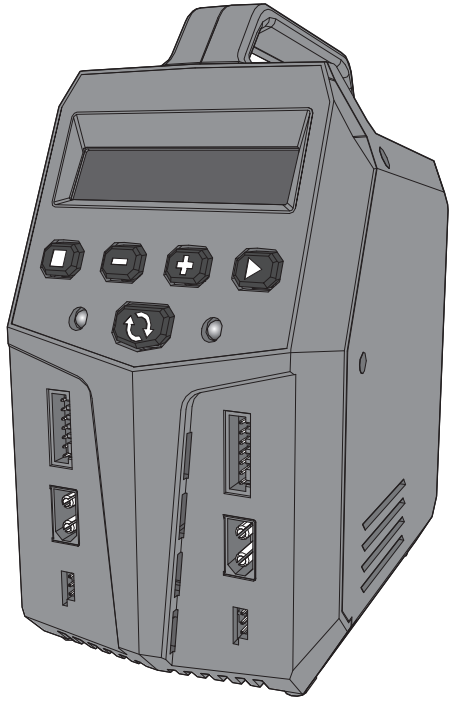
ONYX®



350 AC/DC Balance Charger / Discharger

ONXC4100

HORIZON® HOBBY

NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, LLC. For up-to-date product literature, visit horizonhobby.com or towerhobbies.com and click on the support or resources tab for this product.

Meaning of Special Language

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

WARNING: Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.

CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND a little or no possibility of injury.

WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not attempt disassembly, use with incompatible components or augment product in any way without the approval of Horizon Hobby, LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

Age Recommendation: Not for children under 14 years. This is not a toy.

NOTICE: This appliance is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

DANGER: To reduce the risk of fire or electric shock, carefully follow these instructions.

Table of Contents

CHARGING WARNINGS

WARNING: Failure to exercise caution while using this product and comply with the following warnings could result in product malfunction, electrical issues, excessive heat, FIRE, and ultimately injury and property damage.

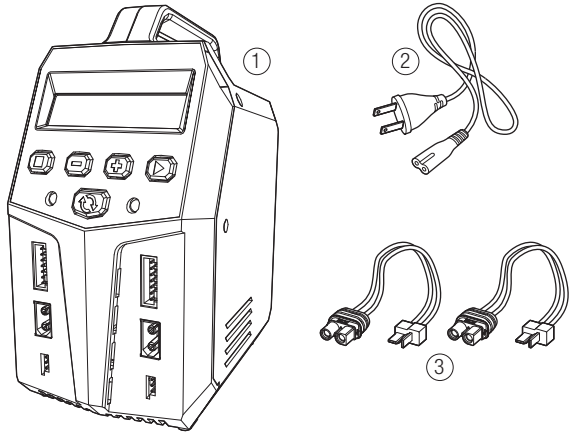
- **NEVER LEAVE CHARGING BATTERIES UNATTENDED.**
- **NEVER CHARGE BATTERIES OVERNIGHT.**
- Never attempt to charge non-rechargeable batteries.
- Never leave the power supply, charger and battery unattended during use.
- Never attempt to charge dead, damaged or wet battery packs.
- Never attempt to charge a battery pack containing different types of batteries.
- Never allow children under 14 years of age to charge battery packs.
- Never charge batteries in extremely hot or cold places or place in direct sunlight.
- Never charge a battery if the cable has been pinched or shorted.
- Never connect the charger if the power cable has been pinched or shorted.
- Never attempt to dismantle the charger or use a damaged charger.
- Never drop charger or batteries.
- Never place the charger or battery on a car seat, carpet or similar.
- Never attempt to charge a battery that is already fully charged or just slightly discharged.
- Never attempt to charge batteries that require a different charge technique from NiCd, NiMh, LiPo or Gel cell (Pb, Lead acid).
- Never attempt to charge a battery fitted with an integral charge circuit or a protection circuit.
- Never attempt to charge batteries installed in a device or which are electrically linked to other components.
- Never attempt to charge batteries that are not expressly stated by the manufacturer to be suitable for the currents the charger delivers during the charge process.
- Always place the charger and the battery on a heat-resistant, inflammable and nonconductive surface.
- Always keep all the inflammable volatile materials away from operating area.
- Always keep the charger well away from dust, damp, rain, heat, direct sunshine and vibration.
- Always use only rechargeable Li-Po batteries designed for use with this type of charger.
- Always inspect the battery before charging.
- Always keep the battery away from any material that could be affected by heat.
- Always monitor the charging area and have a fire extinguisher available at all times.
- Always end the charging process if the battery becomes hot to the touch or starts to change form (swell) during the charge process.
- Always connect the charge cable to the charger first, then connect the battery to avoid short circuit between the charge leads. Reverse the sequence when disconnecting.
- Always connect the positive red leads (+) and negative black leads (–) correctly.
- Always disconnect the battery after charging, and let the charger cool between charges.
- Always charge in a well-ventilated area.
- Always terminate all processes and contact Horizon Hobby if the product malfunctions.
- Always supervise children and ensure they DO NOT play with or attempt to use this appliance.

