



AMPROBE®

ACD-16 Pro & ACD-16 TRMS Pro

1000A Data-Logging Clamp-on Multimeters



Need the perfect tool to troubleshoot a system? The ACD-16's provide a full range of measurements, enhanced with data logging capabilities, to catch what the eye can't see. Double the efficiency, with an optional PC interface kit.

- TRMS & Backlight Screen (ACD-16 TRMS Pro only)
- Measurements: AC/DC Voltage up to 600V, AC Current up to 1000A, Resistance, Frequency and Temperature
- Data-logging 5400 points
- Optional PC interface capability (RS-232 KIT2)
- Audible continuity
- Auto power off
- Automatic polarity
- Low battery indication
- Data hold
- Large, easy to read LCD display
- Accommodates conductors up to 1.77" (45mm) in diameter
- Carrying case, thermocouple, test leads, batteries (installed) and user manual included
- Voltage overload protection for all functions up to 600V AC/DC
- Safety CAT III 600V

FEATURES	ACD-16 Pro	ACD-16 TRMS Pro	ACCURACY
TRMS Measurement	N/A	Yes	
AC Current	40.0 / 400.0 / 1000 A		+/- (1.0% Rdg + 5 LSD) @ 50 and 60Hz
DC Voltage	600.0V		+/- (0.5% Rdg + 5 LSD)
AC Voltage	600.0V		+/- (1.0% Rdg + 5 LSD) @ 50 / 60 Hz
Resistance	999.9 Ohms		+/- (1.0% Rdg + 6 LSD)
Frequency	5.00Hz to 500.0Hz		+/- (0.5% Rdg + 4 LSD)
Temperature	-58 F to 572 F (-50 C to 300 C)		+/- (2.0% Rdg + 6F) +/- (2.0 % Rdg + 3C)

OPTIONAL ACCESSORIES	PART NUMBER
PC Interface kit (PC connection cable with software)	RS-232 KIT2
Line splitter (Energizer)	A47L
5000A Clamp-on Current Transformer (50 to 1)	CT50-1
3000A Clamp-on Current Transformer (50 to 1)	CT50-2
Dual input Thermocouple adapter with two thermocouples -50°F to 600°F	DKTA-620 and two of TPK-56
Alligator Clips (For test leads)	VRC-320

REPLACEMENT PARTS	PART NUMBER
<i>(supplied with product)</i>	
Test leads with set of alligator clips <i>(alligator clips are not supplied with product)</i>	MTL-90B
Thermocouple	TPK-59
Carrying case	SV-U



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GENERAL SPECIFICATIONS

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

Altitude: Operating below 2000m

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

Temperature Coefficient: nominal 0.15 x (specified accuracy)/ °C @ (0°C -18°C or 28°C -40°C), or otherwise specified

Sensing: Average sensing for model; True RMS sensing for model

Safety: Meets IEC61010-2-032(1994), EN61010-2-032(1995), UL3111-2-032(1999). Category III 600 Volts AC & DC

Transient protection: 6.5kV (1.2/50µs surge) for all models

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: Total Accuracy = Specified Accuracy + 45 digits Performance above 3V/m is not specified

Overload Protections :

ACA Clamp-on jaws: AC 1000A RMS continuous + & COM terminals (all functions): 600VDC/VAC RMS

Power Supply: standard 1.5V AAA Size (NEDA 24A or IEC LR03) battery X 2

Power Consumption:

Voltage & ACA functions: 3.5mA typical

Ohm & Temperature functions: 4mA typical

APO Timing: Idle for 16 minutes

APO Consumption: 10µA typical

Dimension: L224mm X W78mm X H40mm

Weight: 224 gm approx

Jaw opening & Conductor diameter: 45mm max

Special features: Display Backlight (ACD-16 TRMS) Auto-Hold; Display Hold; On screen stand-alone Hi-Lo logging (5400 minutes) at sampling speed of faster than: 20 per second for Voltage & ACA functions 4 per second for Ohm & Temperature functions 2 per second for Hz function

Accessories: Test leads (MTL-90B), batteries installed, user's manual, TPK-59 banana plug type-K thermocouple & soft carrying pouch

Optional accessories: RS-232 KIT2 interface kit.

Electrical Specifications: Accuracy is ±(% reading digits + number of digits) or otherwise specified, at 23 °C ±5 °C & less than 75% R.H. True RMS Models ACD-16TRMS ACV & ACA clamp-on accuracies are specified from 5% to 100% of range or otherwise specified. Maximum Crest Factor are as specified below, & with frequency spectrums, besides fundamentals, fall within the meter specified AC bandwidth for non-sinusoidal waveforms. Fundamentals are specified at 50Hz and 60Hz.

AC Voltage	
RANGE	Accuracy
50Hz / 60Hz	
600.0V	1.0% + 5d
45Hz ~ 500Hz	
600.0V	1.5% + 5d
500Hz ~ 3.1kHz 9 (ACD-16 TRMS only)	
600.0V	2.5% + 5d
CMRR: >60dB @ DC to 60Hz, Rs=1kΩ	
Input Impedance: 2MΩ, 30pF nominal	
True RMS models Crest Factor: < 2.3 : 1 at full scale & < 4.6 : 1 at half scale	

DC Voltage	
RANGE	Accuracy
600.0V	0.5% + 5d
NMRR: >50dB @ 50/60Hz	
CMRR: >120dB @ DC, 50/60Hz, Rs=1kΩ	
Input Impedance: 2MΩ, 30pF nominal	

Ohms	
RANGE	Accuracy
999.9Ω	1.0% + 6d
Open Circuit Voltage: 0.4VDC typical	
Audible Continuity Tester	
Audible threshold: between 10Ω and 300Ω.	
Response time: 250µs	

Frequency	
RANGE	Accuracy
5.00Hz ~ 500.0Hz	0.5%+4d
Sensitivity (Sine RMS)	
40A range: > 4A	
400A range: > 40A	
1000A range: > 400A	
600V range: > 30V	

Temperature	
RANGE	Accuracy ¹⁾
-50°C ~ 300°C	2.0% + 3°C
-58°F ~ 572°F	2.0% + 6°F
¹⁾ Add 3°C (or 6°F) to specified accuracy @ -20°C ~ -50°C (or @ -4°F ~ -58°F)	
Type-K thermocouple range & accuracy not included	

ACA Current (Clamp-on)	
RANGE	Accuracy ^{1) 2) 3)}
50Hz / 60Hz	
40.00A, 400.0A, 1000A	1.0% + 5d
45Hz ~500Hz	
40.00A, 400.0A	2.0% + 5d
1000A	2.5% + 5d
500Hz ~ 3.1kHz (ACD-16TRMS Pro only)	
40.00A, 400.0A	2.0% + 5d
1000A	2.5% + 5d

True RMS models Crest Factor:

< 2.5 : 1 at full scale & < 5.0 : 1 at half scale for 40.00A & 400.0A ranges

< 1.4 : 1 at full scale & < 2.8 : 1 at half scale for 1000A range

¹⁾ Add 8d to specified accuracy while reading is below 10% of range

²⁾ Induced error from adjacent current-carrying conductor: < 0.06A/A

³⁾ Specified accuracy is for measurements made at the jaw center. When the conductor is not positioned at the jaw center, position errors introduced are:

Add 1% to specified accuracy for measurements made WITHIN jaw marking lines (away from jaw opening)

Add 4% to specified accuracy for measurements made BEYOND jaw marking lines (toward jaws opening)