

**OPERATING  
INSTRUCTIONS**

**for**

**AMPROBE®**

**Digital Multimeters**

**Models**

**AM-15A**

**AM-16A**

**AM-18A**



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**See "Precautions for Personal and  
Instrument Protection" on Page 3**

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**See "Limited Warranty" on Page 2**

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**ISO-9002 SYSTEM CERTIFIED**



**AMPROBE®**

**A United Dominion Company**

### LIMITED WARRANTY

Congratulations! You are now the owner of an AMPROBE instrument. It has been crafted according to the highest standards of quality 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.

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 the instrument by model number and serial number.***

**IMPORTANT :** For your protection, please use the instrument as soon as possible. If damaged, or should the need arise to return your instrument, place it in a shipping carton packed with sufficient cushioning material. It must be securely wrapped, Amprobe is not responsible for damage in transit. Be sure to include a packing slip (indicating model and serial number) along with a brief description of the problem. Make certain your name and address appears on the box as well as packing slip.

Ship prepaid via Air Parcel Post insured or U.P.S. (where available) to:

**Service Division  
AMPROBE®  
630 Merrick Road (use for U.P.S.)  
P.O.Box 329 (use 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 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, clothing and eye protection should be worn.
3. To avoid electrical shock to the user and/or damage to the instrument, do not apply more than 600V between any terminal and ground.
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. When measuring current using the mA or 10A input: Before connecting or disconnecting the meter to or from the circuit to be tested, turn off all power to the circuit.
7. Do not attempt to measure a voltage unless you are already certain that the voltage is below 600VAC or 600V DC. Do not use the 200mV range unless you are already certain that the voltage is below 500V (AC or DC).
8. 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.
9. 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 observe the above precautions may result in personal injury and/or damage to the instrument and/or accessories.

### SAFETY

This Instruction Manual has warning and safety precaution information which must be followed in order to ensure safe operating conditions.

### CAUTION

To avoid damage to the meter.

1. Disconnect the test leads from circuit under test before changing functions.
2. Never connect instrument to a voltage source with the rotary switch in the Ohms position.
3. Always use the correct replacement fuse.  
Check manual for proper fuse rating;

### INTRODUCTION

Amprobe's Model's AM-15A, AM-16A, AM-18A Digital Multimeters are designed for use in the field, laboratory and the home. These compact instruments give the user all the job rated functions to get the job done.

In addition to measuring Volts, Ohms and Amps, etc. Some models can measure capacitance, perform diode and continuity tests.

The units are equipped with a tilt stand for ease of readability and a protective holster with built in test probe holders.

| Model  | DCV | ACV | DCA | ACA | CAP | ✚ | 🔊 | Ω |
|--------|-----|-----|-----|-----|-----|---|---|---|
| AM-15A | •   | •   | •   | •   |     | • | • | • |
| AM-16A | •   | •   | •   |     |     | • | • | • |
| AM-18A | •   | •   | •   | •   | •   | • | • | • |

### Unpacking and inspection of Contents

Included with each Multimeter should be the following items:

1. Two tests leads : one black and one red.
2. Instruction booklet.
3. Protective holster.

### SPECIFICATIONS

**Type of Display :** 3 3/4 digit, 3200 count.

**Ranging :** Autoranging / Manual

**Automatic Polarity Indication :**

"—" display for negative input.

**Overload Indication :** LCD displays "OL" or "-OL" blinks

**Auto Zero on all Ranges**

**Low Battery Indication :** Battery replacement is

required when LCD display 

**Sampling Rate :** 2 times/sec.

**Operating Temperature & Humidity :**

0°C to 50°C (32°F to 122°F) @ 80%RH

**Storage Temperature & Humidity :**

-20°C to 60°C (-4°F to 140°F) @ 80% RH.

