

ODYSSEY[®] BATTERY

ODYSSEY[®] BATTERY

Powered by **EnerSys**[®]
Power/Full Solutions

Portable Charger Owner's Manual

Energy Saving
Digital Technology

2 YEAR
WARRANTY



Model	Part No.	Volts	Amps	Cables	Size	AC In
ODYSSEY [®] Battery 6 Amp Portable Charger	OBC-6A	12	6	6'	9.25" x 8.75" x 3.88"	120VAC +/-10%
ODYSSEY [®] Battery 12 Amp Portable Charger	OBC-12A	12	12	6'	9.25" x 11.25" x 3.88"	120VAC +/-10%
ODYSSEY [®] Battery 20 Amp Portable Charger	OBC-20A	12	20	6'	9.25" x 13.75" x 3.88"	120VAC +/-10%

IMPORTANT NOTICE

Please save and read all safety, precautions, warning and operating instructions for the charger and battery to be charged each time prior to using your ODYSSEY[®] Battery Portable Charger.

Need Assistance?

Do not return this product to a retailer or dealer for any service or warranty requirements. Please call us at 1-660-429-2165 from 8:30 am to 5:00 pm Central Time for any technical, warranty or return assistance.

*Specifically Designed for 12 Volt Flooded and AGM Lead Acid Batteries. **Not for Gel cell (Gelled Electrolyte Lead Acid) or Lithium Batteries.***

www.odysseybattery.com

EnerSys Energy Products Inc.

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Warrensburg, MO 64093
1-660-429-2165
www.odysseybattery.com

Made in China

Certifications:

Conforms to UL STD. 1236
Certified to CSA STD. C22.2 No. 107.2
FCC Class A Part 15
CEC Listed



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Subject to revisions without prior notice. E.&O.E.

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BATTERY CHARGER MEETS FCC CLASS A PART 15

Your battery charger has been designed and tested to comply with FCC Class A Part 15. These regulations are to provide adequate protection against harmful interference while operated in a commercial application. If in a residential setting, you are encountering interference with TV and radio reception, simply remove AC power from the ODYSSEY® battery charger unit to confirm if your battery charger is causing interference. End user can explore the following to minimize interference.

- 1) Chose a different AC circuit to power your Portable Battery Charger.
- 2) Make sure your outlet is properly grounded.
- 3) Re-position receiving antenna.
- 4) Purchase a separate AC line filter.
- 5) Relocate charger so that it is at the furthest point from home receiving equipment,TV, radio, etc.



Important Charger Operation Note:

Please note the ODYSSEY® Battery Portable Charger Series has a built-in self-test feature that will look at the battery connections, polarity and battery to determine if the battery is capable of being charged correctly.

The Self-Test is automatic and will take place every time the unit is plugged into a 110VAC outlet. The Self-Test may take up to two minutes to complete.

During the Self-Test, the blue Self-Test indicator will be illuminated. If the battery fails the Self-Test, the charger does not go into the charge mode (red charge mode LED). A red fault light is illuminated. This will indicate the battery has a problem; poor connection, a blown DC cable fuse (6 amp ring terminal cable only), the DC cable is wired backwards or the battery is under 2.5 volts. In any of these cases, refer to the troubleshooting section on page 21 of this manual.

After the Self-Test has been successfully completed, the charger will register and illuminate the green "System Check OK" indicator followed by a solid red charge mode LED light indicating the battery is being charged.

Please Record Your:

Model Number	Serial Number	Date of Purchase
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Thank you for your recent purchase of Energysys' newest line of portable chargers. Our ruggedized weatherproof portable battery chargers incorporate all-digital microprocessor control with AC power on self testing, including "System Check OK" and "Battery Fault Trouble" LED indicators. Our new series also includes a battery charge monitor to show relative charge status and an energy saving mode that activates after fully charging and conditioning batteries. This charger will monitor and Auto Maintain batteries only when needed to maintain a full state of charge, resulting in maximum reserve power performance and lower AC power consumption and operating costs.

Designed for 12 Volt Flooded and AGM Lead Acid Batteries

ODYSSEY® Battery Next Generation Portable Charger features:

All Digital Technology Microprocessor and software controlled pulse charging technology delivering a lightweight design, cooler charger operation and faster charging.