WARNING: Never leave charger unattended, exceed maximum charge rate, charge with non-approved batteries or charge batteries in the wrong mode. Failure to comply may result in excessive heat, fire and serious injury.

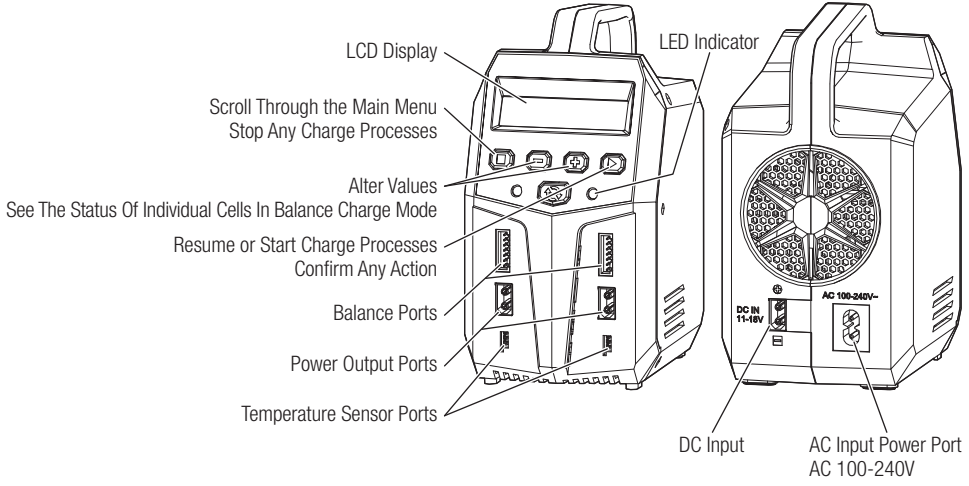
CAUTION: Always ensure the battery you are charging meets the specifications of this charger and that the charger settings are correct. Not doing so can result in excessive heat and other related product malfunctions, which can lead to user injury or property damage. Please contact Horizon Hobby or an authorized retailer with compatibility questions.

Box Contents

1. Onyx 350 Charger
2. AC Power Cord
3. IC3 to Deans charge cables (2)



Features



Specifications

	ONXC4100	
Net Weight	850g	
Dimensions (L × W × H)	178 × 135 × 96mm	
AC Power Input Voltage	100–240V	
Display Type	2 × 16 LCD, Blue backlight	
External Ports	1 6S Balance Socket-XH, Temperature Probe Socket, Battery Socket, DC Input	
Delta Peak Detection for NiMH/NiCd	3-15mV/cell / Default: 4mV/cell	
Battery Cutoff Temperature	20ºC/68ºF–80ºC/176ºF (adjustable)	
Charge Voltage	**NiMH/NiCd:** Delta peak detection **LiHV:** 4.20–4.35V/cell **LiIon:** 4.08–4.1V/cell **Pb AGM:** 2.45V/cell	**LiPo:** 4.18–4.20V/cell **LiFe:** 3.58–3.6V/cell **Pb Normal:** 2.4V/cell **Pb Cold:** 2.45V/cell
Balance Current	500mA/cell	
Reading Voltage Range	0.1–26.1V/cell	
Battery Types/Cells	**LiPo/LiHV/LiFe/LiIon:** 1–6cells **NiMH/NiCd:** 1–15cells **Pb:** 2–20V	
Battery Capacity Range	**NiMH/NiCd:** 100–50000mAh, **LiPo/LiHV/LiFe/LiIon:** 100–50000mAh, **Pb:** 100–50000mAh	
Charge Current	0.1A–12.0A	
Safety Timer	1–120 minutes / OFF	
Charge Wattage	100W × 2	
Discharge Current	0.1A–2.0A	
Discharge Cut-off Voltage	**NiMH/NiCd:** 0.1–1.1V/cell **LiHV:** 3.1–3.4V/Cell **LiIon:** 2.9–3.2V/cell	**LiPo:** 3.0–3.3V/cell **LiFe:** 2.6–2.9V/cell **Pb:** 1.8–2.0V/cell
Discharge Wattage	10W	
Balance Cells	2–6 cells	
Memory	10 different charge/discharge profiles	
Charge Method	C/CV for lithium types and lead (Pb) batteries, Delta-peak Sensitivity for NiMH/NiCd	

Special Features

Dual Channel Charger
The Onyx® 350 allows you to charge 2 batteries with different chemistries simultaneously, and it will intelligently and automatically initiate the charging to their maximum capacity. Power of each channel is 100W.

