

# AC Current Probe Model UT.UE

## User Manual

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### DESCRIPTION

The Model UT.UE (Catalog #2123.34) is designed for use in industrial environments. The ergonomic design allows it to easily attach to cables. The "circular" jaws guarantee a very good accuracy and low phase shift. The probe has a measurement range up to 1000Arms continuous which makes it a perfect tool for measurement with DMMs, recorders, power and harmonic meters. The Model UT.UE offers a 6.5 ft. lead with safety 4mm banana plug.

### WARNING

These safety warnings are provided to ensure the safety of personnel and proper operation of the instrument.

- Read the instruction manual completely and follow all the safety information before attempting to use or service this instrument.
- Use caution on any circuit: Potentially high voltages and currents may be present and may pose a shock hazard.
- Read the safety specifications section prior to using the current probe. Never exceed the maximum voltage ratings given.
- Safety is the responsibility of the operator.
- ALWAYS connect the current probe to the display device before clamping the probe onto the sample being tested.
- ALWAYS inspect the instrument, probe, probe cable, and output terminals prior to use. Replace any defective parts immediately.
- NEVER use the current probe on insulated electrical conductors rated above 600V in overvoltage category III (CAT III).

### INTERNATIONAL ELECTRICAL SYMBOLS



This symbol signifies that the current probe is protected by double or reinforced insulation. Use only factory specified replacement parts when servicing the instrument.



This symbol signifies CAUTION! and requests that the user refer to the user manual before using the instrument.



This is a type A current sensor. This symbol signifies that application around and removal from HAZARDOUS LIVE conductors is permitted.

### RECEIVING YOUR SHIPMENT

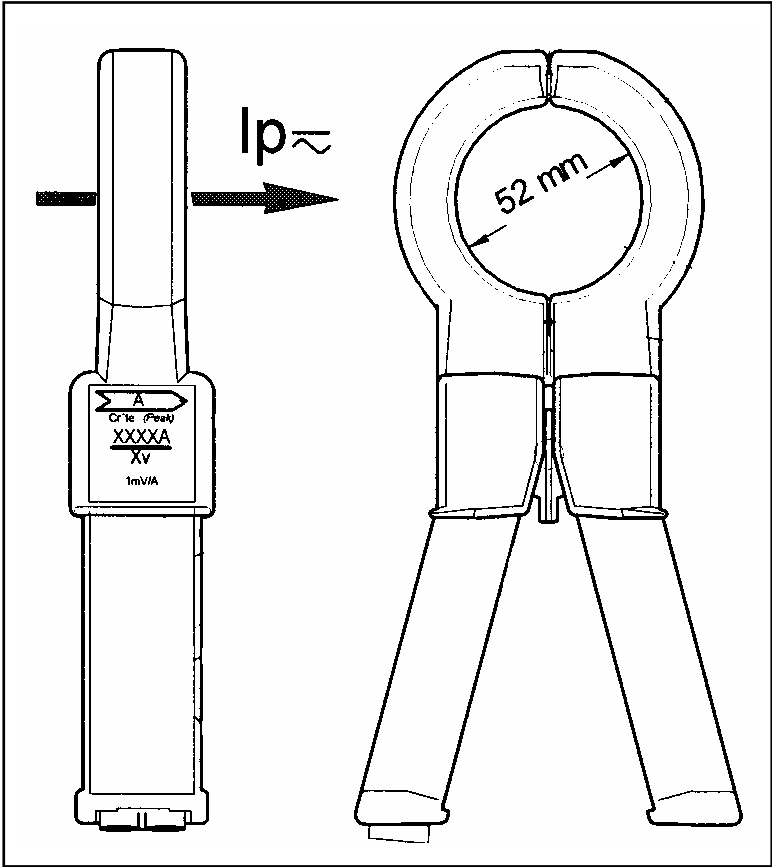
Upon receiving your shipment, make sure that the contents are consistent with the packing list. Notify your distributor of any missing items. If the equipment appears to be damaged, file a claim immediately with the carrier and notify your distributor at once, giving a detailed description of any damage.

### PACKAGING

The AC Current Probe Model UT.UE is shipped with this instruction manual and a product warranty and registration card. (**Register online at [www.aemc.com](http://www.aemc.com)**).

