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.

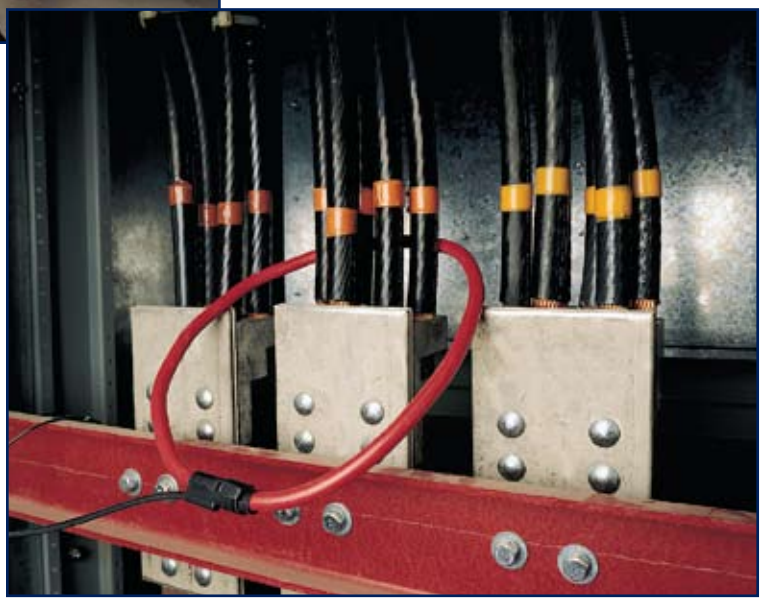
The AmpFlex® has a mV output proportional to the current measured for direct readings on DMMs, loggers, oscilloscopes and power or harmonic meters. The length of the flexible sensor can be selected from 24" (450mm) to 60" (1520mm). Longer lengths are available.

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

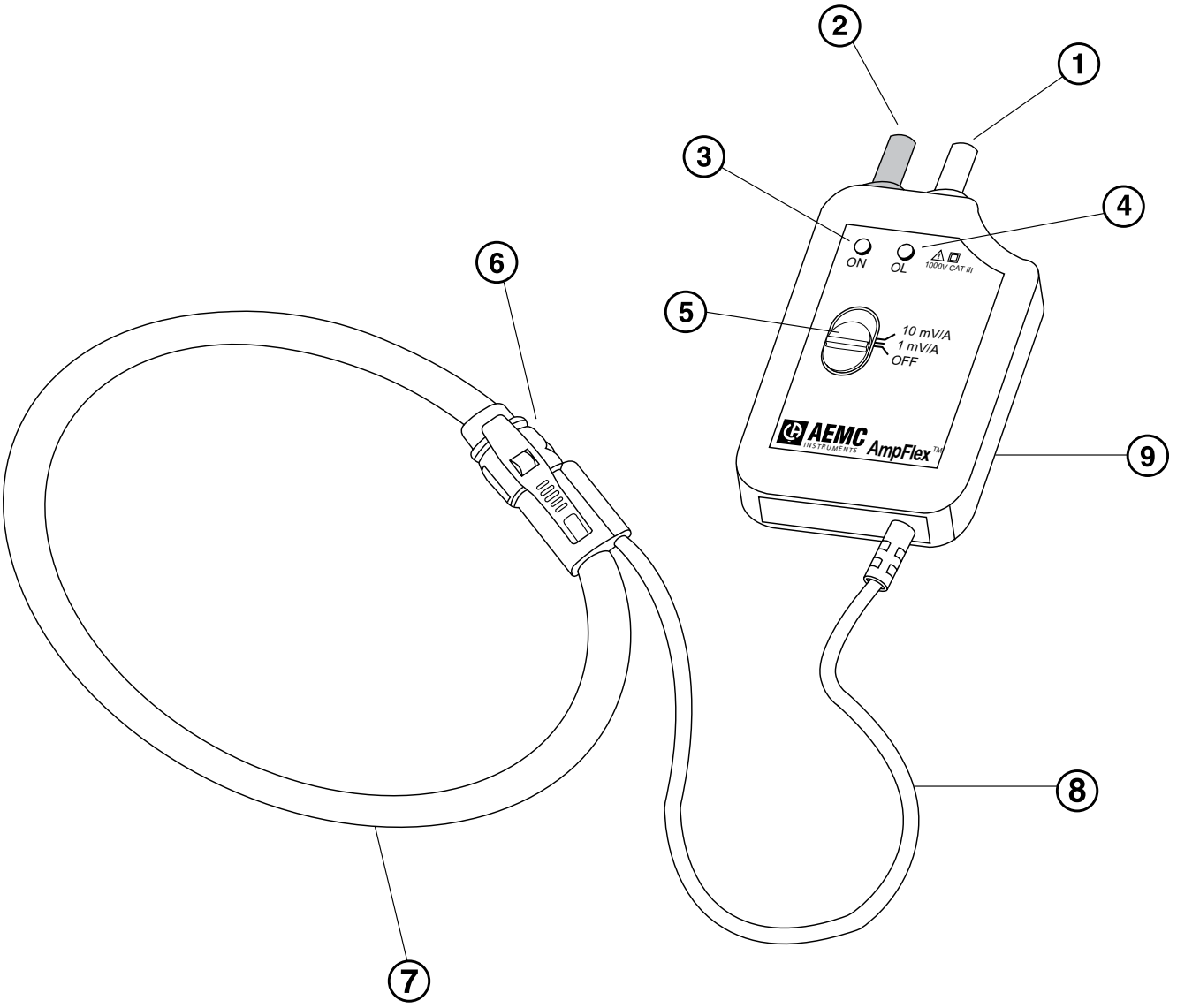
ELECTRICAL SPECIFICATIONS										
Current Range	**30A**	**200A**	**300A**	**300A**	**30/300A**	**500A**	**50/500A**	**1000A**	**100/1000A**	**3000A**
Measurement Range	5 to 30A	5 to 200A	5 to 300A	5 to 300A	5 to 300A	5 to 500A	5 to 500A	5 to 1000A	5 to 1000A	5 to 3000A
Output Signal(s)	100mV/A	1mV/A	10mV/A	1mV/A	100mV/A 10mV/A	1mV/A	10mV/A 1mV/A	1mV/A	10mV/A 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 1mV/A	3.3mV/A 0.3mV/A	0.1mV/A	1mV/A 0.1mV/A	0.1mV/A	1mV/A 0.1mV/A	0.1mV/A	1mV/A 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), 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 plugs, optional banana plug to BNC adaptor available, 6.5 ft (2m) lead from sensor to module

**Intentionally limited for optimum performance*

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.)

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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