



S2100 Dual Port AC Smart Charger (2× 100W)



**Instruction Manual
Bedienungsanleitung
Manuel d'utilisation
Manuale di Istruzioni**



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 and click on the support 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 little or no possibility of injury.

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



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 alter 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.

WARRANTY REGISTRATION

Visit www.community.spektrumrc.com today to register your product.

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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.

General 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 DURING USE.**
- **NEVER CHARGE BATTERIES OVERNIGHT.**
- 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 connect the charger to an automobile 12V battery while the vehicle is running.
- Never attempt to dismantle the charger or use a damaged charger.
- Never attach your charger to both an AC and a DC power source at the same time.
- Never connect the input jack (DC input) to AC power.
- Always use only rechargeable batteries designed for use with this type of charger in the correct programming mode.
- 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.
- Charge only rechargeable batteries. Charging non-rechargeable batteries may cause the batteries to burst, resulting in injury to persons and/or damage to property.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

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.

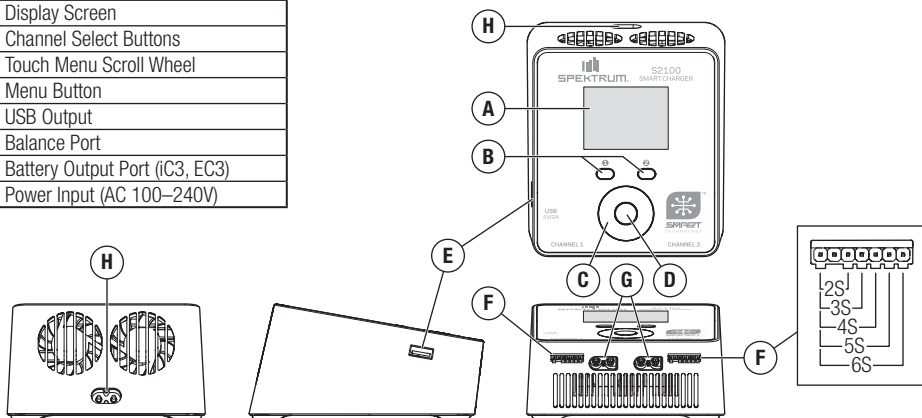
Specifications

Output Port Connector	iC3 (EC3 compatible)
Input Voltage (required power supply)	AC 100–240V
Charge Current	0.1 - 12.0A (Each Port)
Discharge Current	0.1 - 3.0A (Each Port)
Max. Charge Power	200W
Max. Discharge Power	5W (Each Port)

Balance Current	1A/cell
Balance Cells	1–6S (Each Port)
Supported Battery Types (cell count)	LiFe/LiIon/LiPo/LiHv (1–6S)
	NiMH/Cd (1–16S)
	Pb (1–12S)
Display	2.4" 320 × 240 IPS LCD
Operating Temperature	0–40°C (32–104°F)

Layout

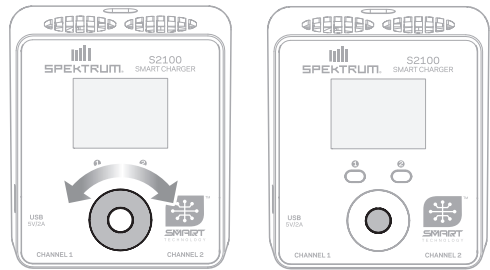
A	Display Screen
B	Channel Select Buttons
C	Touch Menu Scroll Wheel
D	Menu Button
E	USB Output
F	Balance Port
G	Battery Output Port (iC3, EC3)
H	Power Input (AC 100–240V)



Navigating the Charger

Basic navigation of the charger menus is accomplished using the touch menu scroll wheel and menu button.

- Slide your finger clockwise around the touch menu scroll wheel to scroll down a menu list.
- Slide your finger counter-clockwise to scroll up a menu list.
- Press and release the menu button to select a menu item.
- While on the home screen, press and hold the menu button to enter the system settings menu.



Touch menu scroll wheel

Menu button

Operating the Charger

Before operating the charger, know your battery's specifications and any battery-specific safety warnings.

1. Connect the included AC cord to the charger and appropriate power supply to power on your S2100 SMART Charger. The charger will initialize and display the home screen, indicating the charger is ready to be used.
2. Connect the battery or batteries to be charged to open channel 1 and/or channel 2 on the front of the charger.
3. Connect the battery balance lead, if available, to the proper balance port. Make sure to use the correct balance port located directly under the Channel description on the charger's faceplate.
4. Press and release the menu button to display the Task Settings list (make sure the correct channel is noted in the header):

Task Settings	
Select Task	Charge, Discharge, Storage
Battery Type	Select the appropriate battery chemistry
Battery Voltage	Set the <i>individual cell</i> ending voltage
Cell Count	Set the number of cells in the battery (this value auto-detects if using a Spektrum™ Smart Connector equipped battery or if the battery balance lead is connected to the balance port)
Current	Set the charge current
Start	Start the task cycle
Back	Return to the home screen

If using a Spektrum SMART Battery and Spektrum SMART charger together the following parameters are automatically set for the user: Battery Cell Count, Battery Type, Battery Charge Current Rate and Battery Capacity.

