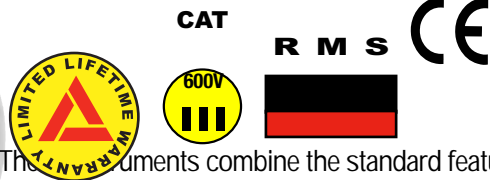




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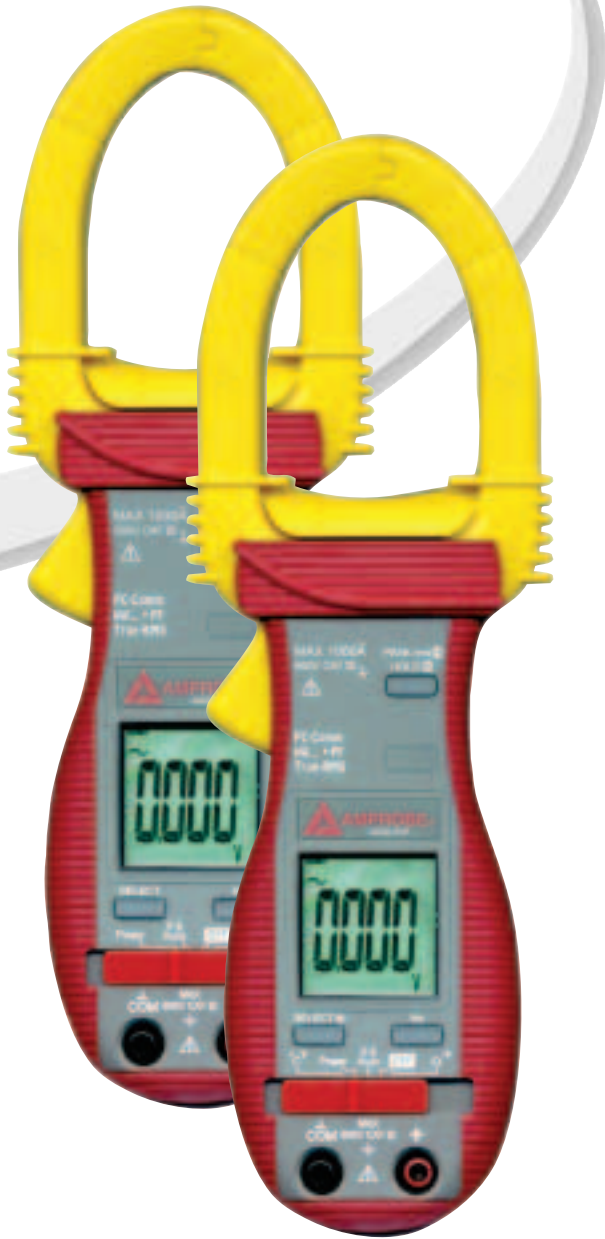
ACD-30P & ACD-31P 1000A Clamp-on Power Meters



The ACD-30P & ACD-31P combine the standard features of professional clamp-on meters, with full Power analyzing capabilities! Measure: Active (W), Reactive (VAR) and Apparent (VA) Powers along with dual display Power Factor readout. Increase measuring efficiency with an optional PC interface kit.

- TRMS sensing
- Back light display (ACD-31P)
- AutoVA - Auto Selection of AC Volts, DC Volts or AC Amps
- Measurements:
 - AC/DC Voltage up to 600V, AC Current up to 1000A, Resistance, Frequency
 - Active (W), Reactive (VAR) & Apparent (VA) Power with dual-display Power Factor readout
 - Temperature (ACD-31P)
- Optional PC interface capability
- Audible continuity
- Auto power off
- Automatic polarity
- Low battery indication
- Peak hold
- Data hold
- Large, easy to read LCD display
- Accommodates conductors up to 1.77" (45mm) in diameter
- Carrying case, test leads, batteries (installed), thermocouple (ACD-31P), and manual included
- Voltage overload protection for all functions up to 600V AC/DC
- Safety CAT III 600V

FEATURES	ACD-30P	ACD-31P	BASIC ACCURACY
TRMS Measurement	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		+/- (0.5% 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)
Active Power (W)	0 to 600.0 kW		+/- (2.0% Rdg + 6 LSD) @ Harmonics Fund to 10th & PF > 0.7
Reactive Power (VAR)	0 to 600.0 kVAR		+/- (2.0% Rdg + 6 LSD) @ Harmonics Fund to 10th & PF > 0.7
Apparent Power (VA)	0 to 600.0 kVA		+/- (2.0% Rdg + 6 LSD) @ Harmonics Fund to 10th
Power Factor	0.10 to 0.99		+/- 3 LSD @ Harmonics Fund to 21th
Temperature		-58 F to 572 F (-50 C to 300 C)	+/- (2.0% Rdg + 6F) +/- (2.0 % Rdg + 3C)



These instruments combine the standard features of professional clamp-on meters, with full Power analyzing capabilities! Measure: Active (W), Reactive (VAR) and Apparent (VA) Powers along with dual display Power Factor readout. Increase measuring efficiency with an optional PC interface kit.

