# AmpFlex® Flexible Current Probes

The AmpFlex® is a flexible AC current probe composed of a flexible sensor and an electronic module. The flexible sensor permits measurements on conductors where standard clamp-on probes cannot be used. In particular, it can be installed in tight spaces, around cable bundles, around wide or large bus bars, or even wrapped around irregular shapes. The Shape Memory feature enables the user to pre-shape the sensor before inserting it between or around conductors. This feature facilitates positioning the sensor around the conductor, enhances user safety, and alleviates the drooping effect associated with other flexible sensors.

The AmpFlex® is lightweight and does not use magnetic cores like standard transformers. The transformation principle is based on an air core. It presents virtually no load to the system under test, has a low phase shift and excellent frequency response, and cannot be damaged by current overloads.

The sensor assembly is waterproof and insulated for 1000V working voltage. The AmpFlex® meets EN 61010 and is CE marked.

The AmpFlex® has a mV output proportional to the current measured for direct readings on DMMs, loggers, oscilloscopes and power or harmonic meters. The length of the flexible sensor can be selected from 24" (450mm) to 60" (1520mm). Longer lengths are available.



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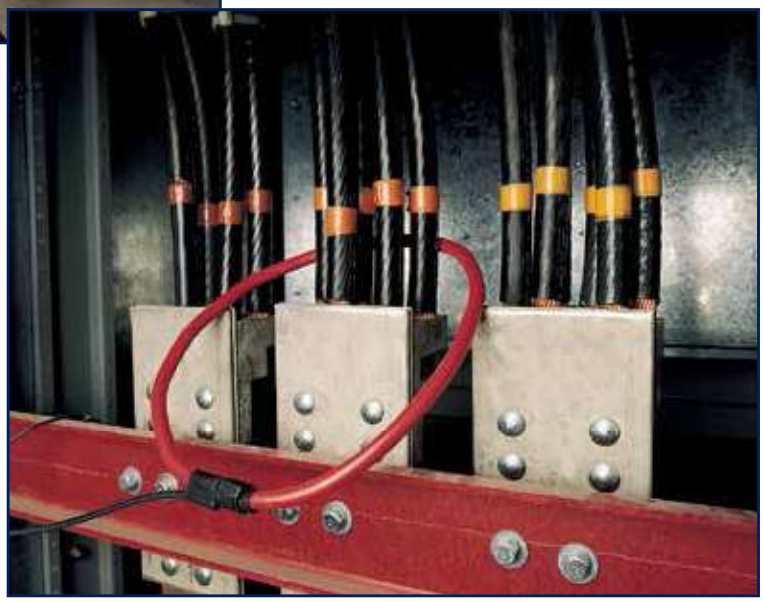
## Features

- Models ranging from 30Arms to 30,000Arms
- Accuracy 1% of Reading
- TRMS measurements when connected to a TRMS instrument
- No core saturation or damage if overloaded
- Overrange LED for measurement circuitry
- EN 61010, 600V CAT IV, 1000V CAT III, CE Mark
- Waterproof sensor
- 9V battery, provides typical 150 hr continuous operation
- Shape Memory for custom pre-shaping of sensor before use (no drooping)
- Very high frequency response
- Low phase shift for power measurements
- Insensitive to DC, measures only AC component on DC + AC signals
- Excellent linearity
- Lightweight

## Applications

- Measuring wide bus bars
- Measuring crowded circuit breaker panels
- Measuring around large cable bundles
- Measuring in any traditional application
- Measuring around irregular shapes





