

Features

- Built-in voltage balancer for lithium batteries, there is no external balancer needed when charging Lilon / LiPo batteries.
- Delta-peak sensitivity - The automatic charge termination program works on the principle of the Delta-peak voltage detection.
- Adjustable Capacity load limit: The charging capacity always calculated by multiple of the charging current and time. If the charging capacity exceeds the limit the process will be terminated automatically when you set the maximum value.
- Temperature limit: The temperature of the battery on charging will raise by its internal chemical reaction. You are able to select a maximum temperature which the cell is allowed to reach during charging. (only available if sensor is connected)
- Processing time limit: You can also restrain the maximum process time to prevent from any possible defect.
- Input power monitor: To protect the car battery using as input power from being damaged the voltage of it always monitored. If it drops below the lower limit the process will be ended automatically.

High power and high performance circuit

AP505 employs a circuit that has a maximum output power of 50W. As a result it can charge up to 14 cells of NiCd / NiMH and 5series of LiPo batteries with maximum current of 5.0 A.

Specifications

- Operating voltage range: 10.0 – 18.0V
- Circuit power: max. 50W
- Charge current range: 0.1 - 5A
- Current drain for balancing LiPo: 200mAh/cell
- NiCd / NIMH battery cell count: 1~14 cell
- Li-Ion / Polymer cell count:1~5 Series
- Pb battery voltage; 2 to 12V
- Weight: 360g
- Dimensions: 130X98X30 mm

Exterior of the unit



Connect batteries to the unit

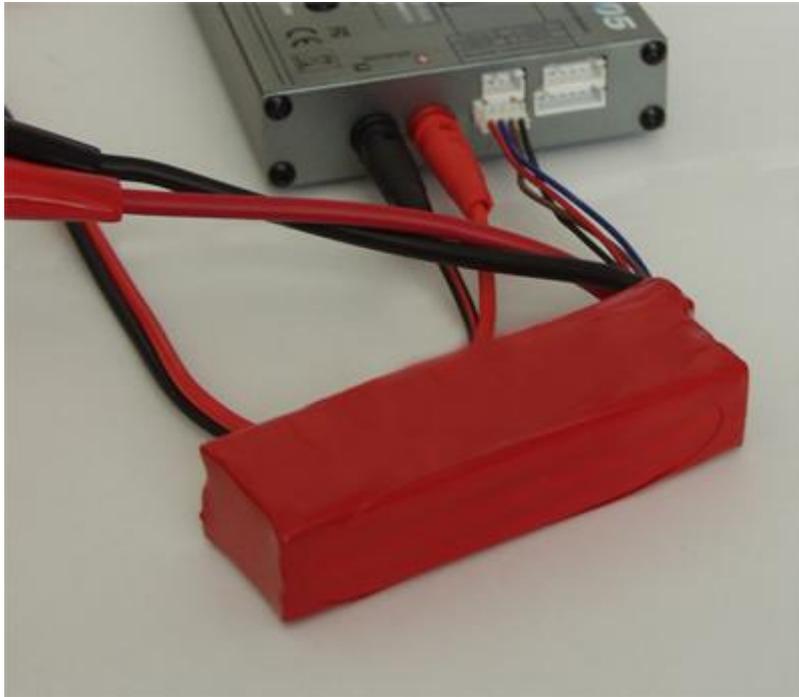
WARNING:

Although AP505 comes with build-in reverse polarity detection, it might harm your cells or charger if wiring is incorrect. Please check wiring and parameters before usage.



Connect Lilon batteries to the unit

When charging LiIon or LiPo batteries, it is recommended to use the balance charging mode, this is how to connect your batteries using the balance plugs:



The negative connector is the most right at all 4 balancing plugs at the charger.

Using the AP505

The device provides an easy-to-use lcd interface, Buttons are used for:

Batt. Type / Stop:

Go to next function group in main menu / discard charge process when its running.

Dec:

Go to previous function group in main menu / decrement selected value in submenus.

Inc:

Increment selected value in submenus

Start / Enter:

Enter function group / Confirm current value

Press long to start charging process

The program menu

Here you are able to set basic options.

On the first screen, press ENTER to join this menu, use DEC and INC to switch between the program options. Press ENTER to make Values selected and DEC / INC to change them.



