

# AMP-200 Series TRMS Clamp Meters

## The Modern Evolution of the Professional Clamp Meter

Amprobe's AMP-210 and AMP-220 600 A TRMS Clamp Meters offer a complete range of measuring functions for today's modern electrical environments. Both models feature True-RMS sensing, low pass filters and fast response processors for quick, error-free measurements. The Amp-Tip function allows for precise measurement of current down to the tenth of an Amp, enabling accurate current measurement of both large and small diameter wires.

## AMP-200 Series Features

- **True-RMS**
- **Low Pass Filter**
- **Amp-Tip Functions**
- **Non-Contact Voltage Detection (NCV)**
- **Audible Continuity and Diode Test**
- **Data Hold, Relative Zero**
- **Large LCD Backlit Display**
- **Safety Rated:  
CAT III 600 V**



**AMP-210**  
AC Clamp Meter



**AMP-220**  
AC/DC Clamp Meter

## AMP-200 Series Product Details

**True-RMS** for accurate voltage measurements in noisy environments.

**Low pass filter** for current and voltage measurements on variable frequency drives.

**Amp-Tip function** for precise low current measurement of small diameter wires down to 0.1 Amp to help with electrical system troubleshooting.

**Non-contact voltage detection (NCV)**

**Audible continuity and diode test**

**Data hold, relative zero, MAX/MIN/AVG mode**

**Large LCD backlit display**

**Safety rated**  
CAT III 600 V



**Measurements:**

**Voltage**  
Up to 600 V AC/DC

**AC current**  
Up to 600 A

**DC Current**  
Up to 600 A  
(AMP-220 only)

**Frequency**  
5.00 to 999.9 Hz

**Resistance**  
Up to 60.00 kΩ

**Capacitance**  
Up to 2500 μF



## AMP-200 Series Applications



AMP-210 AC Clamp Meter



AMP-220 AC/DC Clamp Meter

- **Accurate measurement of current, voltage and frequency** on all electrical systems including distorted, non-sinusoidal signals (True-RMS function) and variable frequency drives (low-pass filter).
- **Capacitance measurement** for start and run motor capacitors.
- **Resistance and continuity** functions to verify quality of electrical connections and to check if motor and transformer coils are working properly.
- **Low pass filter** allows measurement of current and voltage on variable frequency drives (motors with speed controlled by frequency). Without this feature, the meter would provide erroneous readings when measuring voltage and current.