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# Specifications

| ELECTRICAL SPECIFICATIONS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Current Range** | **30A** | **200A** | **300A** | **300A** | **30/300A** | **500A** | **50/500A** | **1000A** | **100/1000A** | **3000A** |
| **Measurement Range** | 5 to 30A | 5 to 200A | 5 to 300A | 5 to 300A | 5 to 300A | 5 to 500A | 5 to 500A | 5 to 1000A | 5 to 1000A | 5 to 3000A |
| **Output Signal(s)** | 100mV/A | 1mV/A | 10mV/A | 1mV/A | 100mV/A<br>10mV/A | 1mV/A | 10mV/A<br>1mV/A | 1mV/A | 10mV/A<br>1mV/A | 1mV/A |
| **Crest Factor (mid-range)** | 3.0 | >10 | 3.0 | >10 | 3.0 | >10 | >10 | 9.0 | 9.0 | 3.0 |
| **Phase Shift @ 50/60Hz** | 1.3° | 0.7° | 0.7° | 0.7° | 1.3° | 0.7° | 0.7° | 0.7° | 0.7° | 0.7° |
| **Residual Noise** | 200mA | 200mA | 200mA | 200mA | 200mA | 200mA | 200mA | 200mA | 200mA | 200mA |

| ELECTRICAL SPECIFICATIONS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Current Range** | **300/3000A** | **300/3000A** | **6000A** | **600/6000A** | **10,000A** | **1000/10,000A** | **30,000A** | **3000/30,000A** |
| **Measurement Range** | 5 to 3000A | 5 to 3000A | 5 to 6000A | 5 to 10,000A | 5 to 10,000A | 5 to 10,000A | 5 to 30,000A | 5 to 30,000A |
| **Output Signal(s)** | 10mV/A<br>1mV/A | 3.3mV/A<br>0.3mV/A | 0.1mV/A | 1mV/A<br>0.1mV/A | 0.1mV/A | 1mV/A<br>0.1mV/A | 0.1mV/A | 1mV/A<br>0.1mV/A |
| **Crest Factor (mid-range)** | 3.0 | 3.0 | >10 | >10 | 9.0 | 9.0 | 3.0 | 3.0 |
| **Phase Shift @ 50/60Hz** | 0.7° | 0.7° | 0.5° | 0.5° | 0.5° | 0.5° | 0.5° | 0.5° |
| **Residual Noise** | 200mA | 200mA | 500mA | 500mA | 500mA | 1A | 1A | 1A |

| COMMON SPECIFICATIONS | |
|---|---|
| **Accuracy** | 1% of Reading |
| **Frequency Range** | 10 to 20,000Hz* |
| **Working Voltage** | EN 61010, 600V CAT IV, 1000V CAT III |
| **Safety Standards** | EN 61010, CE Mark |
| **Operating Temperature and %RH** | 14° to 131°F (-10° to 55°C) (sensor to 90°C),<br>10 to 90% RH (@50°C) |
| **Minimum Bend Radius** | 0.75" (19mm) |
| **Water and Dustproofing** | Sensor IP67, Module IP40 |
| **Battery and Battery Life** | 9V Alkaline, approx. 150 hours of continuous use |
| **Good Battery Indication** | Green LED |
| **Electronic Overload Indication** | Red LED |
| **Output** | 3/4 spaced banana plugs,<br>optional banana plug to BNC adaptor available,<br>6.5 ft (2m) lead from sensor to module |

