

FLEXIBLE CURRENT PROBES

AmpFlex[®], LongLife AmpFlex[®] & FlexProbe[®]



- ▶ Ranges from 30 to 30,000Arms (AmpFlex[®] Flexible Current Probes)
- ▶ Single or dual range to measure up to 3000A (LongLife AmpFlex[®] Flexible Current Probes)
- ▶ Dual measurement ranges of 300A and 3000Aac (FlexProbe[®] Flexible Current Probes)
- ▶ Shape Memory for custom pre-shaping of sensor before use (no drooping)

AMPFLEX®

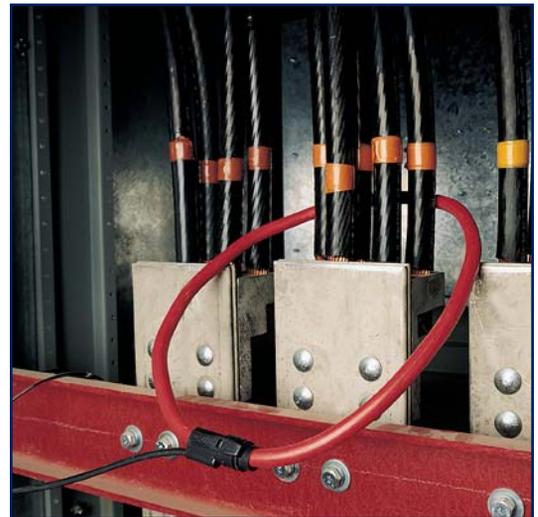
Flexible Current Probes

FEATURES

- Models ranging from 30 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
- Waterproof sensor
- 9V Alkaline battery, provides typical 150 hour 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
- EN 61010, 1000V Cat. III (sensor); EN 61010, 600V Cat. III (module)

APPLICATIONS

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



Flexibility to easily measure where standard clamp-ons cannot!



Model 1000-24-2-1



The AmpFlex® is an 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 that require reaching around the conductor to complete the loop.

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® has a millivolt 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.

SPECIFICATIONS

ELECTRICAL										
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									
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	

ELECTRICAL – COMMON	
Accuracy	1% of Reading
Frequency Range	10 to 20,000Hz*
Working Voltage	EN 61010, 1000V Cat.III
Power Source	9V Alkaline battery
Battery Life	Approx. 150 hours of continuous use
Low Battery Indication	Blinking green LED
Electronic Overload Indication	Red LED
MECHANICAL	
Cable Length	6.5 ft (2m) sensor to module
Water and Dustproof	Sensor IP45; Module IP40
Dimensions	Sensor: 24", 36", 48" or 60" (609, 914, 1219 or 1524mm); Module: 4.9 x 2.5 x 1.1" (124.5 x 64 x 28mm)
Weight (with battery)	24": 11.84 oz (0.33kg); 36": 14.24 x (0.4kg); 48": 15.2 oz (0.143kg); 60": 1.13 lb (0.51kg)
Maximum Conductor Size	24": 7.64" (190mm); 36": 11.46" (290mm); 48": 15.28" (390mm); 60": 19.10" (490mm)
Output Termination	³ / ₄ " spaced banana jacks, optional banana plug to BNC adapter available, 6.5 ft (2m) lead from sensor to module
ENVIRONMENTAL	
Operating Temperature	14° to 131°F (-10° to 55°C)
Storage Temperature	-40° to 158°F (-40° to 70°C)
Operating Relative Humidity	50° to 86°F (10° to 30°C) 85 to ±5% RH (non-condensing) 104° to 122°F (40° to 50°C) 45 to ±5% RH (non-condensing)
SAFETY	
Rating	EN 61010, 1000V Cat. III, Pollution Degree: 2
Double Insulation <input type="checkbox"/>	Yes
CE Mark	Yes

*Intentionally limited for optimum performance

CONSTRUCTION



LOGLIFE AMPFLEX®

Flexible Current Probes



Model LGLF 1000-24-1-1

The LongLife AmpFlex® is an AC current probe composed of a flexible sensor and an electronic module. The flexible sensor permits measurements on conductors where standard clamp-on probes could not be used. In particular, it can be installed in tight spaces, in breaker panels, 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 closing, enhances user safety and alleviates the drooping effect associated with other flexible sensors that require reaching around the conductor to complete the loop.

The LongLife 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 overloads. The sensor assembly is waterproof and insulated for 1000V Cat. III.