**Dimensions with Holster : (W x L x H)**

**AM-15A** — 3.40" x 6.50" x 1.57"

(8.7 cm x 16.5 cm x 4.0 cm)

**AM-16A** — 3.15" x 6.50" x 1.42"

(8.0 cm x 16.5 cm x 3.6 cm)

**AM-18A** — 3.40" x 6.50" x 1.57"

(8.5 cm x 16.5 cm x 3.8 cm)

**Weight with Holster:**

**AM-15A** — 12.7 oz 360gms.

**AM-16A** — 10.9 oz 310gms.

**AM-18A** — 13.0 oz 370gms.

**Battery Life :** Greater than 600Hrs.

**Power Source :** IEC IR 03, AM4 or AAA size 1.5V x 2.

**Auto-Power Off :** Approximately 10 minutes.

**Temp. Coefficient :** 0.15 x (Spec. Acc'y) /°C,

<18°C or >28°C

**Case Breakdown Voltage :** 3000 VAC

**Circuit Protection :**

**AM-15A, AM-18A**

Micro-amp ( $\mu$ A) and milliamp (mA) ranges are fuse protected up to 600 volts AC/DC maximum with a 6.3 x 25-2-12 two amp fuse. Do not use substitute fuses.

All resistance ranges are overload protected against momentary misapplication of up to maximum of 500 volts AC/DC for no longer than ten seconds.

**AM-15A, AM-18A**

The 10 ampere range is fuse protected up to 600 volts AC/DC maximum with an AMPROBE fuse Pl.No. 6.3 x 25-10-12, ten amp fuse. Do not substitute fuse.

**IMPORTANT : Use of instrument and/or accessories on circuits with higher voltage and/or currents than the indicated overload limits may result in personal injury and/or damage to the instrument and/or accessories.**

**DC Voltage:**

**AM-15A**

300mV, 3V, 30V, 300V and 600V Ranges:  
 $\pm 0.7\%$  rdg + 2digits

**AM-16A & Am-18A**

300mV, 3V, 30V, 300V and 600V Ranges:  
 $\pm 0.5\%$  rdg + 2digits

Resolution : 0.1mV to 1V

Overload Protection : 600V

Input Impedance :  $10M\Omega$ .

**AC Voltage:**

**AM-15A** : 40Hz to 400Hz

**AM-16A & AM-18A** : 40Hz to 500Hz

Ranges : 3V, 30V, 300V, and 600V

**AM-15A** :  $\pm 1.7\%$ rdg + 5digits

**AM-16A & AM-18A** :  $\pm 1.5\%$ rdg + 5digits

Resolution : 1mV to 1V

Input Impedance :  $10M\Omega$

Conversion Type : Average Sensing, RMS calibrated.

Overload Protection : 600VAC

**DC Current :**

**AM-15A**

300 $\mu$ A, 3mA, 30mA, 20A Ranges :  $\pm 1.2\%$ rdg + 2digits,  
200mV max Burden.

20A Range :  $\pm 2.5\%$ rdg + 5digits, 2V max burden.

Resolution : 0.1 $\mu$ A to 10mA.

**AM-16A**

300 $\mu$ A, 3000 $\mu$ A Ranges :  $\pm 1.0\%$ rdg + 2digits, 600Vrms.

Resolution : 0.1 $\mu$ A to 10 $\mu$ A.

**AM-18A**

300 $\mu$ A, 30mA, Ranges :  $\pm 0.9\%$ rdg + 2digits,  
200mV max Burden.

3mA, 300mA Range :  $\pm 1.2\%$ rdg + 2digits,  
2V max Burden.

20A Range :  $\pm 2.5\%$ rdg + 5digits, 2V max Burden.

Resolution : 0.1 $\mu$ A to 10mA.

**AC Current : 40Hz to 500Hz**

**AM-15A**

300 $\mu$ A, 30mA Ranges :  $\pm 1.7\%$ rdg + 4digits,  
200mV max Burden.

3mA Range :  $\pm 1.7\%$ rdg + 4digits, 2V max Burden.

300mA Range :  $\pm 2.0\%$ rdg + 4digits, 2V max Burden.

20A Range :  $\pm 2.9\%$ rdg + 7digits, 2V max Burden.