**Intentionally limited for optimum performance*



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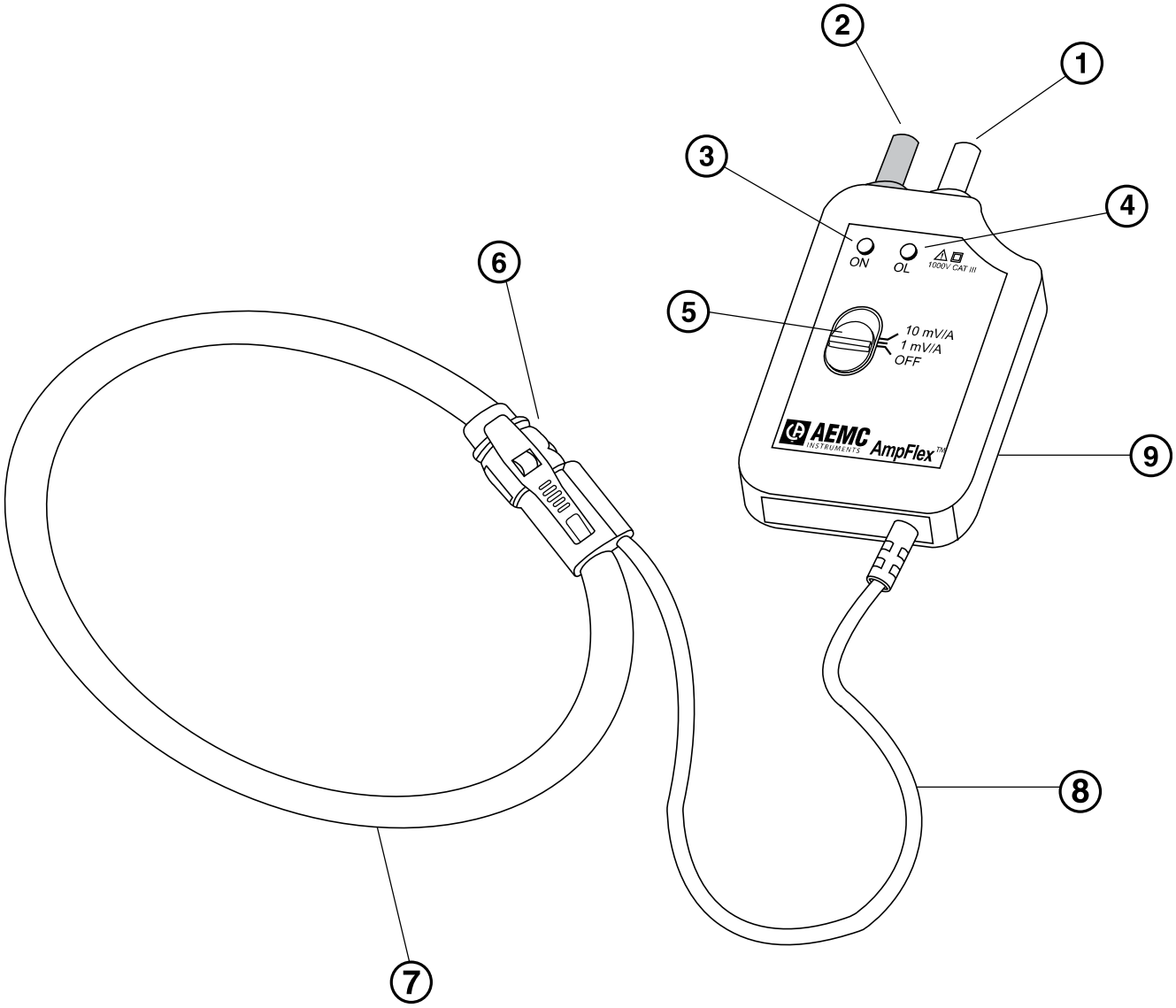
## Construction




