



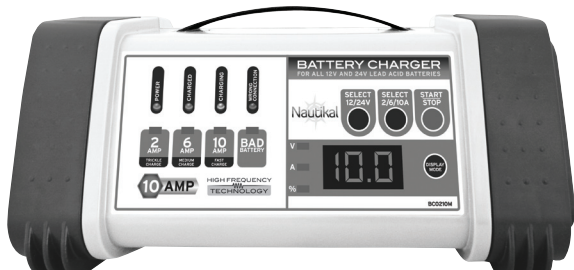
BATTERY CHARGER

FOR ALL 12V AND 24V LEAD ACID BATTERIES



5 YEAR
LIMITED WARRANTY

HIGH FREQUENCY
TECHNOLOGY



10 AMP

WARNING:

Read all instruction before operating product. Failure to follow all instructions listed below may result in electric shock, fire and/or injury.

AVOID DANGEROUS ENVIRONMENTS. Don't use Battery Charger in damp or wet locations. Don't use Battery Charger in the rain.

KEEP CHILDREN AWAY. All visitors should be kept at a distance from work area.

STORE INDOORS. When not in use, the Battery charger should be stored indoors in dry, and out of reach of children.

DON'T FORCE THE CHARGER. It will do the job better and with less likelihood of a risk of injury at the rate for which it was designed.

DON'T ABUSE CORD. Never carry Battery Charger by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.

GROUND FAULT CIRCUIT INTERRUPTER (GFCI) protection should be provided on the circuits or outlets to be used. Receptacles are available having built in GFCI protection and may be used for this measure of safety.

DO NOT OPERATE Battery charger near flammable liquids or in gaseous or explosive atmospheres.

Relays and switches in these chargers normally spark, and the sparks might ignite fumes.

OUTDOOR USE EXTENSION CORDS. When tool is used outdoors, use only extension cords intended for use outdoors and so marked.

EXTENSION CORDS. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. The following table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavy gage. The smaller the gage number, the heavier the cord.

MINIMUM GAGE FOR CORD SETS

Volts		Total Length of Cord in Feet			
120V		0-25ft (0-7.6m)	26-50ft (7.6-15.2m)	51-100ft (15.2-30.4m)	101-150ft (30.4-45.7m)
240V		0-50ft (0-15.2m)	51-100ft (15.2-30m)	101-200ft (30.4-60.9m)	201-300ft (60.9-91.4m)
Ampere Rating					
More than	NOT more than	American Wire Gage			
0-	6	18	16	16	14
6-	10	18	16	14	12
10-	12	16	16	14	12
12-	16	14	12	NOT RECCOMENDED	

SAVE THESE INSTRUCTIONS. THIS MANUAL CONTAINS IMPORTANT SAFETY AND OPERATING INSTRUCTIONS FOR THE 10 AMP AUTOMATIC BATTERY CHARGER MODEL BC0210M

WARNING:

TO REDUCE THE RISK OF INJURY:

Follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use with this unit. Review all cautionary statements on these products and on engine.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: This product or its power cord contains lead, a chemical known to cause cancer and birth defect or other reproductive harm. Wash hands after handling.

WARNING: BURST HAZARD.

Do not use the unit for charging dry-cell batteries that are commonly used with home appliances. These batteries may burst and cause injury to persons and property damage. Use the unit for charging a lead acid battery only.

WARNING: SHOCK HAZARD.

If an extension cord is used, make sure that:

- a) the pins of extension cord are the same number, size and shape as those in the unit,
- b) The extension cord is properly wired and in good electrical condition,
- c) The wire size is large enough for the AC rating of the charger as indicated in the table on page 2.

Do not operate unit with damaged cord or plug, or if the unit has received a sharp blow, been dropped, or otherwise damaged in any way. Do not disassemble the unit; take it to a qualified service technician when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire, and will void warranty.

Use of an attachment not supplied, recommended or sold by manufacturer specifically for use with this unit may result in a risk of electrical shock and injury to persons.

Never submerge this unit in water, do not expose it to rain, snow or use when wet.

To reduce risk of electric shock, disconnect the unit from any power source before attempting maintenance or cleaning. Turning off controls without disconnecting the unit will not reduce this risk.

