NEWPORT VESSELS

12V Pulse Battery Charger

- Maximizes Battery Life
- Charges AGM, GEL, SLA, and Wet Batteries
- Easy to read LCD display
- Features overheat, overcharge, short circuit, and reverse polarity protection

User Manual

CE

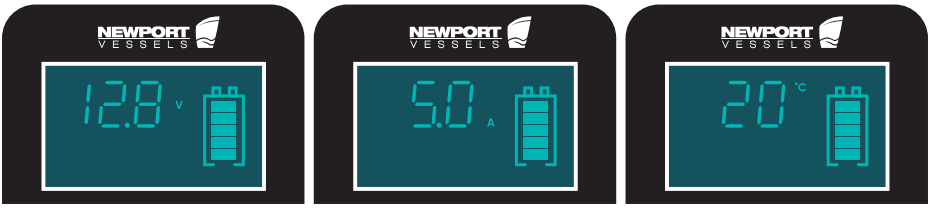
PULSE REPAIR BATTERY CHARGER with LCD DISPLAY

The Newport Vessels Pulse Battery Charger is designed with the latest charging technology for Lead Acid, AGM, GEL, and flooded (wet cell) batteries.

HOW TO USE

1. Check your battery to make sure it is compatible with the charger.
2. Connect the red alligator clip to the positive (+) terminal of the battery. Connect the black alligator clip to the negative (-) terminal. Remember when working with electricity that red is positive, black is negative.
3. The LCD display will show battery voltage (V), charge (battery icon), current (A), and internal battery temperature.
4. If you have hooked up the battery incorrectly, you will see “EI-I-” displayed on the LCD screen, and the “Fault” light will flash.
5. Connect the charger with an AC power source such as a 110V wall outlet. The charger will begin to operate and the “Charge” light will repeatedly flash red.
6. Once the battery is fully charged, the battery bar on the screen will read “FUL”, and the “Charge” light will stay illuminated red. It is recommended to keep the battery on the charger for an additional 1-2 hours after it is full.
7. After this is completed, remove the battery from the charger, and unplug the charger from its power source.

Note: For small batteries with less than 20ah, it is recommended to use the “Repair” mode when charging them. The pulse charging method used by this charger provides too much current for small batteries.

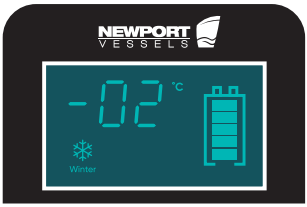


Charging Voltage | Charging Current | Internal Temperature

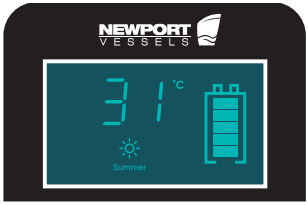
Winter & Summer Mode:

1. The cold and hot modes on this charger are not to be adjusted by the user, and are just an indication of the batteries internal temperature.
2. The charger will automatically adjust the voltage based on the temperature of the battery every 5-10 seconds.

Winter Mode	<12˚C
Normal Mode	12˚C - 30˚C
Summer Mode	>30˚C



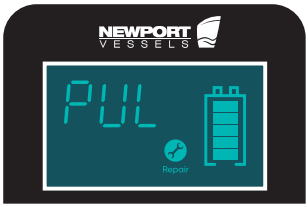
Winter Mode



Summer Mode

HOW TO PULSE REPAIR BETTERY

1. Connect the charger to an AC power source such as a 110V wall outlet.
2. Connect the battery to the charger, then press the “Repair” button. The letters “PUL” will be displayed on the screen, and the “Charge” light will begin flashing red.
3. Press the “Repair” button again to switch to normal charging mode.
4. The suggested repair time is from 5-10 hours depending on the size of the battery. Smaller batteries like motorcycle batteries will require only 5 hours. Large batteries will require closer to 8-10 hours of repair time. After 24 hours the charger will automatically switch to the normal charging mode.
5. If the battery becomes too hot, remove the battery from the charger.
6. Once the screen shows “FUL”, your battery is fully charged and should be removed from the charger.



Charging Voltage

FAQS

- The LCD displays “FUL” but the battery is not fully charged yet, why is this?

  Reason: There is too much internal resistance in the battery, or the battery capacity has been reduced due to age, wear, improper use, or low quality materials. When the charger is attached, the voltage of the battery will immediately soar, cousing the “FUL” indicator to illuminate.
- Battery voltage is normal, however the charger does not seem to be working, what is going on?

  Reason: There is no AC power supply.

  Solution: Check if the AC power source is working properly, check to see if any fuses or circuit breakers have been tripped, then try again.
- Unable to reach “FUL” status after being charged for a long time, why is this?

  Reason: The battery has been vulcanized, or the cells are depleted of water. This causes the voltage to remain low, so the battery cannot be fully charged.

  Possible Solutions: Stop charging the battery when it is hot, check if the battery has short circuited. Try putting the battery through 2-3 charging cycles. (Discharge, charge, repeat)

SPECIFICATIONS(FB1205D)

Input Voltage	100-240VAC 50/60Hz 75W
Input Current	0.5A(RMS)@230VAC
Charge Voltage	Summer Mode:14.4V, Normal Mode:14.7V, Winter Mode:15.5V (Measurements allowed tolerance +/-0.4V)
Ripple Current	Current ripple: <=0.12A RMS
Bulk Chrage Current	6.0A
Operate Temperature	-20˚C to +45˚C
Cooling	Fan
Charging Process	3-stage: CC, CV, Float Charge
Battery Type	all types of 12V AGM, GEL, Flooded(Wet), Calcium type deep cycle, VRLA maintance free lead acid batteries
Battery Capacity	4Ah - 100Ah
Size	150*85*60mm
Net. Weight	380g

The table shows the charging duration required for batteries with different capacities.

Battery Capacity (Ah)	Pulse Battery Charger
12	2.5
20	5
40	9
60	13
100	22