

Instruction Manual CG-330/CG-335

Congratulations on your purchase of the all new Hitec CG-330/335 peak charger. The CG-330/335 is a very versatile charger, incorporating a unique glow igniter battery charging feature and a "Boosted Charging Method" that charges up to 24 cells (28.8 Volts) from a 12 Volt source.

The CG-330/335 has many safety features to protect both the charger and the battery you are charging. Since this is a high voltage charger with large capacity, improper usage can result in damaging the unit or your batteries so understanding its proper usage is a necessity. Do not attempt to charge any batteries until you have read and understood the instructions.

SPECIFICATIONS

- * Digital LCD Readout (Volts/Amps)-(CG-335 only)
- * DC to DC charging with Booster Circuit
- * Delta peak cut off with automatic trickle
- * MOS-FET drive control with pulse charging
- * Wide Input Voltage range : 9 - 15 Volt
- * Input Battery minimum capacity : 10A
- * Charging Amperage : Glow (1 cell) : 1.1A
Primary output 4-24 cell: 0.5A - 5A Secondary output 250mah-(CG-335 only)
- * Cutoff method : Delta peak cutoff (Primary & Glow plug port only)
- * Maximum charge time: 65 minute safety cutoff

FEATURES

1. Initial Cut-off Error Override:

When the subject battery is entirely drained, the initial charging amperage is very high. The battery's chemical balance becomes unstable and causes voltage fluctuation and sometimes the charger will read this as a delta peak and stop charging (false peak). You may mistakenly think the battery is fully charged and start using the battery, that can lead to fatal results. Always check for false peak at least 3 minutes after charge cycle has started. The CG-330/335 employs a 3 minute cutoff override when the start switch is first engaged. The amperage adjustment knob must be adjusted within the first 3 minutes after the start button is pushed. If the battery false peaks simply restart the charge cycle by pushing the start button. Note: The battery will rarely false peak twice in a row. If the charger shuts off twice in a row and the battery is warm, IT IS CHARGED.

2. Low Battery Input Voltage:

Most chargers cannot be used when the source battery falls below 11 Volts. The CG-330/335 can operate without error even when the input battery drops to 9 Volts. If it goes below 9 Volts, the source battery must be recharged before further usage. Failure to do so may result in the source battery being damaged.

3. Input Battery Polarity Protection:

A common error is to switch the polarity of the input battery.

There is a circuit to protect the charger from damage if this occurs.

4. Output Battery Polarity Protection:

If you plug your subject battery backwards and push the start button, the charger will start blinking without engaging the charging function.

This is true for both the glow charger and the 4-24 cell main charger. Correct the problem and restart.

5. Charging Port Short Protection:

If the charging port is shorted out for any reason, the charger will start blinking. Correct the problem and restart.

INSTRUCTIONS FOR USE

1. Glow Charger:

Simply connect your glow igniter battery to the glow jack.

There is no need to push the start button to engage the glow battery charging cycle, it will start automatically. When the charging is complete, the charging indicator will automatically turn off and convert to trickle charging mode.

This is denoted by the LED light blinking.

2. 4-24 Cell Charging:

This process is accomplished through the primary charging port.

(a) Connect the CG-330/335 to the 12V input battery.

(If a mistake is made and polarity is reversed, the warning LED will start blinking)

(b) Connect the subject battery to the charger through the primary charging port.

(If the polarity is reversed the reverse polarity LED will turn on)

(c) Turn the Amp knob to the minimum amperage. (far left)

(d) Push the start button. Make sure the charging LED turns to green.

(e) Adjust the Amp knob to the optimum amperage position.

This must be done within 3 minutes from the start of the charge cycle.

(f) When the green LED turns off, charging is completed (The battery should be warm to the touch), leave it connected and the trickle will engage automatically.

3. Secondary Charge 4 cell Output:(CG-335only)

This output starts at 500mah and drops to 250mah charge as the battery nears full capacity. There is no automatic or peak charge cut-off on the secondary charge port. It is recommended that this be used for no more than one hour at a time. Remove pack from charge when cells get warm.

4. Volt/Amp Select Button:(CG-335only)

If you wish to see the Amperage display on the screen, press the "select" button during the charge mixing.

IMPORTANT : Please disregard the displayed value of either the voltage or the amperage, after the charging is completed and turned to trickle charging (LED is blinking)

5. Low Battery Warning Light:

GREEN : Input battery is at full capacity.

Amber : Source battery is low but the main charge of 4-24cell is unaffected.

Secondary 4cell charging(CG-335only) does not function properly at this stage.

Red : All charging should be discontinued till the source battery is recharged.

