

## OPERATING INSTRUCTIONS

for  
**AMPROBE®**  
Digital Clamp-On  
Volt/Amp/Ohmmeter  
Model ACD-10 Super  
and  
Model ACD-10H Super

### SERVICIO

El número de manufactura se encuentra detrás del instrumento. Para el servicio en fábrica, embale el instrumento y la lista de contenido con un material que lo amortigüe suficientemente, dentro de una caja para envío; asegúrese de que en la caja y en la lista de contenido aparezcan su nombre y dirección; envíela con flete prepago por U.P.S. (donde lo haya) o por Encomienda Postal Aérea a:

Service Division  
AMPROBE INSTRUMENT  
630 Merrick Road (Para U.P.S.)  
P.O. Box 329 (para Encomienda Postal)  
Lynbrook, NY 11563-0329  
U.S.A.

Fuera de los EE.UU. le ayudará el agente local de AMPROBE.

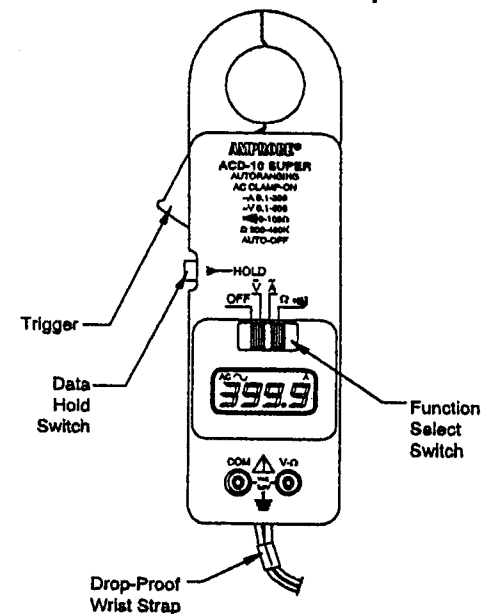


Fig. 1

See "PRECAUTIONS FOR PERSONAL AND INSTRUMENT PROTECTION" on Page 3  
See "LIMITED WARRANTY" on Page 2



### 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 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 manufacturing 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 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 Parcel Post)  
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 precautions may result in personal injury and/or damage to the instrument and/or accessories.

 **Caution** - refer to explanation on page 11 of manual.

 **Double Insulation**

Fig. 2  
Back View

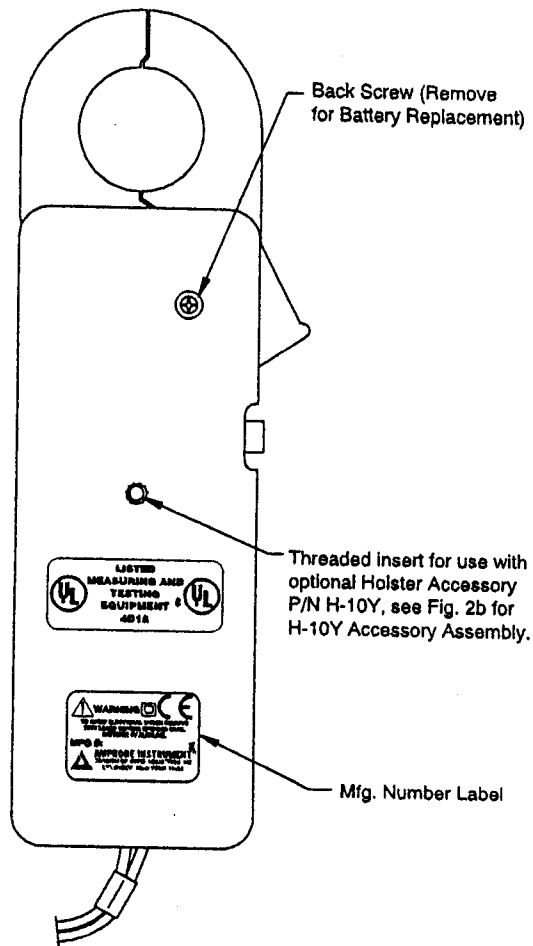
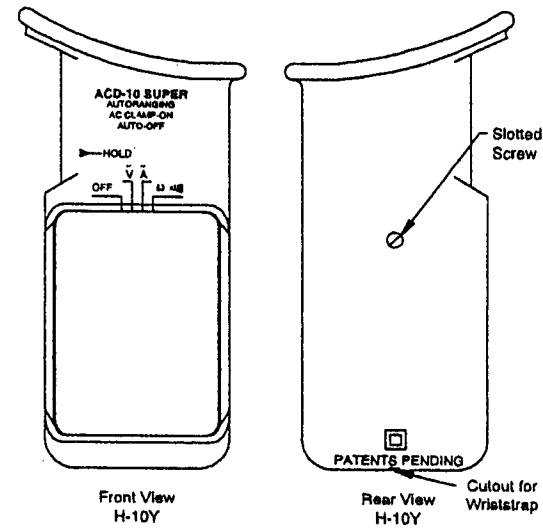


