



ACD-14 FX Digital Clamp-On Multimeter



The ACD 14 FX is the professionals' choice for both **HVAC & Electrical** applications due to its complete set of measuring features. Its dual displays allows viewing amperage and voltage simultaneously.

- 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 with Continuity Buzzer
- Frequency measurement
- Diode test
- Hold and Maximum reading functions
- Accommodates conductors up to 1.02" (26mm) in diameter
- Auto ranging
- Auto power off and low battery indication
- Rubber over-molded case
- Overload protected
- Safety: CE, UL, CAT III 600V
- In rush current

| FEATURES | ACD-14 FX | ACCURACY |
|-------------------------------------|---|--|
| TRMS Measurement | N/A | |
| AC Voltage | 4.000V, 40.00V, 400.0V, 600 V | $\pm 1.5\%$ Rdg + 5 LSD @ (4.000V, 40.00V, 400.0V)** |
| DC Voltage | 0-400.0 mV, 4.000V, 40.00V, 400.0V, 600V | $\pm 0.5\%$ Rdg + 3 LSD @ (4.000V, 40.00V, 400.0V)** |
| AC Current | 0-40.00A, 400.0A | $\pm 1.9\%$ Rdg + 8 LSD** |
| AC/DC Micro Amps (Using Test Leads) | 400 μ A, 2000 μ A | DC: $\pm 1.5\%$ Rdg + 4 LSD** AC: $\pm 2.0\%$ Rdg + 5 LSD** |
| Resistance with Continuity Buzzer | 0-400.0 Ω , 4.000 k Ω , 40.00 k Ω , 400.0 k Ω , 0-4.000M Ω , 40.00 M Ω | $\pm 0.6\%$ Rdg + 4 LSD @ (4.000k Ω , 40.00k Ω ,400.0k Ω)** |
| Capacitance | 500.0nF, 5.000 μ F, 50.00 μ F, 500.0 μ F, 3000 μ F | $\pm 3.5\%$ Rdg + 6 LSD |
| Frequency (Using Jaw or Test Leads) | 10Hz to 100kHz | $\pm 0.5\%$ Rdg + 4 LSD |
| Temperature | -4°F to 572°F (-20°C to 300°C) | $\pm 2.0\%$ Rdg + 6°F |

**For other ranges see website (<http://www.AMPROBE.com>)

| OPTIONAL ACCESSORIES | PART NUMBER |
|--|-------------|
| Line splitter (Energizer) | A47L |
| 5000A Clamp-on Current Transformer (50 to 1) | CT50-1 |
| 3000A Clamp-on Current Transformer (50 to 1) | CT50-2 |
| 600A Clamp-on Current Transformer (10 to 1) | A50-1 |
| 3000A AC Flexible Clamp-On Attachment | ACF-3000AK |
| Temperature Adapter | TMA-K |
| 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 |
| Carrying case | SV-U |
| Bead Type-K Thermocouple (with banana plugs for ACD-14 only) | TPK-59 |
| Instruction Manual | www.AMPROBE.com |



ACD-14 FX Digital Clamp-On Multimeter

GENERAL SPECIFICATIONS

Display: 3-3/4 digits 4000 counts, dual LCD displays
 Update Rate: 3 per second nominal
 Polarity: Automatic
 Low Battery Indication: Below approx. 2.4V
 Operating Temperature: 32°F to 104°F (0°C to 40°C)
 Relative Humidity: Maximum relative humidity 80% for temperatures 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 0.15 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 for ACD-14; True RMS for ACD-14 TRMS
 Power Supply: Two 3V alkaline button batteries (ANSI/NEDA-5004LC, IEC-CR2032).