Optimized Operating Software
The Onyx 350 features an AUTO function that automatically sets the current during charging/discharging. When charging lithium batteries, this may prevent overcharging, which may lead to a fire. If the charger detects a malfunction, it will disconnect the circuit automatically and sound an alarm. Settings can be configured by the user.

Balance Voltage Calibration
The Onyx 350 allows you to calibrate the balance voltage with a 6S LiPo battery. (For more information please contact Horizon Product support)

Memory of Last Operation
The Onyx 350 will memorize your last operation of charging/discharging before powering down.

AGM Charge and Cold Charge
For Pb batteries, there are two charging modes: AGM charge and Cold charge.

Battery Memory (Data Store/Load)
Store up to 10 different charge/discharge profiles for each channel. You can keep the data pertaining to program setting of the battery of continuous charging or discharging. Users can call out these data at any time without any special program setting.

Terminal Voltage Control(TVC)
Allows user to change the end voltage. (for expert user only)

Balancing Individual Cells Battery During Discharging
During the process of discharging, the Onyx 350 can monitor and balance each cell of the battery individually. An error message will be appear and the process will end automatically if the voltage of any single one cell is abnormal.

- See the status of individual Lithium cells (works in any charge, discharge and storage modes)
- Capacity percentage
- Final voltage when the program ends
- Input voltage
- Safety timer and duration of time in minutes
- Cutoff temperature
- Internal and external temperature
  (Temperature probe needs to be connected to show external temperature.)
- Capacity cut-off and value of the set capacity limit

Fast Charge and Storage Mode of Lithium Battery
Fast charge mode shortens the overall charge time required for lithium batteries with a slight reduction in overall capacity. Storage mode is used for charging or discharging lithium batteries that will not be used for an extended period of time.

Re-Peak Mode of NiMH/NiCd Battery
In re-peak charge mode, the charger can peak charge the battery once, twice or three times in a row automatically. This is good for making sure the battery is fully charged.

Cyclic Charging/Discharging
A series of 1 to 5 charge to discharge (>) or discharge to charge cycles can be used for refreshing older batteries and improve cell balance.

Automatic Charging Current Limit
Set the upper limit of the charging current when charging your NiMH or NiCd battery, battery. This is useful for NiMH batteries with low impedance and capacity in the 'AUTO' charging mode.

Battery Voltage Meter
Check battery's total voltage, the highest voltage, the lowest voltage and each cell's voltage.

Battery Internal Resistance Meter
Check battery voltage and battery internal resistance.

Capacity Limit
The charging capacity is always calculated as the charging current multiplied by time. If the charging capacity exceeds the limit, the process will be terminated automatically when you reach the set maximum value.

Temperature Threshold
The battery's internal chemical reaction will cause the temperature of the battery to rise. If the temperature limit is reached, the process will be terminated. This function is only available by connecting the optional temperature probe (DYN5033).

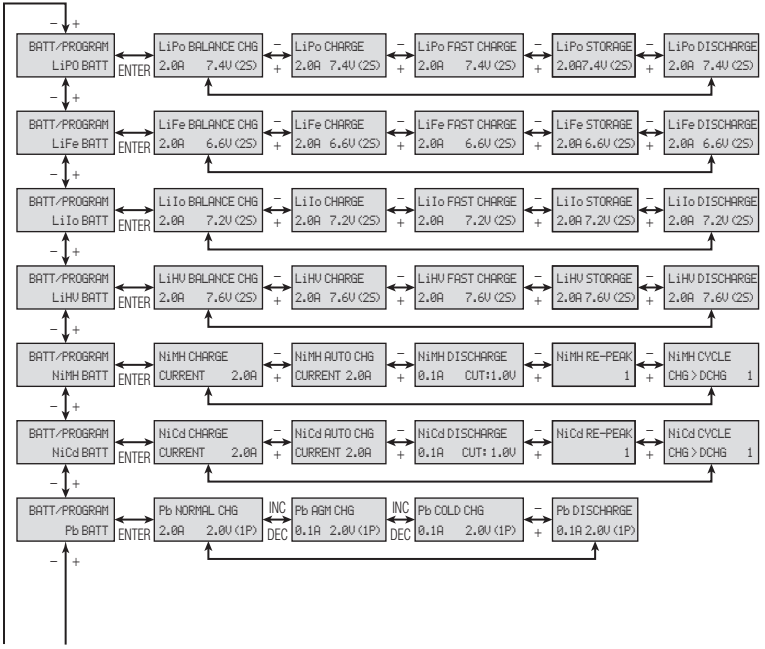
Processing Time Limit
You can limit the maximum process time to avoid overcharging the battery.