LED Battery Charge Monitor Innovative LED Battery Charge Monitor to provide relative charge level status at a glance during operation.

System OK and Battery Fault Trouble Status Indicator Advanced technology eliminates time consuming troubleshooting by clearly indicating system and battery connections are OK or if a fault is present prior to charging a battery.

Six Stage Digital Performance Charging Fully charge and extend the life of your batteries.

- Stage 1: Unit Self Test
- Stage 2: Analyzing
- Stage 3: Charging
- Stage 4: Conditioning
- Stage 5: Auto Maintain (Energy Saver Mode)
- Stage 6: Storage Recondition Mode

Digital LED Display Bright LED indicators for all six stages in addition to AC Power On indication.

Integrated Cable Wrap Body Design Minimize storage space. When not using your portable charger simply wrap the cables around the body of the charger.

Ruggedized Weatherproof Design Our chargers are design with a rugged extruded aluminum housing and constructed to take on harsh weather conditions.

Built-in Quality and Safety Spark free connections, built-in over-voltage, overload, over-temperature and reverse polarity protection.

DC Cable Quick Connector Ring Terminal Cable and Clamps (6 amp model only). Great for vehicle storage during non use periods.

2-Year Limited Warranty See pages 23 and 24.

SAVE THESE INSTRUCTIONS

This manual contains important safety and operating instructions for the ODYSSEY® Battery Portable Charger.

WARNING

To reduce the risk of injury to user or property, the user must read and understand the instruction manual and all warnings on the charger and battery before use.

WARNING

RISK OF EXPLOSIVE GAS MIXTURE. Read instructions in manual before using charger.

1. Connect and disconnect battery leads only when supply cord is disconnected.
2. For a battery installed in a vehicle, first connect the POSITIVE (RED) Clip of the battery charger to the POSITIVE (POS,P,+) ungrounded post of the battery. Connect NEGATIVE (BLACK) clip 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 gage metal part of the frame or engine block.
3. Do not overcharge battery - See Instruction Manual.
4. Do not smoke, strike a match or cause a spark in vicinity of battery.
5. Use in well-ventilated area.
6. Refer to Instruction Manual for further details.

WARNING

This equipment employs parts, such as switches and relays, that tend to produce arcs or sparks and therefore, if used in a garage, locate in a room or enclosure provided for the purpose or not less than 18 inches above the floor.

CAUTION

Risk of Electric Shock. Connect only to properly grounded outlets.

Do not expose to rain or snow.

If cords or wires/cables become damaged return complete unit to EnerSys® Energy Products Inc for service/repair immediately before further use.

CAUTION

1. WARNING - RISK OF EXPLOSIVE GASES.
 - a. WORKING IN THE VICINITY OF A LEAD ACID BATTERY IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON, IT IS OF UTMOST IMPORTANCE THAT YOU FOLLOW THE INSTRUCTIONS EACH TIME YOU USE THE CHARGER.
 - b. To reduce risk of battery explosion, follow these instructions and those marked on the battery. Review cautionary marking on these products and on engine.
2. Use charger for charging a LEAD ACID battery only. It is not intended to supply power to an extra-low-voltage electrical system or to charge dry-cell batteries. Charging dry-cell batteries may burst and cause injury to persons and property.
3. NEVER smoke, strike a match or cause a spark or flame in vicinity of battery or engine.
4. NEVER charge a frozen, damaged or leaking battery.
5. If it is necessary to remove battery from vehicle to charge it, always remove grounded terminal from battery first. Make sure all accessories in the vehicle are off in order to prevent an arc.
6. Study all battery manufacturer's specific precautions such as removing or not removing cell caps while charging and recommended rates of charge.

