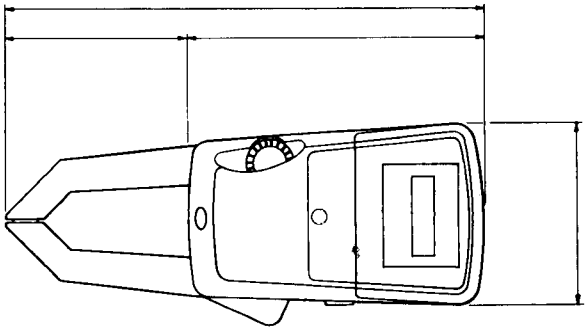
LCD1000
AC DIGITAL CLAMP ON VOLT-OHM-AMMETER

OWNER'S MANUAL



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GENERAL DESCRIPTION

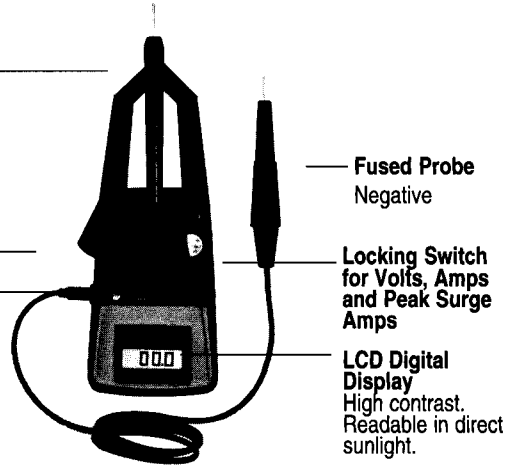
The LCD1000 Volt-Ohm-Ammeter is an advanced compact LCD Volt-Ohm-Ammeter Clamp-on with sophisticated internal design. The meter display is a new LCD made for maximum contrast.

FEATURES

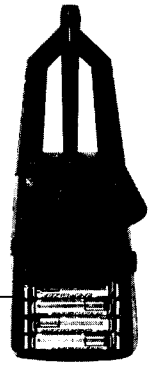
- Accurately measures and locks in peak surge current.
- Measures as low as ½ amp or 1/10 of a volt or ohm.
- No switching required between amps or volts.
- Automatic ranging in all modes.
- Automatically zeros on volts, amps, and ohms.
- Locking switch for constant monitoring of amps or volts.
- Misapplication proof through 440 volts.
- High contrast LCD readout visible in direct sunlight and indoors.
- Unique jaw design fits into tight corners.
- Low battery drain.
- Low battery indicator.
- Made in U.S.A.

NOTE: Instrument may not operate below 32° F.

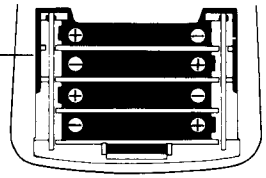
PARTS & CONTROLS



PARTS & CONTROLS



4 AAA Alkaline Batteries
Remove cover by sliding downward on latch and install batteries as indicated in compartment



To Insert Batteries
Open the battery cover and check to see that your batteries are inserted as shown in the diagram. Note position of the positive end of batteries.

OPERATING INSTRUCTIONS

To Measure AC Current:
Rotate locking switch to "N" (Normal position for amps/volts). Encircle a signal conductor (See Figure1 Below). A current greater than 1000 amps will be indicated by a "1" followed by a blank display. Do not continuously monitor currents over 500 amps. Attempting to measure current by encircling both wires at the same time will result in a zero reading.

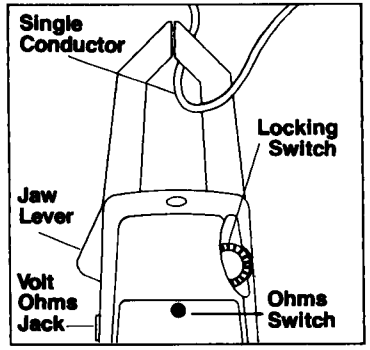


Figure 1

To Measure AC Voltage:
Attach the fixed probe and the flexible cable probe (Fused probe) as shown in the Parts and Controls Section. Rotate switch to "N". Touch the probes to the circuit to be measured, making firm contact with the terminals. A voltage greater than 1000 volts will be indicated by a "1" followed by a blank display.

To Measure Surge Current:
Clamp the jaws around the single conductor to be measured. Rotate the locking switch to "P" (Peak current position). The LCD display will show a "P" followed by three zeros (P000). The "P" indicating that the instrument is in the peak or surge current mode. After the circuit is energized and a peak surge current measurement is taken, the LCD digital display will hold this peak reading even if removed from the circuit. In other words, the LCD1000 Volt-Ohm-Ammeter holds the peak surge current in the "Peak Current" position.

Reset by turning locking switch to "Off".

To Measure Ohms:
Attach probes as shown for A/C voltage measurement (See Parts & Controls section). Rotate the locking switch to "N" (Normal Position). Automatic zeroing makes adjustment unnecessary in ohms.