**AM-18A**

300 $\mu$ A, 30mA Ranges :  $\pm 1.5\%$ rdg + 4digits,  
200mV max Burden.

3mA Range :  $\pm 1.5\%$ rdg + 4digits, 2V max Burden.

300mA Range :  $\pm 2.0\%$ rdg + 4digits, 2V max Burden.

20A Range :  $\pm 2.9\%$ rdg + 5digits, 2V max Burden

Resolution : 0.1 $\mu$ A to 10mA.  
 Conversion Type : Average sensing, RMS calibrated.

**Resistance :**

Range : 300 $\Omega$  , 3K $\Omega$ , 30K $\Omega$ , 300K $\Omega$ , 3M $\Omega$ , 30M $\Omega$ .

Resolution : 0.1 $\Omega$  , 1 $\Omega$ , 10 $\Omega$ , 100 $\Omega$ , 1K $\Omega$ , 10K $\Omega$ .

**Accuracy :**

300 $\Omega$  Range :  $\pm(1.0\%rdg + 4digits)$  (AM-16A, AM-18A)  
 $\pm(1.2\%rdg + 4digits)$  (AM-15A)

3K $\Omega$ , 30K $\Omega$ , 300K $\Omega$  Ranges :  $\pm(0.8\%rdg + 2digits)$   
 (AM-16A, AM-18A)  
 $\pm(0.9\%rdg + 2digits)$  (AM-15A)

3M $\Omega$  Range :  $\pm(1.2\%rdg + 3digits)$  (AM-15A)

$\pm(0.8\%rdg + 2digits)$  (AM-16A)

$\pm(1.0\%rdg + 3digits)$  (AM-18A)

30M $\Omega$  Range :  $\pm(2.5\%rdg + 5digits)$  (AM-15A)

$\pm(2.0\%rdg + 5digits)$  (AM-16A, 18A)

Open circuit Voltage : 1.3V approx.

Overload Protection : 600VDC or RMS AC

**Capacitance :**

**AM-18A**

3 $\mu$ F, 30 $\mu$ F Ranges :  $\pm(1.9\%rdg + 5digits)$ ,

Test Frequency 82Hz.

300 $\mu$ F Ranges :  $\pm(1.9\%rdg + 10digits)$

Test Frequency 8.2Hz.

3000 $\mu$ F Ranges :  $\pm(2.9\%rdg + 20digits)$ ,

Test Frequency 8.2Hz.

Overload Protection : 240VDC or RMS AC

**Diode Check and Continuity Test :**

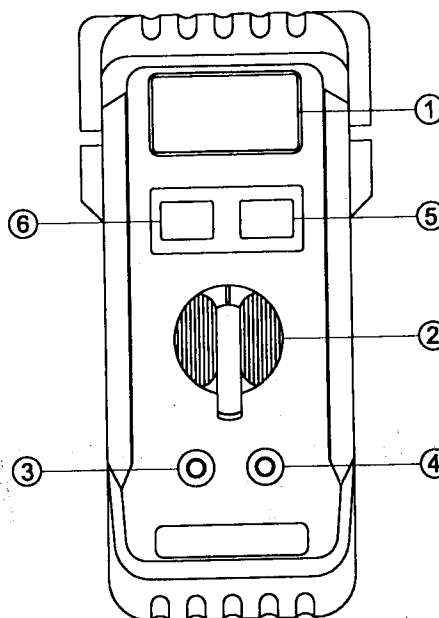
Diode Check — Max test current 1.5mA

Max Open Circuit Voltage 3.3V

Continuity Check —  $<50\Omega$  (AM-15A, AM-18A)  $<15\Omega$   
 (AM-16A) buzzer will sound.

Overload Protection — 600VDC or RMS AC max.

