INSTALLING BATTERY AND FUSE

The Models ACDC1000 and ACDC1001 use one No. MN1604 9V Alkaline Battery.

To install:

1) loosen screw located toward the bottom on the back of the instrument. (See Fig. 4)
2) lift battery compartment cover.
3) firmly snap connector onto battery terminals.
4) replace cover and tighten screw.

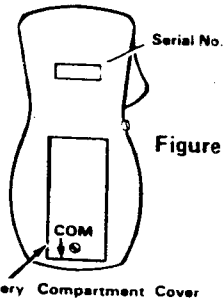

Figure 4

The ACDC1000 uses one No. 8AG-361.1 Amp Fast Blow Fuse which installs in the probe handle of the OHB-4 Ohmmeter Battery Attachment. To install:

1) unscrew the top (probe tip) section from the bottom section of the probe handle.
2) insert fuse into top section.
3) screw two sections together.

LOW BATTERY INDICATION

Replace the battery when "BATT" at the left end of the digital display appears or the display digits do not light up.

OVER-RANGE INDICATION

Because the maximum current or voltage that can be measured without causing damage to the instrument is 999 amps or volts and the display can go up to 1999, *do not* rely on an over-range indication to tell you that you are overloading the instrument if you try to measure more than 999 amps or volts.

Do Not Apply More Than 999 Amps Or Volts.

In the ohmmeter mode (ACDC1000 only), if you try to measure a resistance larger than 1999 ohms, the instrument will indicate over-range by flashing the digits on and off. You can observe this by plugging in the ohmmeter test lead without connecting it to a resistance. The display will flash.

HOW TO MEASURE AC OR DC CURRENT

See Precautions for Personal and Instrument Safety.

1) Disconnect voltage test leads and ohmmeter test lead from instrument.
2) Slide the "A-V" switch into the "A" position.
3) Slide the "DC-AC" switch into the "AC" position for measuring AC or "DC" position for measuring DC current.
4) Position the "C/P" switch if using Model ACDC1000 (See Continuous or Peak Operation).
5) Press the "Press to Read" button and use the "DCA zero" knob which works on both AC and DC for making your zero adjustment. The two areas requiring zero adjust prior to their use are DC amps and AC peak. Zero adjustment is made by first sliding the appropriate switch into position, then depressing the press to read switch and adjust the DCA zero knob accordingly. Note: the DCA zero knob is used for AC peak reading.
6) Press trigger to open transformer jaws.
7) Encircle single conductor with jaws.
8) Release finger pressure on trigger and allow jaws to close around the conductor.
9) Press the "Press-to-Read" button and read the display.

NOTE: When DC current is being measured, while the C/P switch is in the Continuous portion, the direction of current sensing is not critical. If Surge DC is being measured however, the orientation of the jaw could be only one way. If this is not followed the display would read zero.

HOW TO MEASURE AC OR DC VOLTAGE

NOTE: Because the ACDC1000/1001 is a high impedance voltmeter (10 Megohms), and RF signals exist almost everywhere, it is possible to get a voltage reading even when the instrument is not connected to a circuit. This will not, however, affect your actual voltage measurements.

See Precautions for Personal and Instrument Safety.

1) Disconnect ohmmeter test lead from instrument and/or remove transformer jaws from around any conductors.
2) Slide the "A-V" switch into the "V" position.
3) Slide the "DC-AC" swtich into the "AC" position for measuring AC or "DC" position for measuring DC voltage.
4) Position the "C/P" switch if using Model ACDC1000 (See Continuous or Peak Operation).
5) Insert insulated voltage test lead connectors into voltage receptacles in bottom of instrument. (See Fig. 1) Push in against receptacle spring and twist clock-wise to lock in place.
6) Clamp one voltage test lead probe between jaws
7) With instrument in one hand and the other voltage test lead probe in the other hand, apply test probes to the test points of the circuit.
8) Press the "Press-to-Read" button and read the display.
9) If "-" sign appears to the left of the display, reverse the test leads. (Indicates reversed polarity when measuring DC)

HOW TO MEASURE RESISTANCE (ACDC1000 only)

CAUTION: Make certain no voltage is present in circuit before connecting ohmmeter to circuit. If ohmmeter is applied to a live line, the ohmmeter fuse may blow or incorrect readings may be obtained. Also make certain any capacitors in circuit are discharged.

See Precautions for Personal and Instrument Safety.

1) Insert one insulated voltage test lead connector into the right hand (viewing instrument from front) voltage receptacle in the bottom of the instrument. Looking at the back of the instrument, this voltage receptacle is marked "COM". (see Fig. 4).
2) Clamp voltage test lead probe between jaws
3) Plug ohmmeter lead into jack on the right side of the instrument. (See Fig 1)
4) Position C/P Selector Switch in the "C" position.
5) Short ohmmeter test probe tip to voltage test lead probe tip and press the "Press-to-Read" button.
   a) If fuse is good, reading should be below one ohm
   b) If fuse is blown, the display will flash on and off.
6) With instrument in one hand and ohmmeter test probe in the other hand, apply probe tips to circuit or device. Press the "Press-to-Read" button and read the display. NOTE: When measuring low resistances, subtract the resistance value obtained in 5(a) above from the reading obtained in the actual test. Instrument measures its own lead resistance at the same time it measures circuit or device resistance. Subtracting the test lead resistance gives a more accurate resistance measurement. Also, make certain good electrical contact is made with test points. Because of the sensitivity of the instrument, even slight corrosion on probe tips or test points may cause erroneous readings. To clean probe tips, use fine steel wool.

