40 to 80° C
Operating Relative Humidity	10 to 35 C°, 0 to 90% relative humidity (without condensation)
	40 to 55 C°, 0 to 70% relative humidity (without condensation)
Temperature Coefficient	≤100 ppm per, ° C or 1% per 10° C
Altitude Operating:	0 to 2000 m
Non-operating:	0 to 12,000 m

Mechanical Characteristics

Zero Adjustment	10 turn potentiometer
Maximum Cable Diameter	One cable of 30 mm or two cables of 24 mm
Dimensions	224 x 971 x 44 mm
Weight	440g with battery
Color	Dark grey with red jaws
Output Cable	1.5m double insulated lead with shielded banana plugs

Safety Specifications

Working Voltage	600 V CAT III
Case Protection	IP30 per IEC 529
Drop Test	1m according to IEC 1010
Mechanical Shock	100 G: test per IEC 68-2-27
Vibration	Test per IEC 68-2-6

Warranty Information

This Agilent Technologies product has a warranty against defects in material and workmanship for a period of one year from date of shipment. During the warranty period, Agilent Technologies will, at its option, either repair or replace products that prove to be defective. For warranty service or repair, this product must be returned to a service facility designated by Agilent Technologies.



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