

How To Use

Charging Modes.

The GEN Series has six (6) modes: Standby, 12V, 12V AGM, 12V LITHIUM, 12V REPAIR, and Force Mode. Some charge modes must be pressed and held for three (3) to five (5) seconds to enter the mode. These “Press and Hold” modes are advanced charging modes that require your full attention before selecting. It is important to understand the differences and purpose of each charge mode. Do not operate the charger until you confirm the appropriate charge mode for your battery. Below is a brief description:

Mode ----- Explanation

Standby In Standby mode, the charger is not charging or providing any power to the battery. Energy Save is activated during this mode, drawing microscopic power from the electrical outlet. Canbus is enabled in Standby mode. When in Standby, the orange Standby LED will illuminate.

No Power

12V For charging 12-volt Wet Cell, Gel Cell, Enhanced Flooded, Maintenance-Free and Calcium batteries. When selected, the 12V white LED will illuminate

14.5V | 5A | Up To 120Ah Batteries

12V AGM For charging 12-volt AGM batteries. When selected, the 12V AGM white LED will illuminate.

14.8V | 5A | Up To 120Ah Batteries

12V LITHIUM. For charging 12-volt lithium-ion batteries, including lithium iron phosphate. When selected, the 12V Lithium blue LED will illuminate. For use on batteries with Battery Management Systems (BMS) only.

14.6V | 5A | Up To 120Ah Batteries

12V REPAIR Press & Hold (3 Seconds) An advanced battery recovery mode for repairing and restoring, old, idle, damaged, stratified or sulfated batteries. When selected, a red LED will illuminate and flash.

16.5V | 5A | Any Capacity [From Standby Press and Hold 3 Seconds while connected to battery]

Force Mode Press & Hold (5 Seconds) For charging batteries with a voltage lower than 1V. Press and Hold for five (5) seconds to enter Force Mode. The selected charge mode will then operate under Force Mode for five (5) minutes before returning to standard charging in the selected mode.

5A | Up To 120Ah Batteries [From Standby Press and Hold 5 Seconds while connected to battery, then toggle through modes]

Using 12V Lithium.

V Lithium charge mode is designed for 12-volt lithium-ion batteries only, including lithium iron phosphate.

CAUTION. USE THIS MODE WITH EXTREME CARE. THIS MODE SHOULD ONLY BE USED WITH 12-VOLT LITHIUM BATTERIES THAT HAVE A BUILT-IN BATTERY MANAGEMENT SYSTEM (BMS). LITHIUM-ION BATTERIES ARE MADE AND CONSTRUCTED IN DIFFERENT WAYS AND SOME MAY OR MAY NOT CONTAIN A BATTERY MANAGEMENT SYSTEM (BMS). CONSULT THE LITHIUM BATTERY MANUFACTURER BEFORE CHARGING AND ASK FOR RECOMMENDED CHARGING RATES AND VOLTAGES. SOME LITHIUM-ION BATTERIES MAY BE UNSTABLE AND UNSUITABLE FOR CHARGING.

Force Mode. [Press & Hold for 5 seconds]

Force mode allow the charger to manually begin charging when the connected battery's voltage is too low to be detected. If battery voltage is too low for the charger to detect, press and hold the mode button for 5 seconds to activate Force Mode, then select the appropriate mode. All available modes will flash. Once a charge mode is selected, the Charge Mode LED and Charge LED will alternate between each other, indicating Force Mode is active. After five (5) minutes the charger will return to the normal charge operation and low voltage detection will be reactivated.

CAUTION. USE THIS MODE WITH EXTREME CARE. FORCE MODE DISABLES SAFETY FEATURES AND LIVE POWER IS PRESENT AT THE CONNECTORS. ENSURE ALL CONNECTIONS ARE MADE PRIOR TO ENTERING FORCE MODE, AND DO NOT TOUCH CONNECTIONS TOGETHER. RISK OF SPARKS, FIRE, EXPLOSION, PROPERTY DAMAGE, INJURY, AND DEATH.

Using 12V Repair. [From Standby Press and Hold 3 Seconds With Clamps Connected to the Battery]

12V Repair is an advanced battery recovery mode for repairing and storing, old, idle, damaged, stratified or sulfated batteries. Not all batteries can be recovered. Batteries tend to become damaged if kept at a low charge and/or never given the opportunity to receive a full charge. The most common battery problems are battery sulfation and stratification. Both battery sulfation and stratification will artificially raise the open circuit voltage of the battery, causing the battery to appear fully charged, while providing low capacity. Use 12V Repair in attempt to reverse these problems. For optimal results, take the 12-volt battery through a full charge cycle, bringing the battery to full charge, before using this mode. 12V Repair can take up to four (4) hours to complete the recovery process and will return to Standby when completed.