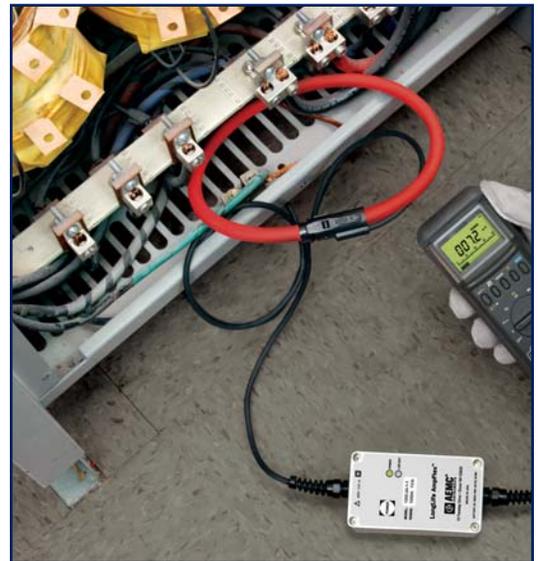
The LongLife AmpFlex® has a millivolt output proportional to the current measured for direct readings on data loggers, DMMs and oscilloscopes. TRMS measurements are taken when connected to a TRMS meter. The LongLife AmpFlex® is insensitive to DC currents; only the AC component of the measured signal is measured.

FEATURES

- Single or dual range models to measure up to 3000A
- TRMS measurements when connected to a TRMS instrument
- No core saturation or damage if overloaded
- Waterproof sensor
- 9V Alkaline battery, provides typical 2000 hour continuous operation
- Shape Memory for pre-shaping of sensor before use (no drooping)
- Insensitive to DC, measures only AC component on DC + AC
- Excellent linearity
- EN 61010, 1000V Cat. III (sensor); EN 61010, 600V Cat. III (module)

APPLICATIONS

- Load analysis
- Data logging
- Power quality monitoring
- General purpose current monitoring



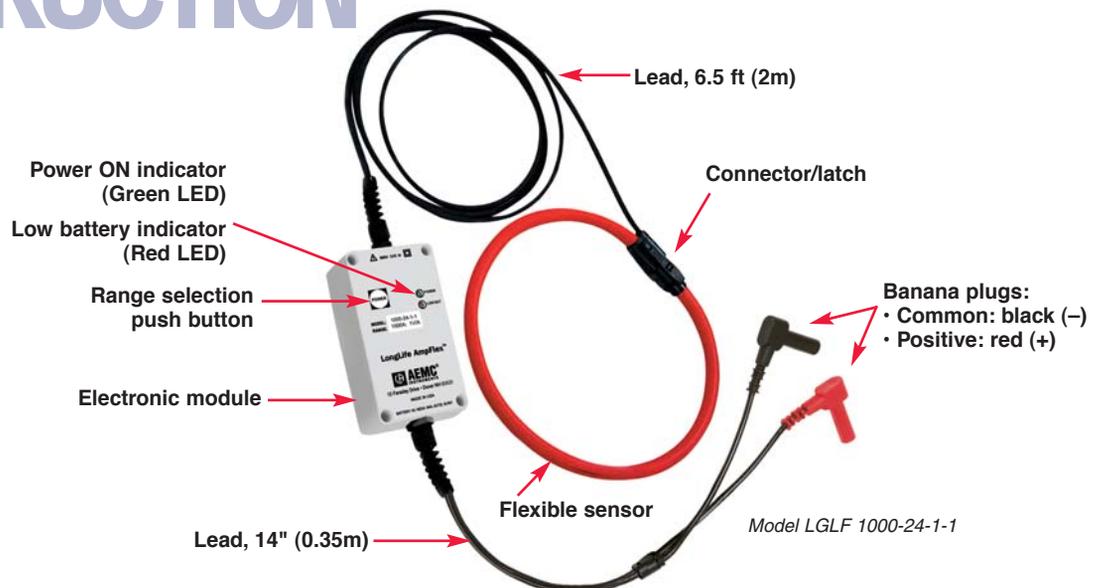
Model LGLF 1000-24-1-1 measuring on one phase of the primary side of an in-plant three-phase transformer.

