



BATTERY CHARGER

Model

CVTR2PV - SIMULTANEOUS

FOR V-LOCK LITHIUM-ION BATTERIES ONLY

Model

CGTR2PV - SIMULTANEOUS

FOR 3-STUD LITHIUM-ION BATTERIES ONLY

OPERATING INSTRUCTIONS

Revision 1.0

Explanation of symbols used in this manual



This symbol indicates the presence of an electrical shock hazard. It is intended to avert users not to open the product as there are no user serviceable parts inside. Any form of servicing should be done by qualified service personnel only.



This symbol is intended to alert the user to important operating, servicing and maintenance instructions within this product manual.



This symbol is intended to alert the user to the presence of uninsulated and potentially dangerous voltage within the product's enclosure that may be of sufficient strength to constitute a risk of electric shock to persons.

The contents of this operating manual are subject to change without notice.

Please read these instructions concerning your safety

BLUESHAPE lithium-ion battery chargers have been designed to provide a superior performance by managing relatively high currents during their operation in order to reduce charging time. As may be expected, the chargers become warm during operation and it is therefore very important to keep their ventilation openings unobstructed.



To reduce the risk of electric shock or damage to the charger and battery, charge only those lithium-ion rechargeable batteries specifically designated on your charger's label. Other types of batteries may burst, causing personal injury or damage



Before using the battery charger, read all instructions and cautionary markings in this manual and on the battery charger, the battery and the product using the battery to prevent misuse of the products and possible injury or damage

- Do not handle charger, including the charger plug and charger terminals with wet hands.
- This appliance is not intended for use by persons (including children) 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.
- Do not use the charger outdoors or expose it to wet or damp conditions. Water entering the charger will increase the risk of electric shock.
- Use of an attachment not recommended or sold by the battery-charger manufacturer may result in a risk of fire, electric shock, or injury to persons.
- Do not abuse the cord or charger. Never use the cord to carry the charger. Do not pull the charger cord to disconnect the plug from a receptacle. Damage to the cord or charger could occur and create an electric shock hazard. Replace damaged cords immediately.

- Make sure that the cord is located so that it will not be stepped on, tripped over, come in contact with sharp edges or moving parts, or otherwise be subjected to damage or stress. This will reduce the risk of accidental falls, which could cause injury and damage to the cord, which could then result in electric shock.
- Do not operate the charger with a damaged cord or plug, which could cause shorting and electric shock. If damaged, have the charger repaired or replaced by an authorized BLUESHAPE repair service centre.
- Do not operate the charger if it has received a sharp blow, been dropped, or has otherwise been damaged in any way. Take it to an authorized service technician for an electrical check to determine if the charger is in good working order.
- Do not disassemble the charger. Take it to an authorized service technician when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
- Unplug the charger from the electrical outlet before attempting any maintenance or cleaning to reduce the risk of electric shock.
- Disconnect charger from the power supply when not in use. This will reduce the risk of electric shock or damage to the charger if metal items should fall into the opening. It will also help prevent damage to the charger during a power surge. Do not touch the uninsulated portion of output connector or uninsulated battery terminal.
- Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- Keep the cord and charger away from heat to prevent damage to housing or internal parts.
- Do not allow gasoline, oils, petroleum-based products, etc. to come in contact with plastic parts. These materials contain chemicals that can damage, weaken, or destroy plastic.
- Save these instructions. Refer to them frequently and use them to instruct others who may use this tool. If you lend this tool to someone else, also lend these instructions to them to prevent misuse of the product and possible injury.

IMPORTANT SAFETY INSTRUCTIONS

- Save these instructions. This manual contains important safety and operating instructions for the CVTR2PV/CGTR2PV chargers.
- Before using the battery charger, read all instructions and cautionary markings on the battery charger, the battery and the product using the battery.



When using electric appliances, basic precautions should always be followed, including the following:

1. To reduce the risk of injury, close supervision is necessary when an appliance is used near children.
2. Only use attachments recommended or sold by manufacturer.
3. Do not use outdoors.
4. For a portable appliance, to reduce the risk of electrical shock, do not put charger in water or other liquid. Do not place or store appliance where it can fall or be pulled into a tub or sink.



To reduce the risk of injury, charge only lithium-ion rechargeable batteries. Other types or different chemistry batteries may burst, causing personal injury or damage.



Warning

- This equipment must be earthed.
- Chargers and/or batteries may become hot during charging. This is normal. The charger is also equipped with over-temperature protection. Please consult your BLUESHAPE dealer if you notice that either a charger or a battery become excessively hot during the charging operation.
- Be careful not to block the equipment's ventilation outlets.
- Never insert any metallic or any other objects inside the equipment through the ventilation openings or otherwise.
- Blueshape chargers are intended for operation with line voltages between 100V and 240V AC and line frequencies between 47Hz and 63Hz.
- The equipment is being supplied with a compatible AC mains power cord. In the case when the UK plug is fitted, this plug is equipped with a 13A replaceable fuse. Damage to the power cord can lead to an electric shock.



To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electric shock, do not open the apparatus and always refer any servicing to qualified personnel.

