GENERAL DESCRIPTION
The High Voltage Digital Ammeter, HVA-2000, measures line current on overhead and underground secondary voltage, distribution voltage and transmission voltage distribution systems up to 500kV.

The HVA-2000 measures current from 1 Amp up to 2000 Amps and current is displayed in the large easy to read four digit display.

The HVA stores the four most recent current readings, typically three individual phase currents and a neutral current for easy review after making measurements.
IMPORTANT SAFETY INFORMATION

• Only trained, professional operating personnel should use the HVA High Voltage Ammeter. The voltages this instrument operates at are dangerous and lethal. Severe injury or death can occur if improperly used.

• Risk of electrocution is inherent in or around high voltage.

• Always use proper high voltage procedures, including personal protective equipment, when working near or around high voltage equipment or conductors.

• Do not exceed the maximum voltage rating.

• The Ammeter must be used with a hot stick of the appropriate length for the voltage of the conductor being measured per your company and OSHA published requirements.

• Do not touch the HVA High Voltage Ammeter during measurements. The housing should be considered to be at the same voltage as the conductor under test.

• Prior to using, inspect the instrument for any physical damage, cleanliness and check for proper working order by pressing and holding the ON button. Do not proceed if the display does not indicate all 8’s.

• Never allow another high voltage or grounded conductor to contact the instrument during use. Keep the housing free and clear of all structures at all times. Bridging the housing from line-to-ground or line-to-line may cause a fault and arc.

• The HVA High Voltage Ammeter does not measure current below 1 Amp. A zero current reading does not mean the line is dead or grounded.

• The HVA High Voltage Ammeter measures AC current only. It does not measure DC current.

This important label is affixed to the product.
Read and understand before proceeding.

HVA-2000 High Voltage Digital AC Ammeter For use on overhead or underground circuits to 500kV. Press ON switch. Place conductor inside U to measure current. View stored readings by pressing ON button. Clear stored readings by holding ON button. See instructions to select measurement mode. Measures AC current only, 25-500Hz. CAUTION: Use only with high voltage insulating hotsticks with length appropriate for voltage. The housing is not an insulator and must not bridge energized conductors or an energized conductor to ground.
WARNING: Do not touch during measurement. Read and understand all instructions. For use by trained professionals only. Misuse or abuse of this product can lead to severe injury or death.

OPERATIONAL IMPAIRMENT
If the HVA High Voltage Ammeter is used in a manner not described in this instruction manual, the protection and effective operation of this equipment may be impaired.

MANUFACTURING LOCATION
HD Electric • Southaven, MS, 38672 USA
HOW TO USE IT

Test the Ammeter battery and display by pressing the ON button. Verify that each digit in turn displays 8. If needed, replace the 9V battery with a lithium or alkaline type.

The Ammeter measures and displays current in two modes:

The initial factory default mode is Peak Hold, which displays the peak RMS current measured while the Ammeter is placed on a conductor. Peak Hold mode allows a user to capture and store the peak current over the period of time the Ammeter is applied to a conductor.

The second available mode is Real Time which displays the current as it normally rises or falls. Real Time mode allows the user to see changes in load current as they occur.

The measurement mode can be viewed or changed after the HVA High Voltage Ammeter is turned on. Simply press the ON button again to display PH for Peak Hold, the initial factory default, or rt for Real Time, as shown above. The selected measurement mode will be saved when the Ammeter shuts off. To switch between measurement modes, press the ON button again.

The measurement mode can be displayed and changed any time after the Ammeter is turned on but before current measurements are made by pressing the ON button. Press it once to display the measurement mode and press it again to change the mode. If current measurements have already been made, the memory must be cleared before the measurement mode can be changed. To clear the memory, press and hold the ON button until zero is shown on the display. Then proceed to display or change the measurement mode by pressing the ON button.
Always install the HVA High Voltage Ammeter on a hot stick with length appropriate for the voltage to be measured by way of the built-in universal spline or hookstick connection, making certain it is securely attached.