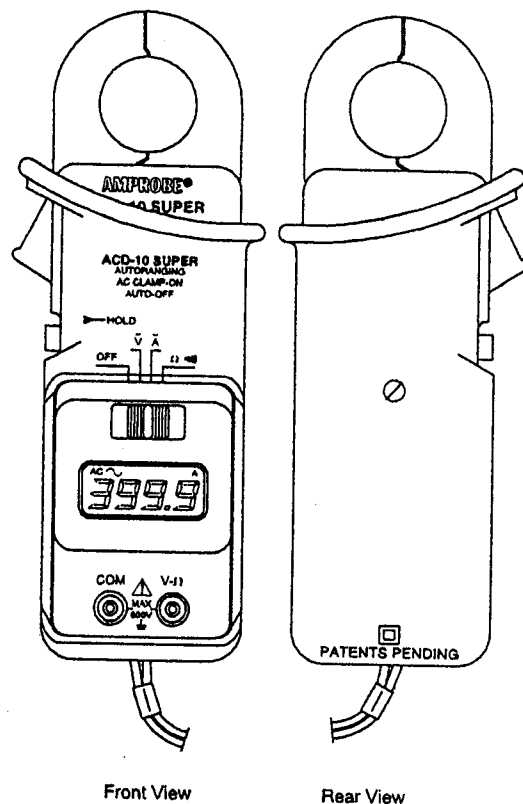
Fig. 2a  
H-10Y Holster Accessory



Assembly Instructions

- 1) Hold ACD-10 Super with back of unit facing user.
- 2) Back out slotted screw from H-10Y Holster.
- 3) Insert ACD-10 Super into top of holster, thread wrist strap through cutout at bottom of the holster.
- 4) Carefully press the Jaw Trigger down as you insert the Holster over the Trigger. Once the Holster is in place, it should be in alignment with the threaded insert on the rear of the ACD-10 Super case.
- 5) Tighten the screw to secure Holster in place.
- 6) Please notice that the slide switch on the front of the ACD-10 Super will line up with the OFF, V, A,  $\Omega$ ) annunciators of the H-10Y. Observe LCD annunciators as well to insure proper range is selected prior to use.

Fig. 2b  
ACD-10 Super with  
H-10Y Holster Accessory



Front View

Rear View

## SPECIFICATIONS

**Type of Display:** 3 1/4 digits LCD, 4000 count

**Size of Digits:** 0.5"

**Over-range Indication:** "O.L"

**Low Battery Indication:** In Display, "BAT"

**Functions:** AC Amps, AC Volts, Continuity, Hold

**Function Select:** Slide Switch (4 Positions)

**Ranging:** Auto

**Ranging Point:** 390 ±5 counts

**AC Volts:** 0-400, 400-600 (50/60 Hz).

*Resolution:* 0.1V for 0-400V, 1V for 400-600V

*Overload Protection:* 850VAC Max.

*Input Impedance:* 10 Megohms

*Accuracy:* 1.2% of rdg. ±3 LSD

**AC Current:** 0-300Amps (50/60Hz).

*Resolution:* 0.1Amp

*Overload Protection:* 500 Amps for one minute

*Duty:* Continuous for up to 300 Amps

*Accuracy:* 1.5% of rdg. ±5 LSD 0-50 Amps

1.5% of rdg. ±3 LSD 50-300 Amps

**Continuity with Buzzer:** 0-100 Ohms

**Ohms:** 200Ω to 40KΩ; accuracy ± 2% of reading ±5 LSD

**Ohms/Continuity:** Circuit Protection 550VAC 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 and Storage**

**Temp/Humidity:** 41°F (5°C) to 104°F (40°C)/80% max. relative humidity for temperatures up to 87.8°F (31°C) decreasing linearly to 50%RH at 104°F (40°C).

**Weight:** 8 oz. (226 gms)

**Size:** 6 1/4" x 2 1/2" x 1 1/4" (17.14 cm x 6.35 cm x 3.175cm)

**Battery Life:** More than 180 hours

**Case Breakdown:** 3000 Volts AC

**Auto-Power Off:** Approx. 20 minutes

**Safety Standards:** UL3111-1, CAN/CSA-C22.2 No. 1010.1-92, (indoor use).

**Insulation Co-ordination:** Installation Category III, Pollution Degree 2

## UNPACKING AND INSPECTION OF CONTENTS

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

- 1) Two test leads; one black, one red, DTL-12
- 2) Instruction Booklet
- 3) Carrying Case, SV-16
- 4) ACD-10H Super includes, H-10Y Holster

## DESCRIPTION

Model ACD-10 Super and ACD-10H Super will directly measure AC current, AC voltage and resistance. It is average sensing but calibrated to give an RMS readout of the sinewave being measured. When the HOLD button is activated, the reading in the display is held indefinitely. The instrument is auto ranging with a 3 1/2 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.

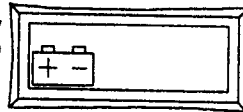


Fig. 3 Low Battery

## BATTERY INSTALLATION

Remove one back screw and pull back cover off. Carefully snap battery into connector. Align back cover and snap into place. Insert screw 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 jaw 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 (Red to V and Black to COM).
- 2) Turn instrument on and move function select switch to volts position.
- 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 (Red to V and Black to COM).
- 2) Turn instrument on by moving slide 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.

## AUTO-POWER OFF FUNCTION

Once the Clamp-On meter is powered on, a timer is activated which will turn the unit off after approximately 20 minutes. If you wish to continue making measurements after the unit automatically powers off, you must switch the function selector to "OFF" and then back to the desired function.

## ACCESSORIES

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

ETL-10 - Extendo Lead Set

## REPLACEMENT PARTS

Below is a listing of Amprobe replacement parts for use with the ACD-10 Super Clamp-On:

DTL-12 - Standard Test Leads  
(Set of two - Red & Black)

SV-16 - Soft Vinyl Padded Case

MN-1604 - 9 Volt Alkaline Battery

H-10Y - Holster

## CLEANING AND STORAGE INSTRUCTIONS

Instrument should be cleaned with a damp cloth. Do not use abrasives or solvents. Open the clamp jaws and wipe the magnetic pole pieces with a lightly oiled cloth. If instrument will not be used for a long period of time, remove battery. Store it separately.



Do not apply more than 600V RMS to input terminals. Exceeding this limit creates a shock hazard and may damage the instrument.