

# 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 over-

loads. The sensor assembly is water-proof and insulated for 1000V working voltage. The AmpFlex™ meets EN 61010 and is CE marked.

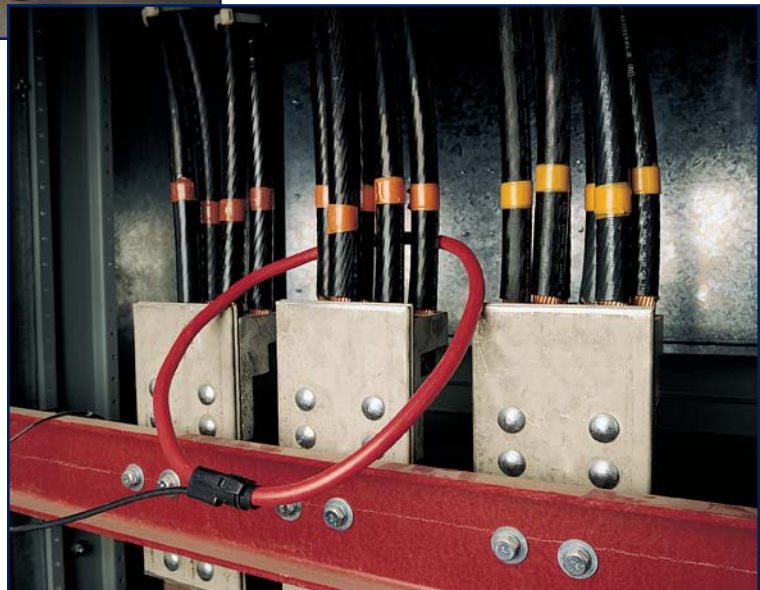
The AmpFlex™ has a mV output proportional to the current measured for direct readings on DMMs, loggers, oscilloscopes and power or harmonic meters. The length of the flexible sensor can be selected from 24" (450mm) to 60" (1520mm). Longer lengths are available.

## 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, 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



# Specifications

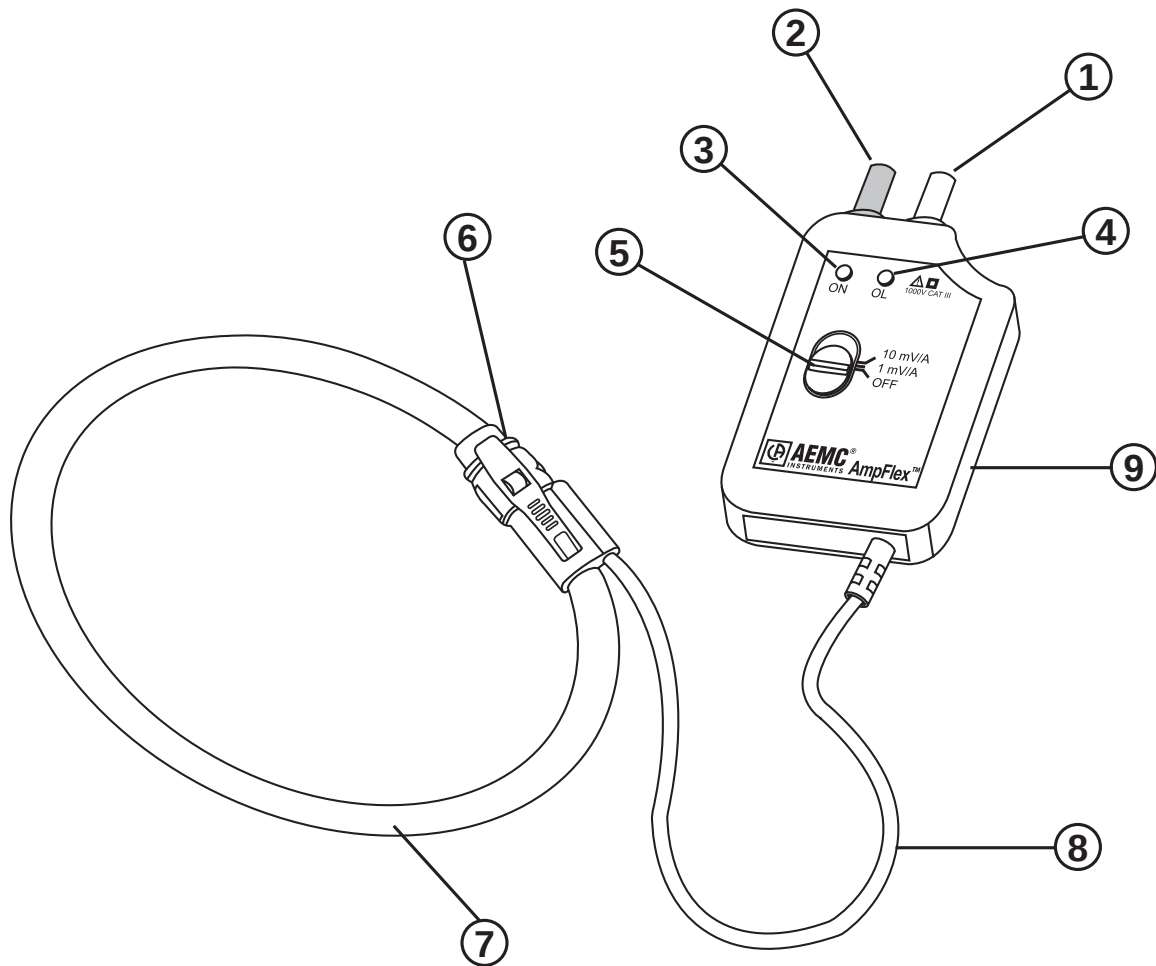
| ELECTRICAL SPECIFICATIONS |          |           |           |           |                   |           |                 |            |                 |            |
|---------------------------|----------|-----------|-----------|-----------|-------------------|-----------|-----------------|------------|-----------------|------------|
| 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, 1000V Cat.III                                                                                              |
| Safety Standards               | EN 61010, CE Mark and UL listed (E143005)                                                                            |
| 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 IP45, 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 jacks,<br>optional banana plug to BNC adaptor available,<br>6.5 ft (2m) lead from sensor to module |