7. Do not use the battery charger unless the battery recommended charge voltage matches the output voltage rating of the charger.
8. Use of an attachment not recommended or sold by EnerSys® Energy Products Inc may result in a risk of fire, electric shock or injury to persons.
9. To reduce risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.
10. Extension cords should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used make sure:
 - a. Use only a properly wired extension cord in good electrical condition.
 - b. Use an industrial grade / heavy duty UL or CSA approved extension cord. Check extension cord before use for damage, bent prongs, and cuts. Replace if damaged. Always make your extension cord connection on the charger side first. After connecting the extension cord to the charger proceed to plug the extension cord into a nearby 120 VAC GFCI protected (Ground Fault Circuit Interrupt) outlet. Below are manufacturer recommendations for the right size UL or CSA Approved grounded extension cord.
 - i. Up to 50 feet in length use a 18 AWG extension cord.
 - ii. 50 to 100 feet in length use a 16 AWG extension cord.
 - iii. 100 to 150 feet in length use a 14 AWG extension cord.
11. Do not operate charger if any protective AC and DC cable insulation, charging clamps, DC fuse holders and/or maintainer ring terminals have been damaged or compromised. Return the charger for service and repair to EnerSys® Energy Products Inc immediately.
12. Do not operate the charger if it has received a sharp blow, direct hit of force, been dropped or otherwise damaged in any way. Return the charger for service and repair to EnerSys® Energy Products Inc immediately.
13. Do not disassemble charger. Incorrect reassembly may result in a risk of electric shock or fire. If service or repair is required please call EnerSys® Energy Products Inc at 1-660-429-2165 between 8:30 am - 5:00 pm Central Standard Time. Unauthorized attempts to service, repair or modify may result in a risk of electrical shock, fire or explosion and will void warranty.
14. To reduce risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce risk.
15. Do not expose charger to rain or snow.

16. GROUNDING AND AC POWER CORD CONNECTION INSTRUCTIONS

- a. Charger should be grounded to reduce risk of electric shock. Charger is equipped with an electric cord having in equipment-grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

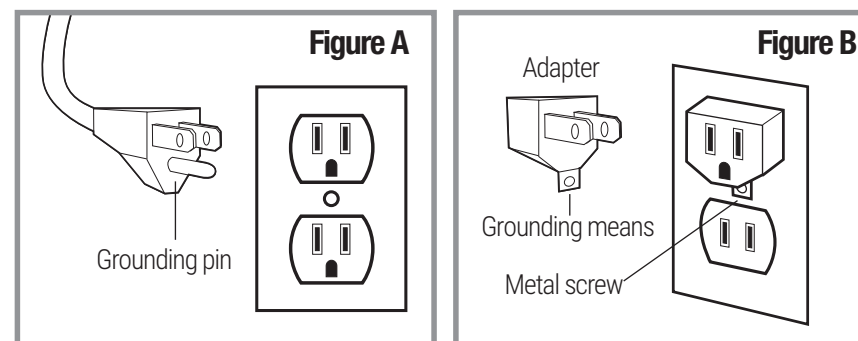
DANGER

Never alter AC cord or plug provided - If it will not fit outlet, have proper outlet installed by a qualified electrician. Improper connection can result in a risk of an electric shock.

- b. This battery charger is for use on a nominal 120-volt circuit, and has a grounding plug that looks like the plug illustrated in Figure A. A temporary adapter, which looks like the adapter illustrated in Figure B may be used to connect this plug to a two-pole receptacle as shown in Figure B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician.

DANGER

Before using adapter as illustrated, be certain that center screw of outlet plate is grounded. The green-colored rigid ear or leg extending from adapter must be connected to a properly grounded outlet - make certain it is grounded. If necessary, replace original outlet cover plate screw with a longer screw that will secure adapter ear or lug to outlet cover plate and make ground connection to grounded outlet.



Use of an adapter is not allowed in Canada. If a grounding type receptacle is not available, do not use this appliance until the proper outlet is installed by a qualified electrician.

