

**OPERATING
INSTRUCTIONS
FOR
AMPROBE®
AC CURRENT
RECORDER**

**MODELS
LAA3E and LAA3E-T**

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

See Limited Warranty on Page 2



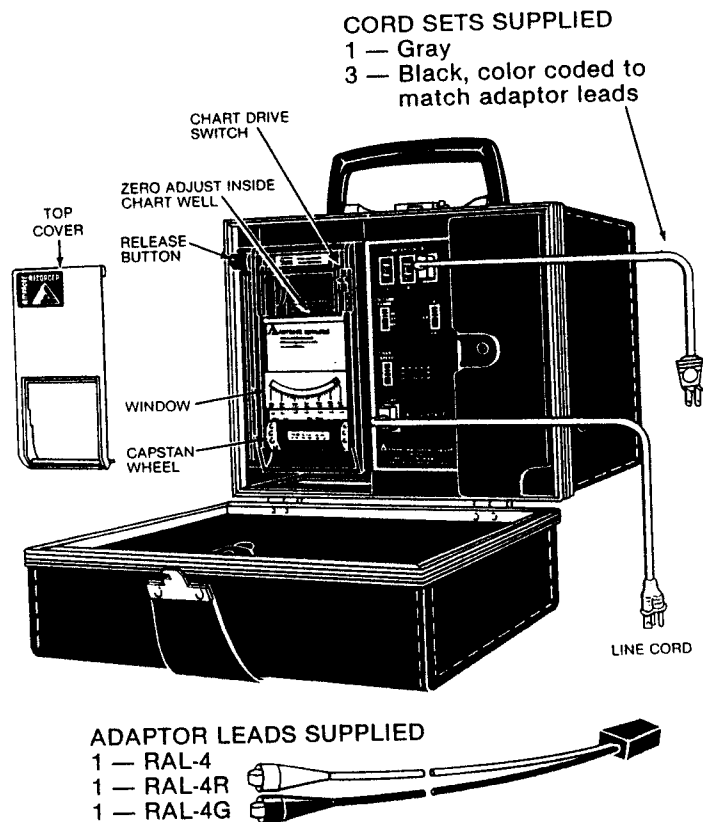


Fig. 1

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 fall 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 SAFETY

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 voltmeter 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:
 - a. Proper test leads are plugged into correct instrument jacks, and
 - b. Selector switch is set to proper range.
5. 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.
6. If the instrument should fail to indicate, 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 circuit.

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

INTRODUCTION

Model LAV3E-T can, on a time-sharing basis, sequentially record up to three AC voltages on the same chart. The recorder is supplied with three black cord sets which plug into A, B and C volt receptacles. Three adaptor leads are supplied which when attached to the cord sets provide insulated alligator clips for connection to distribution panels. The three voltages A, B and C are recorded in the following sequence: A, B, C, B, C, C. The trace for each voltage recorded on the chart has a different "dot" pattern (1, 2 or 3 dots) to identify each voltage trace. One complete sequence of recording all three voltages (A, B, C, B, C, C) takes only 30 seconds with a chart speed of 12 inches per hour; one minute with a chart speed of 6 inches per hour; 6 minutes with a chart speed of one inch per hour.

SPECIFICATIONS

Ranges: 0-150/300/600 Volts

Power Requirements: 115 Volts 60Hz,
unless otherwise indicated.

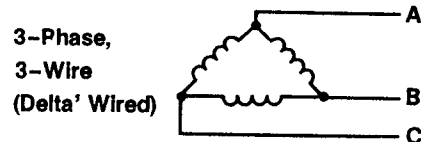
Accuracy: $\pm 3\%$ of full scale on sinusoidal waveforms
(60 cycle unless otherwise stated.)

Use Chart: cat. no. 830AV600 or 830AV600-6

CONNECTING THE LAV3E-T RECORDING VOLTMETER TO MONITOR A 3 PHASE 3-WIRE OR 4-WIRE SYSTEM

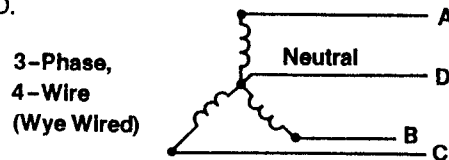
For Phase to Phase Voltage Measurements (3-wire):

Connect one pair of the LAV3E-T test leads to phase AB. Connect the second pair of the LAV3E-T test leads to phase BC. Connect the third pair of the LAV3E-T test leads to phase AC.