Model	AMP-210	AMP-220	AMP-310	AMP-320	AMP-330
	AC Clamp Meter <b>Electrical</b>	AC/DC Clamp Meter <b>Electrical</b>	AC Clamp Meter <b>HVAC</b>	AC/DC Clamp Meter <b>Electrical Motor Maintenance</b>	AC/DC 1000 A Clamp Meter <b>Industrial Motor Maintenance</b>
Safety Rating	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT IV 600 V, CAT III 1000 V
Jaw Opening	1.18 in (30 mm)	1.37 in (35 mm)	1.18 in (30 mm)	1.37 in (35 mm)	2.0 in (51 mm)
AC Voltage (True-RMS)	Range: 0 to 600.0 V Accuracy: ±1.0% + 5LSD (50 to 60 Hz)		Range: 0 to 600.0 V Accuracy: ±1.0% + 5LSD (50 to 60 Hz)		Range: 0 to 1000 V Accuracy: ±0.8% + 5LSD (50 to 60 Hz) ±1.5% + 5LSD (20 to 200 Hz) ±10% + 5LSD (200 to 400 Hz)
DC Voltage	Range: 0 to 600.0 V Accuracy: ±1.0% + 5LSD		Range: 0 to 600.0 V Accuracy: ±1.0% + 5LSD		Range: 0 to 1000 V Accuracy: ±0.8% + 5LSD
AC+DC Voltage	–	Range: 0 to 600.0 V Accuracy: 1.2% ± 7LSD (DC, 50 to 60 Hz)	–	Range: 0 to 600.0 V Accuracy: 1.2% ± 7LSD (DC, 50 to 60 Hz)	Range: 0 to 1000 V Accuracy: ±1.0% + 7LSD (50 to 60 Hz) ±1.8% + 7LSD (DC, 40 to 200 Hz) ±12% + 7LSD (200 to 400 Hz)
AC Current (True-RMS)	Range: 0 to 600.0 A Accuracy: ±1.8% + 5LSD (50 to 100 Hz) ±2.0% + 5LSD (100 to 400 Hz)		Range: 0 to 600.0 A Accuracy: ±1.8% + 5LSD (50 to 100 Hz) ±2.0% + 5LSD (100 to 400 Hz)		Range: 0 to 1000 A Accuracy: ±1.8% + 5LSD (40 to 100 Hz) ±2.2% + 5LSD (100 to 400 Hz)
DC Current	–	Range: 0 to 600.0 A Accuracy: ±2.0% + 5LSD	–	Range: 0 to 600.0 A Accuracy: ±2.0% + 5LSD	Range: 0 to 1000 A Accuracy: ±1.8% + 5LSD
AC+DC Current	–	Range: 0 to 600.0 A Accuracy: ±2.2% + 7LSD (DC, 50 to 100 Hz) ±2.7% + 7LSD (100 to 400 Hz)	–	Range: 0 to 600.0 A Accuracy: ±2.2% + 7LSD (DC, 50 to 100 Hz) ±2.7% + 7LSD (100 to 400 Hz)	Range: 0 to 1000 A Accuracy: ±2.2% + 7LSD (DC, 40 to 100 Hz) ±2.5% + 7LSD (100 to 400 Hz)
Precise Low Current AC	Range: 0 to 60.00 A Accuracy: ±1.5% + 5LSD (50 to 60 Hz)		Range: 0 to 60.00 A Accuracy: ±1.5% + 5LSD (50 to 60 Hz)		Range: 0 to 60.00 A Accuracy: ±1.5% + 5LSD (0.00 to 20.00 A, 40 to 100 Hz) ±2.0% + 5LSD (0.00 to 20.00 A, 100 to 400 Hz) ±3.0% + 5LSD (20.00 to 60.00 A, 40 to 100 Hz) ±3.0% + 5LSD (20.00 to 60.00 A, 100 to 400 Hz)
Precise Low Current DC	–	Range: 0 to 60.00 A Accuracy: ±2.0% + 5LSD	–	Range: 0 to 60.00 A Accuracy: ±2.0% + 5LSD	Range: 0 to 60.00 A Accuracy: ±1.5% + 5LSD (0.00 to 20.00 A) ±3.0% + 5LSD (20.00 to 60.00 A)
Precise Low Current AC+DC	–	Range: 0 to 60.00 A Accuracy: ±2.0% + 5LSD (DC, 50 to 60 Hz)	–	Range: 0 to 60.00 A Accuracy: ±2.0% + 5LSD (DC, 50 to 60 Hz)	Range: 0 to 60.00 A Accuracy: ±2.0% + 7LSD (0.00 to 20.00 A, DC, 40 to 100 Hz) ±2.2% + 7LSD (0.00 to 20.00 A, 100 to 400 Hz) ±3.0% + 7LSD (20.00 to 60.00 A, DC, 40 to 100 Hz) ±3.0% + 7LSD (20.00 to 60.00 A, 100 to 400 Hz)
Frequency	Range: 5.00 to 999.9 Hz Accuracy: ±1.0% + 5LSD (600 V range) Range: 50.0 to 400.0 Hz Accuracy: ±1.0% + 5LSD (600 A range)		Range: 5.00 to 999.9 Hz Accuracy: ±1.0% + 5LSD (600 V range) Range: 50.0 to 400.0 Hz Accuracy: ±1.0% + 5LSD (600 A range)		Range: 5.00 to 999.9 Hz Accuracy: ±1.0% + 5LSD (1000 V range) Range: 40.0 to 400.0 Hz Accuracy: ±1.0% + 5LSD (1000 A range)
Resistance	Range: 0.0 to 60.00 kΩ Accuracy: ±1.0% + 5LSD		Range: 0.0 to 60.00 kΩ Accuracy: ±1.0% + 5LSD		
Capacitance	Range: 0.0 to 2500 μF Accuracy: ±2.0% + 4LSD		Range: 0.0 to 2500 μF Accuracy: ±2.0% + 4LSD		
Continuity Beeper	ON ≤ 10 Ω OFF > 250 Ω		ON ≤ 10 Ω OFF > 250 Ω		
Non-Contact Voltage	20 to 440 V, 50/60 Hz		20 to 440 V, 50/60 Hz		
True-RMS	•	•	•	•	•
Low Pass Filter	•	•	•	•	•
Autoranging	•	•	•	•	•
Relative Zero	•	•	•	•	•
MAX/MIN/AVG	•	•	•	•	•
Diode Test	•	•	•	•	•
Data Hold	•	•	•	•	•
Backlight	•	•	•	•	•
Auto Power Off	•	•	•	•	•
<b>300 Series:</b>					
DC Microamps	–	–	Range: 0.0 to 2000 μA Accuracy: ±1.0% + 5LSD		
Temperature* (Type K thermocouple) *Error does not include Type-K thermocouple errors	–	–	Range: -40.0 to 752°F, -40.0 to 400°C Accuracy: -40.0 to 14.0°F (±1.0% +3.0°F), >14.0 to 99.9°F (±1.0% +1.5°F) 100 to 752°F (±1.0% +2°F), -40.0 to -10.0°C (±1.0% +1.5°C) >-10.0 to 99.9°C (±1.0% +0.8°C), 100 to 400°C (±1.0% +1°C)		
3-Phase and Motor Rotation Indication	–	–	Rotation-R for mains supply Rotation-M for motors		
Inrush Current	–	–	•	•	•
Peak Hold (Crest)	–	–	–	–	•
Work Light	–	–	–	–	•



Model	AMP-210	AMP-220	AMP-310	AMP-320	AMP-330
<b>Display</b>	3-5/6 digits 6000 counts	3-5/6 digits 6000 counts	3-5/6 digits 6000 counts	3-5/6 digits 6000 counts	3-5/6 digits 6000 counts
<b>Polarity</b>	Automatic	Automatic	Automatic	Automatic	Automatic
<b>Update Rate</b>	5 per second nominal	5 per second nominal	5 per second nominal	5 per second nominal	5 per second nominal
<b>Operating Temperature</b>	32 to 104°F (0 to 40°C)	32 to 104°F (0 to 40°C)	32 to 104°F (0 to 40°C)	32 to 104°F (0 to 40°C)	14 to 122°F (-10 to 50°C)
<b>Relative Humidity</b>	80% at 30°C, 50% at 40°C	80% at 30°C, 50% at 40°C	80% at 30°C, 50% at 40°C	80% at 30°C, 50% at 40°C	Non condensing at ≤10°C 90% at 10 to 30°C 75% at 30 to 40°C 45% at 40 to 50°C
<b>Operating Altitude</b>	0 to 2000 m	0 to 2000 m	0 to 2000 m	0 to 2000 m	0 to 2000 m
<b>Pollution Degree</b>	2	2	2	2	2
<b>Storage Temperature</b>	-4 to 140°F (-20°C to 60°C), < 80% RH	-4 to 140°F (-20°C to 60°C), < 80% RH	-4 to 140°F (-20°C to 60°C), < 80% RH	-4 to 140°F (-20°C to 60°C), < 80% RH	-4 to 140°F (-20°C to 60°C), < 80% RH
<b>Temperature Coefficient</b>	Nominal 0.15 x (specified accuracy)/ °C @ (0°C to 18°C or 28°C to 40°C)	Nominal 0.15 x (specified accuracy)/ °C @ (0°C to 18°C or 28°C to 40°C)	Nominal 0.15 x (specified accuracy)/ °C @ (0°C to 18°C or 28°C to 40°C)	Nominal 0.15 x (specified accuracy)/ °C @ (0°C to 18°C or 28°C to 40°C)	Nominal 0.10 x (specified accuracy)/ °C @ (0°C to 18°C or 28°C to 50°C)
<b>Battery</b>	Two AAA 1.5 V battery	Two AAA 1.5 V battery	Two AAA 1.5 V battery	Two AAA 1.5 V battery	Two AA 1.5 V battery
<b>EMC</b>	Meets EN 61326-1:2006	Meets EN 61326-1:2006	Meets EN 61326-1:2006	Meets EN 61326-1:2006	Meets EN 61326-1:2006
<b>Safety Compliance</b>	UL/IEC/EN 61010-1 ed. 3.0, IEC/EN 61010-2-033 ed. 1.0, CAN/CSA C22.2 NO. 61010-1 ed. 3.0, IEC/EN 61010-2-032 ed. 3.0 & IEC/EN 61010-031 ed. 1.1	UL/IEC/EN 61010-1 ed. 3.0, IEC/EN 61010-2-033 ed. 1.0, CAN/CSA C22.2 NO. 61010-1 ed. 3.0, IEC/EN 61010-2-032 ed. 3.0 & IEC/EN 61010-031 ed. 1.1	UL/IEC/EN 61010-1 ed. 3.0, IEC/EN 61010-2-033 ed. 1.0, CAN/CSA C22.2 NO. 61010-1 ed. 3.0, IEC/EN 61010-2-032 ed. 3.0 & IEC/EN 61010-031 ed. 1.1	UL/IEC/EN 61010-1 ed. 3.0, IEC/EN 61010-2-033 ed. 1.0, CAN/CSA C22.2 NO. 61010-1 ed. 3.0, IEC/EN 61010-2-032 ed. 3.0 & IEC/EN 61010-031 ed. 1.1	UL/IEC/EN 61010-1 ed. 3.0, IEC/EN 61010-2-033 ed. 1.0, CAN/CSA C22.2 NO. 61010-1 ed. 3.0, IEC/EN 61010-2-032 ed. 3.0 & IEC/EN 61010-031 ed. 1.1
<b>Certification</b>	UL (c/us) and CE	UL (c/us) and CE	UL (c/us) and CE	UL (c/us) and CE	UL (c/us) and CE
<b>Dimensions (L x W x H):</b>	8.62 x 3.03 x 1.46 in (219 x 77 x 37 mm)	8.82 x 3.03 x 1.46 in (224 x 77 x 37 mm)	8.62 x 3.03 x 1.46 in (219 x 77 x 37 mm)	8.82 x 3.03 x 1.46 in (224 x 77 x 37 mm)	10.16 x 3.70 x 1.73 in (258 x 94 x 44 mm)
<b>Weight:</b>	208 g (0.46 lb)	254 g (0.56 lb)	208 g (0.46 lb)	254 g (0.56 lb)	420 g (0.93 lb)

Accessories Included:					
<b>User's Manual</b>	•	•	•	•	•
<b>Test Leads</b>	•	•	•	•	•
<b>Carrying Case</b>	•	•	•	•	•
<b>Batteries</b>	AAA (2)		AAA (2)		AA (2)
<b>Alligator Clip Set</b>	-	-	•	•	•
<b>Banana plug K-type Thermocouple</b>	-	-	•	•	•