

VENOM™

PRO CHARGER

INSTRUCTIONS



VENOM™

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VEN-0656-1

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PRO CHARGER

Thank you for purchasing the Venom Pro-Charger™. This charger was designed to charge, discharge and maintain several different battery types that are used in today's R/C hobbies. The built-in micro processor and easy to use program selection menu will make charging your specific battery faster, safer and easier. The compact size of the Venom Pro-Charger™ makes it easy to take with you and its strong alloy case makes it very durable. Your Venom Pro-Charger™ comes with our Cell Balance Block to fit a variety of LiPO battery types from 2s to 6s. The Charger also includes a selection of plug adapters to fit several different types of NiCD and NiMH batteries. We recommend that you read these instructions thoroughly and carefully before using your Venom Pro-Charger™.

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Notice of Liability

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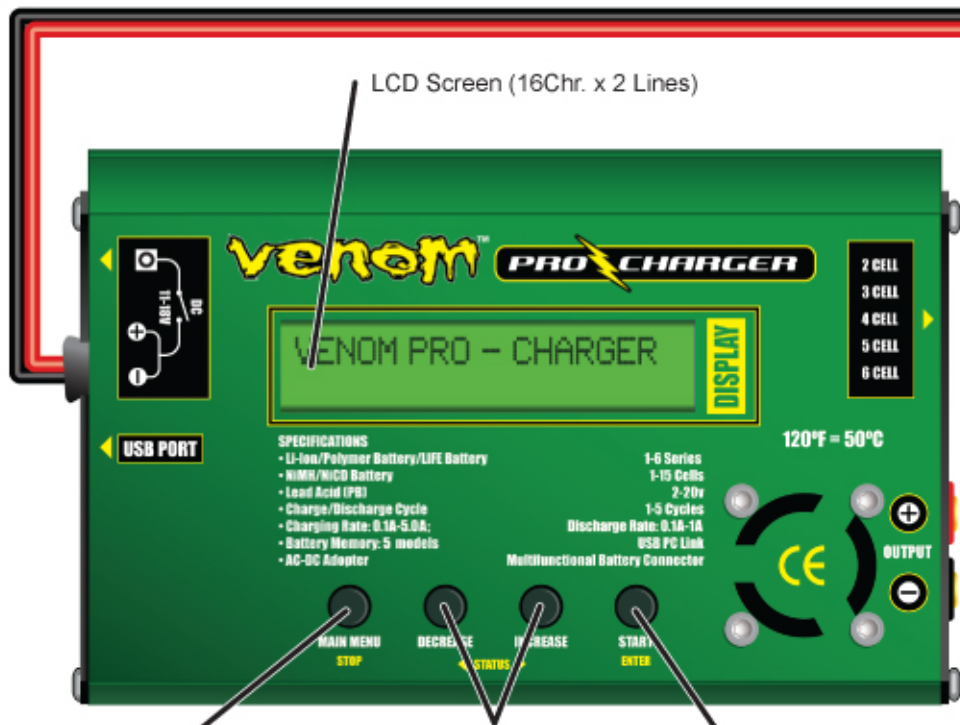
Venom Group International™ Limited Warranty

Venom Group International™ warrants this product to be free of material and workmanship defects when new. If a component is defective or was not correctly made, Venom Group International™ will, at its sole discretion, repair or replace it free of charge within 90 days from date of purchase. If you believe a defect became evident only after operation, please contact us to discuss the situation.

A dated & itemized sales receipt must accompany any product returned for warranty work.

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PRO CHARGER



LCD Screen (16Chr. x 2 Lines)

Main Menu
Navigation/Stop Charging

Decrease/Increase
To Select Sub Program
Select Settings

Save Settings/
Start Charging

PARTS LIST:

VEN-0658.....Power Supply

*Note Power Supply included in VEN-0657

Power Supply NOT included in VEN-0656

VEN-0659.....Adapter Plug Set

- A) General Charge Cord
- B) Tamiya Charge Adaptor
- C) Traxxas® Charge Adaptor
- D) JST Charging Adaptor
- E) Receiver Charge Adaptor
- F) Glow Ignitor Charge Adaptor
- G) Alligator Clip Charge Adaptor
- H) Cell Balance Block
- I) Temperature Probe