Standard Battery Parameters

	LiPo	LiIon	LiFe	LiHV	NiCd	NiMH	Pb
Nominal Voltage	3.7V/cell	3.6V/cell	3.3V/cell	3.7V/cell	1.2V/cell	1.2V/cell	2.0V/cell
Max Charge Voltage	4.2V/cell	4.1V/cell	3.6V/cell	4.35V/cell	1.5V/cell	1.5V/cell	2.46V/cell
Storage Voltage	3.8V/cell	3.7V/cell	3.3V/cell	3.85V/cell	n/a	n/a	n/a
Allowable Fast Charge	≤1C	≤1C	≤4C	≤1C	1C-2C	1C-2C	≤0.4C
Min. Discharge Voltage	3.0–3.3V/ cell	2.9–3.2V/ cell	2.6–2.9V/ cell	3.1–3.4V/ cell	0.1–3.4V/ cell	0.1–1.1V/ cell	1.8V/cell

WARNING: Always ensure you are inputting the correct voltage for your battery type. Incorrect settings may result in fire, causing personal injury or damage to property.

Program Flow Chart



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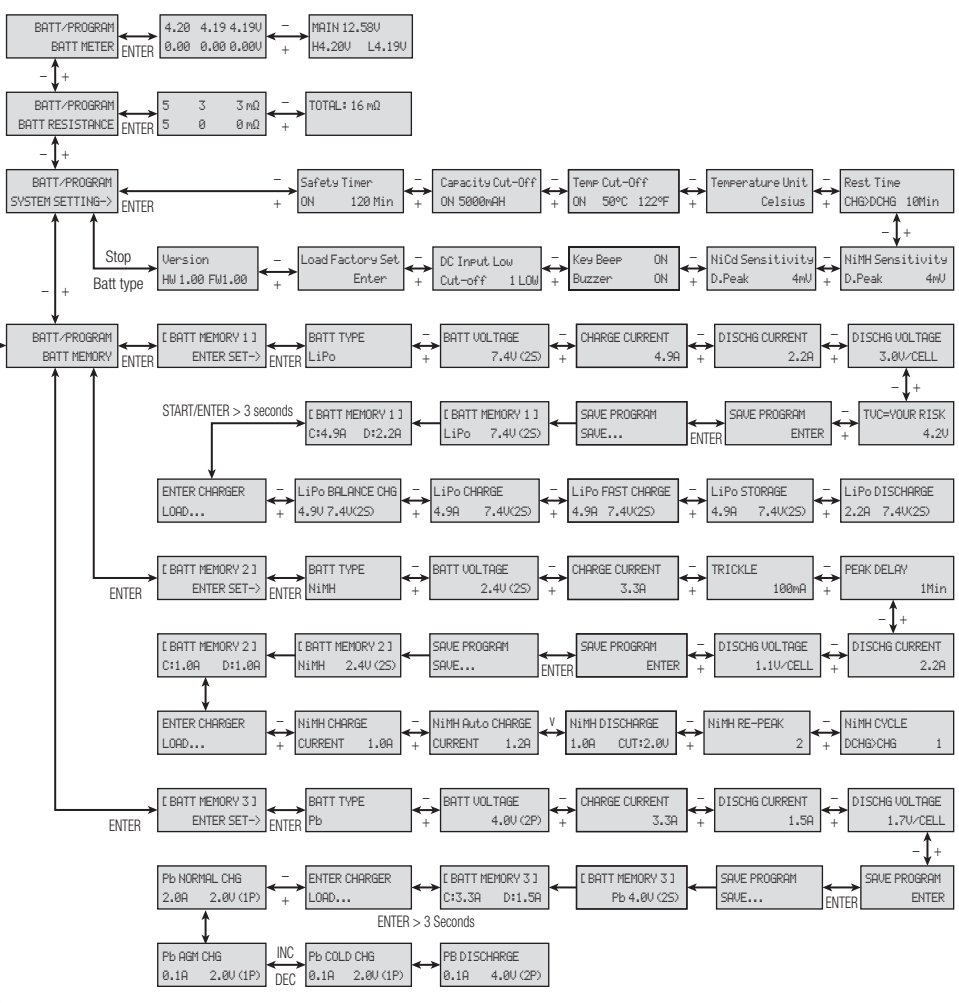
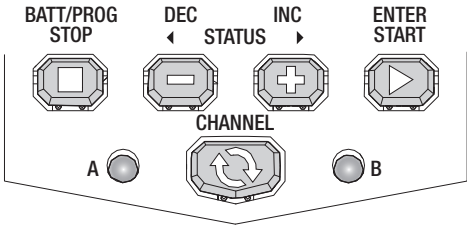
Program Flow Chart

