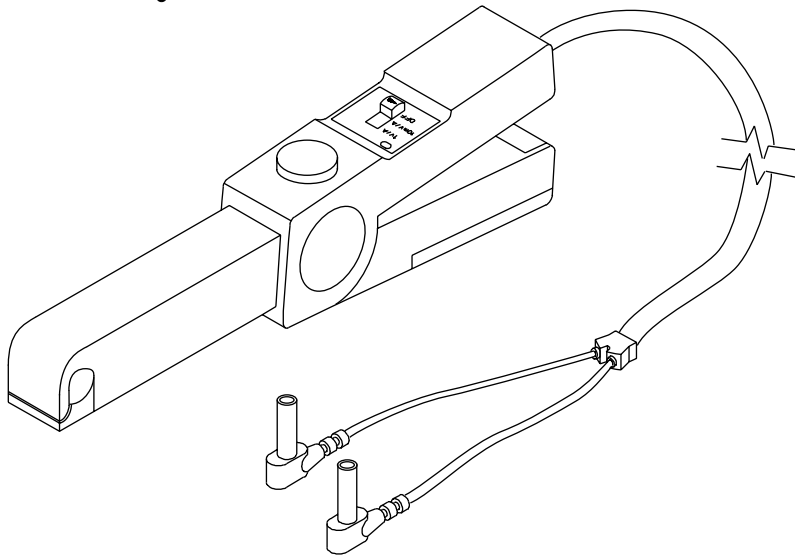
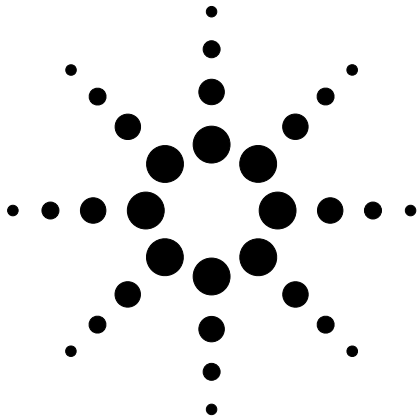


# Agilent Technologies 34134A AC/DC DMM Current Probe

## Product Overview



**Figure 1.** The Agilent 34134A AC/DC DMM current probe. The narrow jaw is designed for optimum use in crowded wiring in industrial and automotive environments.

The Agilent Technologies 34134A current probe measures low DC or AC from 10 mA to 50 A DC, 40 A AC. This battery-powered clamp-on probe can be used with digital multimeters, voltmeters, or other voltage-measuring instruments. The probe jaws clamp around the conductor under test, allowing current measurements without breaking the circuit. Hall sensor technology senses the magnetic field produced by the current measured

and generates a millivolt DC or AC output signal. The narrow jaw is designed for optimum use in crowded wiring in industrial and automotive environments.

### Compatibility

The 34134A current probe is compatible with any DMM, or other voltage measuring instrument which has the following features:

- Range and resolution capable of displaying 1 mV of input.
- Voltmeter accuracy (uncertainty) of 0.75% or better to take full advantage of the accuracy of the probe.
- Minimum input impedance of 100 k $\Omega$  (1 V/A range) or 10 k $\Omega$  (10 mV/A range).
- Input jacks that accept 4mm shrouded banana plugs.



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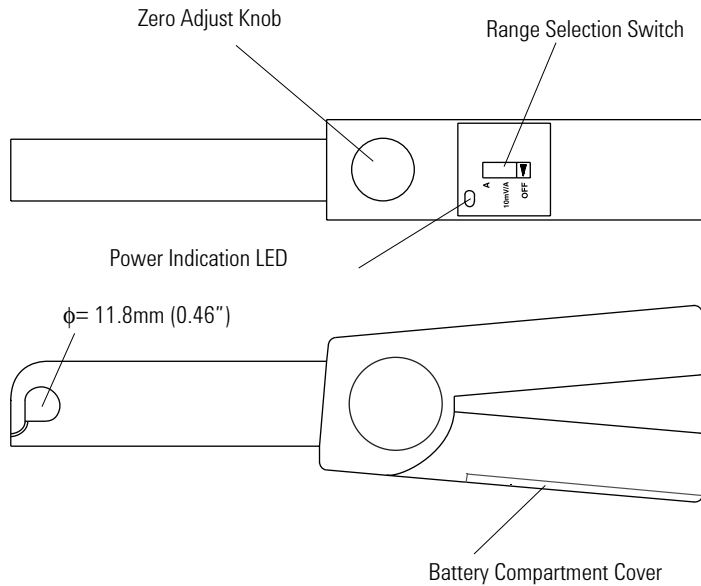


Figure 2. Agilent 34134A current probe control and connector identification

## Specifications and Characteristics

Operating and environmental characteristics of the 34134A current probe are as shown below