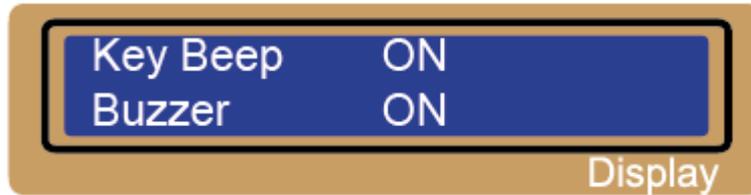
An optional feature using temperature probe contacting the surface of battery, the temperature cut-off can be on or off. If it is on, set the maximum temperature at which the charger should allow battery to reach during charge. Once a battery reaches this temperature during charge, the process will be terminated to protect the battery.



When you start a charge process, the integral safety timer automatically starts running at the same time. This is programmed to prevent overcharge 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.



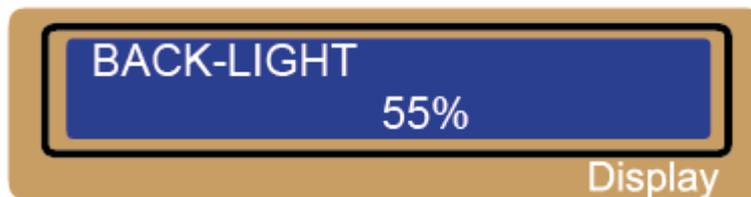
This option sets the maximum charge capacity that will be supplied to the battery during charge. If the delta-peak voltage is not detected nor the safety timer expired by any reason, this feature will automatically stop the process at the selected capacity value.



The beep sounds at every time pressing the buttons to confirm your action. The beep or melody sounded at various times during Operation to alert different mode changes. These audible sounds can be on or off.



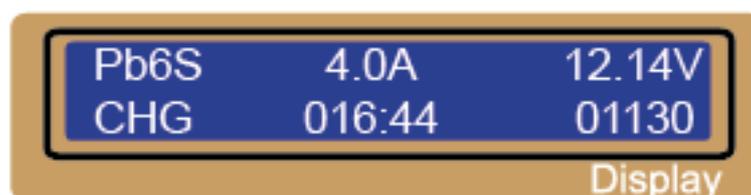
This program monitors the voltage of input battery. If the voltage drops below the value you set the operation forcibly terminated to protect the input battery.



You can adjust the brightness of LCD screen from 0-100% at the charger.

Charging Pb batteries

Use STOP / DEC Buttons in main menu and select Pb charge mode with ENTER button. Set current and cell count/voltage and trigger the charge process by holding START button for 3 seconds.

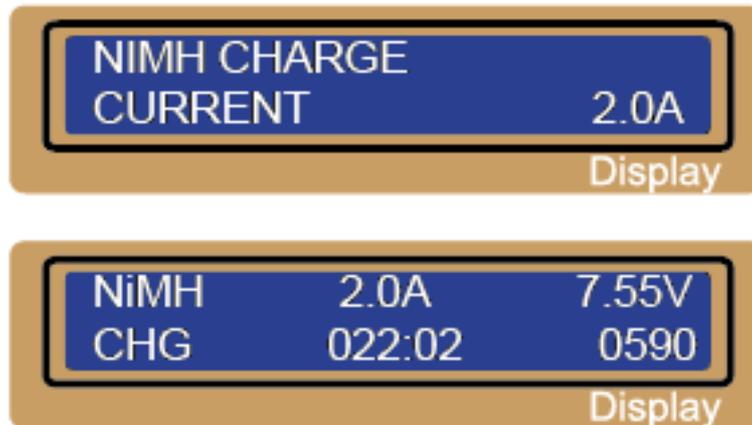


After finishing charge process the duration, end voltage and loaded capacity in mAh is displayed.

Charging NIMH/NiCD batteries

Use STOP / DEC Buttons in main menu and select NiCD/NiMH CHARGE mode with ENTER button.

Select the max. charge current (current will be defined by AP505 depending on continually measured accu parameters) and trigger the charge process by holding START button for 3 seconds.