Select the desired **Task**.

5. Confirm the settings are correct for the battery being charged.

WARNING: Always check charging parameters before initiating the charge process. Charging any battery with improper settings, including charging a battery in the wrong mode, can result in property damage and fire.

6. Scroll to the **Start** menu item.
7. Press and release the menu button to begin charging.

To stop the charging cycle:

1. Press and release the menu button during the active charge cycle.
2. Select the **Stop** menu item.
3. Press and release the menu button. The charger will return to the home screen.



WARNING: Always stop the charging cycle or remove power supplied to the charger if you notice any irregularities (like a swollen battery) during charging.

During the charging process:

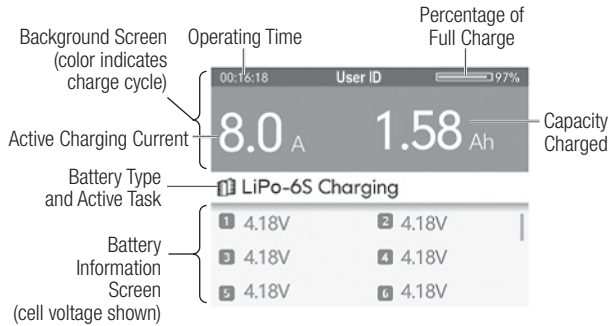
- While the battery is "fast charging" the background of the charger screen is orange.
- When the fast charge cycle is complete, the charger will beep once and the background screen will change to green. The charger is balancing the battery cells.
- Once the background changes to blue, charging is complete.
- The bottom of the screen displays battery information during the charge process. Scroll through the information screens using the touch scroll wheel.
 - The first screen displays the individual cell voltage.
 - The second screen displays the individual cell resistance (available only during cell balancing).
 - The third screen displays the charger input voltage, output voltage, temperature, total output energy of the active cycle, completed charge cycles of the system and charge cycles of the battery.

When charging is complete:

The charger double beeps twice to indicate the charge cycle is complete.

1. Disconnect the battery from the charger. The charger will continue to beep until the battery is disconnected.
2. The charger will return to the home screen.
3. If you are done charging, disconnect the power supply from the charger to power off.

Charge Screen



System Setting Menu

From the home screen, press and hold the menu button to access the **System Settings** menu.

CH1-SMART	Configure the settings on your SMART battery
CH2-SMART	Configure the settings on your SMART battery
Backlight	Low, Medium, High
Touch Sensitivity	Low, High
USB Charge	On, Off
Volume	Off, Low, Middle, High
Completion Tone	Single or repeat
Split Display	Manual or Automatic
Language	Select language
System Information	Check the system information
System Self-Checking	Initiates a charger self-check. Do not connect a battery to the output port while self-check is running
Back	Return to the home screen

SMART Settings

The SMART selection is available if a SMART smart battery is connected. SMART settings include:

Auto Storage	Select an Auto Storage cycle of between 12 and 240 hours
Storage Voltage	Select the storage voltage for each cell
Charge Current	Change the default charge current for your SMART battery
Charge Voltage	Select the charge voltage for your SMART battery
Exception Record	Provides a list of exceptions, including over-voltage, under-voltage or over-temperature, and the date of exception.
Back	Return to the home screen

Charger Errors

If the charger displays an error, follow the on-screen prompts to remedy the error. If necessary, disconnect the battery from the output and balance ports, disconnect the power supply, and restart the charger.

Optional Parts

Part #	Description
SPMXCA507	IC5 Device to IC3 Battery 4" / 100mm; 10 AWG
SPMXCA310	IC3 Device to JST Device
SPMXCA309	IC3 Device to JST PH2.0 Device

Part #	Description
SPMXCA307	IC3 Battery Parallel Y-Harness 6" / 150mm; 13 AWG

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, or (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 Li-Po batteries to Horizon. If you have any issue with a Li-Po 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.

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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 Road Champaign, Illinois, 61822 USA
	Horizon Product Support (Product Technical Assistance)	productsupport@horizonhobby.com 877-504-0233	
	Sales	websales@horizonhobby.com 800-338-4639	
European Union	Horizon Technischer Service Sales: Horizon Hobby GmbH	service@horizonhobby.eu +49 (0) 4121 2655 100	Hanskampring 9 D 22885 Barsbüttel, Germany



Supplier's Declaration of Conformity S2100 Dual Port AC Smart Charger (2x100W) SPMXC1010

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.

Horizon Hobby, LLC
2904 Research Road
Champaign, IL 61822
Email: compliance@horizonhobby.com
Web: HorizonHobby.com

IC Information

IC: CAN ICES-3 (B)/NMB-3(B) This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Compliance Information for the European Union



EU Compliance Statement: Horizon Hobby, LLC hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC and LVD Directives.

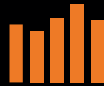
A copy of the EU Declaration of Conformity is available online at: <http://www.horizonhobby.com/content/support-render-compliance>.



Instructions for disposal of WEEE by users in the European Union

This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collections point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.





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