### Electrical Specifications

|  | <b>1 V/A Range (1 mV/mA)</b>   | <b>10 mV/A Range</b>  |
|--|--|---|
| Current Range                          | DC: 10 mA to 2 A<br>AC: 10 mA to 1.5 A                                 | DC: 100 mA to 80 A<br>AC: 100 mA to 60 A  |
| Output Signal (AC/DC)                  | 1 mV/mA (2 V @ 2 A)  | 10 mV/A   |
| Accuracy*                              | ±2% reading ±5mA   | 500 mA to 50 A DC/40 A AC:<br>±4% reading ±20 mA<br>50 to 80A DC: ±12% reading<br>0 to 60A AC: ±12% reading |
| Frequency Range                        | DC to 8 kHz @ -3 dB  | DC to 8 kHz   |
| Phase Shift                            | DC to 65 Hz: 1°  | DC to 65 Hz: 1°   |
| Minimum Input Resistance of Instrument | 100 kΩ   | 100 kΩ  |
| Noise                                  | DC to 1 Hz: 1.5 mV<br>1 Hz to 10 kHz: 14 mV<br>0 kHz to 100 kHz: 18 mV | DC to 1 Hz: 15μV<br>1 Hz to 10 kHz: 140μV<br>0 kHz to 100 kHz: 180μV  |
| Slew Rate @ 5 A                        | 120 mV/ μs   | 5.5 mV/ μs  |

\* Accuracies are given for an ambient temperature of 23 °C ±3 °C, relative humidity of 20 to 75%, conductor centered in jaw window, probe zeroed, no hysteresis in DC, DC to 40 to 100Hz sine wave (1mV/mA range) or DC and 40 to 1 kHz sine wave (10mV/A range), 1 minute warm-up, battery at 9V, appropriate load impedance, magnetic field <40A/m and no common mode.

### Typical Frequency Response Curve

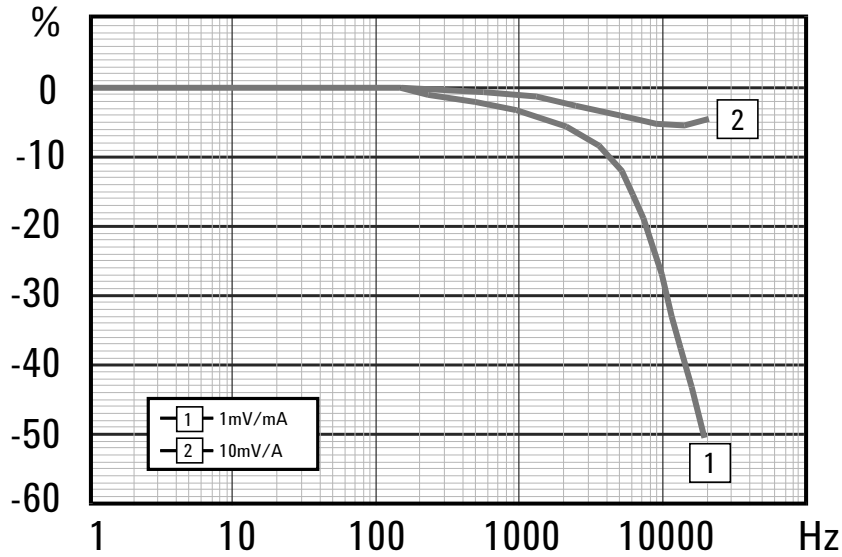


Figure 3. Voltage vs Frequency Response Curve

### Environmental Characteristics

|                             |  |
|-----------------------------|--|
| Operating Temperature       | 0 to 50°C  |
| Storage Temperature         | -30 to 80°C  |
| Operating Relative Humidity | 0 to 50°C, 0 to 85% relative humidity                  |
| Temperature Coefficient     | 800 ppm per °C +10 mA/°C typical from -10 to 50°C      |
| Altitude                    | Operating: 0 to 2000 m<br>Non-operating: 0 to 12,000 m |

### Mechanical Characteristics

|                        |   |
|------------------------|---|
| Zero Adjustment        | 20 turn potentiometer                                 |
| Maximum cable diameter | 11.8 mm   |
| Dimensions             | 67 x 231 x 36 mm                                      |
| Weight                 | 330g with battery                                     |
| Color                  | Grey  |
| Material               | Fiberglass charged polycarbonate                      |
| Output Cable           | 1.5m double insulated lead with shielded banana plugs |

### Safety Specifications

|                  |   |
|------------------|---|
| Working voltage  | 600 V CAT III   |
| Case protection  | IP20 per IEC 529  |
| Drop test        | 1m according to IEC 68-2-32   |
| Mechanical shock | 100 G: test per IEC 68-2-27   |
| Vibration        | Test per IEC 68-2-6 frequency range 10 Hz to 55 Hz, amplitude: 0.15mm |

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