To measure the current in a conductor, place the Ammeter completely over the conductor as shown (upper right) so that the conductor is completely inside the U. When the conductor is properly positioned inside the U, the current reading is displayed.

Up to four current measurements are stored, sufficient to measure three phase conductors and a neutral.

To display the stored readings, press the ON button for each reading. Each of the four readings will be displayed in rotation. The last reading will be displayed first. For example, pressing the ON button four times will show the most recent four readings:

The Ammeter will shut off automatically four minutes after the last reading. All stored readings are cleared when the unit shuts off.

All stored readings can also be cleared by pressing and holding the ON button until zero is shown on the display.

All readings are in Amps. Currents below 1 Amp may indicate zero. A zero current reading does not mean the line is dead or grounded. Voltage in excess of 500kV may damage the unit.

**BATTERY REPLACEMENT INSTRUCTIONS**

If the Ammeter does not turn on or if it shuts off during use, replace the battery with a standard 9V lithium or alkaline type. For temperatures below -20°F (-7°C) a lithium battery is recommended.

To replace the battery, open and remove the compartment on the bottom of the housing. Remove and dispose of the old battery, replacing it with a fresh, new 9-volt lithium or alkaline battery. Note battery polarity on the battery compartment. This compartment cannot be reinserted if the battery polarity is reversed.
MEASURING CURRENT ON UG CABLES & IN PADMOUNT ENCLOSURES

Secondary voltage cables are generally unshielded and current can be easily measured by placing the Ammeter completely over the secondary cable or cable bundle so that all cables are completely inside the U on the HVA High Voltage Ammeter.

Primary voltage cables are generally shielded and the Ammeter cannot measure current on a shielded cable except in areas where the shield has been removed. Current can be measured where primary voltage cables are terminated, generally in a vault or padmount enclosure, as long as the Ammeter is placed on the cable just above the termination where the shield wires have been terminated. The Ammeter can be placed over small drain wires but the cable shield wires should not go inside the U of the HVA High Voltage Ammeter.

CARE AND MAINTENANCE

STORAGE - It is recommended for protection of the HVA High Voltage Ammeter that it is stored in the carrying case provided.

CLEANLINESS - The molded housing is very rugged, but it should be kept clean and free of dirt, grease and any other foreign materials. If the housing surface integrity has been compromised in any way, remove from service and return to factory for repair or replacement.

CLEANING INSTRUCTIONS - To clean, wipe with a damp cloth with water. Do not use harsh chemicals or solvents.

DAMAGE - If you suspect any mechanical or electrical damage, do not use and arrange for repair by returning to the factory.

CALIBRATION & TESTING - Calibration service is available at the HD Electric factory.

SERVICE - If any damage is found please contact us at 800-435-0786 to arrange for service.
TECHNICAL SPECIFICATIONS

MODEL NUMBER: HVA-2000

OPERATING VOLTAGE RANGE: Up to 500kV line to ground

OPERATING FREQUENCY: 25-500Hz

ENVIRONMENTAL CONDITIONS:

- **CONDITIONS**: Indoor and outdoor use
- **ALTITUDE**: Up to 6,566 ft. (2000M)
- **OPERATING TEMPERATURE**: -20°F to +140°F (-29°C to +60°C)
- **HUMIDITY**: 95% to +60°C (non-condensing)
- **POLLUTION DEGREE**: PD4
- **OVERVOLTAGE CATEGORY IV**

DIMENSIONS: 4”H x 6.6”W x 11.5”L
(10 cm x 17 cm x 29 cm)

WEIGHT: 1.8 lbs. (0.8 kg)

LED HEIGHT: 1.5” (3.8 cm)

ACCURACY: 50-60Hz

<table>
<thead>
<tr>
<th>RANGE</th>
<th>ACCURACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10A</td>
<td>1%±2 counts</td>
</tr>
<tr>
<td>11-100A</td>
<td>1%±3 counts</td>
</tr>
<tr>
<td>101-500</td>
<td>1%±6 counts</td>
</tr>
<tr>
<td>501-2000</td>
<td>1%±8 counts</td>
</tr>
</tbody>
</table>