Power Supply Clips

+ Charging Lead Connector

Cell Balance Block Port



RIGHT SIDE VIEW

- Charging Lead Connector

Temp Plug Port



LEFT SIDE VIEW

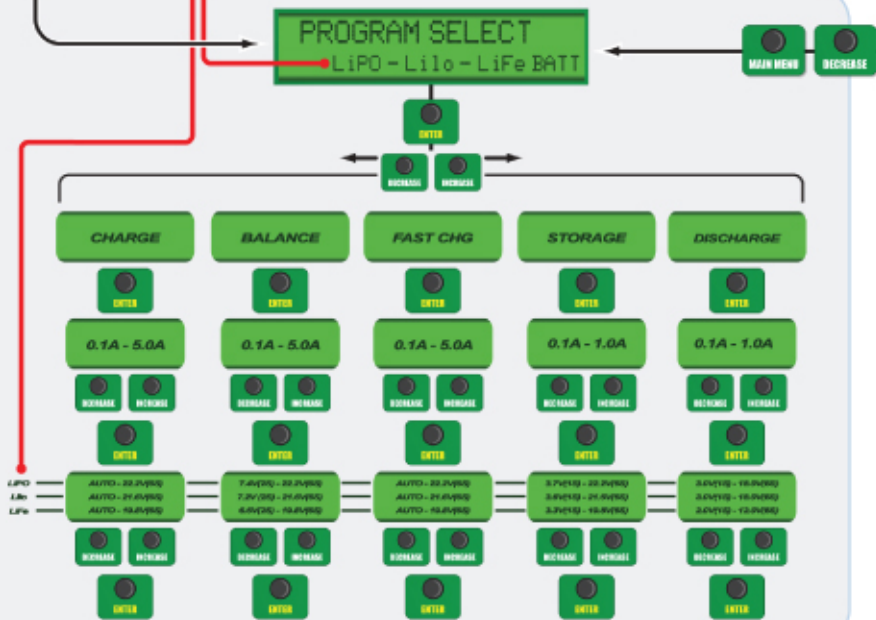
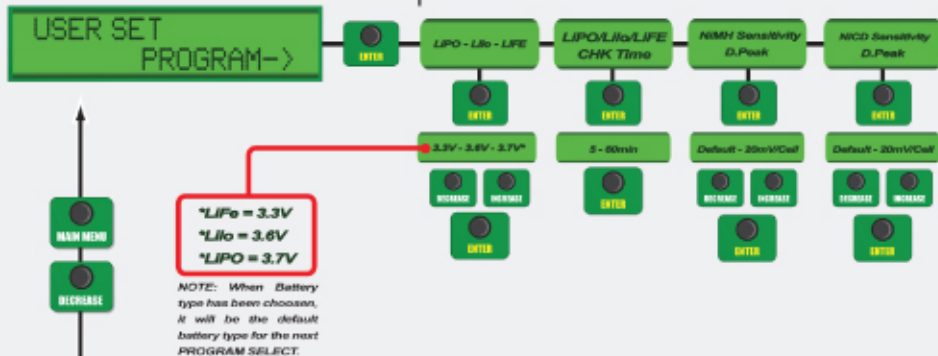
Venom Optional Power Supply
(DC 11~18v)

Pro-Charger USB Port

AC-DC Function Cable

SPECIFICATIONS:

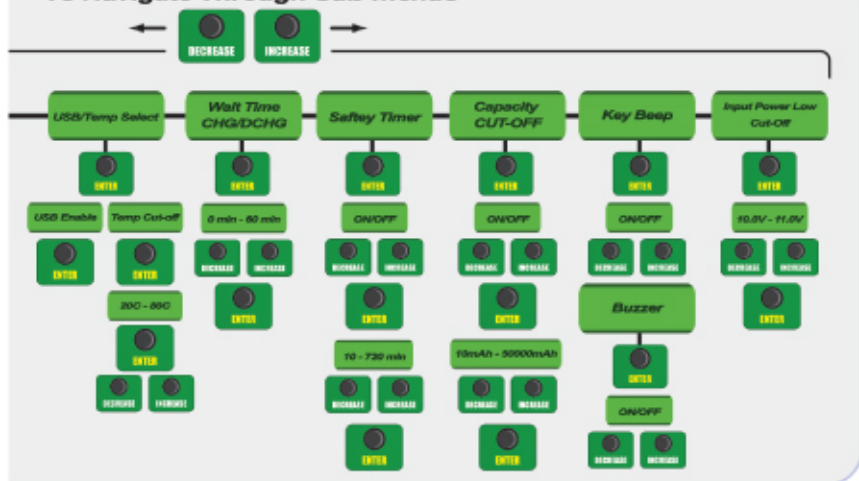
Operating Voltage Range:	11.0 - 18.0v
Circuit Power:	Max. 50W
Charge Current Range:	0.1 - 5.0A
Current Drain for Balancing LiPO:	200mah/Cell
NiCD/NiMH Battery Cell Count:	1 - 15 Cell
Li-ION/Polymer Cell Count:	1 - 6 Series
Pb Battery Voltage:	2 to 20v
Weight:	300g 10.5oz
Dimensions:	136 X 90 X 30 mm
Discharge Rate:	0.1 - 1A
Charge Cycles	1 - 5
USB	Mini USB
Memory Charger Parameters	5



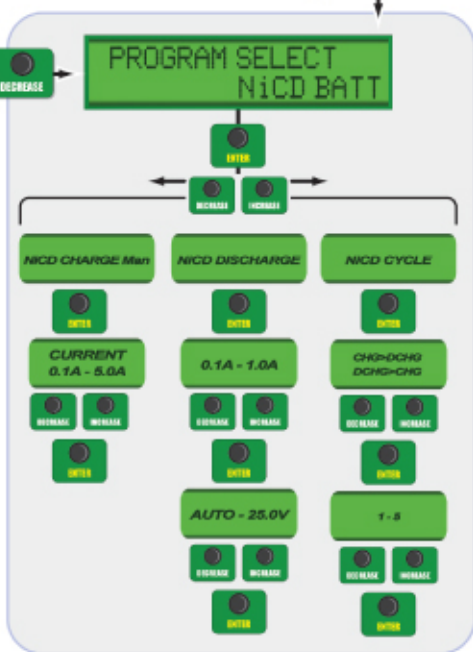
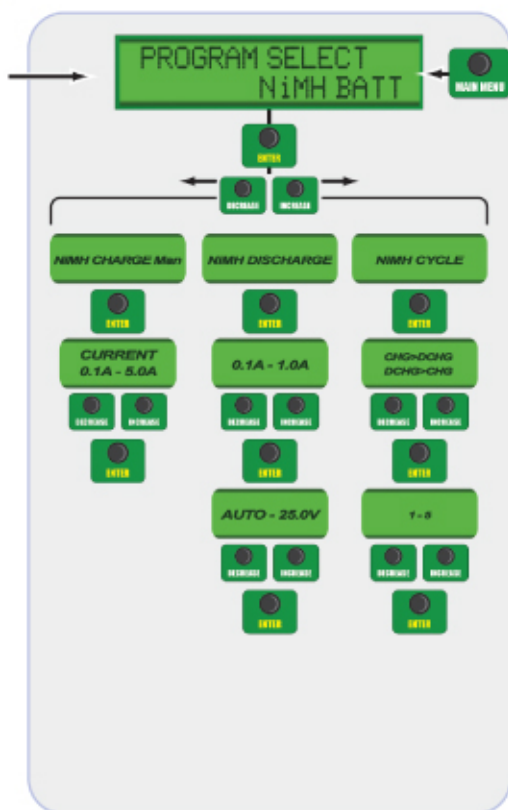
CHARGER BUTTON KEY:

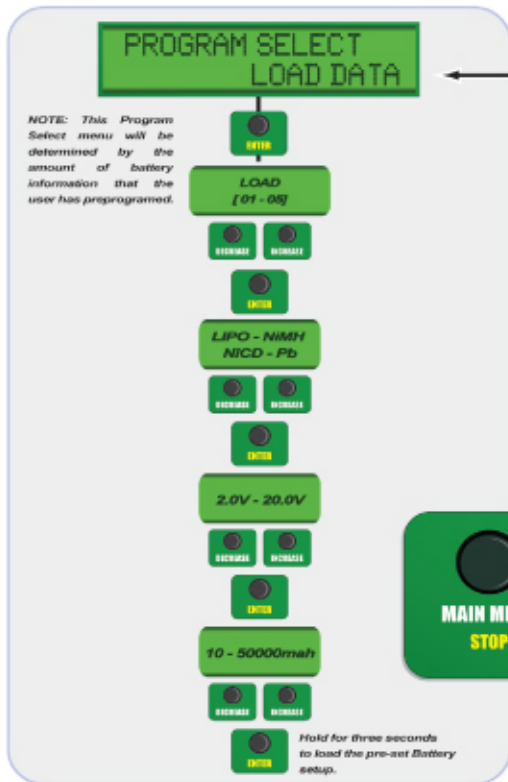
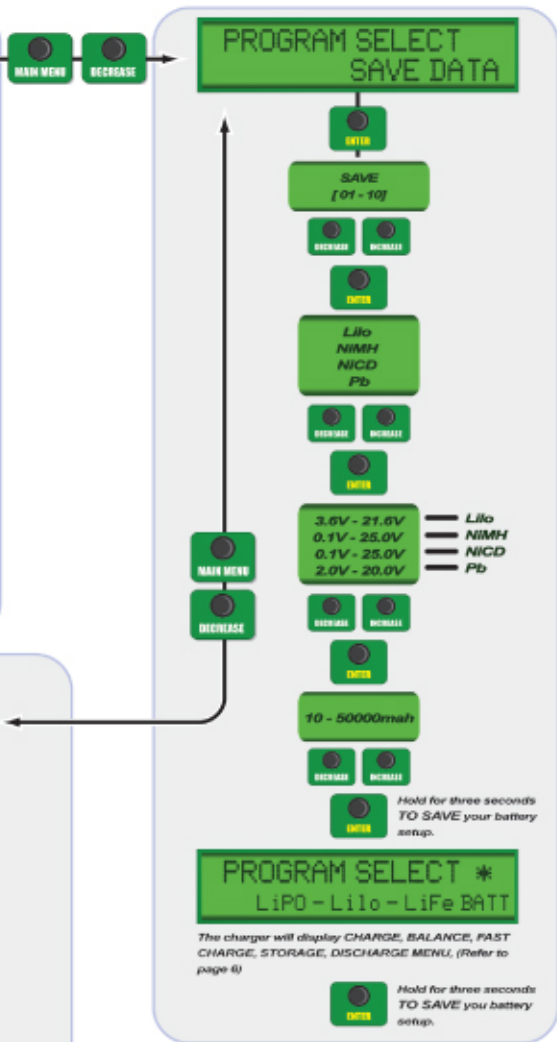
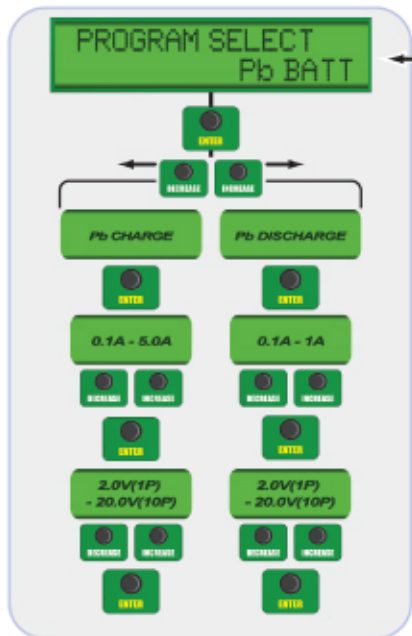
Use these Buttons to navigate through the Pro-charger Charger menu.

