

## **ACL MODEL #385 CALIBRATION INSTRUCTIONS**

### **CALIBRATION**

The checker should be calibrated on average every 12 months. A test resistance can be applied across the parallel bars to verify if the checker is within specification, using a resistance decade box. Calibration can be obtained by contacting your supplier.

### **SPECIFICATION**

Power Supply: *9-volt PP3 alkaline battery*

Test Voltage: *Nominal 9 volts*

Temperature Range:

*Operating 40° to 120° F (5° C to 49° C)*

*Storage (-15° C to + 60° C)*

Relative Humidity: *0% to 90% (non-condensing)*

Resolution: *One order of magnitude*

Changeover Point: *½ decade on a logarithmic scale (3.16 x 10<sup>n</sup>)*

Changeover Point Accuracy: *± ½ decade*

Accuracy: *± 10%*

Repeatability: *± 5%*

Weight: *6 ounces*

Dimensions: *130mm x 70mm x 25mm*

### **SURFACES RESISTANCE CHECKER CALIBRATION PROCEDURE**

This product has been produced using 1% meta film resistors, and high speed OP-AMP Integrated circuits. The calibration procedure is based upon the product being of linear technology.

The changeover points are determined on resistance and are ± ½ decade on a logarithmic scale i.e. (3.16 x 10<sup>n</sup>). The linearity of the changeover points is ± 10 from the mean value per unit.

## TEST EQUIPMENT USED

Resistance Decade Box

Test Leads

The resistance decade box required will need a range of from  $> 1$  kilohm to 999 meg ohms or  $10^9$ . Measurements greater than  $10^9$  are calculated using cad generated techniques, as high resistances greater than  $10^9$  are difficult to verify with a test voltage of 9 volts.

Connect the test leads from the resistance decade box to the test probes of the checker, set the decade box to the desired resistance i.e.  $10^3 = 1$  K, then press and hold the checker's test button, the  $10^3$  LED should light,  $10$  K  $10^4$  LED should light and so on. To measure the changeover point between decades, increase the resistance of the decade box while pressing the checker's test button. Record the resistance when the next LED lights permanently (this is the changeover resistance).

Example: The first green LED is illuminated  $10^3 = 1$  kilohm.

At 3 or 4 kilohms  $10^4$  LED is illuminated, the changeover point is 3 or 4 kilohms.  $10^4 = 10$  kilohms so between 3 or 4 kilohms and 30 or 40 kilohms will be the changeover points from  $10^4$  to  $10^5$ .

*Please note that the checker has no internal parts to adjust, so verification of calibration can be achieved by using the above process. If verification cannot be achieved the unit should be returned to the supplier.*