RECOMMENDED CHARGE RATES(4-24cell charging only)

110mah-650mah: 0.5A- 1.0A

800mah-1100mah: 1.5A - 2.5A

1200mah-2000mah+: 3.0A - 5.0A

Charge rates will vary with the type of cell you are charging. Red cells or “R” cells can handle a higher charge rate than standard or extended life “E” cells. Use the reference chart as a guideline, your actual optimum charge rate may vary. Remember the higher the charge rate the faster the discharge. For longer run time use a lower charge rate. Always let the batteries cool completely before recharging.

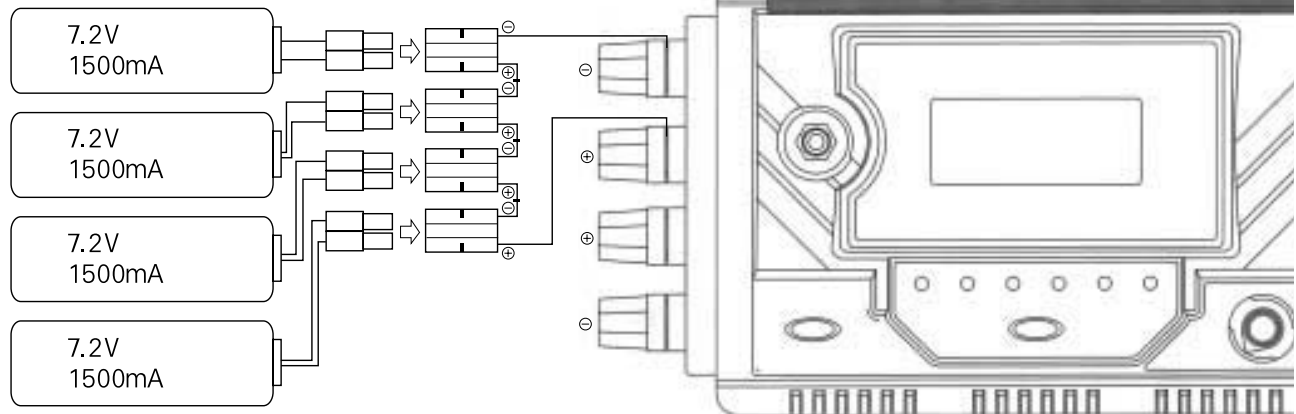
CHARGING MULTIPLE PACKS

The CG-330/335 can charge up to 24 cells so that multiple packs may be charged at the same time. You will need to connect the battery packs in series (See Illustration). Make sure the packs are completely discharged first. If all the packs are not discharged completely, you risk damaging the cells. The charge rate will decrease when charging multiple packs.

Maximum amperage the charger will charge larger packs at will be: 12-cell(5.0A), 18-cell (4.0A), and 24-cell (3.0A).

(Warning: This is recommended for charging power packs only. Do not charge multiple transmitter or receiver batteries.)

(7.2V RACING NI-CD PACK)



**Maximum charge current : Please do not exceed the following charge current setting, otherwise charging errors might occur.

4-24cell Charge	Cell	4Cell	5Cell	6Cell~12Cell	13Cell~16Cell	17Cell~19Cell	20Cell~22Cell	23Cell~24Cell
		MAX Current	2.5A	3.5A	5.5A	4.5A	4A	3.5A
Glow Charge	MAX Current	1.1A						
4 cell Charge	MAX Current	350mA(CG-335only)						

USER BEWARE

1. When charging multi cell, high voltage batteries in high Amp mode, be careful and check charging closely. Check for high temperature or any other unusual symptoms.
2. If your goal is extended battery life, use low amperage charging whenever possible.
3. Whenever possible, take the battery pack out of the transmitter when charging in order to protect your transmitter from possible damage if your transmitter has a polarity protection diode in the circuit. Sometimes this same diode can prevent the delta peak from functioning properly so the charger may not shut off. For best results connect the charger directly to the transmitter battery.
(***WARNING***) For best results use minimum charge amperage of 0.5A when charging transmitter battery.
4. DO NOT TOUCH the heatsink when charging it will become very hot and may cause severe burns.
5. Use thick (12-16 gauge) silicon cables when quick charging.
6. If charging a large capacity battery it may require more than 1 hour to charge completely. Keep in mind the maximum charging time the charger will stay engaged is 65 minutes, due to the safety cut off circuit, you may have to press the start button again after the first charging cycle is done to completely charge the pack.
7. DO NOT adjust the AMP knob 3 minutes after the start button is pushed otherwise charging can be interrupted.
8. When charging high voltage packs take exceptional care in the connections as shorted cables can cause a fire or the nicads to explode.
9. When using secondary output charging jacks do not leave pack unattended. This may result in overcharging and damaging the pack. (CG-335only)

CG-330/335 DIAGRAM

