Introduction

Congratulations! With care and maintenance this Charge Detector will provide you with years of enjoyment. It can indicate the presence of static electricity on an object without touching that object.

Detecting Static Charges

Hold the device as described above, and slowly bring the probe tip toward an object, such as a plastic comb laying on a table. A positively charged comb will cause the LED to glow as you approach it. If the LED does not glow, slowly pull away from the comb. An LED that glows while pulling away from an object indicates a negative charge. When the Charge Detector stops moving, the LED also stops glowing. The strength of the static charge is indicated, to a certain extent, by the duration and brightness of the glowing LED. Alternating current (AC) fields change polarity from plus to minus 60 times per second. If you hold the probe tip near a source of AC it will seem to glow steadily, but is actually blinking on and off 60 times each second. You can see this blinking by waving the probe rapidly from side to side. Some powerful AC fields, such as high voltage lines, can often be detected several hundred feet away. Weaker fields, from TV sets and neon sign transformers, can be detected up to eight or ten feet away.

Operation

Hold the Charge Detector so that your bare hand makes contact with both the rear aluminum body and the aluminum ring between the black plastic ring and the clear acrylic section. The device is "on" as long as it is held this way. To test it, touch the probe tip with your other hand. The LED in the center acrylic section should glow. If it does, it is indicating that you are conductive: your body is conducting electrical power in the battery from one pole of the detector to the other. If the LED does not glow when tested, check the battery position, contacts, and power. Replace the battery. If the problem persists, notify us.

Power Source

The Charge Detector uses a 12-volt battery, #23A, commonly available at Tandy or Radio Shack stores. To change the battery, unscrew the cap at the bottom of the Charge Detector; set it aside. Slide the battery into the cavity formed within the handle of the device, with the positive pole of the battery pointed toward the screw cap. Replace the screw cap. Do not unscrew or disassemble any other sections of the Charge Detector. Doing that would not only damage the internal wiring, but would also invalidate your warranty.

Maintenance Information

Remove the battery if you are not going to use your Charge Detector for an extended period of time. To maintain the shiny aluminum shell of the Charge Detector, we recommend Mother's Magnesium-Aluminum Wheel Polish, found in automobile parts stores. A dab of this paste may be applied with a soft rag on the metal sections only; use another clean soft rag to buff off the polish. Don't immerse the Charge Detector in water or expose it to anti-static spray.

Warranty

Your Charge Detector is warranted against defects in materials and workmanship for 90 days from the date of delivery. We will repair or replace products that prove to be defective during this time period if they are returned post-paid to Isher. No other warranty is expressed or implied. This warranty is void if, in our opinion, the item has been tampered with or subjected to abnormal electrical or mechanical abuse.

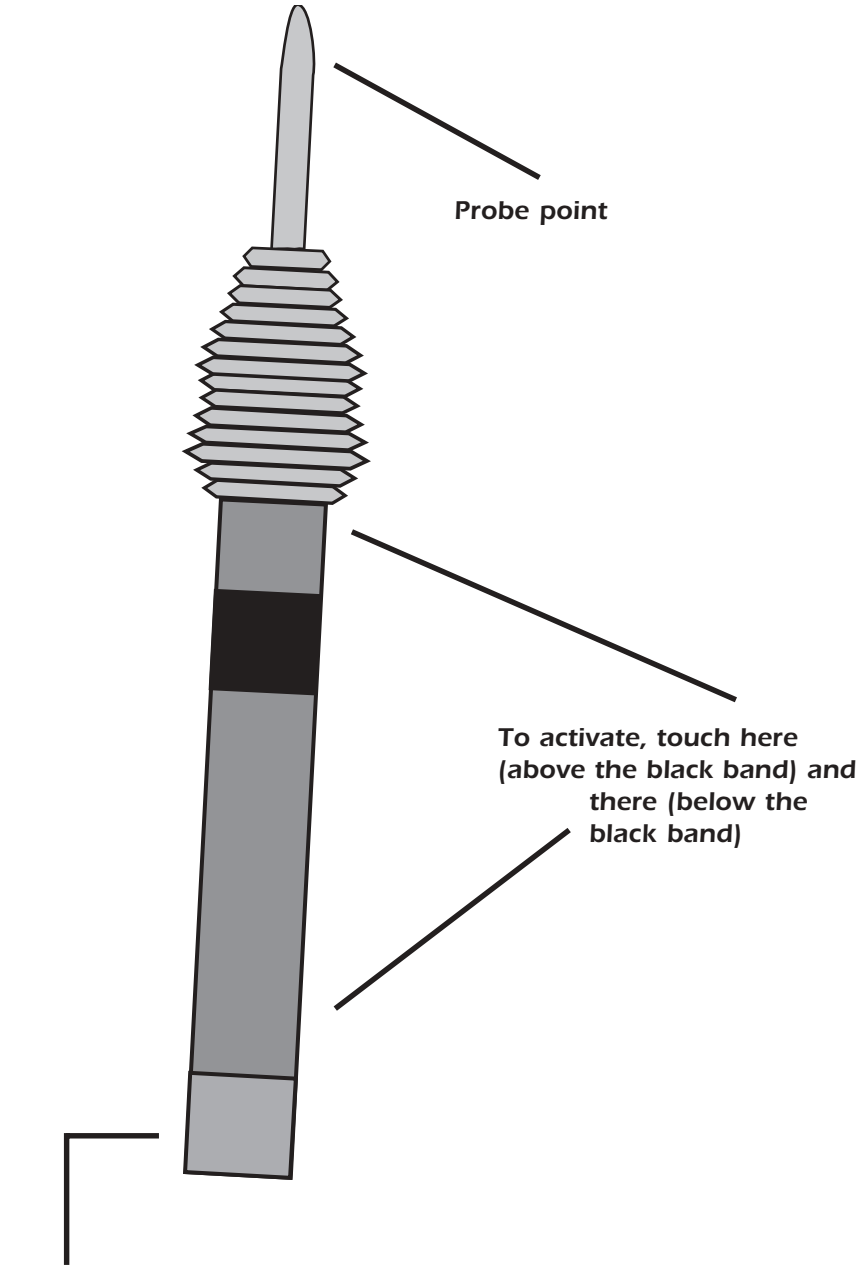
Servicing

Products not covered by the warranty will be repaired and returned at a cost equal to the work required. Please provide a complete street address, telephone number, and a check or money order for $16.00 with your Charge Detector. This amount usually covers most minor repairs. We will contact you if there are additional charges.

Tullio's Explanation of Electrical Field Charge Detection:

A positively charged tip, with current flowing from one object to another, enables the Charge Detector to behave as a high-gain current amplifier. The LED in the acrylic tip glows when the current is amplified at least 500,000 times. As the device measures only current flow, holding the probe stationary in an electrical field equalizes the charge, and the LED stops glowing. An advantage of using a current-based amplifier over the more commonly used field effects transistor (FET) is the greater resistance it has to sparks and high voltage discharges which sometimes occur when contact is made with a highly charged object. The Charge Detector acts as a continuity check and uses your body as a resistor when you touch the back end and the probe tip simultaneously. Static charges cannot build up in areas of high humidity, and under these conditions the Detector may not appear to function. To be certain that the problem is in the environment and not the device itself, perform a continuity check: the LED should glow. Also, a television set should activate the device even under high humidity conditions, but the range of detection will be greatly reduced.

Isher Artifacts fabricates and sells "replicas" of energy weapons, artifacts, and various "techie toys." Our products are hand-built in limited quantities. Most of the components are machined by humans; variations are normal.



Isher Artifacts

Charge Detector

Field Manual

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