NOTE: Always disconnect power from circuit and make certain capacitors are fully discharged before attempting to measure resistance.

Touch the probes to resistance to be measured. When measuring resistance, good metal to metal contact is important. Slight corrosion on probe terminals will decrease accuracy of the LCD1000 resistance measurement, since the LCD1000 is capable of measuring 0.1 ohm. Use fine steel wool to keep probe electrodes clean. Press "Ohms" switch on front of LCD1000 while making resistance measurement. An open circuit or any resistance over 800 Ohms will cause an over-range indication on the display ("1" followed by a blank display). Do not leave the instrument in ohms mode (by pressing "Ohms" switch), batteries will run down more quickly.

APPLICATIONS

For use as an ohmmeter:

- Low ohm capability for detection of ground faults in motor windings (if under 800 ohms).
- Low ohms capability for checking resistance values of motor windings against manufacturer's specs.
- Identification of motor terminals by checking resistance values of start and run windings.
- Identify shorted windings.
- Check relay or contactor contacts for corrosion or burned contacts.

For use as a voltmeter:

- To check line voltage at motors to determine phase imbalance.
- To identify line, neutral, ground at A.C. receptacle terminals.
- To check for proper grounding of electrical systems.
- Check fuses.
- Detect voltage surges or transients.

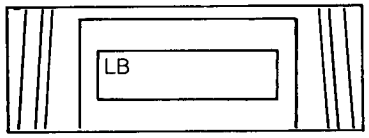
APPLICATIONS

For use as an ammeter:

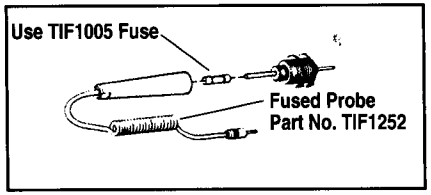
- To check surge or starting current.
- To check electrical systems with incremental start capabilities.
- To set unloaders on time display starts.
- To check primary current of a current transformer.
- To distinguish between Y or delta connected system.
- To check for phase imbalance.
- To check L.R.A. on name plate.
- To check operating current against name plate amps.

UNIT MAINTENANCE

Low Battery Indicator
When battery voltage reaches 4.0v, the low battery indictor will come on. The low battery is indicated by the appearance of "LB" on display (See Below).



Fuse Location:
To replace the fuse, unscrew the two halves of the fuse probe assembly as seen below. Use only TIF Part Number 1005.



REPLACEMENT PARTS

Description	Part Number
Fixed Probe	TIF1251
Fused Probe	TIF1252
Carry Case	TIF1254
Replacement Fuses (6Pk)	TIF1005

SPECIFICATIONS

Power Requirements:	6 volts DC (4 AAA alkaline batteries).
Circuit Protection:	One TIF1005 fuse in 3ft. flexible probe.
Amp Range:	0.5 to 1000 amps AC
Resolution:	0.1 or 1 amp
Accuracy:	±2%, ±1 digit
Volt Range:	0.1 to 1000 volts AC
Resolution:	0.1 or 1 volt
Accuracy:	±2%, ±1 digit up to 750 volts ±5%, ±1 digit over 750 volts
Ohms Range:	0.1 to 800 ohms
Resolution:	0.1 or 1 ohms
Accuracy:	±2%, ±1 digit

SPECIFICATIONS

Automatic ranging on all models.

NOTE: Maximum test voltage at probe tips is 1.2 volts DC

Display:	LCD, 3 full digits
Over-range:	Indicated by 1
Reading Time:	Less than 50 milliseconds
Operating Temperatures:	32° F to 125° F (0-52° C)
Accuracy and Frequency Ranges:	Accuracy is as stated above on pure sinusoidal waveforms at 60 Hz. Accuracy is somewhat degraded on distorted waveforms.
Max.diameter of cable:	1.4" (m)
Max.operating voltage at current measurement:	6000 volts.
Input impedance on volts:	1 megohm
Dimensions:	8" x 3" x 1.5"
Weight:	Approximately 14 ounces (397g)

WARRANTY & REPAIR

Limited Warranty and Repair/Exchange Policy

This instrument has been designed and manufactured to provide unlimited service. Should the unit be inoperative, after performing the recommended maintenance, a no charge repair or replacement will be made to the original purchaser if the claim is made within one year from the date of purchase. This warranty applies to all repairable instruments that have not been tampered with or damaged through improper use.

This warranty does not cover batteries, or any other materials that wear out during normal operation of the instrument.

Returning Your Unit For Repair

Before returning your instrument for repair please make sure that you have carefully reviewed the **Unit Maintenance** section of this manual to determine if the problem can be easily solved.

If the instrument still fails to work properly send the unit to the repair facility address on the back cover of this manual. Repaired or replaced tools will carry an additional 90 day warranty. For more information please call (800) 327-5060.