For Phase to Neutral Voltage Measurements (4-wire):

Connect one pair of LAV3E-T test leads to points A and D. Connect the second pair of LAV3E-T test leads to points B and D. Connect the third pair of LAV3E-T test leads to points C and D.



IDENTIFYING TRACES ON CHARTS

With the "ABC-AB-A" switch in the "ABC" position, the phase voltage connected to the test lead plugged into receptacle "A" on recorder will be recorded on the strip chart with a one-dot pattern; the phase voltage connected to the test lead plugged into receptacle "B" on the recorder will be recorded on the strip chart with a two-dot pattern; the phase voltage connected to the test lead plugged into receptacle "C" on the recorder will be recorded on the strip chart with a three-dot pattern.

ZERO ADJUSTING

1. With chart drive switch in "OFF" position (see fig. 2) exposing the word "OFF" check mechanical zero setting of pointer before making any electrical connections to the instrument (see fig. 3). If adjustment is necessary proceed as follows:

- a) Remove top cover—pull bottom ledge of frame toward you and lift. The top cover will come loose (see fig. 4).
- b) With strip chart roll removed from the chart well, the zero adjust star wheel is located in the bottom of chart well (see fig. 5).
- c) Apply finger to star wheel and turn until pointer lines up with zero at the extreme right side of the scale (fig. 3).

Fig. 2

OFF
Position

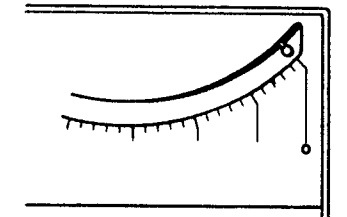
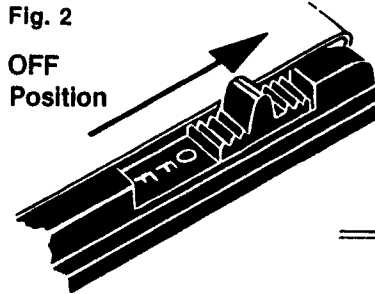


