

FLUKE®

Biomedical

Nuclear Associates 06-912

Dosimeter Charger

Users Manual

**Fluke Biomedical
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Section 1

Introduction

1.1 General Description

This self-contained, battery-operated instrument will re-zero any self-reading dosimeter having a standard charging end. The charger is contained in a two-part case held together by a captive screw. The charging contact is located in the upper left-hand corner; the voltage control knob is in the upper right-hand corner. The charging contact contains spring clips (that ensure constant contact) and has a dust cover which is permanently attached, by a chain, to the case.

1.2 Battery Installation and Instrument Preparation

Loosen the screw on the top of the charger and remove the bottom cover. Insert a standard 1.5V "D" battery (not included), carefully noting the polarity markings.

NOTE

A spare bulb, not included, can be stored in the case.

Replace the cover and tighten the screw. Remove the cap from the charging contact. The charger is now ready for operation.

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Section 2 Operation

2.1 To Charge (Zero) the Dosimeter

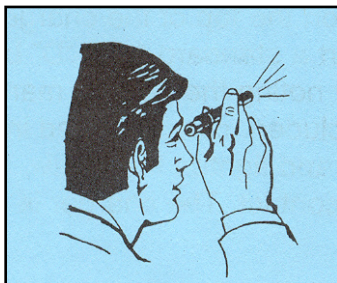
NOTE

IMPORTANT-IF THE DOSIMETER HAS A CAP
OVER THE CHARGING CONTACT END,
REMOVE IT!

1. Press the dosimeter charging contact lightly into the charger contact to illuminate the internal scale.
2. Press firmly until the dosimeter "hairline" responds to adjustment of the zeroing knob by moving smoothly up and down scale. Maintain pressure on the dosimeter. Adjust the position of the hairline to zero. For low-range dosimeters (<10R), the hairline may have to be placed to the left of zero to compensate for the "kick" to the right when contact is broken. **Slowly** relax the pressure on the dosimeter, and remove it from the charger.
3. Adjustment may be checked by lightly pressuring the dosimeter into the charging contact to illuminate the scale, or by simply looking through the eyepiece toward an external light source. Re-zero as required.

2.2 Reading the Dosimeter

1. Point the charging-contact end of the dosimeter toward an external light source. Read the scale through the eyepiece.



2. If no external light source is available, place the dosimeter on the charging contact, and press lightly to illuminate the scale.
3. Read the dosimeter. If you have to re-zero the dosimeter, follow the procedure in Section 2.1.

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Section 3 Maintenance

3.1 Maintenance

1. To Open Case: Loosen the screw on the top of the charger and remove the cover.
2. To Replace Bulb:
 - a. Open case and remove bulb.
 - b. Replace with new bulb (#131 or equivalent).
3. To Replace Battery: See Section 1.2.
4. Care of Charging Contact:

Always keep the protective cap on the charging contact when the charger is not in use. The clear plastic surfaces of the charging contact should be kept dry, clean, and free of fingerprints. A soft cloth, free of grit, dirt, lint, or moisture, may be used to clean the plastic surfaces.

CAUTION

Do not use solvent or cleaning fluid to clean plastic.

3.2 Storage

Remove the battery if the charger is to be stored for more than two months. Store with case closed and protective cap on charging contact.

3.3 Preventative Maintenance

1. Clean battery contacts with steel wool or equivalent.
2. Check battery and bulb (replace as required). Check electrical operation.

3.4 Troubleshooting

If the instrument does not appear to operate properly, one of the following may be the reason:

<u>Abnormal Condition</u>	<u>Probable Cause</u>	<u>Corrective Action</u>
A. Light weak or fails to go on when charging contact is depressed.	1. Weak battery. 2. Dirty (corroded) batter or light switch spring contacts. 3. Loose bulb. 4. Bulb burned out.	1. Replace battery. 2. Clean battery and light switch contacts with steel wool or equivalent. 3. Tighten bulb. 4. Replace bulb.
B. Hairline image moves fluidly across scale but will not go to zero.	1. Weak battery.	1. Replace battery.
C. Hairline image moves erratically across scale.	1. Dirt on contacts. 2. Leaf Spring out of adjustment. 3. Faulty dosimeter.	1. Blow contacts with clean, dry air. 2. Repair or replace charger. 3. Repair or replace dosimeter.

3.5 Special Problems

Old chargers occasionally get out of calibration due to repair and maintenance by inexperienced personnel. One symptom is that the charger will no longer zero a low-range dosimeter properly, and this affects any calibration, electrical leakage, or other test of the dosimeter requiring reading of the fiber position. This can be tested by charging a low-range dosimeter, lifting it from the contact, observing the fiber position and then shorting the contact pin with an electrical conductor. If the fiber moves, the charger is faulty and should be returned for repair or replacement.

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