Continued from page 7



Operation



BATT PROG/STOP Button:
Used to stop the current process or go back to previous step/screen

DEC – Button:
Used to cycle through the menus and decrease the parameter value

INC + Button:
Used to cycle through the menus and increase the parameter value

ENTER/START Button:
Used to enter parameter or store parameter on screen

CHANNEL Button:
Used to switch from Channel A to B or vice versa.

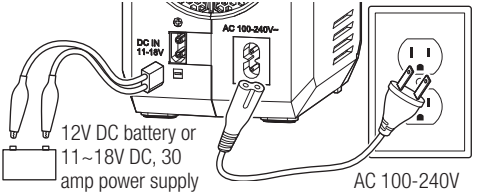
To alter the parameter value, press the START/ENTER button once. The parameter will begin to blink. Change the value by pressing the DEC or INC button. Store the value by pressing the START/ENTER button again. If there is another adjustable parameter available, it will begin to blink. Change the value by pressing DEC or INC button. Store the value by pressing the START/Enter button again. Once there is no longer any blinking values. the charging process is ready to be initiated.

To start charging, press and hold the START/ENTER button for 3 seconds. To stop charging or to go back to a previous step/screen, press the BATT PROG/STOP button once.

The charger defaults to the most previously used battery type program. Change the program mode to Normal, Fast Charge, Storage, or Discharge modes by pressing the DEC or INC button. Once finished, press the BATT PROG/STOP button to enter the BATT PROGRAM screen.

Operating Program

1. Connection
   a. Connecting to power source
   There are two kinds of power inputs for The Onyx 300, DC 11-18V and AC 100-240V. Choose one or the other and connect as shown.



WARNING: Never connect AC and DC power to the charger at the same time.

   b. Connecting the battery

WARNING: Before connecting the battery, check to make sure the parameters are set correctly. Incorrect settings may result in fire, causing personal injury or damage to property.

   To avoid short circuits between the banana plugs, always connect the charge leads to the charger first, then connect them to the battery. Reverse the sequence when disconnecting the pack.

   c. Balance Charge
   When using Balance Charge Mode, connect the balance wire attached to the battery to the balance socket in the charger, then connect the IC3™ battery connector to the IC3 device connector on the charger.

Connection of the balance lead is required for operation in all Lithium modes except for 1S batteries.

WARNING: Failure to connect the battery and charger properly may result in damage to the charger. To avoid short circuit, plug the charger into the power supply first before connecting a battery to the charger.

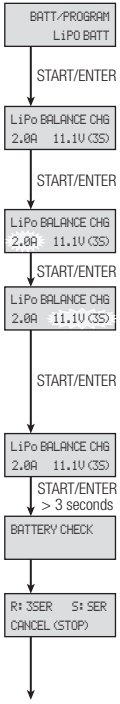
2. Getting started

The flowcharts show the entire programming menu. It is highly recommended to have these flowcharts handy while learning to operate this charger.

There are two main ways in which to set the charger.

1. A memory profile is available for setting and storing pertinent information for up to 10 different batteries. Once a battery's information is stored into a memory it will be retained until changed again manually. Recalling a battery's memory number makes the charger instantly ready to go!
2. If you do not wish to use the battery memories, this charger can be manually set before each use.

Manually setting:



3. BATT/PROGRAM Select

Press INC and DEC to go through all the programs and press START/ENTER to enter LiPo BATT Program.