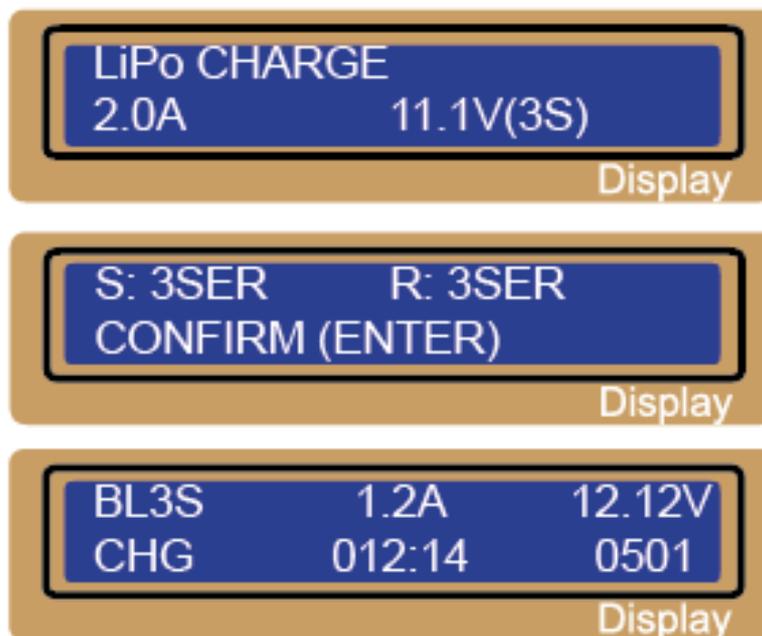
When the accu is full, it will be automatically detected by delta peak measurement and informs you about the charge duration, end voltage and charged capacity.

Charging Lithium batteries

AP505 is designed for charging Lilon batteries from 1 to 5 series.

Please do not try to charge LiFe accus or other Lithium types witch a nominal voltage different from 3,7V!

It is recommended to use balance charge mode, therefore the balancing plug have to be connected.



If you use accus without balancing cable, please select „LiPo CHARGE“, if you are using batteries with balancing cable, please select „LiPo BALANCE CHG“.

Warning and error messages



The output is connected to a battery with incorrect polarity



This will be displayed in case of detecting an interruption of the connection between battery and output



There was a short-circuit at OUTPUT.



The voltage of input power lowers the limit



The voltage of Lithium battery pack was selected incorrectly. Verify the voltage of battery pack carefully.



There happens malfunction at the unit by any reason.



The processor detects an under voltage.



The processor detects an over voltage.



The voltage of one of the cell in the LiPoly battery pack raised over the limit.

Warnings and safety notes

- Never leave the charger unsupervised when it is connected to its power supply. If any malfunction is observed immediately terminate the process and refer to the operation manual.
- Keep away the unit from dust, damp, rain, heat, direct sunshine and vibration. Do not drop it.
- The circuit of the unit is designed to be powered by a 12V DC only.
- This unit and the battery to charge or discharge should be set up on a head-resistant, non inflammable and non-conductive surface. Never place them on a car seat, carpet or similar. Keep all the inflammable volatile materials well away from operating area.
- Be sure to understand the information of the battery to be charged or discharged accurately. If the program is set up incorrectly the battery can severely be damaged. Especially Lithium battery can cause a fire or an explosion by over-charging.
- To avoid short-circuits between the charge lead, always connect the charge cable to the unit first and only then to the battery to be charged or discharged. Reverse the sequence when disconnecting.
- Do not connect more than one battery pack to the charge lead at any one time.
- Do not attempt to charge or discharge the following types of battery.
 - Battery pack, which consists of different types of cell (including different manufacturers).
 - Battery, which is already fully charged or just slightly discharged.
 - Non-rechargeable batteries (Explosion hazard).
 - Batteries that require a different charge technique from NiCd, NiMH, LiPoly or Pb.
 - Faulty or damaged battery.
 - Battery fitted with an integral charge circuit or a protection circuit.
 - Batteries installed in a device, or which are electrically linked to other components.
 - Batteries that are not expressly stated by the manufacturer to be suitable for the currents the charger delivers during the charge process.
 - Please bear in mind of checking the following point before charge operation.
 - Did you select the appropriate program, which are suitable for the type of battery?
 - Did you set up adequate current for charging or discharging?
 - Lithium battery pack can be composed with parallel and series circuits mixed. You have to check the composition of the battery pack carefully before charging.
 - Are all connections firm and safe, or is there an intermittent contact at any point in the circuit

Warranty and service

We warrant this product for a period of one year (12 months) from the date of purchase. The guarantee applies only to such material or operational defects, which are present at the time of purchasing the product. During that period, we will repair or replace without service charge any product deemed defective due to those causes. You will be required to present proof of purchase (invoice or receipt). This warranty does not cover the damage due to wear, overloading, incompetent handling or using of incorrect accessories.

Notes:

