Model DCA 909 Charger

Battery Powered Dosimeter Charger

Model 909

Easier charging/viewing, dosimeter protection and improved accuracy… these are the biggest reasons that DCA's Model 909 battery operated dosimeter charger is the best value on the market today

The charger's reading light reduces rezeroing time and effort by eliminating the need to remove the dosimeter from the charger for reading. Simply view the scale while the dosimeter is resting lightly on the charger contact after rezeroing. Reading in the same orientation as charging also minimizes the effect that gravitational induced fiber movement has on dosimeter accuracy and precision

The Model 909 charging contact is spring loaded and has a positive mechanical stop. This design feature makes it impossible to damage dosimeters through excessive charging force.

Model 909

The patented "kick" feature found on the Model 909 charger automatically removes residual static charge from each dosimeter's charging pin every time the dosimeter is rezeroed This eliminates a major source of erroneous fiber movement (up to 5% of full scale)

Features

- Capable of charging any self-reading dosimeter
- Conforms to ANSI N42.6-1980
- Operates on two 1.5 V "AA" cell batteries
- Has the ability to "Kick" or remove all residual charge from dosimeters properly, which prevents spurious upscale fiber movement
- Reading light to allow for easy charging/viewing
- Residual static charge removed for improved accuracy

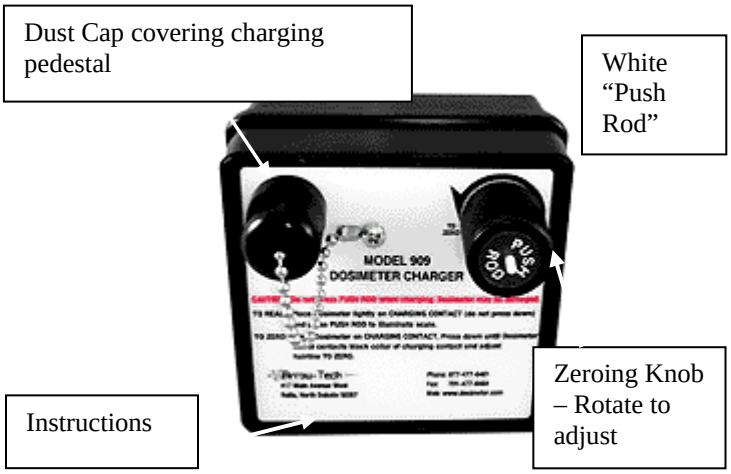
Specifications

Weight:	10.6 oz.(302 g)
Width:	4" (102 mm)
Length:	4" (102 mm)
Height:	3.5" (89 mm)
Case	ABS Plastic
Controls	One turn potentiometer Reading; spring-loaded push rod
Power – Battery	(2) 1.5 V "AA"
Charging voltage	40 V to 220 V
Operating Temperature	0 – 120 F (-18 – 49 C)
Lamp	LED

The Charging Process - Zeroing the Dosimeter

Accumulated radiation is read directly on an internal calibrated scale of the Dosimeter. A Dosimeter Charger (AT DCA 909 or Rad Alert 750-6) is required in order to return the dosimeter to zero after each exposure period if desired.

Arrow-Tech Model 138 dosimeter shown



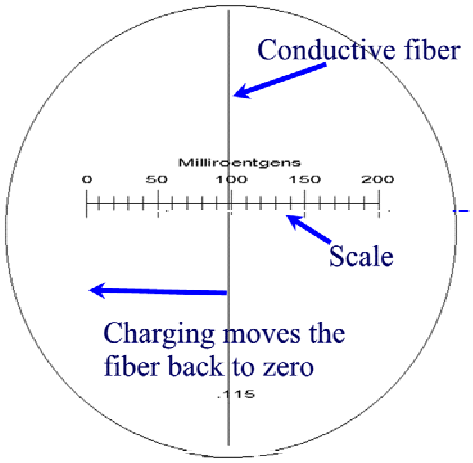
One end of the dosimeter contains an optical eye-piece; the opposite end is sealed by a diaphragm switch which houses the insulated steel charging pin. The instrument is charged (set to zero) by pressing the charging pin onto the charging socket on the charger.

When the charging end of the dosimeter is pressed firmly into the charging contact (pedestasl) on the charger, the pin contacts the electrometer frame. Sufficient voltage is applied to charge up the dosimeter and to set the fiber to zero

Step 1.

Reading a dosimeter: Remove the cap on the charging contact. Place the Dosimeter lightly on the charging pedestal and press the "Push Rod" to illuminate the scale.

If the light does not come on it could mean there is no battery inside the charger. **Replace the battery** by removing the screw in the center of the bottom case, and install new battery. Note the + end of the battery needs to be aligned with the + (pos) marking on the circuit board inside the charger.



Step 2. Charging the Dosimeter. While pressing the charging end of the dosimeter firmly down in the receptacle of the charger, **adjust** the "Zeroing Knob" on the charger. While looking through the dosimeter at the light that comes, adjust until a zero reading is indicated **IF** the fiber is not moving, press the dosimeter farther down in the receptacle and try again.

Step 3. At times, a transient "kick" is experienced when zeroing the dosimeter. The charging contact of the charger automatically compensates for the kick when the dosimeter is with drawn slowly from the contact. You can see this effect by holding the dosimeter on the charging contact while looking into the instrument. Withdraw the instrument slowly. You will note that just before the light turns off, the hairline will shift. With a little practice the hairline can be made to shift so that its final position coincides with the zero line. Optimum performance is obtained when electrostatic kick is compensated for in this manner. The hairline will remain on or near the zero position for long periods when not exposed to radiation.

Step 4. When resetting the dosimeter to zero, the fiber may disappear and remain hidden. To release the fiber, slowly turn the "Zeroing Knob" knob until the fiber reappears.

Keep repeating steps 1 through 4 as needed.
Some practice might be required to become proficient at zeroing the dosimeter.

Your dosimeter should now be on zero,(0) and ready to use.

When properly zeroed the fiber will remain on zero. >