1. Positive: Red banana plug (+)
2. Common: Black banana plug (–)
3. Power ON indicator (green LED)
4. OVERLOAD indicator (red LED)
5. Range selection switch
6. AmpFlex® connector/latch
7. Flexible sensor (diameter 0.5", 12.5mm)
8. Lead from sensor to module (6.5 ft, 2m)
9. Electronic module - descriptive label on back case (range, model, etc.)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| ORDERING INFORMATION | | | | |
|---|---|---|---|---|
| **Current Range – Output Signal** | **Sensor Length/Diameter** | | | |
| | 24"/8" (610mm/190mm) | 36"/11" (910mm/290mm) | 48"/15" (1220mm/390mm) | 60"/19" (1520mm/490mm) |
| 30A – 100mV/A | Cat. #2112.14* Model #30-24-1-100 | – | – | – |
| 200A – 1mV/A | Cat. #2112.20* Model #200-24-1-1 | – | – | – |
| 300A – 10mV/A | Cat. #2112.29 Model #300-24-1-10 | – | – | – |
| 300A – 1mV/A | Cat. #2112.24 Model #300-24-1-1 | – | – | – |
| 30/300A – 100/10mV/A | Cat. #2112.88 Model #300-24-2-10 | – | – | – |
| 500A – 1mV/A | Cat. #2112.34* Model #500-24-1-1 | – | – | – |
| 50/500A – 10/mV/A | Cat. #2112.93* Model #500-24-2-1 | – | – | – |
| 1000A – 1mV/A | Cat. #2112.39 Model #1000-24-1-1 | Cat. #2112.41 Model #1000-36-1-1 | Cat. #2112.42* Model #1000-48-1-1 | – |
| 100/1000A – 10/1mV/A | Cat. #2112.98 Model #1000-24-2-1 | Cat. #2113.00 Model #1000-36-2-1 | Cat. #2113.01* Model #1000-48-2-1 | – |
| 3000A – 1mV/A | Cat. #2112.46 Model #3000-24-1-1 | Cat. #2112.48 Model #3000-36-1-1 | Cat. #2112.49* Model #3000-48-1-1 | – |
| 300/3000A – 3-3/0.33mV/A** | Cat. #2114.87 Model #3000-24-2-0.3 | Cat. #2114.88 Model #3000-36-2-0.3 | – | – |
| 300/3000A – 10/1mV/A | Cat. #2113.05 Model #3000-24-2-1 | Cat. #2112.00 Model #3000-36-2-1 | Cat. #2112.01 Model #3000-48-2-1 | – |
| 6000A – 0.1mV/A | Cat. #2112.62 Model #6000-24-1-0.1 | Cat. #2112.64* Model #6000-36-1-0.1 | Cat. #2112.65* Model #6000-48-1-0.1 | Cat. #2112.66* Model #6000-60-1-0.1 |
| 600/6000A – 1/0.1mV/A | – | Cat. #2113.21 Model #6000-36-2-0.1 | Cat. #2113.22 Model #6000-48-2-0.1 | Cat. #2113.23* Model #6000-60-2-0.1 |
| 10,000A – 0.1mV/A | Cat. #2112.70* Model #10000-24-1-0.1 | Cat. #2112.72* Model #10000-36-1-0.1 | Cat. #2112.73* Model #10000-48-1-0.1 | Cat. #2112.74* Model #10000-60-1-0.1 |
| 1000/10,000A – 1/0.1mV/A | Cat. #2113.27* Model #10000-24-2-0.1 | Cat. #2112.02 Model #10000-36-2-0.1 | Cat. #2112.03* Model #10000-48-2-0.1 | Cat. #2113.29* Model #10000-60-2-0.1 |
| 30,000A – 0.1mV/A | Cat. #2112.78* Model #30000-24-1-0.1 | Cat. #2112.80* Model #30000-36-1-0.1 | Cat. #2112.81* Model #30000-48-1-0.1 | Cat. #2112.82* Model #30000-60-1-0.1 |
| 3000/30,000A – 1/0.1mV/A | Cat. #2113.33 Model #30000-24-2-0.1 | Cat. #2113.35* Model #30000-36-2-0.1 | Cat. #2113.36* Model #30000-48-2-0.1 | Cat. #2113.37* Model #30000-60-2-0.1 |
| **Accessories** | | | | |
| Banana (female) – BNC (male) Adaptor (XM-BB) Cat. #2118.46 | | | | |

**These two models are specifically designed to be used with recorders or power analyzers with a Voltage AC input. A scale factor may need to be entered into the recorder to display the exact value.*

***Available as special orders only. Contact customer service for current list price.*

*Banana (female) - BNC (male) Adaptor*
*Catalog #2118.46 (optional)*



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