

OPERATING INSTRUCTIONS

for
AMPROBE®
Digital Clamp-On
Volt/Amp/Ohmmeter
Model ACD-10

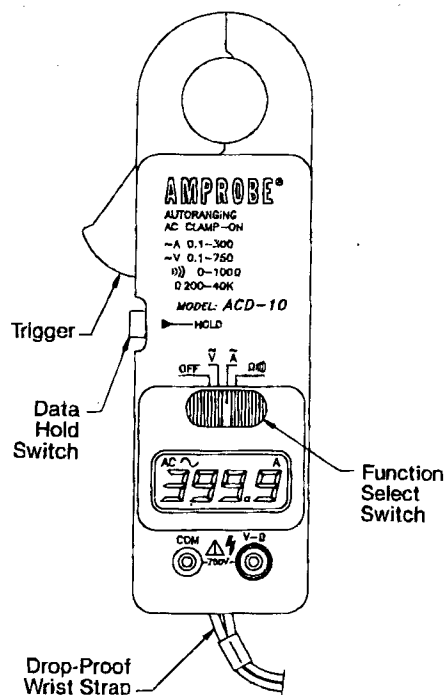


Fig. 1

See "PRECAUTIONS FOR PERSONAL AND
INSTRUMENT PROTECTION" on Page 3

See "LIMITED WARRANTY" on Page 2

AMPROBE INSTRUMENT®
DIVISION OF CORE INDUSTRIES INC., LYNBROOK, NEW YORK 11563

LIMITED WARRANTY

Congratulations! You are now the owner of an AMPROBE® instrument. It has been quality 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 that, in the opinion of the factory, the instrument has not been 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.

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 Road (For U.P.S.) • P.O. Box 329 (For P.P.)
Lynbrook, NY 11563-0329

Outside the U.S.A. the local Amprobe representative will assist you. Above limited warranty covers repair and replacement of instrument only and no other obligation is stated or implied.

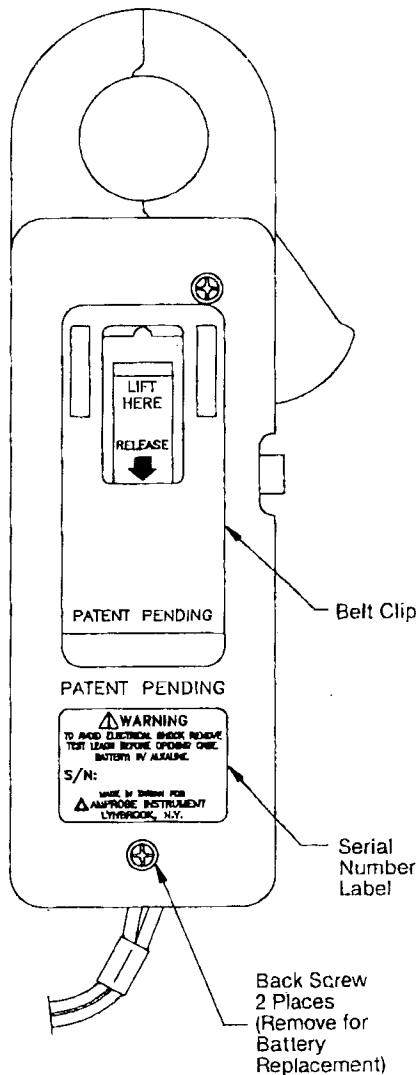
PRECAUTIONS FOR PERSONAL AND INSTRUMENT PROTECTION

- 1) Read these instructions thoroughly and follow them carefully.
- 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) Before connecting or disconnecting the meter to or from the circuit to be tested, turn off all power to the circuit.
- 4) Before applying test leads to circuit under test, make certain that leads are plugged into proper jacks and switches are set to proper range and function.
- 5) Before using any electrical instruments or tester for actual testing, the unit should be checked on a low energy high impedance source. **Do not use power distribution lines or any other high energy sources.**
- 6) If the instrument should indicate that voltage is not present in circuit, do not touch circuit until you have checked to see that all instrument switches are in proper position and instrument has been checked on a known live line.
- 7) Make certain no voltage is present in circuit before connecting ohmmeter to circuit.

IMPORTANT: Plug in only one accessory probe or set of test leads at any one time, except as directed.

IMPORTANT: Failure to follow these instructions and/or the above precautions may result in personal injury and/or damage to the instrument and/or accessories.

