

# RP-07 SnakeEye™ Battery Charger

rev. 1

The RP-07 Smart Charger is specifically designed for the 6 Volt NiMH battery packs powering the SnakeEye™ Remote Visual Inspection (RVI) equipment to maximize battery life and optimize battery performance.

## Features:

1. Micro-processor based controller allows the user to clearly monitor charger's current status (Charge, Charge Completed, Discharge, or Battery Malfunction).
2. Four charging termination mechanisms for a safer and more efficient method of charging the battery.
3. Equipped with a battery activation function that can refresh a dormant or old battery to optimize its capacity and life expectancy.

## Operation procedures:

### 1. Power ON

It is important that you plug the AC input plug into the charger socket first, and then plug the AC plug into the AC power outlet. If you reverse this process, you may cause sparks and damage the charger. The RED "Power LED" will light up to indicate Charger is ready. If you use the 12V DC plug to power up the charger in a car, just replace the AC input plug with the 12V DC plug.

### 2. Charge Battery

Insert the battery in to the charging base. This activates the charger, and begins the normal charging function. The RED "Charging LED" will turn on indicating the charge function is working. When the battery is fully charged, the "Charging LED" will turn GREEN. If the battery is not removed, the charger enters into its trickle charge mode. When the battery is removed from the charger, the "Charging LED" will turn off.

### 3. Activate battery (It could take up to 16 hours)

"Refresh" switch is designed to activate a dormant battery due to long storage cycle or possibly re-energize a used battery that has gone through many charge/discharge cycles. This function could optimize the capacity and life expectancy of the Ni-MH battery. It is recommended to perform this activation cycle as needed (approximately every 30 charge/discharge cycles).

To use the activation cycle, just press the "Refresh" button after inserting the battery into the charger. The AMBER "Refresh LED" on the charger will turn on indicating the discharge process. been started.

The charger will automatically switch to the slow charge mode when the discharge process is complete. This is indicated by the AMBER "Refresh LED" being turned off and the RED "Charging LED" indicator being turned on. When the battery is fully charged, the charging LED will turn green.

**This Refresh cycle can't be terminated except by unplugging the AC power cord from the wall outlet for min. 15 seconds.**

## Check before Charging:

1. Make sure you use only the AC and DC adapters provided with the SnakeEye. Using the wrong AC and DC adapters will damage the charger and batteries. The output rating is 12V 1.0A to 1.5A.
2. The charger is designed for use with Aqua SnakeEye batteries only and should not be used to charge other batteries.
3. The charging time from empty to full is estimated at 2.5 hours for 2000mAH battery.
4. The charger's working temperatures must be lower than 50 degree C (122 degrees F).
5. Allow a discharged battery to cool down before recharging. If you do not allow the battery to cool, it will affect the battery capacity and shut down the charge cycle before the battery reaches maximum capacity due to high temperature protection termination within the charger.
6. This charger is not waterproof, and the user must keep it dry.
7. The charger is a precise tool and should be kept away from high power EMI radiating device.

## Indication:

1. Red "Power LED" will be turned on and buzzer will beep once after applying power to charger.

### 2. Other indicated message table

Message	Charging LED	Refresh LED	Buzzer
Normal Charging (800mAH per hour)	Red		
Slow charging (200mAH per hour)	Red		
Activation Discharge (350mA per hour)		Flash Amber	
. Normal charge termination . Initialization end	Green		Beep once
Trickle charging	Green		
Abnormal charging termination	Flash Red		Beep once
Battery Catch Engaged			Beep once
Battery damaged	Flash Orange		Beep 5 times

## Electrical Specifications:

1. Input voltage: 12V/1.0A to 1.5A DC
2. Normal charging current : Constant at 800mA NiMH
3. Max no load voltage : > 11V
4. Quick charge terminating conditions :
  - A negative voltage change
  - Temperature rises by 0.5 ° per minute
  - When voltage doesn't change for more than 10 minutes
  - When the Temperature reaches 55 °
  - Max. charge time reaches 180minutes ( 3 hours )

## Mechanical Specification

1. Charger DC power input jack:
  - Outer ring diameter : 5.5mm, Negative pole.
  - Inner ring diameter : 2.5mm, Positive pole
2. Charging contacts: 3- contacts
  - Center one: Temperature sensor
  - Closer left contact of Center: Positive pole of battery.
  - Right contact of Center: Negative pole of battery.
3. Dimension : 141\*81\*44 mm. Weight : 145g approx.

## Appearance and user Interface