ACCESSORIES

The AMPROBE AC/DC instruments may be used with the Energizer Model A-47L for either AC or DC. They may also be used with the Amptran CT-50-1 or CT-50-2 for AC only.

Pt. No. 920755
7/85

OPERATING INSTRUCTIONS

AMPROBE®

AC/DC Digital Clamp-on Instruments Models ACDC1000 and ACDC1001

Specifications

Ranges: Both models 0-199.9/999 amperes and volts, AC and DC in the "Continuous" mode. Model ACDC1000 also measures 0-199.9/1999 ohms and also measures AC and DC* volts and amperes up to 999 in the "Peak" mode for capturing motor-starting currents and other surges.

AC is average-sensing, RMS reading except in Peak mode where it is peak-sensing, RMS reading: DC is average-sensing, average reading.

*Continuous, chopped, half-wave or full-wave.

Frequency Response: AC 40 to 400 Hz; chopped DC 30 to 300Hz with duty cycle of 20% to 90%.

Accuracy*:

±1% of reading ±5 LSD**	±1% of reading ±1 LSD*
0-999 Amps DC	0-999 Volts DC
0-999 Volts AC	0-1999 ohms (ACDC1000)
0-750 Amps AC	±3.5% of reading ±5 LSD**
	750-999 Amps AC

*Based on sinusoidal waveform for AC and Continuous DC

**Least Significant Digit

Case Voltage Breakdown: 3000VAC/DC

Ohmmeter Test voltage: 3.5 Volts

Power: 1 No. MN1604, 9V Alkaline Battery (not supplied)

Fuse: 1 No. 8AG-361,1 Amp Fast Blow (supplied)

Operating Temperature and Humidity: +32° F to 120F; 0° C to 49° C. Up to 80% RH

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DIVISION OF CORE INDUSTRIES INC., LYNBROOK, NEW YORK 11563

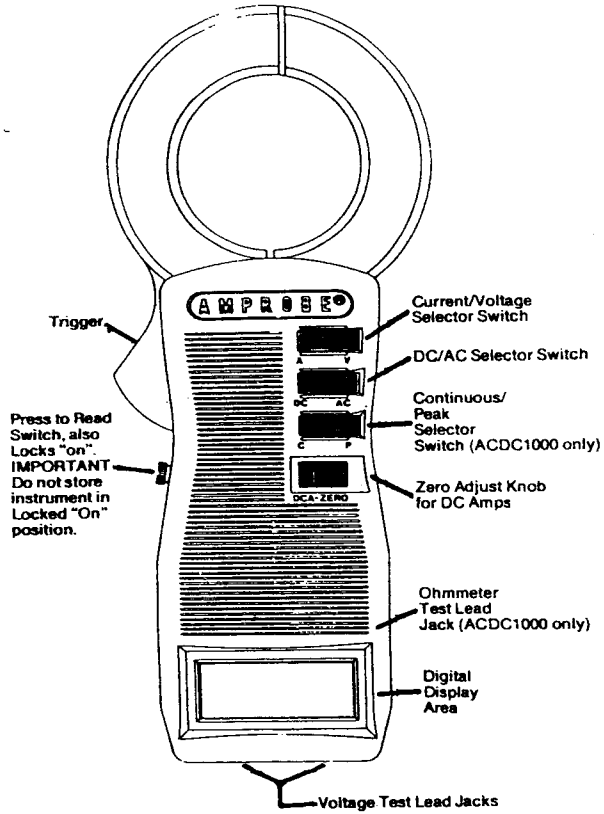

Figure 1

GENERAL

The Model ACDC1000 will directly measure AC or DC current or voltage and resistance and provide a digital readout of the value. The Model ACDC1001 will directly measure AC or DC current or voltage and provide a digital readout of the value.

When measuring AC, both instruments are Average-sensing, RMS reading except when the Model ACDC1000 is used in the "P" mode in which case it is Peak-sensing, RMS reading; when measuring DC, both instruments are Average-sensing, Average reading.

Helpful Hints for Getting Top Performance From Your Digital Clamp-On

Make certain that all the switches (DC/AC, A/V, C/P) are slid fully into one position or the other.

When measuring resistance, make certain the voltage test lead that is being used is inserted into the jack marked "COM" on the back of the instrument.

When measuring currents of widely varying values, start with the conductor in which you expect to find the lowest current, then the next highest, etc. To reduce the possibility of retained magnetism in the jaws, open and close the jaws a few times between measurements.

When using the Peak Mode to take and lock in a low current measurement that is to be read away from the conductor, open the jaws slowly and slowly remove them from around the conductor.

When measuring resistance, the "C/P" Selector Switch should be in the "C" position. In the "P" position, any accidental opening of the circuit will cause a locked-in, over-range indication unless the Press-to-Read button is released.