WARNING: RISK OF EXPLOSIVE GASES.

Working in the vicinity of a lead acid battery is dangerous. Batteries generate explosive gases during normal battery operating. For this reason, it is of the utmost importance that each time before using the unit you read this manual and follow

instructions exactly.

To reduce the risk of battery explosion, follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use in the vicinity of the battery. Review cautionary markings on these products and on the battery.

This equipment employs parts (switches, relays, etc.) that produce arcs or sparks. Therefore, if used in a garage or enclosed area, the unit **MUST** be placed not less than 18 inches above the floor.

THIS UNIT IS NOT FOR USE BY CHILDREN AND SHOULD ONLY BE OPERATED BY ADULTS.

CAUTION: TO REDUCE THE RISK OF INJURY OR PROPERTY DAMAGE:

Pull cord by plug rather than cord when disconnecting the 120V AC Charging Adapter from the unit.

NEVER ATTEMPT TO CHARGE A FROZEN BATTERY.

When working with lead acid batteries, always make sure immediate assistance is available in case of accident or emergency.

Always have protective eyewear when using this product: contact with battery acid may cause blindness and/or severe burns. Be aware of risk aid procedures in case of accidental contact with battery acid. Have plenty of fresh water and soap nearby in case battery acid contacts skin.

If battery acid contacts skin or clothing, wash

immediately with soap and water for at least 10 minutes and get medical attention immediately. Never smoke or allow a spark or flame in vicinity of vehicle battery, engine or battery charger.

Remove personal metal items such as rings, bracelets, necklaces and watches when working with a lead acid battery. A lead acid battery can produce a short circuit current high enough to weld a ring, or the like of a metal, causing a severe burn..

Never allow battery acid to come in contact with this unit.

Do not operate this unit in a closed area or restrict ventilation in any way.

FIRST AID - SKIN: If battery acid comes in contact with skin, rinses immediately with water, then wash thoroughly with soap and water., If redness, pain, or irritation occurs, seek immediate medical attention.

EYES: If battery acid comes in contact with eyes, flush eyes immediately, for a minimum of 15 minutes and seek immediate medical attention.

Power Cord Safety:

This appliances has a polarized plug (one blade is wider than the other) as a safety feature. This plug will fit into a polarized outlet only one way. If the plug does not fit fully into the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Do not attempt to defeat this safety feature.

Preparing to charge

1. Determine voltage of battery to be charged by referring to the vehicle manual.
2. If it is necessary to remove battery from vehicle

to charge, or to clean terminal, always remove grounded terminal from battery first. Make sure all accessories in the vehicle are off, so as not to cause an arc.

3. Clean battery terminals. Do not allow corrosion to come in contact with eyes.
4. Add distilled water in each cell until battery acid reaches level specified by battery manufacturer. This helps purge excessive gas from cells. Do not overfill. For a battery without cell caps (maintenance free), carefully follow manufacturer's charging instructions.
5. Study all battery manufacturers' specific precautions, such as removing or not removing caps while charging, and recommended rates of charge.
6. Remove battery completely from boat, airplane or any confined area before charging.

Note: Beware of gas build-up in enclosed areas.

CHARGER LOCATION

1. Locate charger as far away from battery as cables permit.
2. NEVER place charger directly above battery being charged, gases from battery will corrode and damage charger.
3. NEVER allow battery acid to drip on charger when reading gravity or filling battery.
4. NEVER operate charger in a closed-in area or restrict ventilation in any way.

5. Marine batteries must be removed and charged on shore.
6. Do not set a battery on top of charger.

DC CONNECTION PRECAUTIONS

1. Connect and disconnect DC output clamps only after removing AC cord from electric outlet.
2. Attach clamps to battery and chassis as indicated in "Battery Installed in Vehicle" steps 5 and 6, and in "Battery Outside of Vehicle" steps 2,4 and 5.

