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## Introduction

Line splitter for clamp-on meters eliminates the need to split electrical cords or open electrical boxes for current measurements on 120V lines.

### Features include

- 1 to 1 and 10 to 1 internal coils for better resolution
- 15A max.

## Operating Instructions

### Theory of Operation

A magnetic field, proportional to the magnitude of current, surrounds all current carrying conductors. In an AC circuit the magnetic field will induce a current. In the jaws of a clamp-on current probe when the jaws are closed around the conductor.

If both conductors of the circuit are enclosed by the jaws of the probe the magnetic fields will cancel and no measurement is possible. Most 120V AC appliances use two conductor cords which make it difficult to isolate a single conductor for measurement. The ALS1 provides temporary separation of conductors to facilitate measurement of current.

1. Plug the ALS1 into a grounded type 120V AC receptacle. If a grounding type receptacle is not available, a 2 to 3 wire adapter must be used. Maintain ground wire integrity to minimize the possibility of electrical shock.
2. Plug the appliance line cord into the end of the ALS1 and turn on the appliance.
3. Place the jaws of the clamp-on current probe through the X1 section of the ALS1. The current being drawn by the appliance can then be read directly from the indicator of the clamp-on probe.
4. If the magnitude of the reading obtained in step 3 is less than one-tenth of the full scale range of the clamp-on current probe, and difficult to read, place the jaws of the probe through the X10 section. The magnitude of the current drawn by the appliance will be the reading on the current probe meter divided by ten.

*Example: With the range switch of the clamp-on current probe set to 6 amps, the meter indicates 5.4 amps, and the jaws of the probe are through the X10 section of the ALS1. The actual current is 0.54 amps ( $5.4 \text{ amps} \div 10 = 0.54 \text{ amps}$ , or 540mA).*

## Interpretation of Results

1. Most appliance manufacturers state the rating of an appliance on the frame, or housing. The rating will be stated either in AMPERES or WATTS.
2. If the rating is stated in AMPERES then this figure may be compared with the reading on the clamp-on current probe. A reading that is significantly LOWER than the manufacturer's rating may indicate low line voltage, corroded terminals, or some other fault, which results in a higher resistance to current. A reading that is significantly HIGHER than the manufacturer's rating may indicate high line voltage, or a partial short in the appliance, which results in a lower resistance to current.

The line voltage may be easily checked by inserting the test probes of an AC voltmeter into the VOLT CHECK input jacks on the ALS1.

3. If the appliance rating is stated in WATTS, then multiply the reading in current (taken directly from the clamp-on probe) times the line voltage. The product will be the power consumption in watts.

*Example: The clamp-on current probe indicates that 8.5 amperes is being drawn by the appliance. The line voltage is measured and found to be 102V AC. The power consumption is 867 watts ( $8.5 \text{ amps} \times 102 \text{ volts} = 867 \text{ watts}$ ).*

*A power consumption which is significantly higher, or lower, than the rated power consumption may be due to the factors given in section 2, for low or high current readings.*

# **ALS1**

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## **Line Splitter**

### **Limited Warranty**

The ALS1 is warranted to be free from defects in materials and workmanship for a period of one year from the date of purchase. If within the limited lifetime warranty period your instrument should become inoperative from such defects, the unit will be repaired or replaced at UEi's option. This warranty covers normal use and does not cover damage which occurs in shipment or failure which results from alteration, tampering, accident, misuse, abuse, neglect or improper maintenance. Batteries and consequential damage resulting from failed batteries are not covered by warranty.

Any implied warranties, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the express warranty. UEi shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expenses or economic loss. A purchase receipt or other proof of original purchase date will be required before warranty repairs will be rendered. Instruments out of warranty will be repaired (when repairable) for a service charge. Return the unit postage paid and insured to:

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This warranty gives you specific legal rights. You may also have other rights which vary from state to state.