### INSTRUMENT COMPATIBILITY

The Model UT.UE is compatible with any AC voltmeter, multimeter, or other voltage measurement instrument that has the following features: Range and resolution capable of displaying 1mV of output per amp of measured current; voltmeter accuracy of 0.75% or better to take full advantage of the accuracy of the probe; Input impedance of  $\geq 1M\Omega$ .



## **ELECTRICAL SPECIFICATIONS**

**Nominal Range (IN):** 1000A

**Measuring range:** 1A to 1200A

**Output Signal:** 1mV/A

**Ratio:** 1000/1

**Accuracy:** 1% from 0.1IN to 1.2 IN

**Maximum error:** 2% of reading

**Load Impedance:** >100k $\Omega$

**Measurement Power:** Be sure to keep the phase polarity P1=S1

**Accuracy @ 2000 Hz:** 1% @ 100A

**Phase Shift @ 2000 Hz:** 1°

**Frequency Range:** 40 Hz to 5 kHz

**Working Voltage:**

Bare conductor: 30 Vrms

Insulated conductor: 600 V

## **MECHANICAL SPECIFICATIONS**

**Dimensions:** 90 x 205 x 40 mm

**Jaw Opening:** 43mm max

**Weight:** 650 g

**Output:** 6.5 ft (2m) lead with safety 4mm banana plug

## **ENVIRONMENTAL SPECIFICATIONS**

**Operating Temperature:** -10° to +50°C

## **SAFETY SPECIFICATIONS**

**Protection Class:** Class I per IEC 1010-1

**Dielectric Strength:** 3 kV, 50/50 Hz, 1 min.

## **ORDERING INFORMATION**

**AC Current Probe Model UT.UE.....Cat #2123.34**

**Accessories:**

Banana plug adapter (to non-recessed plug) .....Cat #1017.45

## OPERATION

Please make sure that you have already read and fully understand the WARNING section on page 1.

### Making Measurements with the AC Current Probe Model UT.UE

- Connect the black lead of the current probe to “Common” and the red lead to the AC voltage input on your DMM or other voltage-measuring instrument. The AC current probe has a ratio of 1000:1. This means that for 1000A AC in a conductor around which the probe is clamped, 1V AC will come out of the probe leads to your DMM or instrument. The output is 1mV AC/A AC. Select the range which corresponds to the measured current. If the current magnitude is unknown, start with the highest range and work down until the appropriate range and resolution are reached. Clamp the probe around the conductor. Take the reading on the meter and multiply it by 1000 to obtain the measured current (e.g. 260mV reading = 260 x 1000 = 260,000mA or 260A)
- For best accuracy, avoid if possible, the proximity of other conductors which may create noise.

### Tips for Making Precise Measurements

- When using a current probe with a meter, it is important to select the range that provides the best resolution. Failure to do this may result in measurement errors.
- Make sure that probe jaw mating surfaces are free of dust and contamination. Contaminants cause air gaps between the jaws, increasing the phase shift between primary and secondary. It is very critical for power measurement.

## MAINTENANCE

### Warning:

- For maintenance use only original replacement parts.
- To avoid electrical shock, do not attempt to perform any servicing unless you are qualified to do so.
- To avoid electrical shock and/or damage to the instrument, do not get water or other foreign agents into the probe

**Cleaning:** To ensure optimum performance, it is important to keep the probe jaw mating surfaces clean at all times. Failure to do so may result in error in readings. To clean the probe jaws, use very fine sand paper (fine 600) to avoid scratching the jaw, then gently clean with a soft oiled cloth.

## REPAIR AND CALIBRATION

You must contact our Service Center for a Customer Service Authorization number (CSA#). This will ensure that when your instrument arrives, it will be tracked and processed promptly. Please write the CSA# on the outside of the shipping container. If the instrument is returned for calibration, we need to know if you want a standard calibration, or a calibration traceable to N.I.S.T. (includes calibration certificate plus recorded calibration data).

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(603) 749-6434 (Ext. 360)

Fax: (603) 742-2346 or (603) 749-6309  
repair@aemc.com

(Or contact your authorized distributor)

Costs for repair, standard calibration, and calibration traceable to N.I.S.T. are available.

**NOTE: All customers must obtain a CSA# before returning any instrument.**

## TECHNICAL AND SALES ASSISTANCE

If you are experiencing any technical problems, or require any assistance with the proper use or application of this instrument, please call our technical hotline:

(800) 343-1391 • (508) 698-2115 • Fax (508) 698-2118

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