To Navigate Through Sub-menus



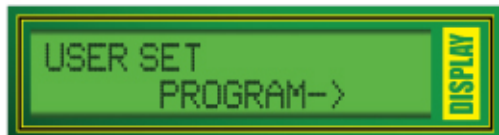
Continue to next page





CHARGER BUTTON KEY:

Use these Buttons to navigate through the Pro-Charger Charger menu.



Use these Buttons to navigate through the USER SET PROGRAM Menu.

LIPO/LiLo/LiFe: The three commonly available Lithium battery chemistries, Lithium Polymer (LiPO) = 3.7v/cell, Lithium Ion (LiLo) = 3.6v/cell, Lithium Phosphate (LiFe) = 3.3v/cell. Each has its own nominal voltage and charge parameters. Always set the Lithium charge parameters for the appropriate chemistry. Consult the manufacturer if you do not know what type of pack you have.

LIPO/LiLo/LiFe Check Time: This gives the user the option to pre-set the amount of time between 5-60 min. that it will take to detect a cell count error after charging has begun. After the set amount of time has elapsed a beeping will occur to warn the user that a voltage select error has been detected. This will also terminate the charging process.

NiMH Sensitivity: Adjust the delta peak value as needed to obtain an optimal peak charge. **WARNING:** A higher value means more heat while the battery reaches peak charge. Adjust between Default – 20mv/cell. Most applications in general sport use will work in the Default Setting.

DO NOT EXCEED 120° F.

NiCD Sensitivity: Adjust the delta peak value as needed to obtain an optimal peak charge. **WARNING:** A higher value means more heat while the battery reaches peak charge. Adjust between Default – 20mv/cell. Most applications in general sport use will work in the Default Setting.

DO NOT EXCEED 120° F.

USB/Temp Select: This safety feature will help prevent damage to battery packs due to over charging. **DO NOT ALLOW ANY BATTERY PACK TO EXCEED 120 ° F. ALWAYS CHARGE BATTERIES UNDER SUPERVISION. See manufacturers specifications for your battery pack.**

Waste Time: The time between charging and discharging cycles can be set from 0-60min. Select an appropriate amount of time to allow the battery pack to return to room temperature.

Safety Timer: Set the safety timer to prevent continuous charging. Make sure to set the time to allow for ample charging time for the intended battery pack type.

Key Beep/Buzzer: Turn the key Beep or Buzzer ON/OFF.

Capacity Cut-Off: A preset capacity unit can be set from 10mah to 9990mah.

Input Power Low: Select between 10.0v and 11.0v for the minimum allowable input voltage to the charger.