SPECIFICATIONS

MODELS	LGLF 1000-24-1-1	LGLF 1000-24-2-1	LGLF 3000-36-1-1	LGLF 3000-36-2-1
ELECTRICAL				
Measurement Range	5 to 1000A	5 to 100A: 50 to 1000A	5 to 3000A	5 to 300A: 50 to 3000A
Output Signal	1mV/A	10mV/A & 1mV/A	0.333mV/A	3.33mV/A & 0.333mV/A
Accuracy*	1% of Reading + 200mA from 50 to 1000A 1% of Reading + 500mA from 5 to 50A	1% of Reading + 200mA 1% of Reading + 500mA from 5 to 50A	1% of Reading + 200mA from 50 to 3000A 1% of Reading + 500mA from 5 to 50A	1% of Reading + 200mA 1% of Reading + 500mA from 5 to 50A
Crest Factor	3	3	3	3
Phase Shift	<1° @ 50 to 60Hz	<1° @ 50 to 60Hz	<1° @ 50 to 60Hz	<1° @ 50 to 60Hz
Current Range	1000A	100A: 1000A	3000A	300A: 3000A
Working Voltage	1000Vrms max (Cat. III)	1000Vrms max (Cat. III)	1000Vrms max (Cat. III)	1000Vrms max (Cat. III)
Common Mode Voltage	600Vrms	600Vrms	600Vrms	600Vrms
Residual Noise	500mArms	500mArms	500mArms	500mArms
Power Source	9V Alkaline battery			
Battery Life	2000 hours typical; 4000 hours max			
Low Battery Indication	Blinking red LED			
MECHANICAL				
Cable Length	6.5 ft (2m) sensor to module			
Water and Dustproof	Sensor: IP45; Module: IP65			
Dimensions	Sensor: 24" or 36" (609 or 914mm); Module: 1.56 x 2.5 x 4.5" (40 x 64 x 114mm)			
Weight (with battery)	24": 14.9 oz (0.42kg); 36": 1.5 lbs (0.56kg)			
Maximum Conductor Size	24": Ø 7.64" (190mm); 36": Ø 11.46" (290mm)			
Output Termination	14" (350mm) double insulated cable with 4mm banana plug			
ENVIRONMENTAL				
Operating Temperature	14° to 131°F (-10° to 55°C)			
Storage Temperature	-4° to 158°F (-20° to 70°C)			
Operating Relative Humidity	50° to 86°F (10° to 30°C) 85 to ±5% RH (non-condensing) 104° to 122°F (40° to 50°C) 45 to ±5% RH (non-condensing)			
SAFETY				
Rating	EN 61010, 1000V Cat. III, Pollution Degree: 2			
Double Insulation <input type="checkbox"/>	Yes			
CE Mark	Yes			

*Reference Conditions: 73.4°F (23°C) ±3°K, 20 to 70% RH, 50/60Hz, no external AC magnetic field, DC magnetic ≤40A/m (earth field), supply: 8V + 10%. 1MΩ Load.

CONSTRUCTION



FLEXPROBE®

Flexible Current Probes



Model 24-3001



The FlexProbe® Models 24-3001 and 24-3002 are low cost AC current measurement probes designed to plug into DMMs, oscilloscopes and power monitors. The Model 24-3001 is composed of a flexible sensor and an electronic module with a 14" double insulated cable, while the Model 24-3002 has a flexible sensor and an electronic module with 4mm safety banana plugs with 3/4" spacing. The flexible sensors are designed to fit around large or small conductors and are capable of getting into tight or difficult places. They are ideal for measuring AC current in a group of conductors. The Shape Memory feature enables the user to "pre-shape" the sensor before inserting it between or around conductors. This feature facilitates closing, enhances user safety and alleviates the drooping effect typically associated with flexible sensors, which can be a safety hazard.

The FlexProbe® 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 overloads. The sensor assembly is waterproof and insulated for 1000V Cat. III.

The FlexProbe® has a millivolt output proportional to the current measured for direct readings on DMMs, data loggers, oscilloscopes and power or harmonic meters. TRMS measurements are taken when connected to a TRMS meter. The FlexProbe® is insensitive to DC currents and only the AC component of the measured signal is measured.

FEATURES

- 24" flexible sensor fits around conductors up to 7.6" in diameter
- Dual measurement ranges of 300A and 3000Aac
- Read amperage directly on DMM display
- Millivolt output directly proportional to the AC current measured
- Output is 10mV/A on 300A range and 1mV/A on 3000A range
- Accuracy of 1% of Reading \pm 500mA
- 9V Alkaline battery, provides typical 300 hour continuous operation
- Dual banana plug termination for direct input into DMMs (Model 24-3001)
- Electronic module with 4mm safety banana plugs with 3/4" spacing (Model 24-3002)
- Flashing LED low battery indicator
- EN 61010, 1000V Cat. III, Pollution Degree: 2

APPLICATIONS

- Motor testing and troubleshooting
- Load monitoring
- HVAC troubleshooting
- Power analysis
- Transformer testing
- Substation testing



FlexProbe® conveniently plugs into the standard DMM voltage input for direct read-out of the measured current.

