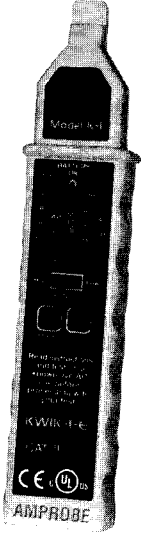


**OPERATING INSTRUCTIONS**  
for  
**AMPROBE KWIK-I-E**  
Voltage / Current  
Sensing Probe



**Model K-1**

**Read Operating Instructions**  
starting on pg. 5 before using KWIK-I-E



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**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 and tested by qualified factory technicians according to the long-established standards of AMPROBE.

Your AMPROBE instrument has a 1 year 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 manufacturer 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 packing material. It must be securely wrapped. Amprobe is not responsible for damage in transit. Be sure to include a packing slip (indicating model and manufacturer 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.

## INTRODUCTION

The AMPROBE model K-1, Kwik-I-E, measures AC Voltage and AC Current right through the insulation. There is no need to strip or open a junction. The unit measures AC Voltage and AC current without contacting a metal conductor. The Kwik-I-E can accommodate wire sizes 18 through 8 gage covering most testing needs.

The Kwik-I-E's Voltage sensing capability allows you to quickly determine which wires are "HOT" and which are not. Its current sensing capability allows you to quickly determine approximate current levels in the conductors. This combination of Voltage and Current sensing capability in a single tool allows you to perform trouble shooting and fault isolation quickly and easily. The Kwik-I-E was designed to be user friendly, incorporating push button function selection, LED bar graph level indicator and rugged construction. The size and weight of the Kwik-I-E makes it a painless addition to your tool belt.

## FRONT PANEL

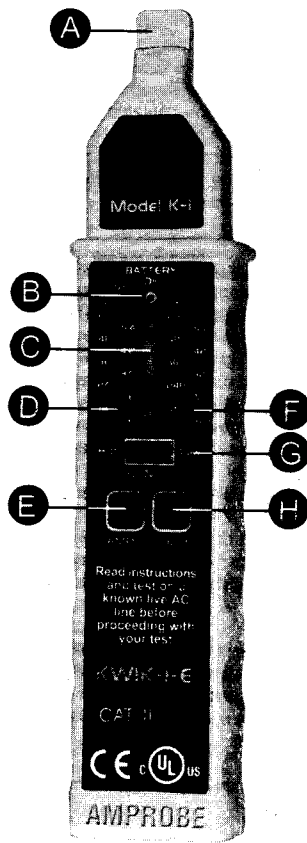


Figure 1

- |                                |                         |
|--------------------------------|-------------------------|
| A. Tip Corner for Wire Contact | D. Amps Scales          |
| B. Battery Status Indicator    | E. Amps On Push Button  |
| C. Bar Graph Display           | F. Voltage Scales       |
|                                | G. HI / LO Range Switch |
|                                | H. Volts On Push Button |

## OPERATING INSTRUCTIONS

**WARNING:** Failure to follow these instructions may result in erroneous measurements. Test your Kwik-I-E on a known live wire before each use to make sure of its operating status and to obtain confidence in the measurement readings. The Kwik-I-E is designed to be used on insulated wires only. Use on non-insulated or bare wires is not recommended as a safe procedure, and the readout will be very approximate. However, measurements on bare wires may be carried out, if needed, by exercising extreme caution.

### OPERATION

Refer to Figure 1 for location of controls. Kwik-I-E provides the means for fast measurements of AC voltages and currents in insulated wires. Simply place the Kwik-I-E **tip corner** against the insulated wire to be measured as shown at the top of Fig. 2. If the wire is not straight, move the Kwik-I-E to the straightest section of the wire for a more accurate reading. Set the range switch to Low and with the **tip corner** pressed to the wire. Push either the voltage or the current "On" pushbutton to select to read either voltage or current levels on the red LED bar graph. If all of the LED's light up, then set the range switch for the High range reading and repeat the measurement.

**Recommendations:** Use the low voltage range first to check if there is any voltage. Avoid measurements close to transformers and other wires because stray fields will affect the readout accuracy.

**NOTE:** The voltage measurements are relative to ground level. If zero or a very low voltage is indicated, then the wire may be carrying current, but may be neutral or at the ground level in voltage, or may not be energized. Press the current pushbutton to check the current flow.

Do not press both pushbuttons at the same time or erroneous readings will result.