17. PERSONAL PRECAUTIONS

CAUTION

- a. Consider having someone close enough or within the range of your voice to come to your aid when you work near a lead acid battery.
- b. Have plenty of soap, water and baking soda nearby in case battery acid comes in contact with skin, clothes or eyes.
- c. Wear complete eye protection, hand and clothing protection. Avoid touching eyes while working near a battery.
- d. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood eye with running cold water for at least 15 minutes and get medical attention immediately.
- e. NEVER smoke, strike a match or cause a spark or flame in vicinity of battery or engine.
- f. Be extra cautious to reduce risk of dropping a metal tool onto the battery. It might spark or short-circuit a battery or other electrical hardware which may cause an explosion or fire.
- g. Remove all personal metal items such as rings, bracelets, necklaces, watches and jewelry when working near a battery. A battery can produce a short circuit current high enough to weld a ring or any other metal, causing serious burns.
- h. Use charger for charging a LEAD ACID battery only. It is not intended to supply power to a low voltage electrical system other than in a start-motor application. Do not use battery charger for charging dry-cell batteries that are commonly used with home appliances. These batteries may burst and cause injury to persons and damage to property.
- i. NEVER charge a frozen, damaged or leaking battery.
- j. Keep other persons, children and pets away from batteries and your charger during operation to avoid serious injury, death, fire or explosion.
- k. Do not place the charger in the engine compartment or near moving parts. Place away from the battery using the length of the DC cables.
- l. Consult vehicle owner's manual.

18. PREPARING TO CHARGE A BATTERY

CAUTION

- a. When it is necessary to remove a battery from a vehicle to charge, make sure the engine is off and all accessories in-vehicle are off, as to not cause an arc. Always remove the grounded negative terminal from the battery first.
- b. Study all battery manufacturers' specific precautions; warnings and instructions while charging and recommended rates of charge. Never charge a battery with missing safety vent caps.
- c. Be sure the area around the charger and batteries is well ventilated while the battery is being charged.
 If the electrolyte is splashed into an eye, immediately force the eye open and flood it with clean cool water for at least 15 minutes. Get prompt medical attention.
 If electrolyte is taken internally, drink large quantities of water or milk. DO NOT induce vomiting. Get prompt medical attention.
 Neutralize with baking soda any electrolyte that spills on a vehicle or in the work area. After neutralizing, rinse contaminated area clean with water.
- d. Clean battery terminals. Be careful to keep corrosion from coming in contact with eyes.
- e. For flooded batteries with removable caps, ONLY ADD DISTILLED WATER in each cell until electrolyte reaches levels specified by the battery manufacturer. Do not over fill. For a maintenance free battery without removable caps, such as valve regulated lead acid batteries, carefully follow manufacturer's recharging instructions.
- f. Study all battery manufacturer's specific precautions while charging and recommended rates of charge.
- g. Determine voltage of battery by referring to car owner's and battery manufacture manual and labels and make sure that charger output voltage is a correct voltage range for the battery you are charging. Refer to Battery Types specified in this manual

19. CHARGER LOCATION

CAUTION

- a. Locate charger as far away from battery as DC cables permit.
- b. Never place a charger directly above a battery being charged; gases or fluids from battery will corrode and damage charger.
- c. Do not operate charger in an enclosed area or in an area with restricted ventilation in any way.
- d. Never allow battery acid to drip on charger when reading electrolyte specific gravity or filling a battery.
- e. Do not set a battery on top of charger.
- f. Do not install on or over combustible surfaces.

20. DC CONNECTION PRECAUTIONS

CAUTION

- a. Connect and disconnect DC output clips only after setting any charger switches to "off" position and removing AC cord from electric outlet. Never allow clips to touch each other.
- b. Attach charging clamps to battery and chassis described in section 21 and 22.

21. FOLLOW THESE STEPS WHEN BATTERY IS INSTALLED IN A VEHICLE. A SPARK NEAR BATTERY MAY CAUSE BATTERY EXPLOSION. TO REDUCE RISK OF A SPARK NEAR A BATTERY:

CAUTION

- a. Position AC and DC cords to reduce risk of damage by hood, door or moving engine parts.
- b. Stay clear of fan blades, belts, pulleys and other parts that can cause injury to persons.
- c. Check polarity of battery posts. POSITIVE (POS, P, +) battery post usually has a larger diameter than the NEGATIVE (NEG, N, -) post.
- d. Identify if you have a negative or positive grounded vehicle. This can be done by identifying which battery post NEGATIVE (NEG, N, -) OR POSITIVE (POS, P, +) is connected to the chassis.
- e. For a negative grounded vehicle: connect the RED POSITIVE (POS, P, +) cable clamp or ring terminal first to the positive post of the battery, then connect the BLACK NEGATIVE (NEG, N, -) cable clamp or ring terminal to the vehicle's chassis. Do not connect the black negative (NEG, N, -) cable clamp to metal fuel lines or anywhere in proximity of the carburetor or the battery itself. Connect to a heavy gauge metal part of the frame or engine block.
- f. For a positive grounded vehicle: connect the BLACK NEGATIVE (NEG, N, -) cable clamp or ring terminal first to the negative post of the battery, then connect the RED POSITIVE (POS, P, +) cable clamp or ring terminal to the vehicle's chassis. Do not connect the red positive (POS, P, +) cable clamp to metal fuel lines or anywhere in proximity of the carburetor or the battery itself. Connect to a heavy gauge metal part of the frame or engine block.
- g. Connect charger AC supply cord to a properly grounded fault protected electric outlet.
- h. When charging is completed always disconnect AC power, remove clip from vehicle chassis and then remove clip from battery terminal.

22. FOLLOW THESE STEPS WHEN BATTERY IS OUTSIDE VEHICLE. A SPARK NEAR BATTERY MAY CAUSE BATTERY EXPLOSION. TO REDUCE RISK OF A SPARK NEAR A BATTERY:

⚠ CAUTION

- a. Check polarity of battery posts. POSITIVE (POS, P, +) battery post usually has a larger diameter than the NEGATIVE (NEG, N, -) post.
- b. Attach at least a 60 cm 6-gauge (awg) insulated battery cable to a negative (NEG, N, -) battery post.
- c. Connect the RED POSITIVE (POS, P, +) cable clamp or ring terminal to the POSITIVE (POS, P, +) post of battery.
- d. Position yourself and free end of cable as far away from the battery as possible - then connect the BLACK NEGATIVE (NEG, N, -) charger cable clamp or ring terminal to the free end of cable.
- e. Do not face battery directly when making final connection.
- f. Connect charger AC supply cord to a properly grounded fault protected electric outlet.
- g. When disconnecting charger, always do so in reverse sequence of connecting procedure and break first connection while standing as far away from the battery as practical.
- h. A marine (boat) battery must be removed and charged on shore. To charge it on board requires equipment specially designed for marine use.

The ODYSSEY® Battery Portable Charger Series is our newest line of digital fully automatic 12 volt portable battery chargers, designed to fully charge and enhance the performance and extend the life of ODYSSEY® and other quality brands of 12 volt flooded and AGM (Absorbed Glass Mat) lead acid batteries.

Whether a professional shop user or the enthusiast doing a charger-to-battery match up, our professional grade design delivers performance and quality. Our all digital power charging platform is packaged in our most ruggedized and weatherproof housing for use in all conditions. Designed to last, our Portable Chargers are fanless insuring a longer lifetime of use without the need to replace failing or failed fans as seen in other competitive products.

Featuring an intuitive LED user interface display, the ODYSSEY® Battery Portable Charger sports a battery charge monitor providing an at a glance indication of charge level. In addition, each model includes power-on self testing to confirm connections are correct and that the battery can accept a charge, and that it is not below 2.5 volts.

In the event of a bad connection or a battery that is not able to accept a charge and may be under 2.5 volts, a red LED fault indicator will turn on and the "System Check OK" will not illuminate. Equally a successful self test will result in a positive "System Check OK" LED illuminating followed by the charge mode operation.






The ODYSSEY® Battery Portable Charger Series is fully automatic. Once connected per the instructions of this manual, charge times can vary between six to twelve hours or even slightly more based on:

1. size of battery
2. depth of discharge
3. age of battery

Once the battery is fully charged, the charger may remain connected and on indefinitely as it will automatically maintain and recondition the battery once a month.

To help with selecting a charger, the quick application guide below provides an at-a-glance means to select a charger for a range of batteries.