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 (alligator clips are not supplied with product)	MTL-90B
Thermocouple	TPK-59
Carrying case	SV-U
Instruction Manual	www.AMPROBE.com

Update Rate:
 Power function: 1 per second nominal
 Voltage, ACA clamp-on, Ohm, Hz & Temperature functions: 4 per second nominal
 Polarity: Automatic
 Low Battery: Below approx. 2.4V
 Operating Temperature: 0°C to 40°C
 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: True RMS sensing for all models
 Safety: Meets IEC61010-2-032 (1994), EN61010-2-032(1995), UL3111-2-032(1999).
 Measurement 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) 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, Hz & Power functions: 10mA typical
 HM & Temperature functions: 4mA typical
 APO Timing: Idle for 17 minutes
 APO Consumption: 10µA typical
 Dimension: L224mm X W78mm X H40mm
 Weight: 224 gm approx

Jaw opening & Conductor diameter: 45mm max
 Special features: Backlight display (model ACD-31P & ACD-41PQ only); AutoVATM (Auto Selection on ACV, DCV or ACA functions); Power measurement of selectable W, VAR & VA with dual-display Total Power Factor features; Total harmonic distortion THD%-F (model ACD-41PQ only); PEAK-rms HOLD
ELECTRICAL SPECIFICATIONS
 Accuracy is ±(% reading digits + number of digits) or otherwise specified, at 23 oC ±5 oC less than 75% R.H. & True RMS (all models)
 ACV & ACA clamp-on accuracies are specified from 0% to 100% of range or otherwise specified. Maximum Crest Factor is as specified below, and 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	0.5% + 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=1k Input Impedance: 2M , 30pF nominal Crest Factor: < 2.3 : 1 at full scale & < 4.6: 1 at half scale ACV AutoVATM Threshold: 30VAC (40Hz ~ 500Hz only) nominal	

DC Voltage	
RANGE	Accuracy
600.0V	0.5% + 5d
NMRR: >50dB @ 50/60Hz CMRR: >120dB @ DC, 50/60Hz, Rs=1k Input Impedance: 2M , 30pF nominal DCV AutoVATM Threshold: 2.4VDC nominal	

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

ACA Current (Clamp-on)	
RANGE	Accuracy ^{1) 2)}
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	
40.00A, 400.0A	2.5% + 5d
1000A	3.0% + 5d
ACA AutoVATM Threshold: 1A AC (40Hz ~ 500Hz only) nominal 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⁾ Induced error from adjacent current-carrying conductor: < 0.06A/A ²⁾ Specified accuracy is from 1% to 100% of range and 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)	

Temperature (ACD-31P only)	
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	

Total Power Factor (PF)		
RANGE	Accuracy ¹⁾	
0.10 ~ 0.99	F ~ 21st	22nd ~ 51st
	3d	5d
¹⁾ Specified accuracy @ ACA fundamental > 2A ; ACV fundamental > 50V		

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	

Frequency	
RANGE	Accuracy
5.00Hz ~ 500.0Hz	0.5%+4d
40A range: > 4A	

Power				
RANGE	Accuracy ^{1) 2)}			
0 ~ 600.0kVA	F ~ 10th	11th ~ 46th	47th ~ 51st	
@ PF = 0.99 ~ 0.1	2.0%+6d	3.5%+6d	5.5%+6d	

RANGE	Accuracy ^{1) 3)}			
0 ~ 600.0kW / kVAR	F ~ 10th	11th ~ 25th	26th ~ 46th	47th ~ 51st
@ PF = 0.99 ~ 0.70	2.0%+6d	3.5%+6d	4.5%+6d	10%+6d
@ PF = 0.70 ~ 0.50	3.0%+6d	4.5%+6d		
@ PF = 0.50 ~ 0.30	4.5%+6d			
@ PF = 0.30 ~ 0.20	10%+6d			15%+6d

¹⁾ Specified accuracy is for ACA clamp measurement at the center of jaws. When the conductor is not positioned at the jaw center, position errors introduced are:
Add 1% to specified accuracy for ACA measurements made WITHIN jaw marking lines (away from jaw opening)
Accuracy is not specified for ACA measurement made BEYOND jaw marking lines (toward jaws opening)

²⁾ Add 1% to specified accuracy @ ACA fundamental < 5A or ACV fundamental < 90V.
Accuracy is not specified @ ACA fundamental < 1A or ACV fundamental < 30V

³⁾ Add 1% to specified accuracy @ ACA fundamental < 5A or ACV fundamental < 90V.
Accuracy is not specified @ ACA fundamental < 2A or ACV fundamental < 50V

A-lags ¹⁾ Indication:
"A-lags" LCD annunciator turns on to indicate an inductive circuit, or Current A lags Voltage V (i.e., phase-shift angle ϕ is "+").

¹⁾A-lags Indication is specified at 50/60Hz fundamental without harmonics, and at ACV > 90V, ACA > 9A, & PF < 0.95