The temperature operating range of your instrument is +32° F to +120° F. If the instrument has been in a location where the temperature was lower than 32° F or higher than 120° F allow the instrument to adjust to within the operating temperature range.

LIMITED WARRANTY

Congratulations. You are now the owner of an AMPROBE® instrument. It has been union crafted according to quality standards and contains quality components and workmanship. This instrument has been inspected for proper operation of all of its functions. It has been tested by qualified factory technicians according to the long-established standards of AMPROBE INSTRUMENT.

Your AMPROBE® instrument has a limited warranty against defective materials and/or workmanship for one year from the date of purchase provided the seal is unbroken or in the opinion of the factory the instrument has not been opened, tampered with or taken apart. Should your instrument fail due to defective materials, and/or workmanship during the one-year warranty period, return it along with a copy of your dated bill of sale which must identify instrument by model number and serial number (located on back of instrument).

For your protection, please use the instrument as soon as possible. If damaged, or should the need arise to return your instrument, it must be securely wrapped (to prevent damage in transit) and sent prepaid via Air Parcel Post insured or UPS where available to Service Division, AMPROBE INSTRUMENT, 630 Merrick Rd., use for U.P.S., P.O. Box 329, use for P.P., Lynbrook, New York 11563 U.S.A. Outside of U.S.A. your AMPROBE respresentative will assit you.

Above limited warranty covers repair and replacement of instrument only and no other obligation is stated or implied.

PRECAUTIONS FOR PERSONAL AND INSTRUMENT PROTECTION

IMPORTANT:

1. Before using any electrical instrument or tester for actual testing, the unit should be checked on a known live line to make certain it is operating properly.
2. In many instances you will be working with dangerous levels of voltage and/or current; therefore, it is important that you avoid direct contact with any uninsulated, current-carrying surfaces. Appropriate insulating gloves and clothing should be worn.
3. The jaws of clamp-on instruments should not, under any circumstances, be used as a device to hold the instrument when taking other than a current reading. When using a clamp-on as a voltmeter or ohmmeter never clamp the jaws around or on to a conductor. box or anything else—conducting or non-conducting—except a test lead
4. Before applying test leads to circuit under test, make certain that test leads are plugged into proper instrument jacks.
5. Make certain no voltage is present in circuit, before connecting ohmmeter to circuit.
6. Should the instrument accidentally be used to try to measure a voltage or current beyond the range of the instrument, immediately remove the instrument from the circuit. See Over-Range Indication.
7. When not in use, keep instrument in its carrying case.
8. When instrument will not be used for a period of time, remove the battery from instrument.
9. Use only AMPROBE test leads and accessories.

ACCURACY

The accuracy is based on a percentage of reading plus or minus a number of Least Significant Digits (See Page 1)

Example 1: Instrument reading is 850 Amperes DC—
±1% of reading equals ±8.5 amps or ±9 because this would be measured on the high range which does not read out in tenths. Combining the ±9 with the possible ±5 LSD, we get ±14 as the maximum possible error which means the actual current value is between 836 and 864.

Example 2: Instrument reading is 20.0 volts DC—
±1% of reading equals ±0.2. Combining the ±0.2 with the possible ±1LSD, we get ±0.3 as a maximum possible error which means the actual voltage value is between 19.7 and 20.3.

PRESS-TO-READ SWITCH

To take a reading once the instrument has been connected as per the following instructions, push in on the Press-to-Read button. See Fig. 1.

To "lock" the button "On" for a continuous readout, gently push in on the Press-to-Read button and while depressed turn it counter-clockwise 1/8 turn.

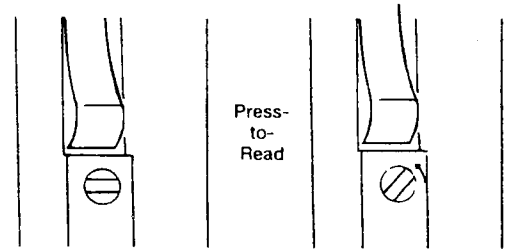

Figure 2

CONTINUOUS OR PEAK OPERATION (Model ACDC1000 Only)

The Model ACDC1000 can be used to continuously monitor a fluctuating variable (current, voltage, resistance) or to measure the peak (surge) value of a variable, such as a motor starting current. Peak must last at least 0.08 seconds. Motor starting currents normally persist for approximately 0.17 seconds.

The Peak Mode can also be used to take and lock in a measurement when the display cannot be read because of instrument position. Lock "On" the Press-to-Read button. Connect instrument for the measurement (volts, amps). Remove instrument to a position where it can be read. Unlock Press-to-Read button. Note: In the "Peak" mode the display will lose one least significant digit every 40 seconds.

For continuous operation, move the C/P Selector Switch to the left into the "C" position. For peak measurements, move C/P Selector Switch to the right into the "P" position. See Fig. 3.

IMPORTANT: In the AC mode, push in the "Press-to-Read" button *before* moving the "C/P" switch into the "P" position to avoid an erroneous reading due to the "Press-to-Read" switch closure.

Figure 3