\*Intentionally limited for optimum performance

## Construction



- |                                   |                                 |                                                                            |
|-----------------------------------|---------------------------------|----------------------------------------------------------------------------|
| 1. Positive: Red banana plug (+)  | 4. OVERLOAD indicator (red LED) | 7. Flexible sensor (diameter 0.5", 12.5mm)                                 |
| 2. Common: Black banana plug (-)  | 5. Range selection switch       | 8. Lead from sensor to module (6.5 ft, 2m)                                 |
| 3. Power ON indicator (green LED) | 6. AmpFlex™ connector/latch     | 9. Electronic module - descriptive label on back case (range, model, etc.) |

| ORDERING INFORMATION                                       |                                        |                                        |                                        |                                        |
|------------------------------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| Current Range – Output Signal                              | Sensor Length/Diameter                 |                                        |                                        |                                        |
|                                                            | 24"/8"<br>(610mm/190mm)                | 36"/11"<br>(910mm/290mm)               | 48"/15"<br>(1220mm/390mm)              | 60"/19"<br>(1520mm/490mm)              |
| 30A – 100mV/A                                              | Cat. #2112.14<br>Model #30-24-1-100    | –                                      | –                                      | –                                      |
| 200A – 1mV/A                                               | Cat. #2112.20<br>Model #200-24-1-1     | –                                      | –                                      | –                                      |
| 300A – 10mV/A                                              | Cat. #2112.29<br>Model #300-24-1-10    | –                                      | –                                      | –                                      |
| 300A – 1mV/A                                               | Cat. #2112.24<br>Model #300-24-1-1     | –                                      | –                                      | –                                      |
| 30/300A – 100/10mV/A                                       | Cat. #2112.88<br>Model #300-24-2-10    | –                                      | –                                      | –                                      |
| 500A – 1mV/A                                               | Cat. #2112.34<br>Model #500-24-1-1     | –                                      | –                                      | –                                      |
| 50/500A – 10mV/A                                           | Cat. #2112.93<br>Model #500-24-2-1     | –                                      | –                                      | –                                      |
| 1000A – 1mV/A                                              | Cat. #2112.39<br>Model #1000-24-1-1    | Cat. #2112.41<br>Model #1000-36-1-1    | Cat. #2112.42<br>Model #1000-48-1-1    | –                                      |
| 100/1000A – 10/1mV/A                                       | Cat. #2112.98<br>Model #1000-24-2-1    | Cat. #2113.00<br>Model #1000-36-2-1    | Cat. #2113.01<br>Model #1000-48-2-1    | –                                      |