4. Mode Select

Press INC and DEC to go through all the modes and press START/ENTER to enter LiPo Balance Charge Mode.

5. Battery Settting

Press START/ENTER. The current value will start to blink. Press INC and DEC to change the value and press START/ENTER to confirm your setting.

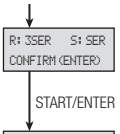
At the same time, the battery cells number will start to blink. Press INC and DEC to change the value and press START/ENTER to confirm your setting.

6. Program Start

Press and hold START/ENTER for 3 seconds to start the program.

The charger is detecting the battery cell.

R shows the number of cells detected by the charger and S is the number of cells set by you at the previous screen. If both numbers are not identical, press STOP to go back to previous screen to recheck the number of cells of the battery pack before going ahead.



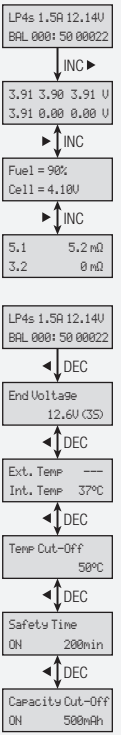
R shows the number of cells detected by the charger and S is the number of cells set by you at the previous screen. If both numbers are identical, press START/ENTER to start charging process.

7. Charging Status Monitor

During charge process, real-time status will be showed as left screen.

Various Information During the Process

Press INC or DEC during charging or discharging process, you can inquire various information on LCD screen.



Real-time status: battery type, battery cell, charge current, battery voltage, elapsed time and charged capacity

Voltage of each cell in the battery pack when the battery is connected with balance lead.

Charged capacity percentage and average cell voltage of the battery pack.

Resistance of each cell in the battery pack when the battery is connected with balance lead.

Final voltage when the program ends.

Internal temperature. Temperature probe is needed to show external temperature.

Cut off temperature

Safety timer ON and duration of time in minutes.

Capacity cut-off ON and the setting value of capacity.

8. Program Stop

During the charging process, press STOP to stop the charging process.

9. Program Complete

When the charging process finishes, an audible sound will be heard.

Charging Program

Depends on different battery type, the operation programs are different.

Battery Type	Operation Program	Description
LiPo LiHV Lilon LiFe	CHARGE	This charging mode is for charging LiPo/LiHV/LiFe/Lilon battery in normal mode.
	DISCHARGE	This mode is for discharging LiPo/LiHV/LiFe/Lilon battery.
	STORAGE	For either charging or discharging a lithium battery to a storage voltage in the case that it may not be used again for some time.
	FAST CHG	The charging capacity may be a bit less than normal charging but the process time will be reduced.
	BAL CHARGE	This mode is for balancing the voltage of lithium-polymer battery cells while charging.
NiMH NiCd	CHARGE	The charger will charge NiMH and NiCd batteries using the charge current set by the user.
	AUTO CHG	In this program the charger detects the condition of the battery connected to the output and automatically charges the battery. ⚠ **CAUTION:** Never set the max charge current higher than 1C.
	DISCHARGE	This mode is for discharging NiMH/NiCd battery.
	RE-PEAK	In re-peak charge mode, the charger can peak charge the battery once, twice or three times in a row automatically. This is good for confirming the battery is fully charged, and for checking how well the battery receives fast charges.
	CYCLE	1 to 5 cyclic and continuous process of charge to discharge or discharge to charge is for battery refreshing and balancing to stimulate the battery's activity.
Pb	NORMAL CHG	This mode is for charging Pb battery.
	AGM CHG	This mode is for charging AGM battery.
	COLD CHG	This mode is for charging Pb battery in cold days when the temperature is 5°C to –20°C.
	DISCHARGE	This mode is for discharging Pb battery.

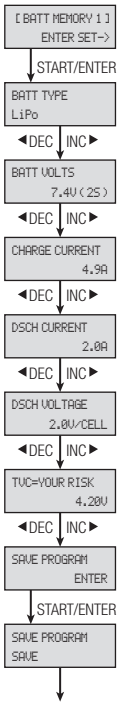
Battery Memory Set and Use

The charger can store up to 10 different charge/discharge profiles for your convenience, and the stored profiles can be recalled quickly without having to go through the setup process.

When you are willing to alter the parameter value in the program, press START/ENTER to make it blink then change the value with INC or DEC. The value will be stored by pressing START/ENTER once.

IMPORTANT: All following screens are using a 2S (7.4V) LiPo battery as an example.

1. Battery Memory Set



Enter the battery memory program. (10 different charge/discharge profiles can be stored).