**INPUT TERMINALS  
 AND CONTROLS**



**Fig. A. AM-16A**

1. **Digital Display** — The digital display has a 3 3/4 digit LCD readout (maximum reading 3200) with 65 segments analog bar graph, auto polarity, decimal point, "E3" AC~, DC~, RANGE,  $\square$ ,  $\circ$ ,  $\rightarrow$ ,  $\mu$ A, M $\Omega$ , or K $\Omega$  or  $\Omega$  and other Unit annunciators.
2. **Rotary Switch** — Select the function and range as desired.
3. **COM Input Terminal** — Ground input connector.
4. **V $\Omega$  $\mu$ A Input Terminal** — Positive input connector for volts, ohms and diode and currents.
5. **Hold Switch** — This switch is used to hold a measured value for all functions, the "H" annunciator will be displayed.

6. **Range Switch (Manual Range)** — "Range" switch is pushed to select manual ranging and to change ranges. Push "Range" switch to select appropriate range to be used. Push "Range" switch and hold for 2 seconds to return to autoranging.

In "✚", "⦿" function this key is used to select the ✚ or ⦿ function.

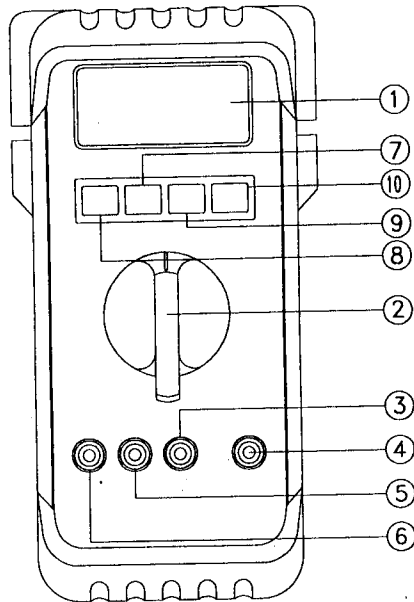


Fig. B AM-15A

1. **Digital Display** — The digital display has a 3 3/4 digit LCD readout (maximum reading 3200) with 65 segments analog bar graph, auto polarity, decimal point,  $\frac{E}{3}$ , "H", DC  $\equiv$ , AC  $\sim$ , ✚, ⦿, RANGE and Unit annunciators.
2. **Rotary Switch** — Select the function and range desired.

3. **COM INPUT Terminal** — Return terminal for all measurements.
4. **VΩ✚ Input Terminal** — Positive input connector for volts, ohms, diode and diode measurement.
5. **μA mA Input terminal** — Positive input connector for current measurements (up to 30mA)
6. **A Input Terminal** — Positive input connector for current measurements. (up to 10A)
7. **Function Switch (Blue)** — Push the switch to measure AC current or DC current in the current mode or to measure continuity or diode in ✚ ⦿ mode.
8. **Reset Switch** — The meter can be turned back on by pushing "RESET" key switch.
9. **Hold Switch** — This switch is used to hold a measured value on any function, the "H" annunciator is displayed in the LCD window.
10. **Range Switch (Manual Range)** — "Range" switch is pushed to select manual ranging and to change ranges. When "Range" switch is pushed once, "AUTO" annunciator on LCD disappears. Push "RANGE" switch to select appropriate range to be used. Push "Range" switch and hold 2 seconds to return to autoranging.