SPECIFICATIONS

MODELS	24-3001	24-3002
ELECTRICAL		
Current Range	300/3000Aac	300/3000Aac
Measurement Range	5 to 3000Arms	5 to 3000Arms
Output Signal	mV output (4000mV peak max)	mV output (4000mV peak max)
Three Position Slide Switch	10mV/A 5 to 300Arms 1mV/A 50 to 3000Arms ON/OFF	5 to 300Arms 50 to 3000Arms
AC Current Accuracy	1% of Reading \pm 500mA	1% of Reading \pm 500mA
Crest Factor	4.5	4.5
Phase Shift*	<0.7° @ 50 or 60Hz	<0.7° @ 50 or 60Hz
Frequency Range	40 to 5kHz	40 to 5kHz
Working Voltage	1000Vrms max (Cat. III)	1000Vrms max (Cat. III)
Common Mode Voltage	600Vrms max	600Vrms max
Residual Noise	200mArms	200mArms
Power Source	9V Alkaline battery (NEDA 1604A, IEC 6LR61)	
Battery Life	150 hours typical (continuous use); 300 hours with Lithium battery	
Good Battery Indication	Green LED	
Electric Overload Indication	Red LED	
MECHANICAL		
Cable Length	6.5 ft (2m)	
Water and Dustproof	Sensor: IP45; Module: IP40	
Dimensions	Sensor: 24"; Module: 4.9 x 2.5 x 1.1" (124 x 64 x 28mm)	
Weight (with battery)	1.1 lb (0.5kg)	
Maximum Conductor Size	7.64" (190mm)	
Output Termination	Double insulated 14" (350mm) lead with safety banana plugs	Two 4mm safety banana plugs; standard 3/4" (19mm) spacing
ENVIRONMENTAL		
Operating Temperature	14° to 131°F (-10° to 55°C)	
Storage Temperature	40° to 70°F (-40° to 158°C)	
Operating Relative Humidity	50° to 86°F (10° to 30°C) 85 to \pm 5% RH (non-condensing) 104° to 122°F (40° to 50°C) 45 to \pm 5% RH (non-condensing)	
SAFETY		
Rating	EN 61010, 1000V Cat. III, Pollution Degree: 2	
Double Insulation <input type="checkbox"/>	Yes	
CE Mark	Yes	

*Reference Conditions: 73.4° (23°C) \pm 3K, 20 to 70% RH, 50Hz, one minute warm-up, battery at 9V \pm 0.1V, external magnetic field <40A/m, no DC component, no external current carrying conductor, 10M Ω load, conductor center

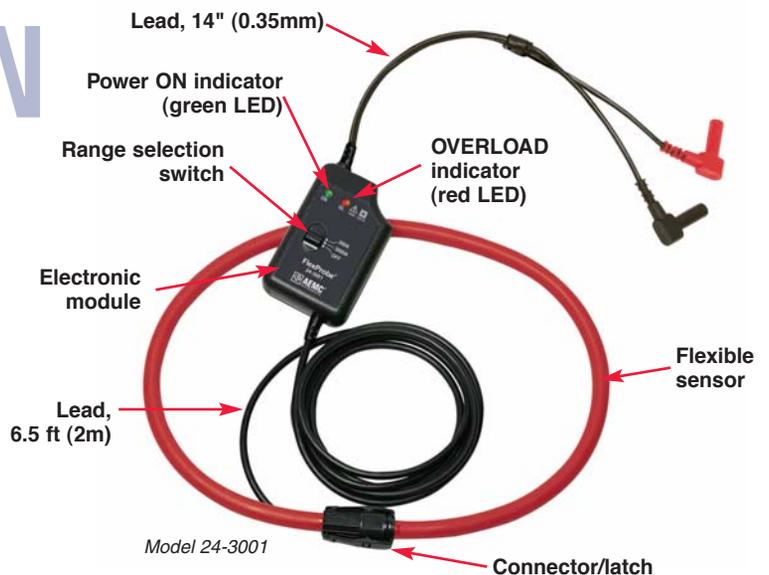
CONSTRUCTION



Model 24-3001
Leads:
Double/reinforced
14" (350mm) lead with
safety 4mm banana plug



Model 24-3002
Shrouded Banana Plugs:
Two 4mm safety banana
plugs; standard 3/4" (19mm)
spacing



ORDERING INFORMATION

AmpFlex® 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. #2113.19 Model 6000-24-2-0.1	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
LongLife AmpFlex® Model LGLF 1000-24-1-1 (1000A, 24", 0.1mV/A) Cat. #2120.66				
LongLife AmpFlex® Model LGLF 1000-24-2-1 (100/1000A, 24", 10mV/1mV/A) Cat. #2120.67				
LongLife AmpFlex® Model LGLF 1000-36-1-1 (3000A, 36", 0.3mV/A) Cat. #2120.68				
LongLife AmpFlex® Model LGLF 1000-36-2-1 (300/3000A, 36", 0.3mV/3.3mV/A) Cat. #2120.69				
FlexProbe® Model 24-3001 (300/3000A _{AC} , 24", 10mV/A/1mV/A, with lead) Cat. #2120.81				
FlexProbe® Model 24-3002 (300/3000A _{AC} , 24", 10mV/A/1mV/A) Cat. #2120.82				
Accessories (Optional)				
Banana (female) – BNC (male) Adapter (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) Adapter (XM-BB)
Catalog #2118.46 (optional)



Call the AEMC® Instruments Technical Assistance Hotline for immediate consultation with an applications engineer: **(800) 343-1391**

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