Package Contents

- CVTR2PV/CGTR2PV simultaneous dual position charger.
- AC power cord [according to region]
 - CORDAGE: H05VV-F, 3 x 1.0mm, UNSHIELDED
 - CEE COLOR CODE, TEMP. RATING 60°C
 - RATING: 250V 10A
 - JACKET COLOR: BLACK
 - CONNECTOR: IEC 60320 C13
 - EU:
 - EU PLUG: IEC 884/CEE7-VII3
 - UK:
 - UK PLUG: BS1363A W/13A FUSE
 - US:
 - US PLUG: NEMA 5-15-P
- Instruction manual including safety operating instructions.

CVTR2PV Graphic Description



1. Mains socket with fuse
2. Battery release button
3. V-Lock Battery #2 installation bay
4. Carrying Handle
5. LEDs (Bat #1, Bat #2)
6. V-Lock Battery #1 installation bay
7. Extending foot support on both sides (shown retracted in image)
8. Foot extender button

CGTR2PV Graphic Description



1. Mains socket with fuse
2. 3-Stud Battery #2 installation bay
3. Battery release button
4. Carrying Handle
5. LEDs (Bat #1, Bat #2)
6. 3-Stud Battery #1 installation bay
7. Extending foot support on both sides (shown extended in image)
8. Foot extender button

Introduction

The BLUESHAPE CVTR2PV and CGTR2PV lithium-ion battery chargers have been specifically designed for safe and reliable charging of BLUESHAPE batteries and other 3rd party batteries. The chargers deliver 3 Amps on both channels simultaneously..

For the users' convenience, the external dimensions have been kept as compact as possible for better portability.

Properties of CVTR2PV/CGTR2PV

- Modern, original but robust design. Ideal for regular daily use.
- Simultaneous charging of 2 batteries at a maximum of 3A each.
- Two-colour LED indicators for individual charge-station monitoring.
- No power switch has been provided.
- Precise constant current (CC) and constant voltage (CV) charging algorithms to match the battery charging voltage.
- Maximum compactness and space utilisation. Extendable, spring loaded support foot for excellent stability even when there is just 1 large battery installed. The foot extension is activated by pressing a push button underneath the charger.

CVTR2PV/CGTR2PV Charging Performance

Approximate charging time per channel (minutes)

Battery Model	Battery Capacity	State of Charge (SOC)%	
		90%	100%
BV095HDmini	6.6Ah - 95Wh	120	160
BV140HDmini	9.9Ah - 143Wh	180	220
BV090	6.6Ah - 95Wh	120	160
BV100HDplus	6.7Ah - 100Wh	130	170
BV150	10Ah - 150Wh	180	230
BV190HDplus	13.4Ah - 193Wh	250	310
BV290HDplus	20.2Ah - 290Wh	370	450

Operating Instructions — CVTR2PV

This charger simultaneously charges two batteries with a charging current of 3A.

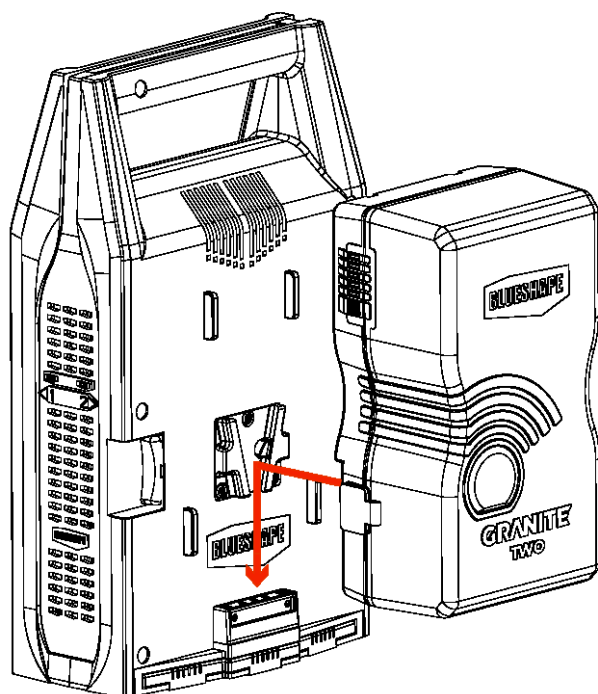
The batteries to be charged are V-Lock batteries, which can be BLUESHAPE (preferred) or any other 3rd party compatible batteries which can be of any capacity ranging from:

40Wh or even less [having 4 cells in series – total 4 cells]

up to

290Wh or even more [having 4 cells in series and 6 cells or more in parallel – total 24 cells or more]

The batteries are to be inserted in any one or both of the 2 V-plates as indicated in the diagram below:



Operating Instructions — CGTR2PV

This charger simultaneously charges two batteries with a charging current of 3A.