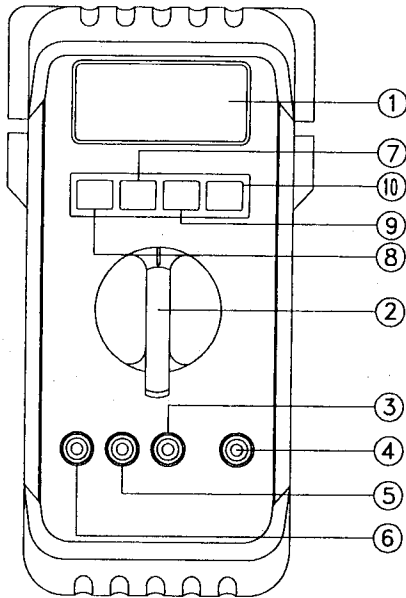


Fig. C AM-18A

1. **Digital Display** — The digital display has a 3 3/4 digit LCD readout (maximum reading 3200) with 65 segments analog bar graph, auto polarity, decimal point,  $\frac{E}{3}$ , "H", DC  $\equiv$ , AC  $\sim$ ,  $\rightarrow$ ,  $\rightarrow$ , RANGE and other annunciators.
2. **Rotary Switch** — Select desired function and range.
3. **COM INPUT Terminal** — Return terminal for all measurements.
4. **V  $\Omega$   $\rightarrow$  Input Terminal** — Positive input jack for volts, ohms, and diode ranges.
5.  **$\mu$ A mA  $\rightarrow$  Input terminal** — Input connet for current Capacitance measurements up to 300mA.
6. **A Input Terminal** — Positive input terminal for current measurements up to 10A.

7. **Function Switch (Blue)** — Push the switch to measure AC Voltage or DC Voltage in the Voltage mode, to measure AC current in the current mode or to measure continuity or diode in  $\rightarrow$   $\rightarrow$  mode.
8. **Reset Switch** — The meter can be turned back on by pushing "RESET" key switch.
9. **HOLD Switch** — This switch is used to hold a measured value for all functions. When pressed the "H" annunciator is displayed. Conversions are made but the display is not updated.
10. **Range Switch (Manual Range)** — "Range" switch is pushed to select manual ranging and to change ranges. When "Range" switch is pushed once, "RANGE" annunciator on the LCD disappears. Push "RANGE" switch to select appropriate range to be used. Push "Range" switch and hold 2 seconds to return to Autoranging.

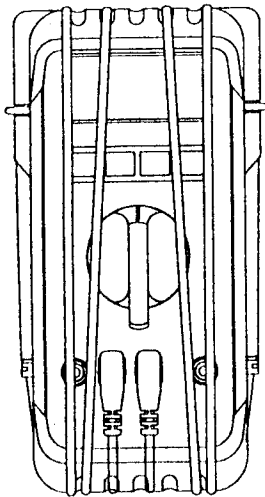


Fig. E  
Front view showing test leads in storage position

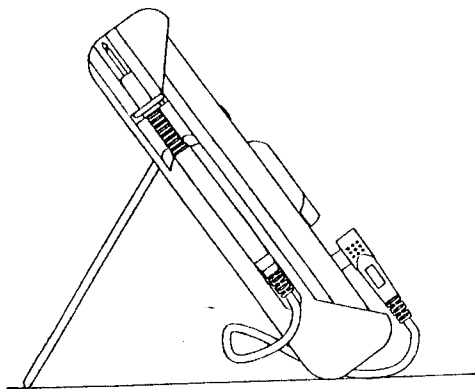


Fig. D  
Side view showing probe holders and tilt stand

## BATTERY REPLACEMENT

### To install a new battery:

1. Disconnect the test leads from any circuit under test and turn off the meter.
2. Remove the test leads and holder from the meter.
3. Lay the meter face down on a work surface that will not damage its face.
4. Remove the screw on the case bottom.
5. Gently lift the end of the case bottom from which the screw was removed.
6. Remove two 1.5V battery and replace a new one.
7. Replace the case bottom, secure screws.

### FUSE REPLACEMENT (AM-15A, AM-18A)

1. Follow steps 1 through 5 from the "Battery Replacement" procedure.
2. Carefully lift the circuit board assembly from the top case, turn circuit board over, revealing fuses.
3. Remove the defective fuse and replace it with a new one as noted in the parts list on Page 24.
4. Install circuit board into top case. Position the battery in its location.
5. Replace bottom case and secure screw.

## MAKING MEASUREMENTS

### Preparation & Caution Before Measurement.

1. Wait 10 seconds after turning on the meter before making a measurement.
2. The rotary switch should be set to the function which you want to use before connecting the probes to the device being tested. Be sure to remove the test leads from the equipment being measured before switching the rotary switch to a new function.
3. If the meter is used near equipment that generates electro-magnetic interference, the display may be unstable or indicate incorrect measurement values.
4. Inspect the test leads periodically for breaks in the insulation or the wire. Make a continuity check whenever in doubt. Replace leads if found defective,

## Diode and Transistor Test Measurements

The special Diode Test Function  $\rightarrow$  allows relative Measurements of forward voltage drops across diode and transistor junctions. This function also permits Measurement of in-circuit semiconductor junctions.