Set the battery type(LiPo/LiHV/LiFe/LiIon/ NiMH/NiCd/Pb).

Set the voltage and number of cells(1S–6S).

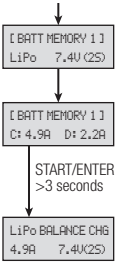
Set the charge current(0.1–12.0A).

Set the discharge current (0.1A–2.0A).

Set the discharge voltage(3.0–3.3V/Cell).

Set the terminal voltage(4.18–4.25V).

Press ENTER to save program.



Indicate the battery type and battery cell of the saved profile.

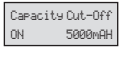
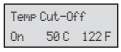
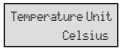
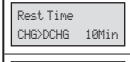
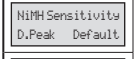
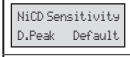
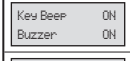
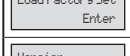
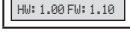
Indicate the charge and discharge current of the saved profile.

Press the START/ENTER for 3 seconds to call out the memory.

Press START/ENTER for 3 seconds to start the process.

System Setting

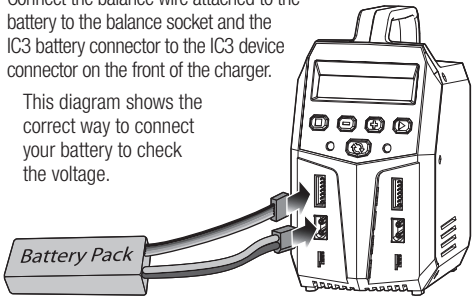
The System Setting Screen displays the following information in sequence. These values may be changed by the user. To change parameter values, press the START/ENTER button to make the value blink, then use the INC or DEC buttons to increase or decrease the values. Store the values by pressing START/ENTER again.

Item	Selection	Description
	OFF/ON (1-720 Min)	When you start a charge process, the integral safety timer automatically starts running at the same time. This is programmed to prevent overcharging the battery if it proves to be faulty, or if the termination circuit cannot detect the battery full. The value for the safety timer should be generous enough to allow a full charge of the battery.
	OFF/ON (100–50000 mAh)	This program sets the maximum charge capacity that will be supplied to the battery during charge. If the delta peak voltage is not detected or the safety timer expires for any reason, this feature will automatically stop the process at the selected capacity value.
	OFF/ON (20 C/68 F – 80 C/176 F)	The battery's internal chemical reaction will cause the temperature of the battery to rise. If the temperature limit is reached, the process will be terminated.
	Celsius Fahrenheit	You can choose the temperature displayed as Celsius or Fahrenheit.
	1–60Min	A rest time allows the battery to cool down between charging/discharging cycles.
 	Default: 4mV/Cell 3–15mV/Cell	This program is for NiMH/NiCd battery only. When the charger detects the delta peak value you set, the charger will say the battery is fully charged. A higher setting may be required in order to fully charge aged or under used batteries.
	OFF/ON	The key beep sounds at every time the buttons are touched to confirm your action. A beep or buzzer sounds at various times during operation to alert different mode changes.
		Press ENTER to reset all settings to their factory default position.
		It indicates the hardware and firmware version.

Battery Meter

The Battery Meter can check the battery's total voltage, the highest voltage, the lowest voltage and each cell's voltage. Connect the balance wire attached to the battery to the balance socket and the IC3 battery connector to the IC3 device connector on the front of the charger.

This diagram shows the correct way to connect your battery to check the voltage.



BATT/PROGRAM
BATT METER

Press the START/ENTER to enter the Lithium Battery Meter program.

START/ENTER

4.20 4.19 4.19 V
4.18 0.00 0.00 V

The screen indicate each cell's voltage.

INC ▶

MAIN 16.76V
H4.200V L4.182V

The screen indicate the total voltage, the highest voltage and the lowest voltage.

Battery Resistance Meter

The user can the check battery's total resistance, the highest resistance, the lowest resistance and each cell's resistance. Connect the balance wire attached to the battery to the balance socket and the IC3 battery connector to the IC3 device connector in front of the charger.

BATT/PROGRAM
BATT RESISTANCE

Press the START/ENTER to enter the Lithium Battery Resistance program.

START/ENTER

012 005 005 mΩ
006 mΩ

The screen indicate each cell's resistance.

INC ▶

TOTAL: 28mΩ
H: 12mΩ L: 5mΩ

The screen indicate the total resistance, the highest resistance and the lowest resistance.