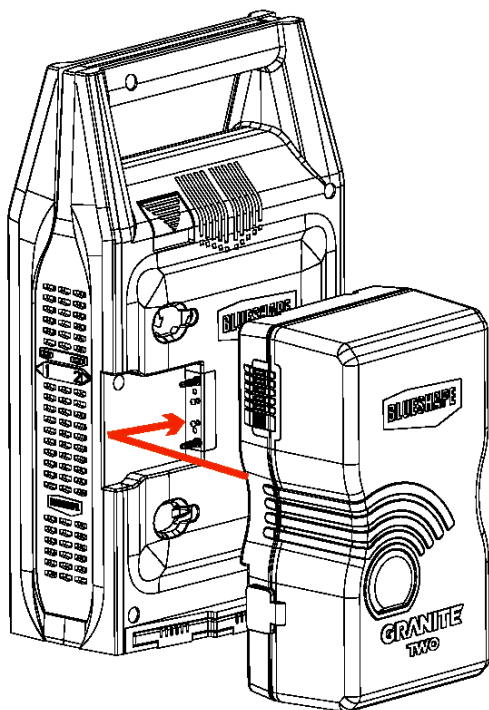
The batteries to be charged are 3-Stud mount, which can be BLUESHAPE (preferred) or any other 3rd party compatible batteries which can be of any capacity ranging from:

40Wh or even less [having 4 cells in series – total 4 cells]

up to

290Wh or even more [having 4 cells in series and 6 cells or more in parallel – total 24 cells or more]

The batteries are to be inserted in any one or both of the 2 receptacles as indicated in the diagram below:



How to Proceed:

- From underneath the charger, push the centre push button to extend the foot support. When not in use, or for transport, the foot support can be pushed back in to lock once again.
- The unit has been designed to remain in balance with just one battery or with both batteries installed.
- Plug and switch on the AC power cord provided into the charger AC input (note: there is no power switch in the charger).
- Insert a battery in any one of the two designated locations as indicated in the previous pictures.
- Observe the battery LED. In addition, the charge status may be read in 20% steps through the BLUESHAPE battery LED array or continuously, using the Wi-Fi features of the battery (see the battery operating manual for the activation of the internal Wi-Fi transmitter).
- Leave the battery to charge for the appropriate time (see table on page 9).
- The battery is fully charged when the LED becomes steady Green.

In order to charge 2 batteries at the same time, insert the second battery into the second V-plate adapter/3-stud receptacle and charging will commence immediately. Once again, observe the LED or monitor the battery status using the Wi-Fi feature.

The LEDs will accurately display the correct status of the charging process for each battery.

Product Information

Battery LED Indications	
Indication	Explanation
Steady Green	Battery is full
Steady Orange	Battery is charging

Technical Specifications	
Type	Li-ion constant current and voltage control system
CC-Mode Output	3000mA
Maximum Voltage	16700 $\pm$ 200mV
Charge Termination Current	300mA
Short circuit protection	Available
Overcharge protection	Available
Overtemperature protection	Available
LEDs	2-colour type for BAT #1, BAT #2
Power Supply	AC mains 100V - 240V ~ 47 – 63 Hz universal
Fuse	1 x 220V 2.5A (5x20mm timed) + 1 spare
Power Consumption	120W max
Operating temperature range	0°C – 45°C
Storage temperature range	-20°C - 65°C (-4°F - 149°F)
Dimensions	260 x 150 x 85mm (10.24"x 5.91" x 3.35")
Weight	CVTR2PV: 1050g (2.32lbs)
	CGTR2PV: 950g (2.1lbs)

Notes concerning charger usage with BLUESHAPE battery packs

It is recommended that the users always have at least another spare battery readily available.

It is preferable to charge batteries immediately before use.

Some loss from self-discharge would result if the batteries are charged several weeks in advance of their use. However, this slight loss can be topped up at any time without any degradation of battery performance (no memory effect).

It is recommended to store batteries in a cool and dry place. Charging should be done at temperatures above 0°C and below 45°C.

Slight heating of the battery is expected to occur during charge. However if for some reason, the pack temperature reaches 60°C, then the charge activity is suspended. The pack resumes normal charging once the temperature drops back to below 50°C. This is a safety feature incorporated in all BLUESHAPE battery packs

Disposal

When the equipment has reached the end of its life please dispose of the components in accordance with your local waste directive in your country. Electronic equipment should be recycled wherever possible and not disposed of with regular waste.

Warranty

BLUESHAPE Chargers are warranted to be free from defects in materials, workmanship and functionality for a period of 18 months commencing from the date of purchase.

This warranty shall not apply to any products or parts of, that have been subjected to misuse, negligence or damage. The buyer should always contact the place of purchase for any return of defective product. It is important that the buyer provides us with as much information as possible about the failure being claimed.

In the event of product failure for which warranty applies, we will repair or replace the product free of charge. In these cases, all expenses including transport charges will be borne by us.

In the case where the failure has been caused by misuse, negligence or damage, repairs would be billed at a nominal cost. Prior to the carrying out of any repairs, we will inform the customer of the estimated costs of these repairs.

These warranty conditions are the only ones applicable to our products and overrule any other expressed or implied warranties. We shall not be held liable for any damages resulting from warranty statements other than those contained in this declaration. This warranty is not transferable and is only applicable to the original buyer. In all warranty claims, the buyer must reproduce the original purchase invoice.

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