- A) General Charge Cord
- D) JST Charging Adaptor
- H) Cell Balance Block (If needed)
- I) Temp Probe (If Desired)

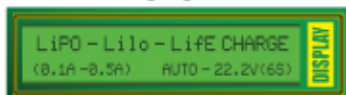


0.1A - 5.0A: Use this section to select the charging current for Lithium-ION, LiPO, LiLo, LiFe batteries. Select Lithium Battery Type in the "User Set Program Menu" **NOTE: Please read the LiPO BATTERY WARNING on page 10 of these instructions.**

Auto - 18.0v: Select the nominal peak battery pack voltage. The auto function will read the packs nominal voltage and set this value during charging.

LIPO, LILO, LIFE CHARGE SEQUENCE

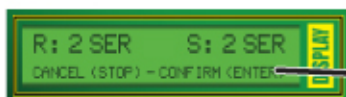
1. Plug in Battery
2. Confirm the Charging Profile



3. Press Hold ENTER 3sec (Beep)



4. Confirm the # of Cells



R= # Cells Recognized
S= # Cells Set
These two numbers must match
CANCEL (STOP) CONFIRM (ENTER)
will flash back and forth

5. Press ENTER to charge if the confirmation step is correct.



Charge Current
Voltage
mah
Time } Will change to FULL when fully charged



LiPO Discharge

Discharge Current - 0.1-1.0A: Use this section to select the discharge current of your Lithium Battery.

Discharge Voltage – Use this section to set the minimum discharge voltage. For LiPO and Li-Ion it is 3v/cell. For LiFe, discharge voltage is 2v/cell.



LiPO Balance

1. Set the charge rate and peak pack voltage as was done with the regular charge menu.
2. Hook discharge connector of pack to the appropriate charge adaptor. Attach balance connector into slot on Cell Balance Block that corresponds to the cell count of your pack.
3. Press and hold enter 3 sec (Beep)
4. Confirm # of cells
5. Press Enter if the charge confirmation is correct
6. Individual cell voltages can be viewed by pressing the increase button while charging



LiPO Fast Charge

1. For use with packs with a 20c or more continuous current rating. Allows the user to charge at currents greater than 1C. Never exceed 2C on the charge rate.
2. Set up the charge rate and pack voltage as you would for a regular charge



LiPO Storage

1. This feature enables the user to condition the battery and place the pack at an appropriate charge level for long-term storage.
2. Set the charge current and nominal pack voltage
3. Start the LiPO storage feature as was done in the other menus.



REQUIRED PLUGS (Pg.14 Plug Descriptions)

- A) General Charge Cord
- B) Tamiya Adaptor
- C) Traxxas® Adaptor

[0.1A - 5.0A]: Current (Auto - 5.0A): Select the charging current from 0.1A to 5.0A press enter to choose (Auto to 5.0A) and hold enter button for 3 seconds to start charging process.

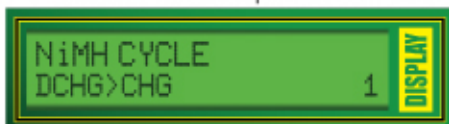
NiMH Discharge

1. **0.1A-1.0A** – Set the Discharge current for the pack
2. **0.1v-25.0v** – Set the minimum discharge voltage of the pack. Discharge NiMH to .9 volts/cell. For a 6cell stick pack it would be 5.4volts (.9v x 6cells = 5.4 volts)



NiMH Discharge

1. **0.1A -1.0A** – Set the discharge current for the pack
2. **0.1v-25.0v** – Set the minimum discharge voltage of the pack. Discharge NiMH to .9 volts/ cell. For a 6cell stick pack it would be 5.4volts (.9v x 6cells = 5.4 volts)



NiMH Cycle

1. Set the charge and discharge current and pack voltage in their charge and discharge menus
2. Set to DCHG/CHG or CHG/DCHG
3. Set # of cycles to put on pack (1-5 cycles)
4. Hold down start button (3 sec) to initiate.



REQUIRED PLUGS (Pg.14 Plug Descriptions)

- A) General Charge Cord
- B) Tamiya Adaptor
- C) Traxxas® Adaptor

[0.1A - 5.0A]: Current (Auto - 5.0A): Select the charging current from 0.1A to 5.0A. Hold enter button for 3 seconds to start charging process.

1. **0.1A-1.0A** – Set the discharge current for the pack
2. **0.1v-25.0v** – Set the minimum discharge voltage of the pack. Discharge NiCD to .9 volts/ cell. For a 6cell stick pack it would be 5.4volts (.9v x 6cells = 5.4 volts)



NiCD Cycle

1. Set the charge and discharge current and pack voltage in their appropriate menu
2. Set to DCHG/CHG or CHG/DCHG
3. Set # of cycles to put on pack (1-5 cycles)
4. Hold down start button (3 sec) to initiate.