### Diode Check

1. Set the rotary switch at  $\rightarrow$ .
2. Connect black test lead to "COM" terminal and red test lead to ( $V\Omega\mu A$  AM-16A), ( $V\Omega\rightarrow$  AM-15A, AM-18A) terminal.
3. Connect test leads to the diode. Red to band end, black to other end. The forward voltage drop of a good silicon diode is typically .400v to .900v. If the diode under test is defective on "000" indicates a short circuit. An approximate 3.3V indicates a non conducting or open state. Reverse check of diode (reverse test leads). A good diode will indicate approximately 3.3V. If the diode under test is defective, a lower value or zero is displayed.

### Continuity Test

1. Connect red test lead to the input terminal ( $V\Omega\mu A$  AM-16A) or ( $V\Omega\rightarrow$  AM-15A & AM-18A). Connect the back test lead to the "COM" input terminal.
2. Set the rotary function selector to  $\rightarrow$ .
3. Connect the test leads to the circuit to be measured. The continuity buzzer will sound if circuit resistance is less than ( $15\Omega$  AM-16A) or ( $50\Omega$  AM-15A & AM-18A).

### Voltage Measurements

- $\Delta$  Do not apply more than 600VDC or 600VAC RMS to input. Do not apply more than 600 Volts between any input terminal and earth ground. Exceeding these limits creates a shock hazard and may damage the instrument.

1. Connect the red test lead to the ( $V\Omega\mu A$  AM-16A), ( $V\Omega\rightarrow$  AM-15A & AM-18A) input terminal. Connect the black test lead to the "COM" input terminal.
2. Select AC or DC. AM-16A, AM-15A, move selector switch to " $V\sim$ " or " $V=$ " AM-18A, move selector switch to " $V\sim$ " and push Blue switch.  
Note: "AC" annunciator is displayed in LCD when AC has been selected.
3. Connect test lead to the device to be measured.
4. When the input is "OVERRANGE" the LCD indicates "OL" or "-OL".
5. WARNING: DO NOT EXCEED 600VDC or 600VRMS AC limits as stated in specifications.

### Current Measurement

- $\Delta$  DO NOT exceed current rating of current ranges.  
If range is not known, start at high range.

1. Connect the red test lead to mA or 10A terminal. (AM-15A, AM-18A).  $V\Omega\mu A$  terminal (AM-16A). Connect the black test lead to "COM" terminal.
2. Set function selector switch to appropriate range. Select AC or DC as required by pushing Blue (AM-15A & AM-18A) button.
3. Connect the test leads in series to the load.

### Input Jack Alarm (AM-15A, AM-18A)

A beep will sound if the test lead is connected to the mA or 10A input terminal. But the rotary switch is not in the mA or 10A positions.

**WARNING:** DO NOT apply voltage between mA/10A and COM terminals.

### Capacitor Measurement (AM-18A only).

#### CAUTION:

1. Fully discharge any capacitor to be measured
2. Observe polarity when testing polarized capacitors.
3. Connect the red test lead to the  $\rightarrow\mu A$  mA input terminal. Connect the black test lead to the "COM" input terminal.
4. Select the capacitance range you wish to use.
5. Connect the test leads to the capacitor to be measured.

## Resistance Measurement

See "PRECAUTIONS" and "CAUTIONS"  
On pages 3 and 4

1. Connect the red test lead to the "V  $\Omega$   $\blacktriangleright$ " terminal (AM-15A & AM-18A).
2. Set the rotary selector to " $\Omega$ " position to measure resistance up to 30M  $\Omega$ .
3. Connect test leads to circuit. NOTE: Ensure circuit under test contains **NO VOLTAGE**.