CAUTION. USE THIS MODE WITH CARE. THIS MODE IS FOR 12-VOLT LEAD-ACID BATTERIES ONLY. THIS MODE USES A HIGH CHARGING VOLTAGE AND MAY CAUSE SOME WATER LOSS IN WET (FLOODED) CELL BATTERIES. BE ADVISED, SOME BATTERIES AND

ELECTRONICS MAY BE SENSITIVE TO HIGH CHARGING VOLTAGES. TO MINIMIZE RISKS TO ELECTRONICS, DISCONNECT THE BATTERY BEFORE USING THIS MODE.

Connecting to the Battery.

Do not connect the AC power plug until all other connections are made. Identify the correct polarity of the battery terminals on the battery. Do not make any connections to the carburetor, fuel lines, or thin, sheet metal parts. The below instructions are for a negative ground system (most common). If your boat or vehicle is a positive ground system (very uncommon), follow the below instructions in reverse order.

1. Connect the positive (red) eyelet terminal connector to the positive (POS,P,+) battery terminal.
2. Connect the negative (black) eyelet terminal connector to the negative (NEG,N,-) battery terminal.
3. Connect the battery charger into a suitable electrical outlet. Do not face the battery when making this connection.
4. When disconnecting, disconnect in the reverse sequence, removing the negative first (or positive first for positive ground systems).

Begin Charging.

1. Verify the voltage and chemistry of the battery.
2. Confirm that you have connected the battery clamps or eyelet terminal connectors properly and the AC power plug is plugged into an electrical outlet.
3. First time use] The charger can now be left connected to the battery at all times to provide maintenance charging.
4. Press the mode button to toggle to the appropriate charge mode (press and hold for three seconds to enter an advanced charge mode) for the voltage and chemistry of your battery.
5. The mode LED will illuminate the selected charge mode and the Charge LEDs will illuminate (depending on the health of the battery) indicating the charging process has started.
6. The charger can now be left connected to the battery at all times to provide maintenance charging.

Auto-Memory:

The charger has built in auto-memory and will return to the last charge mode when connected. To change modes after the first use, press the mode button.

Charging Times.

Charging Times.

The estimated time to charge a battery is shown below. The size of the battery (Ah) and its depth of discharge (DOD) greatly affect its charging time. The charge time is based on an average depth of discharge to a fully charged battery and is for reference purposes only. Actual data may differ due to battery conditions. The time to charge a normally discharged battery is based on a 50% DOD. Temperature will also impact charging times. The GEN features thermal compensation that automatically adjusts charging profiles to maximize charging performance.

Battery SizeAh (Amp hour) ----- Approximate Time to Charge In Hours 12V

20. 4

40. 8


80. 16


100. 20


120 24


Understanding Charge LEDs.


LED ----- Explanation

25% Red LED  The 25% Charge LED will slowly pulse “on” and “off” when the battery is less than 25% charged. When the battery is 25% charged, the 25% LED will go solid and the next LED will begin to pulse.

50% Red LED  The 50% Charge LED will slowly pulse “on” and “off” when the battery is 25% - 50% charged. When the battery is 50% charged, the 50% LED will go solid and the next LED will begin to pulse.

75% Orange LED  The 75% Charge LED will slowly pulse “on” and “off” when the battery is 50% - 75% charged. When the battery is 75% charged, the 75% LED will go solid and the next LED will begin to pulse.

100% Green LED  The 100% Charge LED will slowly pulse “on” and “off”, when the battery is less than 100% fully charged. When the battery is fully charged, the Green LED will be solid, and the 25%, 50% and 75% Charge LEDs will turn “off”.

Maintenance Green LED  During Optimization, the 100% Charge LED will pulse “on” and “off” slowly. Once the battery is fully optimized the 100% Charge LED will turn solid green. The charger can be left connected to the battery indefinitely.

Understanding Error LEDs.

Error Conditions will be indicated by the following LEDs.

LED. ----- Reason/Solution



Solid Charger is in Standby mode or Battery voltage is too low for charger to detect.



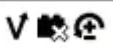
Solid. Battery voltage is too high for the selected charge mode. Check the battery and charge mode.



Solid. Possible battery short / Battery will not hold a charge. Have battery checked by a professional.