REQUIRED PLUGS (Pg.14 Plug Descriptions)

- A) General Charge Cord

1. **[0.1A - 5.0A]:** Select the charging rate.

2. **[6v - 12v]:** Select nominal voltage. Hold enter button for 3 seconds to start charging process.



Pb CHARGE
0.1A 20.0V(10P)

DISPLAY

To Select Pb Charge use decrease or increase, press start

[0.1A -5.0A] Select Amps. press start to select voltage 2.0 - 20.0V Select nominal Voltage
Hold enter button for 3 seconds to start charging process.



Pb DISCHARGE
0.1A 2.0V(10P)

DISPLAY

To Select Pb Discharge use decrease or increase, press start

[0.1A -1.0A] Select Amps. press start to Select voltage 2.0 - 20.0V Select nominal Voltage
Hold enter button for 3 seconds to start discharging process.



PROGRAM SELECT
SAVE DATA

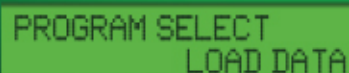
DISPLAY

This feature was designed to hold up to 10 Different battery setups that the user might always use without constantly having to go through each setup menu.

Save [01 - 05] Battery Type: Select the profile Number.

1. NiCD, Pb, LiPO (Must be set in user set Program Menu), NiMH: Select the battery type.
2. 0.1v - 22.2v: Enter the nominal battery pack voltage.
3. 10mah - 9990mah: Enter the rated capacity of the battery pack.
4. To Save Data Hold the Enter/Start Button for three seconds.

After saving the First screen, use the increase/decrease arrows to scroll through the sub menus, setting the charge, discharge rates as well as minimum and maximum voltages. Once all the desired values are set, hold down the start button for 3 seconds and all selected data will be saved.



PROGRAM SELECT
LOAD DATA

DISPLAY

The Load Data screen is where the user can retrieve the SAVE DATA program file to charge a commonly used battery.

[01] NiCD or [02 - 10] LiPO: Select from saved charging profiles. 01 - for NiCD/NiMH/Pb or for LiPO.

To LOAD SAVED DATA Hold the ENTER/START button for three seconds.

WARNING

Charging and discharging batteries has the potential for fire, serious injury to persons and damage to property. The user of this battery charger agrees to accept responsibility for all such risks. Venom Group International™, its affiliates, manufacturers, distributors, and retail partners can not control the use, application, charging or installation of this product and shall not be held responsible for any accident, injury to persons, or damage to property resulting from the use of this product.

LiPO BATTERY SAFETY GUIDELINES:

1. Always use a charger specifically designed for Lithium Polymer batteries. Never use NiCD or NiMH type chargers to charge LiPO batteries. Failure to do so will damage the batteries and may cause fire and personal injury.
2. Always charge batteries in a fire proof container or in the open, away from flammable materials. Do not charge batteries on wood, cloth, carpet or on any other flammable material. Keep a chemical fire extinguisher nearby in case of fire.
3. Never leave batteries unattended while charging. Always observe batteries when charging so that you may react quickly to any problems that may occur.
4. Use LiPO cells that feature a separate balancing plug that isolates each cell in a pack and charges it independently. This ensures that all cells peak equally and discharge at the same rate during use preventing one or more cells from discharging past their safe low voltage cut off rating. The balancing plug can be identified by the multi wire Molex plug.
5. Charge each battery pack individually. Never charge battery packs in series. Charging packs in series may result in improper charger cell recognition and an improper charging rate that may lead to overcharging, cell damage and fire.
6. Always check to make sure that your charger settings match those listed on the battery pack label. Refer to the battery label for the proper cell count and charging amperage setting. Selecting a cell count or amperage charge rate other than the one listed on the battery pack will damage the battery and may cause a fire.
7. Make sure the battery connections are connected in the correct polarity. A wrong connection will damage the battery and may cause a fire.
8. Always check battery pack voltage before charging. Do not discharge LiPO batteries below 3.0 volts per cell. The voltage of a typical LiPO cell at rest is 3.7 Volts. If the battery pack appears swollen or damaged, DO NOT attempt to charge it. Check the voltage and follow Step 5 from the Safety Guidelines section.
9. Do not charge at over 1C current. $C = \text{battery pack mah capacity} \div 1000$. Divide the battery mah capacity by 1000 to determine the proper charge rate. Example: $1200\text{mah} \div 1000 = 1.20$ Amps Charge Rate for Venom Power LiPO Battery Packs, example:
 - a. 800mah Capacity = 0.80 Amps
 - b. 1200mah Capacity = 1.20 Amps
 - c. 2000mah Capacity = 2.00 Amps
10. Do not peak charge to more than 4.2 Volts per cell. Example: A 2s Battery Pack contains two cells, therefore the peak voltage should not exceed 8.4 Volts.