Fig. 2
Back View



SPECIFICATIONS

Type of Display: 3 $\frac{3}{4}$ digits LCD
 Size of Digits: 0.5"
 Over-range Indication: "O.L."
 Low Battery Indication: In Display
 Functions: AC Amps, AC Volts, Continuity, Hold
 Function Select: Slide Switch (4 positions)
 Ranging: Auto
 Ranging Point: 399 \pm 4 counts
 AC Volts: 0-400, 400-750
 Resolution: 0.1V for 0-400V, 1V for 400-750
 Overload Protection: 850 VAC Max.
 Input Impedance: 10 Megohms
 Accuracy: 1.2% \pm 3 LSD
 AC Current: 0-300 Amps
 Resolution: 0.1 Amp
 Overload Protection: 500 Amps for one minute
 Duty: Continuous for up to 300 Amps
 Accuracy: 1.5% \pm 5 LSD 0-50 Amps
 1.5% \pm 3 LSD 50-300 Amps
 Continuity with Buzzer: 0-100 Ohms
 Ohms: 200 Ω to 40K Ω ; accuracy \pm 2% of reading \pm 5 LSD
 Ohms/Continuity: Circuit Protection 550 VAC for one minute by PTC.
 Hold Function: Separate button on side.
 No decay in reading.
 Power Supply: 9V battery
 Measurement Rate: 4 times per second minimum
 Response Time: Not more than 3.5 seconds with no more than 3 LSD fluctuations.
 Maximum Jaw Opening: 1.10" (28mm)
 Maximum Conductor Size: 1.02" (26mm)
 Operating Temp/Humidity: 32 Ω F (0 $^{\circ}$ C) to 120 $^{\circ}$ F (49 $^{\circ}$ C) 80% RH
 Storage Temp/Humidity: 20 $^{\circ}$ F (-6 $^{\circ}$ C) to 140 $^{\circ}$ F (60 $^{\circ}$ C) 80% RH
 Weight: 8 oz. (226 gms)
 Size: 6 $\frac{3}{4}$ " \times 2 $\frac{1}{2}$ " \times 1 $\frac{1}{4}$ " (17.14cm \times 6.35cm \times 3.175cm)
 Battery Life: More than 180 hours

UNPACKING AND INSPECTION OF CONTENTS

Included with the Clamp-On meter should be the following items:

- 1) Two test leads; one black, one red
- 2) Instruction Booklet
- 3) Carrying Case

DESCRIPTION

Model ACD-10 will directly measure AC current, AC voltage and resistance. It is average sensing but calibrated to give an RMS readout of the variable being measured. When the HOLD button is activated, the reading in the display is held indefinitely. The instrument is auto ranging with a 3 $\frac{3}{4}$ digit display.

CIRCUIT PROTECTION

The OHM/CONTINUITY function is protected to a maximum 550 volts by utilizing a positive temperature coefficient resistor (PTC). All resistance ranges are protected against misapplication of voltage for not longer than one minute.

LOW BATTERY INDICATION

Replace the battery when the low battery indication appears in the display. Use a MN1604 9V Alkaline battery.

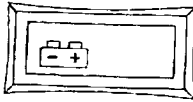


Fig. 3 Low Battery

BATTERY INSTALLATION

Remove two back screws and pull back cover off. Carefully snap battery into connector. Align back cover and snap into place. Insert screws and tighten. (See fig. 2)

OVER-RANGE INDICATION

When the input exceeds the range capability of the instrument, an over-range indication "O.L." will appear in the display.

HELPFUL HINTS FOR GETTING TOP PERFORMANCE FROM YOUR DIGITAL CLAMP-ON

- 1) When measuring Amps, be sure to center the jaws of the Clamp-On around conductor whose current is being measured.
- 2) Be sure the jaws are closed properly before taking reading.
- 3) When measuring current of widely varying values, start with the conductor in which you expect to find the lowest current, then next highest etc. To reduce the possibility of retained magnetism in the jaw, open and close the jaws a few times between measurements.

HOW TO MEASURE AC CURRENT

- 1) Disconnect voltage test leads if connected to the instrument.
- 2) Turn instrument on by moving function select switch (fig. 1) to Amps position.
- 3) Be sure HOLD switch is not depressed.
- 4) Encircle single conductor with jaws of instrument.
- 5) Release finger pressure on trigger and allow jaws to close around conductor.
- 6) If current to be measured is greater than 400 Amps, instrument will automatically shift to higher range.

HOW TO MEASURE AC VOLTAGE

IMPORTANT
Read "PRECAUTIONS FOR PERSONAL & INSTRUMENT PROTECTION" before using Instrument

- 1) Connect voltage test leads to instrument.
- 2) Turn instrument on and move function select switch to volts positions.
- 3) Be sure HOLD switch is not depressed.
- 4) Apply test probes to points of circuit to be measured.
- 5) If voltage to be measured is higher than 400 Volts, instrument will automatically shift to higher voltage range.

HOW TO MEASURE RESISTANCE

IMPORTANT
Read "PRECAUTIONS FOR PERSONAL & INSTRUMENT PROTECTION" before using Instrument

- 1) Connect test leads to instrument.
- 2) Turn instrument on by moving rotary switch to "Ω" position.
- 3) For continuity check, buzzer will sound for resistance from 0-100Ω*, when test probes are connected to resistance to be checked.
- 4) For measurement of Ohms from 200 to 40K read display directly, when test probes are connected to resistance to be checked.

*Sound may be heard above 100 Ohms. Do not interpret the digital readout from 0-200 Ohms.

ACCESSORIES

Below is a listing of Amprobe accessories that can be used with the ACD-10 to enhance its measuring capability:

- A-47L — Engergizer
- A50-1 — Deca-Tran
- ADP-45 — Adaptor to convert male plug to alligator clip