Warning and Error Messages

BALANCE WIRES NOT CONNECTED	Indicates that the balance lead from the battery is not connected to the charger or is faulty
REVERSE POLARITY	Incorrect polarity connected.
CONNECTION BREAK	Current process has been interrupted. Check all connections.
CONNECT ERROR CHECK MAIN PORT	The battery connection is wrong or faulty.
BALANCE CONNECT ERROR	The balance connect is wrong or faulty.
DC IN TOO LOW	Input voltage is less than 11V.
DC IN TOO HIGH	Input voltage is greater than 18V.
CELL ERROR LOW VOLTAGE	Voltage of one cell in the battery pack is too low.
CELL ERROR HIGH VOLTAGE	Voltage of one cell in the battery pack is too high.
CELL ERROR VOLTAGE-INVALID	Voltage of one cell in the battery pack is out of normal range for the chemistry chosen.
CELL NUMBER INCORRECT	The cell number is wrong.
INT. TEMP. TOO HI	The internal temperature of the unit is too high.
EXT. TEMP. TOO HI	The external temperature of the battery is too high.
OVER CHARGE CAPACITY LIMIT	The battery capacity has reached a mAh that reaches the maximum capacity the user sets.
OVER THE LIMIT	The charging time has reached the maximum charging time which the user sets.
BATTERY WAS FULL	The battery voltage is higher than the maximum voltage which the user sets when charging in balance mode.
NO POWER DISTRIBUTED	No power allocated to the charger.

1-Year Limited Warranty

What this Warranty Covers - Horizon Hobby, LLC, (Horizon) warrants to the original purchaser that the product purchased (the "Product") will be free from defects in materials and workmanship for a period of 1 year from the date of purchase.

What is Not Covered

This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) attempted service by anyone other than a Horizon Hobby authorized service center, (v) Product not purchased from an authorized Horizon dealer, (vi) Product not compliant with applicable technical regulations, or (vii) use that violates any applicable laws, rules, or regulations.

OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

Purchaser's Remedy

Horizon's sole obligation and purchaser's sole and exclusive remedy shall be that Horizon will, at its option, either (i) service, or (ii) replace, any Product determined by Horizon to be defective. Horizon reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of Horizon. Proof of purchase is required for all warranty claims. SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY.

Limitation of Liability

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF HORIZON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability. If you as the purchaser or user are not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

Law

These terms are governed by Illinois law (without regard to conflict of law principals). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Horizon reserves the right to change or modify this warranty at any time without notice.

WARRANTY SERVICES

Questions, Assistance, and Services

Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please visit our website at www.horizonhobby.com, submit a Product Support Inquiry, or call the toll free telephone number referenced in the Warranty and Service Contact Information section to speak with a Product Support representative.

Inspection or Services

If this Product needs to be inspected or serviced and is compliant in the country you live and use the Product in, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service Request is available

at http://www.horizonhobby.com/content/service-center_render-service-center. If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

NOTICE: Do not ship LiPo batteries to Horizon. If you have any issue with a LiPo battery, please contact the appropriate Horizon Product Support office.

Warranty Requirements

For Warranty consideration, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be serviced or replaced free of charge. Service or replacement decisions are at the sole discretion of Horizon.

Non-Warranty Service

Should your service not be covered by warranty, service will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for service you are agreeing to payment of the service without notification. Service estimates are available upon request. You must include this request with your item submitted for service.

Non-warranty service estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashier's checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for service, you are agreeing to Horizon's Terms and Conditions found on our website http://www.horizonhobby.com/content/service-center_render-service-center.

ATTENTION: Horizon service is limited to Product compliant in the country of use and ownership. If received, a non-compliant Product will not be serviced. Further, the sender will be responsible for arranging return shipment of the un-serviced Product, through a carrier of the sender's choice and at the sender's expense. Horizon will hold non-compliant Product for a period of 60 days from notification, after which it will be discarded.

10/2015

Warranty and Service Contact Information

Country of Purchase	Horizon Hobby	Contact Information	Address
United States of America	Horizon Service Center (Repairs and Repair Requests)	servicecenter.horizonhobby.com/RequestForm/	2904 Research Rd. Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com.	
		877-504-0233	
	Sales	websales@horizonhobby.com	
		800-338-4639	

Supplier's Declaration of Conformity
350 AC/DC Balance Charger / Discharger
ONXC4100

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Champaign, IL 61822
Email: compliance@horizonhobby.com
Web: HorizonHobby.com

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