11. Battery Temperature is critical. For optimum performance in cold climates, make sure the battery is at room temperature before use. Please use the following guidelines:
 - a. Charge Temp Range: 32 - 110F° / 0-43C°
 - b. Discharge Temp Range: 32 - 140F° / 0-60C°
 - c. Storage Temp Range: 40 - 80F° / 4-26C°
12. If the battery exceeds the temperature guidelines as above, isolate the battery pack and follow Step 5 from the Safety Guidelines section.

NEW BATTERY BREAK-IN:

1. New LiPO battery packs may require 12 or more charge/discharge cycles before the battery's optimum performance is reached.
2. During this time, it is recommended that the battery pack is not discharged over 7C. $7C = 7 \times 1C$, where $1C = \text{battery pack mah capacity} \div 1000$. Example: $[(1250\text{mah} \div 1000) \times 7] = 8.75$
Amps Recommended Maximum Discharge Rates During Break-In Period:
 - a. 800mah Capacity = 5.4 Amps
 - b. 1200mah Capacity = 8.4 Amps
 - c. 2000mah Capacity = 14 Amps

DISCHARGING INSTRUCTIONS: (PLEASE READ BEFORE DISCHARGING BATTERY)

1. Never discharge a LiPO battery pack at more than the manufacturers recommended discharge rate. The discharge rate is: $\text{Battery pack capacity (mah)} \div 1000 \times \text{Pack C rating}$. Example for 15C packs: $(3200 \text{ mah} \div 1000) \times 15C = 48 \text{ Amps}$. Example for 20C packs: $(2100 \text{ mah} \div 1000) \times 20C = 42 \text{ Amps}$
2. Any time you have an accident with your battery, if the battery swells "balloons" or if the battery exceeds temperature guidelines, follow these safety steps:
 - a. Immediately remove the battery pack from your model or charger.
 - b. Place the battery in a non-flammable, well ventilated area.
 - c. Observe the battery for 30 minutes from a safe distance.
 - d. After 30 minutes, if the pack appears stable, is not swollen and does not show any signs of damage, return the battery pack to normal use with caution.
3. If a battery is deformed, swollen or appears damaged, DO NOT CHARGE. IMMEDIATELY DISCHARGE.
 - a. Discharge battery pack to 2.5 Volts per cell or less.
 - b. Fill a bucket with enough water to submerge the battery pack completely.
 - c. Add salt to the water until no more salt will dissolve; the water is now saturated with salt.
 - d. Place the battery pack in the bucket and leave submerged in the salt water solution for 24 hours.
 - e. Remove the battery pack from the salt water and test the voltage.

- f. If the voltage does not read 0.0 Volts, re-submerge an additional 24 hours and re-test until the voltage reads 0.0 Volts.
 - g. Once the battery pack has been discharged to 0.0 Volts, it is safe to dispose.
4. Do not let exposed battery wires touch each other. This may cause the battery to short and potentially cause a fire.
 5. Store your batteries in a cool, dry place between 40-80 F° / 4-26 C°. LiPOs should be charged to 50% of their capacity minimum before being stored.
 6. Do not assemble unmatched or dissimilar LiPO cells.

TROUBLE SHOOTING SECTION



The battery that is connected to the charger has an incorrect polarity.



This will be displayed when the charger detects an interruption in the connection between battery and charger during charging or discharging.



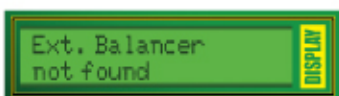
A short circuit has been detected. Check the battery connection.



The input voltage is too low. Check the low input voltage cut-off setting and the voltage from the power supply. Please see page 8.



The Charger has detected an internal ERROR. Please contact customer service at 800.705.0620 or by e-mail at customerservice@venom-group.com



The Communication between the balance block (Plug set illustration E) and the charger has not been found.



For safety reasons the balance charging of a particular cell in a LiPO battery pack has dropped below the limit and the charger has then terminated the charging process. **(PLEASE REFER TO THE LIPO SAFETY GUIDELINES ON PG.11)**

ADAPTOR PLUG SET (VEN-0659)



A) General Charge Cord: This will be used in all applications. Select the appropriate adaptor to suit the battery being charged. **NOTE: Make sure the polarity is correct when connecting to the charger**



B) Tamiya Charge Adaptor: Used to charge all NiMH and NiCD Battery packs that have been fitted with a Tamiya plug.