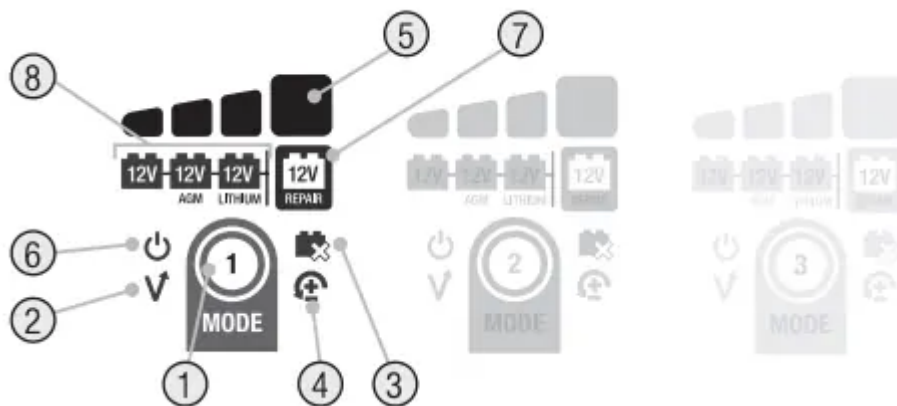


Solid. Reverse polarity. Reverse the battery connections.



Flashing Charger internal temperature too high / Charger will resume function once the Charger internal temperature drops.

Charger ambient temperature too cold / Charger will resume function once the Charger ambient temperature rises.



(For GEN5X1/5X2/5X3, each bank is isolated and functions independently.)

- 1.) **Mode Button** Push to cycle through charging Modes.
- 2.) **Overvoltage Error LED** Illuminates solid Red; Battery Voltage is above Protect voltage.
- 3.) **Bad Battery Error LED** Illuminates solid Red when connected battery will not hold a charge.
- 4.) **Reverse Polarity Error LED** Illuminates solid Red when reverse polarity is detected.
- 5.) **Charge LED** indicates the connected battery(s) state-of-charge.
- 6.) **Standby LED** Illuminates when the charger is in Standby Mode, the charger is not charging or providing any power to the battery.
- 7.) **«Press and Hold» Mode LED** Mode button must be pressed and held for 3 seconds to enter the mode.

8.) Mode LED Indicates the Charge Mode the charger is currently in. Push the MODE button to cycle through charge Modes.

Technical Specifications

Input Voltage AC: 120-240 VAC, 50-60Hz

Working Voltage AC: 120-240 VAC, 50-60Hz

Output Power: 72x2 W Max

Charging Voltage: Various

Charging Current: 5Ax2(12V)

Low-Voltage Detection: 1V (12V)

Back Current Drain: <0.5mA

Ambient Temperature: -20°C to +50°C

Type of Batteries: 12V

Battery Chemistries: Wet, Gel, MF, CA, EFB, AGM, Calcium, Lithium

Banks: 2

Battery Capacity: Up to 120Ah, Maintains All Battery Sizes

Housing Protection: IP68

Cooling: Natural Convection

Dimensions (L x W x H): 6.4 x 4.7 x 2.1 Inches

Weight: 4.17 Pounds

3 Year Hassle-Free Warranty

NOCO warrants that this product (the "Product") will be free from defects in material and workmanship for a period of Three (3) years from the date of purchase (the "Warranty Period"). For defects reported during the Warranty Period, NOCO will, at its discretion, and subject to NOCO's technical support analysis, either repair or replace defective products. Replacement parts and products will be new or serviceably used, comparable in function and performance to the original part and warranted for the remainder of the original Warranty Period.

NOCO'S LIABILITY HEREUNDER IS EXPRESSLY LIMITED TO REPLACEMENT OR REPAIR. TO THE MAXIMUM EXTENT PERMITTED BY LAW, NOCO SHALL NOT BE LIABLE TO ANY PURCHASER OF THE PRODUCT OR ANY THIRD PARTY FOR ANY SPECIAL, INDIRECT, CONSEQUENTIAL OR EXEMPLARY DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, PROPERTY DAMAGE OR PERSONAL INJURY, RELATED IN ANY WAY TO THE

PRODUCT, HOWSOEVER CAUSED, EVEN IF NOCO HAD KNOWLEDGE OF THE POSSIBILITY OF SUCH DAMAGES. THE WARRANTIES SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND THOSE ARISING FROM COURSE OF DEALING, USAGE OR TRADE PRACTICE. IN THE EVENT THAT ANY APPLICABLE LAWS IMPOSE WARRANTIES, CONDITIONS OR OBLIGATIONS THAT CANNOT BE EXCLUDED OR MODIFIED, THIS PARAGRAPH SHALL APPLY TO THE GREATEST EXTENT ALLOWED BY SUCH LAWS.