Battery Life: 95 hours approx. (in DCV mode)
 Power Consumption: 2.5 mA typical for ACD-14; 2.9mA typical for ACD-14 TRMS
 Low Battery Indication: Below approx. 2.4V (battery symbol appears in upper right)
 Auto Power Off: After being idle for 30 minutes
 APO Consumption:
 ACD-14 : 0.8µA typical except 25µA typical for temperature function
 ACD-14 TRMS : 10µA typical except 25µA typical for temperature function
 Safety: Meets IEC61010-2-032(1994), EN61010-2-032(1995), Category III 600 Volts AC & DC/ CE Approved /
 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), & EN61000-4-3 (1996)
 In an RF field of 3V/m: Capacitance function is not specified
 µA Function: Total Accuracy = Specified Accuracy + 65 digits

Other Function Ranges: Total Accuracy = Specified Accuracy + 45 digits Performance above 3V/m is not specified
 Overload Protections:
 ACA Clamp-on jaws: AC 400A RMS continuous
 "+" & "COM" terminals (all functions): 600VDC/VAC RMS
 Dimension: L 7.48" X W 2.48" X H 1.25" (L190mm X W 63mm X H 32mm)
 Weight: 0.450 Lb approx. (204 g)
 Jaw opening & Conductor diameter: 1.02" max (26mm)
 Electrical Specifications: Accuracy is ±(% reading digits + number of digits) or otherwise specified, at 73°F ± 9°F (23°C ± 5°C) & less than 75% R.H. True RMS Model ACD-14 TRMS ACV, ACmA & ACA clamp-on accuracies are specified from 5% to 100% of range or otherwise specified. Maximum Crest Factor are < 1.96 at full scale & < 3.92 at half scale, and with frequency spectrums, besides fundamentals, fall within the meter specified AC bandwidth for non-sinusoidal waveforms.

| DC Voltage | |
|---|-----------|
| RANGE | Accuracy |
| 400.0 mV | 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 , 30pF nominal (1000M for 400.0mV range) | |

| 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 , 30pF nominal | |

| ACA 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
 TRMS model ACD-14 TRMS accuracy is specified from 10% to 100% of range.

Max Hold (where applicable)
 Specified accuracy ± 50 digits for changes > 25ms in duration

Audible Continuity Tester
 Audible threshold: between 10W and 120W.

| Ohms | |
|--------------------------------------|-----------|
| RANGE | Accuracy |
| 400.0 | 0.8% + 6d |
| 4.000k , 40.00k , 400.0k | 0.6% + 4d |
| 4.000M | 1.0% + 4d |
| 40.00M | 2.0% + 4d |
| Open Circuit Voltage: 0.4VDC typical | |

| Capacitance | |
|--|--------------|
| RANGE* | Accuracy** |
| 500.0nF, 5.000µF, 50.00µF, 500.0µF, 3000µF | 3.5%*** + 6d |

*Additional 50.00nF 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

| DC µA | |
|---------|-------------------------|
| RANGE | Accuracy Burden Voltage |
| 400.0µA | 1.5% + 4d 2.8mV/µA |
| 2000µA | 1.2% + 3d 2.8mV/µA |

| AC µA | |
|---------------|-------------------------|
| RANGE | Accuracy Burden Voltage |
| 50Hz -- 500Hz | |
| 400.0µA | 2.0% + 5d 2.8mV/µA |
| 2000µA | 1.5% + 5d 2.8mV/µA |

| Hz Frequency | | |
|--------------|------------------------|---------------|
| Function | Sensitivity (Sine RMS) | Range |
| 400.0mV | 300mV | 10Hz -- 2kHz |
| 4.000V | 4V | 5Hz -- 40kHz |
| 40.00V | 28V | 5Hz -- 100kHz |
| 400.0V | 100V | 5Hz -- 100kHz |
| 600V | 500V | 5Hz -- 5kHz |
| 400.0µA | 500µA | 10Hz -- 30kHz |
| 2000µA | 500µA | 10Hz -- 30kHz |

Display counts: 5000
 Best resolution: 0.001Hz
 Accuracy: 0.5%+4d

| Diode Tester | |
|----------------------|------------------------|
| Open Circuit Voltage | Test Current (Typical) |
| < 1.6 VDC | 0.25mA |

| Type-K Temperature | |
|--------------------|-----------|
| RANGE | Accuracy* |
| -20°C TO 300°C | 2% + 3°C |
| -4°F TO 572°F | 2% + 6°F |

*Type-K thermocouple range & accuracy not included