Fig. 3

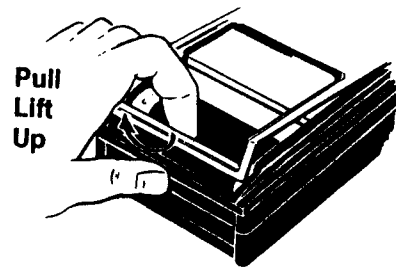


Fig. 4

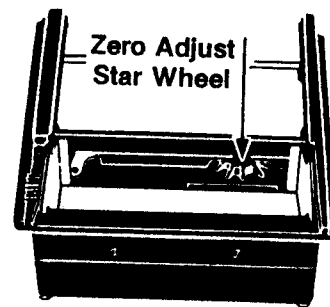


Fig. 5

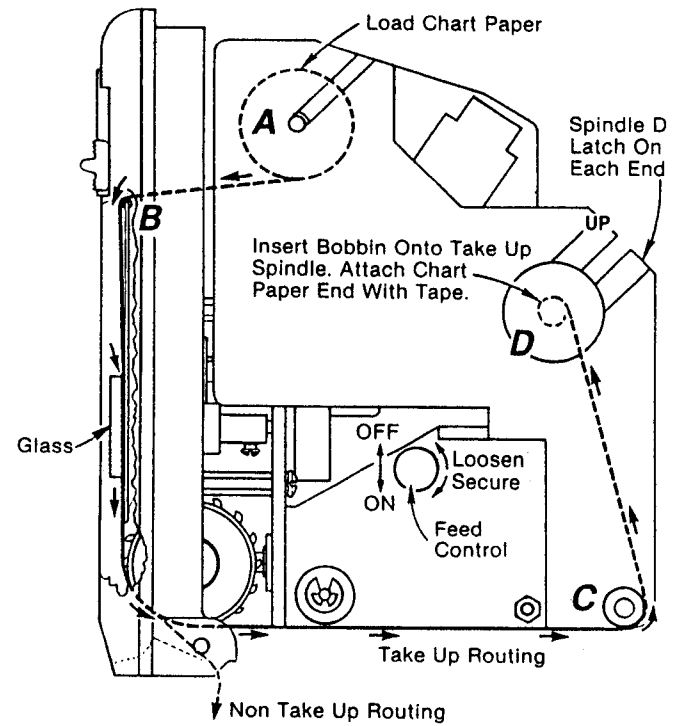


Fig. 7

HOW TO USE AS A RECORDER

1. a) To insert chart paper, place recorder in horizontal position and press the release button in the direction shown in fig. 6. Raise the recorder mechanism to a vertical position until it locks. Remove chart spindle (A) (see fig. 7) and place chart roll on spindle. Remove tape on roll and retain tape for securing chart on take-up spindle (D). Unroll about 12" to 15" and route paper over top edge of scale plate (B) underneath glass, over the sprocket wheels, to the rear and over the idle roller (C) up to the cardboard bobbin mounted on take-up spindle (D). Secure edge of chart to bobbin with tape. Make sure the sprocket holes in the paper engage the sprocket wheels. Be sure that feed control is tight and in the right position. The word "on" must be visible. Press in the idle roller extension (C) to allow the recording mechanism to move back down into case and lock into position. Replace cover by positioning the "U" bend onto the projections above the chart well opening. Make sure chart paper is not binding with the cover in place. For "non-take-up" recording, route chart through bottom slot as shown in fig. 7.
- b) To remove chart from take-up spindle (D), move the latches away from the take-up spindle. Turn knurled knob on spindle (D) until the slot in the take-up drive pulley at the opposite end of the spindle is lined up with the slot in the side frame of the recorder. Slide the spindle and chart up and out of the slots in the side frames of the recorder.
2. **FOR RECORDING THREE VOLTAGES:**
Set volt range switch to appropriate range. Push "ABC"- "AB"- "A" switch into "ABC" position. Plug 3 cord sets into volt receptacles A, B, C and connect to voltage source to be measured with adaptor leads if necessary.



Fig. 6

3. FOR RECORDING TWO VOLTAGES:

Set volt range switch to appropriate range (see fig. 8). Push "ABC"- "AB"- "A" switch into "AB" position. Plug 2 cord sets into volt receptacles A & B and connect to voltage source to be measured with adaptor leads if necessary. The two voltages A and B will be recorded in the following sequence: ABABAA.

4. FOR RECORDING ONE VOLTAGE:

Set volt range switch to appropriate range. Push "ABC"- "AB"- "A" switch to "A" position. Plug cord set lead into volt receptacle A and connect to voltage source to be measured with adaptor leads if necessary.

5. Plug gray power line cord into recorder line receptacle and connect to proper line voltage and frequency.
6. Push chart drive switch to "ON" position exposing the word "ON". Make sure switch clicks into detent position which locks it into place. See fig. 9.
7. Mark time of start on chart paper. See fig. 10.
8. Secure recorder in a horizontal or vertical position.

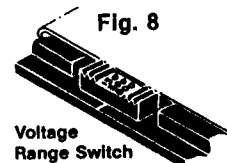


Fig. 8

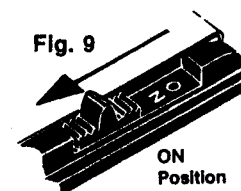


Fig. 9

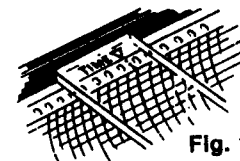


Fig. 10

HOW TO USE AS AN INDICATING METER

1. Set chart drive switch to "OFF" position (see fig. 2).
2. Remove chart paper and adjust pointer to zero setting (see page 6).
3. Follow steps 4 and 5 of "How to Use as a Recorder" on page 11.

SERVICE

Serial number is die stamped in lower right hand corner of the scale plate.

For Factory service, package instrument and packing slip with sufficient cushioning material in a shipping carton; make certain your name and address also appear on box as well as packing slip; ship prepaid via U.P.S. (where available) or Air Parcel Post insured to:

Service Division
AMPROBE INSTRUMENT
630 Merrick Road (Use for U.P.S.)
P.O. Box 329 (Use for Parcel Post)
Lynbrook, NY 11563-0329

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