C) Traxxas® Charge Adaptor: Used to charge NiMH and NiCD Battery Packs that have the TRX® Plug attached. Traxxas®, TRX®, and the Traxxas logo are registered trademarks of Traxxas



D) JST Charging Adaptor: Used for smaller NiMH and LiPO Batteries that have a male JST plug attached.



E) Receiver Charge Adaptor: Used to charge receiver packs that go into gas powered models. Will fit all common radio plug types. (example: Futaba, Jr, HiTec, and Airtronics Z connectors.



F) Glow Ignitor Charge Adaptor: Used to charge single cell batteries found in most glow ignitors.



G) Alligator Clip Charge Adaptor: Used to charge lead acid field box batteries.



H) Cell Balance Block: Used for balancing cells in a Lithium Polymer (LiPO) battery pack. (Refer to LiPO charging on pg.9)



I) Temperature Probe : Used to gauge the temprature of LiPO Batteries while being charged

USB PRO CHARGING SOFTWARE INSTALLATION INSTRUCTIONS

The minimum system requirements for this software are Microsoft® Windows 2000 / XP / Vista

1. Connect Charger to your computer using the included USB Cable.
2. Insert USB Driver disk into your computer DVD/CD drive. An installation window should automatically pop up. Follow the installation directions. **(NOTE: If the installation window does NOT automatically pop up, go to your "Start" menu and open the CD through "My Computer". Double click on the CD-ROM icon labeled "Venom Pro Charger (E:)". Follow the instructions for the Charger Setup).**
3. Open the Charger Monitor Program.
4. This program allows you to graph and monitor your battery performance. Select between 4 graph types: Volt & Current, Volt & Temperature, Volt & Capacity and Individual Volt.
5. Begin charging to view the live charging data.



Volt & Current: This graph displays the number of volts and amps over a period of time while the battery is charging, discharging, or balancing.



Volt & Temperature: This feature is disabled while charger is connected to the computer. To view the temperature of your battery pack, select the Temperature Enable feature on the Pro Charger unit.



Volt & Capacity: This graph displays volts and mah over a period of time while the battery is charging, discharging, or balancing.



Individual Volt: This graph displays the number of volts used by each individual cell.

***NOTE: Pinpoint specific data by scrolling cursor over graph.**

Menu Options:

File:

Here you will find your basic options to "Open" previously saved data, "Save" new data, or to "Print" data.

Edit:

Allows you to add/change text on either the top or bottom of your graph.

Help:

Displays the basic info of the Charger Monitor Program.

User Set:

Shows you current charger settings divided by battery type. Battery must be actively charging, discharging, or balancing to display current settings.

NOTE: DRAGGING THE CURSER TO THE END POINT OF EACH CHARGE CYCLE WILL CHANGE THE FOLLOWING READOUTS LOCATED AT THE BOTTOM RIGHT HAND SIDE OF THE GRAPH WINDOW

Voltage: 0.00V

Current: 0.0A

Capacity: 0

Ext. Temp: 0C

Repair

For all non-warranty repairs, Venom Group International™ charges \$30 plus the cost of the replacement parts. The \$30 includes shipping your charger back to you via FedEx Ground with a tracking number. International customers will be charged \$50 to compensate for additional return shipping costs.

When sending in a product for warranty and/or repair, please follow these steps:

- 1) Call Venom Group International™ Customer Service at 800-705-0620 to receive a Return Merchandise Authorization Number (RMA #).
- 2) Include a short summary of the problem.
- 3) Include your return address, *****We can NOT return ship to PO Boxes*****.
- 4) Include a daytime telephone number and/or e-mail address.
- 5) When preparing the product for shipment, please use the following guidelines to assist us in expediting your repair and keeping any repair costs for you to a minimum:
 - Remove any non Venom Group International™ after-market parts.
 - Package all items in original box as arranged upon purchase.
 - If you are sending loose items, please seal them in a bag to avoid loss. Make sure to secure all parts to prevent further damage.
 - Ship your package "Insured" and ask for "Delivery Confirmation" with a tracking number. Venom Group International™ will not be responsible for lost or damaged packages.

GENERAL BATTERY WARNING

If batteries get hot during charging, discontinue charging immediately and disconnect battery from charger. Never leave battery unattended while charging. If you are unsure of how to charge a battery, please contact Venom Group International™ or seek the advice of your local hobby shop. Never let children charge batteries without adult supervision. Charging and discharging batteries has the potential for serious injury to persons and damage to property. In purchasing this product, the user agrees to accept responsibility for all such risks, and will not hold Venom Group International™, its affiliates, manufacturers, distributors, or retail partners responsible for any accident, injury to persons, or damage to property resulting from the use of this product. Battery packs contain chemicals known to the State of California to cause Cancer, Birth Defects and other Reproductive Harm. Be responsible, dispose of batteries properly.

CONTACT INFO:

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