BATTERIES INSTALLED IN VEHICLE

1. Position AC and DC cords away from hood, door, or moving engine parts.
2. Stay clear of fan blades, belts, pulleys, and other parts that can cause injury to persons.
3. Check polarity of battery posts. POSITIVE (POST, P,+) usually has larger diameter than NEGATIVE (NEG, N,-)post.
4. Determine which post of the battery is grounded (connected to the chassis.) If negative post is grounded to chassis (as in most vehicles), see step 5. If positive post is grounded to the chassis, see step 6.
5. For negative-grounded vehicle, connect POSITIVE (RED) clamp from battery charger to POSITIVE (POS,P,+) ungrounded post of battery. Connect NEGATIVE (BLACK) clamp to vehicle chassis or engine block away from battery. Do not connect battery clip to carburetor, fuel lines, or sheet-

metal body parts. Connect to heavy gauge metal part of the frame or engine block.

6. For positive-grounded vehicle, connect NEGATIVE (BLACK) clamp from battery charger to (NEGATIVE (NEG, N, -) ungrounded post of battery. Connect POSITIVE (RED) clamp to vehicle chassis or engine block away from battery. Do not connect clip to carburetor, fuel lines or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.
 7. When disconnecting charger, disconnect AC cord, remove clamp from vehicle chassis, and then remove clamp from battery terminal.
 8. Do not charge the battery while the engine is operating.
 9. See operating instructions for length of charge information.
- Follow these steps when the battery has been removed from a vehicle. A spark near the battery may cause an explosion.

BATTERY OUTSIDE OF VEHICLE

1. Check polarity of battery posts. Positive post (marked POS, P, +) usually has a larger diameter than the Negative battery post (marked NEG, N, -).
2. Attach a 24-inch (minimum length) 6 AWG insulated cable to the Negative battery post (marked NEG, N, -).
3. Connect the Positive (RED) battery clamp to the Positive battery post (marked POS, P,+ or red).
4. Stand as far back from the battery as possible,

and do not face battery when making final connection.

- Carefully connect the NEGATIVE(BLACK) charger clamp to the free end of the battery cable connected to negative terminal.
- When disconnecting charger, always do so in reverse sequence of connecting procedure and break first connection while as far away from battery as practical.

INSTRUCTIONS

Nautikal's Automatic Battery Charger has a high charge rate of up to 10 Amp. It is designed for charging 12V and 24-volt lead-acid batteries - conventional automotive, maintenance-free, marine deep cycle and gel-used in cars, farm equipment, boats, RVs and SUVs, lawn mower/garden tractors, motorcycles, personal watercraft, snowmobiles, ATVs and various application.

The Automatic Battery Charger features 3-stage, high-efficiency charging technology, built-in control IC that ensures fast, safe and complete charging of serviceable batteries and a charge rate selector.

CONTROLS AND INDICATORS

11 LED indicators on the control Panel for the following functions:

Green Power LED Indicator: Illuminates when the unit is connected to a live 120V AC receptacle.

Green Charged LED Indicator: Illuminates when the battery is fully charged.

Amber Charging LED Indicator: Illuminates when battery is charging.

Red Bad Battery LED Indicator: Illuminates when there is a faulty condition on the battery or battery voltage is below 3V.

Wrong connection LED Indicator: Illuminates when Battery is not properly connected to the charger.

Red (V),(A) and (%) LED indicators: Illuminates when selected by the Display control Button, when a function is selected, the corresponding LED will light up and display the information below on the main LED display as follow:

- (V) Battery Voltage**
- (A) Charging Current (Amp)**
- (%) Battery Percentage Of Charge**
- Red 2Amp LED Indicator:** Illuminated when selected by the 2/6/10A Control button.
- Red 6Amp LED Indicator:** Illuminated when selected by the 2/6/10A Control button.
- Red 10Amp LED Indicator:** Illuminated when selected by the 2/6/10A Control button.

FEATURES

- Automatic float charge monitoring
- High Frequency Technology: Provide pure DC regulated output current, three stage charging and good performance for a maximum and safer battery charge.
- Rapid charging three-stage output

- Short circuit protection
- Heavy-duty cables and clamps are corrosion-resistant
- Connect to side or top-mount battery terminals
- Automatic Battery maintenance to keep the batteries in the best condition.
- LED Display shows battery Voltage, Charging current and Battery Percentage.
- 12V / 24V Battery Selector
- 2 Amp Charge rate for small batteries and trickle charge function (12V & 24V)
- 6 Amp Rate for medium charge (12V & 24V)
- 10 Amp Rate for Quick charge and larger batteries (12V Only)

OPERATING INSTRUCTIONS

Ensure that all installation, operating instructions and safety precautions are understood and carefully followed by anyone installing or using the charger. Follow the steps outlined in the "Important Safety Instructions" section of this manual.