This Warranty is made solely for the benefit of the original purchaser of the Product from NOCO or from a NOCO approved reseller or distributor and is not assignable or transferable. To assert a warranty claim, the purchaser must: (1) request and obtain a return merchandise authorization (“RMA”) number and return location information (the “Return Location”) from NOCO Support by emailing support@no.co or by calling 1.800.456.6626; and (2) send the Product, including RMA number, and receipt to the Return Location. DO NOT SEND IN PRODUCT WITHOUT FIRST OBTAINING AN RMA FROM NOCO SUPPORT.

The original purchaser is responsible (and must prepay) all packaging and transportation costs to ship products for warranty service.

NOTWITHSTANDING THE ABOVE, THIS HASSLE-FREE WARRANTY IS VOID AND DOES NOT APPLY TO PRODUCTS THAT: (a) are misused, mishandled, subjected to abuse or careless handling, accident, improperly stored, or operated under conditions of extreme voltage, temperature, shock, or vibration beyond NOCO’s recommendations for safe and effective use; (b) improperly installed, operated or maintained; (c) are/were modified without the express written consent of NOCO; (d) have been disassembled, altered or repaired by anyone other than NOCO; (e) the defects of which were reported after the Warranty Period.

THIS HASSLE-FREE WARRANTY DOES NOT COVER: (1) normal wear and tear; (2) cosmetic damage that does not affect functionality; or (3) Products where the NOCO serial number is missing, altered, or defaced.

HASSLE-FREE WARRANTY CONDITIONS

These conditions apply only to Product during the Warranty Period. The Hassle-Free Warranty is void either by elapsed time from date of purchase (elapsed time from serial number date, if no proof of purchase) or from the conditions listed earlier in this document. Return Product with the appropriate documentation.

With Receipt:

0-3 Years: NO Charge. With proof of purchase, The warranty period begins on date of purchase.

With NO Receipt:

0-3 Years: NO Charge. With NO proof of purchase, The warranty period begins on the serial number date.



We recommend registering your NOCO product in order to upload proof of purchase and extend your effective warranty dates. You may register your NOCO product online at: noco.co/register. If you have any questions regarding your warranty or product, contact NOCO Support (email and phone number above) or write to: The NOCO Company, at 30339 Diamond Parkway, #102, Glenwillow, OH 44139 USA.



READ AND UNDERSTAND ALL SAFETY INFORMATION BEFORE USING THIS PRODUCT. Failure to follow these safety instructions may result in ELECTRICAL SHOCK, EXPLOSION, FIRE, which may result in a SERIOUS INJURY, DEATH, or PROPERTY DAMAGE.



Electrical Shock. Product is an electrical device that can shock and cause serious injury. Do not cut power cords. Do not submerge in water or get wet.



Explosion. Unmonitored, incompatible, or damaged batteries can explode if used with product. Do not leave product unattended while in use. Do not attempt to jump start a damaged or frozen battery. Use product only with batteries of recommended voltage. Operate product in well ventilated areas.



Fire. Product is an electrical device that emits heat and is capable of causing burns. Do not cover product. Do not smoke or use any source of electrical spark or fire when operating product. Keep product away from combustible materials.



Eye Injury. Wear eye protection when operating product. Batteries can explode and cause flying debris. Battery acid can cause eye and skin irritation. In the case of contamination of eyes or skin, flush affected area with running clean water and contact poison control immediately.



Explosive Gases. Working in the vicinity of a lead-acid is dangerous. Batteries generate explosive gases during normal battery operation. To reduce risk of battery explosion, follow all safety information instructions and those published by the battery manufacturer and manufacturer of any equipment intended to be used in the vicinity of battery. Review cautionary markings on these products and on engine.