### USING ACCESSORIES WITH THE AM-15A, AM-16A, AM-18A

#### High Current Measurement with AC Clamp-on Transducers.

AC current can be measured using a clamp-on current transducer available as an accessory - Model A663-4B or A-400 for 0-300 amps AC; mode A664-4B for 0-1000 amps AC

1. Select the 2V AC range.
2. Plug the leads of the transducer into the "COM" and the "V  $\Omega$   $\mu$ A" jacks of the AM-16A, "V  $\Omega$   $\blacktriangleright$ " jacks AM-15A, AM-18A.
3. Clamp the current transducer around a single conductor.
4. Read the display directly using the conversion of 1mV=1amp e.g. If the instrument is in the 2V range and the display is showing 0.976, ignore the decimal point and interpret the reading as 976 amps.

Transducers are calibrated to give an output of 1mV/ 1 amp AC from 45-500Hz based on sinusoidal waveforms.

**NOTE:** The AMPROBE  $\approx$  50:1 transformers (models CT50-1 and CT50-2), the Deca-Tran $\approx$  10:1 transformer (model A50-1) and the Energizer line splitter (model A-47L) may be used with the A663-4B/A664-4B transducers to further expand the current measuring capability of the AM-16A, AM-15A, AM-18A.

Using A663-4B or  
A664-4B Current  
Transducers with  
Line Splitter (A47-L)  
or Amptran $\approx$   
(CT-50-1 or 2)

To get actual current

|                        |                                                                                        |
|------------------------|----------------------------------------------------------------------------------------|
| 2V with A-47L 1X Loop  | Ignore decimal point and read AM-16A, AM-15A, or AM-18A display directly.              |
| 2V with A-47L 10X Loop | Ignore decimal point and divide AM-16A, AM-15A or AM-18A reading by 10                 |
| 2V with CT-50-1 or 2   | Disregard decimal point in AM-16A, AM-15A, AM-18A reading and multiply reading by 50*  |
| 2V with A50-1          | Disregard decimal point in AM-16A, AM-15A, AM-18A reading and multiply reading by 10*. |

\* Example— Reading is .600, drop decimal point and multiply by 50;  $600 \times 50 = 3,000$  amps.

The Amptran $\approx$  CT50-1 has a maximum rating of 6,000 amperes intermittent duty and 5,000 amperes continuous duty. The CT50-2 has a maximum rating of 3,600 amperes intermittent duty and 3,000 amperes continuous duty.

The Deca-Tran $\approx$  A50-1 has a maximum rating of 1,200 amperes intermittent duty and 600 amperes continuous duty. The Energizer A-47L has a maximum rating of 20 amperes intermittent duty and 15 amperes continuous duty.

**NOTE:** Accuracy of reading on the DMM is the accuracy of the AM-16A, AM-15A, AM-18A plus accuracy of each transducer.

### High Current Measurement with AC/DC Clamp-on Transducer CT-600 and AM-16A, AM-15A, AM-18A

AC or DC current can be measured using current transducer model CT-600 AC/DC.  
DC

1. Select 2 volt DC range on AM-16A, AM-15A or AM-18A.
2. Plug the black lead of the CT-600 into the "COM" jack and the red lead into the "VΩ  $\rightarrow$   $\leftarrow$ " jack.
3. Turn the transducer on by sliding the range switch to either the 100 amps or 600 amps position.
4. When measuring DC amps, zero adjust the output of the transducer. Using the AM-16A, AM-15A, or AM-18A as a readout device, rotate DCA zero adjust until a zero or close to zero reading is achieved.
5. Clamp the jaw of the transducer around conductor, centering it as accurately as possible.
6. Read display on AM-16A, AM-15A or AM-18A using the conversion on the front panel of the transducer. i.e. for 100 Amp range, 1 Amp equals 10mV and for 600 Amp range, 1 Amp equals 1mV.

**NOTE :** The accuracy of the reading on the DMM is the accuracy of the AM-16A, AM-15A, AM-18A plus the accuracy of the CT-600. Refer to instruction booklet of the CT-600 for its accuracy.

AC current can be measured in the same fashion, select the 2V AC range on the AM-16A, AM-15A, AM-18A and follow the above steps.