CHARGING THE BATTERY

1. Once the battery is connected and in good status, the wrong Connection LED will dim out.
2. Select Battery Voltage according to battery specifications (12V or 24V)
3. Select Charging Current: 2A, 6A or 10A for 12V Batteries / 2A or 6A for 24V Batteries
4. Press Start / Stop button

5. If correct voltage is selected, the charging LED indicator will light up indicating that the charging process has started.
Note: If the wrong charging voltage is selected, Bad Battery LED indicators will light up, if this happens, disconnect the battery and reconnect after 10 seconds following the instruction provided.
6. As the battery nears full charge capacity, the unit's output will automatically drop, the Charging LED indicator will dim out and the Charged LED will come ON.
7. Disconnect the AC power cord first, then the negative clamp, and finally the POSITIVE clamp.

AUTOMATIC FLOAT CHARGING

Automatic Float Charging is ideal for maintaining a fully charged battery.

1. Keep the 120 volt AC power and battery connected after battery is fully charged
2. The charger monitors the battery and keeps it fully charged.

APPROXIMATE CHARGING TIMES

The Automatic Battery Charger will automatically adjust the charge rate as the battery becomes charged and stop when the battery is fully charged. Deep cycle batteries may require longer charging time.

For estimates of the time it takes to charge a battery, refer to the following table:

Battery Percentage of charge	75%	50%	25%	0%
7 Amp Rate	1.25 HRS	2.5 HRS	3.75 HRS	5 HRS

The times shown in the table are approximate and refer to a 50 Ah automotive battery. For example, a 50 AH (12 volt) battery is discharged (75%). How long it will take approximately to be charged with this battery charger.

In most case, battery charging times will vary depending on the size, age and condition of the battery.

CARE AND MAINTENANCE

With proper care and minimal maintenance, the Battery Charger will provide years of dependable service. For maximum performance, manufacturer recommends:

- After each use, clean the battery charger clamps.
- Be sure to remove any battery fluid that will cause corrosion on the clamps.
- Clean the outside case of the charger with a soft cloth and, if necessary, mild soap solution.
- Do not allow liquid to enter the charger. Do not operate when charger is wet.
- Keep the charger cords loosely coiled during storage to prevent damage to the cords.

WARNINGS:

- Do not use charger if cords or clamps have been damaged in any way.
- There are no user-serviceable parts in this unit.
- Do not open the unit. In the event of malfunction, it must be returned to manufacturer for professional testing and repair. Opening the unit will void the manufacturer's warranty.
- The use of any accessory not recommended for use with this Battery Charger could be hazardous.

SPECIFICATIONS

OUTPUT CURRENT 12V2A/6A/10A
OUTPUT CURRENT 24V2A/6A
OUTPUT VOLTAGE12V DC / 24V DC
INPUT VOLTAGE120V AC,60 Hz
INPUT POWER210W



TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
BAD BATTERY LED	Bad Battery LED may light when the voltage of battery is less than 3V; or the battery has a faulty condition such as open or shorted cell or sulfated condition.	Have the battery tested by a qualified person.
Battery NOT accepting a Charge	<ul style="list-style-type: none">• Lack of AC input power• Faulty Connections to the battery Terminals• Wrong Charging Voltage Selected• Battery voltage too low• Charging a Very Cold Battery	<ul style="list-style-type: none">• Make sure that the charger is plugged into a "live" 110/120 volt AC outlet and Power LED is lit.• Unplug the charger and check battery connections; ensure that there is a good connection at the battery terminal and/or vehicle chassis.• Check that the correct charging Voltage was selected for the battery being charged.• Ensure enough charging time was allowed to charge battery.• If the battery to be charged is extremely cold (in temperatures below freezing (0°C/32°F), it will not accept a high rate of charge, so the initial charge rate will be slow. The rate of charge will increase as the battery warms. / Never attempt to charge a frozen battery.



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Miami, Florida 33178

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