



AMPROBE® ACD-14 TECH CLAMP HVAC Digital Clamp-on Multimeter



- ▶ Dual Displays - Permits simultaneous reading of Amperage & Voltage
- ▶ Micro Amps measurement for testing "Flame Sensors"
- ▶ Capacitance to 3000 μ F
- ▶ Temperature/Type-K Thermocouple
- ▶ AC and DC Voltage to 600V
- ▶ AC Current to 400A
- ▶ Resistance to 40M Ω with Continuity Buzzer
- ▶ Frequency measurement
- ▶ Diode test
- ▶ Hold and Maximum reading functions
- ▶ Accommodates conductors up to 1.02" (26mm)
- ▶ Auto Ranging
- ▶ Auto power off and low battery indication
- ▶ Rubber over-molded case
- ▶ Overload protected
- ▶ Safety: CE,UL, Cat III 600V
- ▶ Limited Life Time Warranty

Features	Range
AC Voltage	4.000V, 40.00V, 400.0V, 600 V
DC Voltage	0-400.0mV, 4.000V, 40.00V, 400.0V, 600 V
AC Current (Clamp-on)	0-40.00A, 400.0 A
AC/DC Micro Amps (Using Test Leads)	400.0 μ A, 2000 μ A
Resistance with Continuity Buzzer	0-400.0 ,4.000k ,40.00k ,400.0k ,0-4.000M ,40.00 M
Capacitance	500.0nF, 5.000 μ F, 50.00 μ F, 500.00cF, 3000 μ F
Frequency (Using Test Leads)	5Hz - 100kHz
Temperature (Type-K)	-4°F to 572°F (-20°C to 300°C)

Optional Accessories	Part Number
Line splitter (Energizer)	A47L
Adapter, Temp., banana to Type-K	TAC-DMM
Dual input adapter, Type-K	DKTA-620
Alligator Clips (For test leads)	VRC-320

Replacement Parts (supplied with product)	Part Number
Test leads with set of alligator clips (alligator clips not supplied with product)	MTL-90B
Carrying case	SV-U
Bead, Type-K Thermocouple (with banana plugs)	TPK-59
Instruction Manual	www.amprobe.com



AMPROBE®
POWER QUALITY

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AMPROBE® ACD-14 TECH CLAMP

HVAC Digital Clamp-on Multimeter



Electrical Specifications

Accuracy is \pm (% reading digits + number of digits) or otherwise specified, at 73°F \pm 9°F (23° C \pm 5°C) less than 75% R.H.

DC Voltage

RANGE	Accuracy
400.0mV	0.3% + 4d
4.000V, 40.00V, 400.0V	0.5% + 3d
600V	1.0% + 4d

NMRR : >50dB @ 50/60Hz
 CMRR : >120dB @ DC, 50/60Hz, Rs=1k
 Input Impedance : 10M Ω , 30pF nominal
 (1000M Ω for 400.0mV range)

Capacitance

RANGE*	Accuracy **
500.0nF, 5.000 μ F, 50.00 μ F, 500.0 μ F, 3000 μ F	3.5%*** + 6d

*Additional 500.0nF range accuracy is not specified
 **Accuracies with film capacitor or better
 ***Specified with battery voltage above 2.8V
 (approximately half full battery).
 Accuracy decreases gradually to 12% at low
 battery warning voltage of approximately 2.4V

General Specifications:

Display : 3-3/4 digits 4000 counts LCD

Update Rate : 3 per second nominal

Polarity : Automatic

Low Battery Indication : Below approx. 2.4V

Operating Temperature : 32°F to 104°F (0°F to 40°F)

Relative Humidity : Maximum relative humidity 80% for temperature up to 88°F (31°C) decreasing linearly to 50% relative humidity at 104°F(40°C)

Altitude : Operating below 6,562 ft. (2000m)

Storage Temperature : -4°F to 140°F(-20°C to 60°C), < 80% R.H. (with battery removed)

Temperature Coefficient: nominal 0.09 x (specified accuracy)/°F @ 32°F - 64°F or 82°F - 104°F
 (0°C - 18°C or 28°C - 40°C), or otherwise specified

Sensing : Average sensing

Safety : Meets IEC61010-2-032 (1994), EN61010-2-032 (1995), UL3111-2-032 (1999)

Category III 600 Volts AC & DC

CE Approved & ULListed

Transient protection : 6.5kV (1.2/50ms surge)

Pollution degree : 2

E.M.C. : Meets EN61326 (1997, 1998/A1), EN61000-4-2 (1995), and EN61000-4-3 (1996)

In an RF field of 3V/m:

Capacitance function is not specified

Other function ranges : Total Accuracy = Specified Accuracy + 45 digits.

Performance above 3V/m is not specified

Overload Protections :

ACAClamp-on jaws : AC 400ARMS continuous
 "+" & "COM" terminals (all functions) : 600VDC/VAC RMS

Power Supply : Two 3V Lithium button batteries (ANSI/NEDA-5004LC, IEC-CR2032)

Power Consumption : 2.5 mAtypical

Auto Power Off Timing : Idle for 30 minutes

APO Consumption : 0.8 μ Atypical except 25 μ Atypical for temperature function

Battery Life : 95 hours approx. (in DCV mode)

Dimension : L 7.8" X W 2.48" X H 1.25" (190mm x 63mm x 32mm)

Weight : 0.450 Lb (204g) approx.

Jaw opening & conductor diameter : 1.02" max (26mm)

Standard Accessories: Test leads (pair), Bead Type-K thermocouple, batteries installed, user's manual, & soft carrying pouch

AC Voltage

RANGE	Accuracy
50Hz-500Hz	
4.000V, 40.00V, 400.0V	1.5% + 5d
600V	2.0% + 5d

CMRR : >60dB @ DC to 60Hz, Rs=1k
 Input Impedance : 10M Ω , 30pF nominal
Max Hold (where applicable)
 Specified accuracy \pm 50 digits for changes > 25ms
 in duration

AC CURRENT: (Clamp-on)

RANGE	Accuracy
50Hz/60Hz	
40.00A	1.9%+8d
400.0A	1.9%+8d*
600A**	unspecified

*Accuracy specified to 350A continuous, and 400A
 for 60 second max with 5 minutes cool down interval.
 **Added range to indicate instantaneous over-range
 current values

DC μ A

RANGE	Accuracy	Burden Voltage
400.0 μ A	1.5%+4d	2.8mV/ μ A
2000 μ A	1.2%+3d	2.8mV/ μ A

OHMS

RANGE	Accuracy
400.0	0.8%+6d
4000k Ω , 40.00k Ω , 400.0k Ω	0.6%+4d
4.000k Ω	1.0%+4d
40.00M Ω	2.0%+4d

Open circuit Voltage: 0.4VDC typical

Audible Continuity Tester

Audible threshold : between 10 and 120

Frequency (Hz)

Function	Sensitivity (Sine RMS)	Range
400.0mV	150mV	10Hz--2kHz
4.000V	3.2V	5Hz--40kHz
40.00V	25V	5Hz--100kHz
400.0V	100V	5Hz--100kHz
600V	400V	5Hz--5kHz
400.0 μ A	500 μ A	10Hz--30kHz
2000 μ A	500 μ A	10Hz--30kHz

Display counts: 5000

Best resolution: 0.001Hz

Accuracy: 0.5%+4d

AC μ A

RANGE	Accuracy	Burden Voltage
50Hz-500Hz		
400.0 μ A	2.0%+5d	2.8mV/ μ A
2000 μ A	1.5%+5d	2.8mV/ μ A

Diode Tester

Open Circuit Voltage	Test Current (Typical)
< 1.6 VDC	0.25mA

Type-K Temperature

RANGE	Accuracy
-4°F To 572°F	2% + 6 ϵ
-20°C To 300°C	2% + 3°C

*Type-K thermocouple range
 & accuracy not included



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