For better resolution, the 300mV DC range can also be selected on models AM-16A, AM-15A, AM-18A when using an accessory.

### Temperature Measurement with AM-16A, AM-15A and AM-18A

See "PRECAUTIONS" and "CAUTIONS"  
On pages 3 and 4

Temperature from  $-50^{\circ}\text{F}$  to  $300^{\circ}\text{F}$  or  $-55^{\circ}\text{C}$  to  $150^{\circ}\text{C}$  is possible with the temperature accessory model TMA-1. The following probes available only from Amprobe are used in conjunction with TMA-1; TPIF-Fahrenheit Immersion Probe; TPSF-Fahrenheit Surface Probe; TPAF-Fahrenheit Air Probe; TPIC-

Centigrade Immersion Probe; TPSC-Centigrade Surface Probe; TPAC-Centigrade Air Probe.

1. Install battery and connect appropriate probe to TMA-1 as per its operating instructions.
2. Select either the 200mV DC or 2VDC range on the AM-16A, AM-15A, AM-18A.
3. Insert banana plugs from model TMA-1 observing polarity into the jacks of AM-16A, AM-15A, AM-18A ("+" from TMA-1 to "VΩ  $\rightarrow$   $\leftarrow$ " jack. "-" from TMA-1 to "COM" jack).
4. Insert temperature probes into medium to be tested.
5. The AM-16A, AM-15A or AM-18A should now be indicating a mV reading equal to the temperature being measured. i.e.  $72\text{mV} = 72^{\circ}$ .

**NOTE :** For resolution and accuracy, refer to operating instructions of model TMA-1. The accuracy of reading on the DMM is the accuracy of the AM-16A, AM-15A or AM-18A plus accuracy of probe.

### High Voltage Measurement

#### 15K VAC/DC with AM-16A, AM-15A and AM-18A

1. To use accessory voltage probe HV-2 with the AM-16A, AM-15A or AM-18A unscrew the handle from the main probe and insert resistor model HVR-4 or HVR-41 (not supplied with probe) with the spring on the resistor towards the handle.
2. Screw handle back onto probe.
3. Move rotary switch to volts position, select AC or DC.
4. Using range key, select 20 volt range.
5. Plug black test lead into "COM" jack on meter, and connect red HV-2 probe in the "V" jack.
6. Take the black lead and ground it.
7. With your hand behind the protective disc on the handle of the probe, touch the probe tip to the circuit under test.
8. Take the reading and multiply by 100.

**CAUTION :**

DO NOT exceed 15,000 volts AC or DC. This probe is for low energy high impedance sources only. DO NOT use on power distribution lines or any other High energy Sources.

**PARTS LIST**

Test leads : MTL-18 for AM-15A, AM-16A, AM-18A

Fuse : 6.3x25-2-12 for AM-15A & AM-18A

6.3x25-10-12 for AM-15A & AM-18A

Battery : IEC LR03, AM4 or AAA size 1.5V x 2

Optional Carry Case : SV-1

H-16Y— Holster: for AM-16A

H-18Y— Holster: for AM-15A & AM-18A

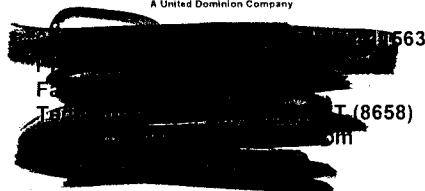
**SERVICE**

If the instrument fails to operate, check battery, Fuse (s), lead, etc. and replace as necessary. If the Instrument still does not operate, double check operating procedure as described in the instruction manual. If the instrument still malfunctions, place it with packing slip along with a brief description of the problem in sufficient cushioning material in a shipping carton. Be sure to indicate the serial number located on the back of the instrument. Amprobe is not responsible for damage in transit. Make certain your name and address also appears on the box as well as packing slip; ship prepaid via U.P.S. (where available) or Air Parcel Post insured to:

Service Division

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Outside the USA, the local Amprobe representative will assist you.

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