Important Safety Warnings

About GEN Series. The NOCO GEN Series on-board battery charger represents some of the most innovative and advanced technology on the market, making each charge simple and easy. It is quite possibly the safest and most efficient charger you will ever use. The GEN Series on-board battery charger is designed for charging all types of 12V lead-acid batteries, including Wet (Flooded), Gel, MF (Maintenance-Free), CA (Calcium), EFB (Enhanced Flooded Battery), and AGM (Absorption Glass Mat), in addition to 12V Lithium (LiFePO₄) batteries. It is suitable for charging battery capacities up to 120 Amp-Hours and maintaining all battery sizes. **Getting Started.** Before using the charger, carefully read the battery manufacture's specific precautions and recommended rates of charge for the battery. Make sure to determine the voltage and chemistry of the battery by referring to your battery owner's manual prior to charging. **Mounting.** It is important to keep in mind the distance to the battery. The DC cable length from the charger, with either the battery clamp or eyelet terminal connectors, is approximately 72-inches (182.8cm). Allow for 12-inches (30.4cm) of slack between connections. **Proposition 65.** Battery posts, terminals, and related accessories contain chemicals, including lead. These materials are known to the State of California to cause cancer and birth defects and other reproductive harm. **Personal Precaution.** Only use product as intended. Someone should be within range of your voice or close enough to come to your aid in case of emergency. Have a supply of clean water and soap nearby in the case of battery acid contamination. Wear complete eye protection and protective clothing while working near a battery. Always wash hands after handling batteries and related materials. Do not handle or wear any metal objects when working with batteries including; tools, watches or jewelry. If metal is dropped onto battery, it may spark or create a short circuit resulting in electrical shock, fire, explosion which may result in injury, death or property damage. **Minors.** If the product is intended by "Purchaser" to be used by a minor, purchasing adult agrees to provide detailed instructions and warnings to any minor prior to use. Failure to do so is the sole responsibility of the "Purchaser," who agrees to indemnify NOCO for any unintended use or misuse by a minor. **Choking Hazard.** Accessories may present a choking hazard to children. Do not leave children unattended with product or any accessory. The product is not a toy. **Handling.** Handle product with care. The product can become damaged if impacted. Do not use a damaged product, including, but not limited to, cracks to the casing or damaged cables. Do not use product with a damaged power cord. Extended exposure to humidity and liquids may damage product. Store and operate product in dry locations. The charger is rated at the international IP68 standard, which is dust resistant and can be immersed in 1.5 meters of freshwater for up to 30 minutes. Do not allow charger to remain wet for extended periods of time. Do not disconnect the product by pulling on the cables. **Modifications.** Do not attempt to alter, modify or repair any part of the product. Disassembling product may cause injury, death or damage to property. If product becomes damaged, malfunctions or comes in contact with any liquid, discontinue use, and contact NOCO. Any modifications to the product will void your warranty. **Accessories.** This product is only approved for use with NOCO accessories. NOCO is not responsible for user safety or damage when using accessories not approved by NOCO. **Location.** Prevent battery acid from coming in contact with

the product. Do not operate the product in a closed-in area or an area with restricted ventilation. Do not set a battery on top of product. Position cable leads to avoid accidental damage by moving boat or vehicle parts (including hoods and doors), moving engine parts (including fan blades, belts, and pulleys), or what could become a hazard that may cause injury or death. **Operating Temperature.** This product is designed to work in ambient temperatures between -4° F and 122° F (-20° C and 50° C). Do not operate outside of temperature ranges. Do not charge a frozen battery. Discontinue use of product immediately if the battery becomes excessively warm. **Storage.** Do not use or store your product in areas with high concentrations of dust or airborne materials. Store your product on flat; secure surfaces so it's not prone to falling. Store your product in a dry location. The storage temperature is -30°C - 60°C (average temperature). Never exceed 80°C under any condition. **Compatibility.** The product is only compatible with 12-volt Lead-Acid, AGM, and 12-volt Lithium batteries.

Do not attempt to use product with any other type of battery. Charging other battery chemistries may result in injury, death or property damage. Contact the battery manufacturer prior to attempting to charge the battery. **Medical Devices.** Do not charge pacemakers or other medical devices. Product may emit electromagnetic fields. Product contains magnetic components which may interfere with pacemakers, defibrillators, or other medical devices. These electromagnetic fields may interfere with pacemakers or other medical devices. Consult with your physician prior to use if you have any medical device including pacemakers. If you suspect the product is interfering with a medical device, stop using the product immediately and consult your physician. **Cleaning.** Power off the product before attempting any maintenance or cleaning. Clean and dry product immediately if it comes in contact with liquid or any type of contaminant. Use a soft, lint-free (microfiber) cloth. Avoid getting moisture in openings. **Explosive Atmospheres.** Obey all signs and instructions. Do not operate product in any area with a potentially explosive atmosphere, including fueling areas or areas which contain chemicals or particles such as grain, dust or metal powders. **High-Consequence Activities.** This product is not intended for use where the failure of the product could lead to injury, death or severe environmental damage. **Radio Frequency Interference.** Product is designed, tested, and manufactured to comply with regulations governing radio frequency emissions. Such emissions from the product can negatively affect the operation of other electronic equipment, causing them to malfunction. **Ignition Protection.** External connections to charger comply with the United States Coast Guard electrical regulations (33CFR183, SUB PART I). Non-igniting and temperature controlled for safe and worry-free operation. **Model Number:** GEN This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. **NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful

interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Warning

This content is compiled from multiple sources and is provided for reference purposes only. It may not be complete or fully applicable to all situations. If you are unable to resolve your issue, please contact the product manufacturer or an authorized service provider for official support.

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