| 3000A – 1mV/A                                              | Cat. #2112.46<br>Model #3000-24-1-1    | Cat. #2112.48<br>Model #3000-36-1-1    | Cat. #2112.49<br>Model #3000-48-1-1    | –                                      |
| 300/3000A – 3-3/0.33mV/A*                                  | Cat. #2114.87<br>Model #3000-24-2-.03  | Cat. #2114.88<br>Model #3000-36-2-.03  | –                                      | –                                      |
| 300/3000A – 10/1mV/A                                       | Cat. #2113.05<br>Model #3000-24-2-1    | Cat. #2112.00<br>Model #3000-36-2-1    | Cat. #2112.01<br>Model #3000-48-2-1    | –                                      |
| 6000A – 0.1mV/A                                            | Cat. #2112.62<br>Model #6000-24-1-0.1  | Cat. #2112.64<br>Model #6000-36-1-0.1  | Cat. #2112.65<br>Model #6000-48-1-0.1  | Cat. #2112.66<br>Model #6000-60-1-0.1  |
| 600/6000A – 1/0.1mV/A                                      | Cat. #2113.19<br>Model #6000-24-2-0.1  | Cat. #2113.21<br>Model #6000-36-2-0.1  | Cat. #2113.22<br>Model #6000-48-2-0.1  | Cat. #2113.23<br>Model #6000-60-2-0.1  |
| 10,000A – 0.1mV/A                                          | Cat. #2112.70<br>Model #10000-24-1-0.1 | Cat. #2112.72<br>Model #10000-36-1-0.1 | Cat. #2112.73<br>Model #10000-48-1-0.1 | Cat. #2112.74<br>Model #10000-60-1-0.1 |
| 1000/10,000A – 1/0.1mV/A                                   | Cat. #2113.27<br>Model #10000-24-2-0.1 | Cat. #2112.02<br>Model #10000-36-2-0.1 | Cat. #2112.03<br>Model #10000-48-2-0.1 | Cat. #2113.29<br>Model #10000-60-2-0.1 |
| 30,000A – 0.1mV/A                                          | Cat. #2112.78<br>Model #30000-24-1-0.1 | Cat. #2112.80<br>Model #30000-36-1-0.1 | Cat. #2112.81<br>Model #30000-48-1-0.1 | Cat. #2112.82<br>Model #30000-60-1-0.1 |
| 3000/30,000A – 1/0.1mV/A                                   | Cat. #2113.33<br>Model #30000-24-2-0.1 | Cat. #2113.35<br>Model #30000-36-2-0.1 | Cat. #2113.36<br>Model #30000-48-2-0.1 | Cat. #2113.37<br>Model #30000-60-2-0.1 |
| <b>Accessories</b>                                         |                                        |                                        |                                        |                                        |
| 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.



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

## Contact Us

### United States & Canada:

Chauvin Arnoux®, Inc.  
d.b.a. AEMC® Instruments  
200 Foxborough Blvd.  
Foxborough, MA 02035 USA  
(508) 698-2115 • Fax (508) 698-2118  
[www.aemc.com](http://www.aemc.com)

**Customer Support – for placing an order, obtaining price & delivery:**  
[customerservice@aemc.com](mailto:customerservice@aemc.com)

**Sales Department – for general sales information:**  
[sales@aemc.com](mailto:sales@aemc.com)

**Repair and Calibration Service – for information on repair & calibration, obtaining a user manual:**  
[repair@aemc.com](mailto:repair@aemc.com)

**Technical and Product Application Support – for technical and application support:**  
[techinfo@aemc.com](mailto:techinfo@aemc.com)

**Webmaster – for information regarding [www.aemc.com](http://www.aemc.com):**  
[webmaster@aemc.com](mailto:webmaster@aemc.com)

### South America, Central America, Mexico, Caribbean, Australia & New Zealand:

Chauvin Arnoux®, Inc.  
d.b.a. AEMC® Instruments  
15 Faraday Drive  
Dover, NH 03820 USA  
(978) 526-7667 • Fax (978) 526-7605  
[export@aemc.com](mailto:export@aemc.com)  
[www.aemc.com](http://www.aemc.com)

### All other countries:

Chauvin Arnoux SCA  
190, rue Championnet  
75876 Paris Cedex 18, France  
33 1 44 85 45 28 • Fax 33 1 46 27 73 89  
[info@chauvin-arnoux.com](mailto:info@chauvin-arnoux.com)  
[www.chauvin-arnoux.com](http://www.chauvin-arnoux.com)