25-49Hz and 61-500Hz

<table>
<thead>
<tr>
<th>RANGE</th>
<th>ACCURACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10A</td>
<td>2%±3 counts</td>
</tr>
<tr>
<td>11-100A</td>
<td>2%±4 counts</td>
</tr>
<tr>
<td>101-500</td>
<td>2%±6 counts</td>
</tr>
<tr>
<td>501-2000</td>
<td>2%±8 counts</td>
</tr>
</tbody>
</table>

RESOLUTION: 1 Amp in all ranges

BATTERY LIFE: About 100 readings with 9V alkaline or lithium

BATTERY: 9V alkaline ANSI 1604A, IEC 6LR61 or 9V lithium, ANSI-1604LC

ENCLOSURE MATERIAL: Supertough nylon UL94-HB

PRINTED CIRCUIT BOARDS: FR-4 UL94V-0
15. DISPUTE RESOLUTION: The binding arbitration must be administered by the American Arbitration Association ("AAA") in accordance with its Commercial Arbitration Rules and/or Supplementary Procedures for Consumer-Related Disputes (including proceedings to mitigate costs of travel). This binding arbitration is governed by the Federal Arbitration Act ("FAA") (9 USC § 1, et seq.) and will govern the interpretation and enforcement. The binding arbitration shall be held at a location determined by AAA or other such location mutually agreed. In addition to the terms stated above, the following will apply to the binding arbitration: (1) the arbitrator, and not any federal, state, or local court or agency, will have exclusive authority to resolve all disputes relating to the interpretation, applicability, enforceability or formation of this Agreement, including any claim that all or any part of this Agreement is void or voidable; (2) the arbitrator shall apply Illinois law consistent with the FAA.

16. CLASS ACTION WAIVER: BINDING ARBITRATION MUST BE AN INDIVIDUAL BASIS. THIS MEANS NEITHER BUYER NOR SELLER MAY JOIN OR CONSOLIDATE CLAIMS IN ARBITRATION BY OR AGAINST OTHERS, OR LITIGATE IN COURT OR ARBITRATE ANY CLAIMS AS A REPRESENTATIVE OR MEMBER OF A CLASS OR IN A PRIVATE ATTORNEY GENERAL CAPACITY. ADMINISTRATION OF ARBITRATION WILL BE IN A FASHION THAT MAKES THE COSTS, FEES AND OTHER INCIDENT COSTS OF ARBITRATION REASONABLE TO THE PARTY IN ORDER TO AVOID UNREASONABLE COSTS TO THE PARTY. ANY CLAIMS FOR CONSTRUCTIVE DISCHARGE OF THE AGREEMENT ARISING OUT OF THE SAME GENERAL FACTUAL CLASSIFICATION OR SUBJECT MATTER MUST BE Brought IN A UNITED ARBITRATION, WHICH MEANS NEITHER PARTY SHALL HAVE THE RIGHT TO UDIATE SUCH CLAIM IN COURT OR HAVE A JURY TRIAL. DISCOVERY AND APPEAL RIGHTS ARE LIMITED IN BINDING ARBITRATION. Buyer and Seller agree that the proper venue if Arbitration is not so chosen by Buyer or Seller of all actions arising in connection herewith shall be in the state of Illinois and the parties agree to submit to such jurisdiction. No action, regardless of form, arising out of transactions relating to the agreement, may be brought by either party more than two (2) years after the cause of action has accrued. The U.N. Convention on Contracts for the International Sales of Goods shall not apply to this agreement.

TERMS AND CONDITIONS OF SALE

HD Electric Company is committed to ongoing review and improvement of its product lines, and thus reserves the right to modify product design and specifications without notice.

HD Electric Company products are available through HD Electric sales representatives worldwide. HD Electric products receive final assembly and shipment from HD Electric's manufacturing facility at Suite 4320 Executive Drive, Southaven, MS 38672.

HD Electric Company is ISO 9001:2015 certified

Printed in U.S.A. | HD Electric Company 2020 © Bulletin No. HVA IM-200a
US Patent 6,212,549