### CURRENT READINGS

The Kwik-I-E has two current ranges: 0.6 Amperes through 6.0 Amperes, (approximately 0.6 Amps per LED segment), and 6 through 60 Amperes, (approximately 6 Amps per LED segment). Accuracy is nominally 15% of the full range.

### VOLTAGE READINGS

The Kwik-I-E has two voltage ranges: 6 volts through 60 volts, (approximately 6 volts per LED segment), and 60 volts through 600 volts, (approximately 60 volts per LED segment). Accuracy is nominally 15% of range.

**NOTE:** The accuracy of the bar graph reading varies depending upon the type and size of the wire being tested. Accuracy can also be affected by nearby wires and cables. The Kwik-I-E is intended for the rapid determination of approximate values of voltage and current and the rapid diagnoses of A.C. equipment problems.

Nominal readout accuracy will be obtained by consistently measuring numbers 10, 12, and 14 wire sizes. Larger wires such as no. 8 and smaller wires such as no. 18 can be measured with some loss of accuracy.

With different wire sizes, readout levels will vary. The voltage readout will tend to be higher for number 8 and larger wires, and the voltage readout will tend to be lower for no. 18 and smaller wires. The current readout will tend to be smaller for no. 8 and larger wires, and the current readout will tend to be larger for no. 18 and smaller wires.

**NOTE:** The Kwik-I-E cannot be used on BX Cable or Metallic conduit.

### ROMEX MEASUREMENTS

Determine the hot and the ground side of three wire Romex: The corner tip of the Kwik-I-E should be pressed against the side of the three wire Romex as shown in Figure 2. Initially put the range switch on Low, and press the voltage button. Take a measurement on both sides of the Romex. If the voltage is low or zero, that side of the Romex is either the ground wire or is not energized. If it is the ground side, then a voltage measurement on the other side of the Romex will provide a higher voltage reading. The measurement provides a determination of the 'hot' and the ground side of the Romex cable. For the current measurement, both sides of the Romex will show about the same current readout.

It is easy to tell which is the "Hot" side of a three wire Romex cable since that side will give the larger LED voltage readout.

**Note that voltage and current readouts on three wire Romex cable will be approximately half the true voltages and currents because of the closeness of the wire carrying the return path.**

### ROUND CABLE MEASUREMENTS

The Kwik-I-E can be used to measure the Voltage and Current in many types of unshielded two or three conductor round cables. For round cables, the probe should be rotated around the cable while keeping the corner tip of the probe on the cable. The current or voltage is then proportional to the maximum bar graph reading. The accuracy of the voltage or current measurements in round cables will be less accurate than with flat cables.

In tightly twisted round cables the electric and magnetic field of the wires can overlap enough to reduce the Kwik-I-E Voltage and Current readout such that a mis-reading or zero reading could be displayed!

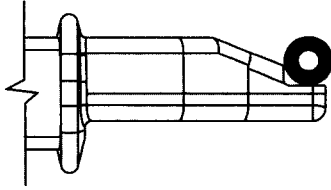
### BATTERY

The green LED indicates the battery condition. If the green LED does not light, replace the battery with a standard nine volt alkaline battery. The battery inserts into the enclosure such that the positive polarity is correct. It should slide into the case easily when inserted with the correct polarities.

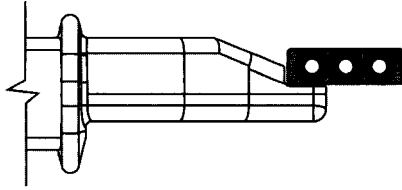
### WIRE PLACEMENT

(Figure 2)

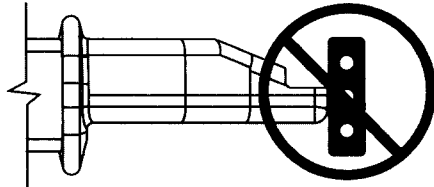
#### Round Wires



#### 3 Conductor Romex - Correct



#### 3 Conductor Romex - Incorrect



**SPECIFICATIONS**

**NOTES**

**Environmental Condition:**

Pollution Degree 2  
Cat. II\* 600 Volt  
Double Insulation  
For indoor use only

**Operating Temperature:**

Temp - 0°C - 40°C  
Humidity - Max 90% Non-Condensing

**Maintenance:**

Clean with damp towel  
9V Battery

**\*INSTALLATION CATEGORY (OVERVOLTAGE CATEGORY) II**

Local level, appliances, PORTABLE EQUIPMENT etc., with smaller transient overvoltages than INSTALLATION CATEGORY (Overvoltage category) III.