ODYSSEY® Battery Portable 12 Volt Charger to ODYSSEY® Battery Quick Application Guide

ODYSSEY® Battery Portable Charger Model	Amp Rating	Designed for Charging:	ODYSSEY® Battery Match Up Guide	ODYSSEY® Battery Amp Hour Rating
 OBC-6A	6 Amp output	AGM AGM Type Batteries 8 amp/hrs TO 16 amp/hrs	PC310	8
		Flooded Flooded Type Batteries 100 CCA through 220 CCA	PC370 PC535 PC545 PC625 PC680	15 14 13 18 16
 OBC-12A	12 Amp output	AGM AGM Type Batteries 8 amp/hrs TO 28 amp/hrs	PC310	8
		Flooded Flooded Type Batteries 220 CCA through 330 CCA	PC370 PC535 PC545 PC625 PC680 PC925	15 14 13 18 16 28
 OBC-20A	20 Amp output	AGM AGM Type Batteries 8 amp/hrs TO 55* amp/hrs <small>*For non cycling applications batteries up to 100 Amp/hrs may be charged</small>	PC310 PC370 PC535 PC545 PC625 PC680 PC925 PC950 PC1100 PC1200 75-PC1230 75/86-PC1230	8 15 14 13 18 16 28 34 45 42 55 55
		Flooded Flooded Type Batteries 330 CCA through 950 CCA	*25-PC1400 *35-PC1400 *34-PC1500 *34R-PC1500 *34M-PC1500 *34/78-PC1500 *PC1700 *65-PC1750 *PC1220 *PC1350	65 65 68 68 68 68 68 74 70 95

For batteries other than ODYSSEY®, refer to the manufacturer for the amperage recommended to charge the battery.



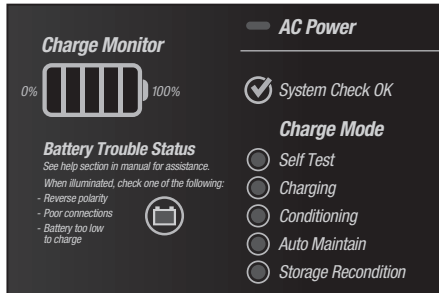
Standard Product Features 6 Amp OBC-6A, 12 Amp OBC-12A and 20 Amp OBC-20A

Feature	Description
1. Battery Gauge Charge Monitor	Monitors and displays charging progress over time.
2. System Check OK	Positive confirmation charger is connected properly and battery is above 2.5 VDC and can accept a charge.
3. LED Charge Mode Dashboard	Each of the five charge modes is sequentially identified as each mode is completed.
4. Rugged and Sealed Extruded Aluminum Body	Durable ruggedized and weatherproof construction.
5. DC Charging Clamp with Grip and Integrated Storage	DC Clamps include ergonomic handles and can be clamped to the charger's integrated clamp bars during non use periods.
6. Integrated AC and DC Cable Wrap Storage	Wrap DC and AC cables as shown with directional arrows for periods of non use storage.

6 Amp Model Only 6 Amp OBC-6A, includes all 6 features above plus ...

Feature	Description
A. Charger DC output Cable with Quick Disconnect Bullet Connectors	Quickly change between portable clamps and in-vehicle ring terminal maintainer cable assembly.
B. In-Vehicle Ring Terminal Maintainer Cable Assembly	Cable can be left attached in-vehicle, ATV, motorcycle, etc. for charging and maintaining recommended battery sizes.

ODYSSEY® Battery Portable Charger LED Status Center - Operation and Display



The ODYSSEY® Portable Charger includes seven LEDs for operation status and one battery bank trouble LED depending.

1. Blue AC Power LED

Illuminates when AC power is present

2. Green System Check OK LED

After connecting the charger according to the instruction manual followed by applying AC power to the charger, the charger will self test all battery connections and the battery to make sure it is above 2.5 VDC and can accept a charge.

If all tests pass, the “System Check OK” indicator will illuminate green, providing positive confirmation followed by the charging process. This may take up to two minutes.

3. Charge Mode LEDs - Each LED will sequentially illuminate after the previous mode is completed.

- Self Test: Blue LED illuminates confirming self test is in process of testing connections, polarity and that the battery connected is over 2.5 VDC and is able to accept a charge.
- Charging: Red LED will be solid red during charging.
- Conditioning: Amber LED illuminates during conditioning mode.
- Auto Maintain: (Energy Saver Mode) Green LED illuminates when batteries are fully charged and being monitored to automatically maintain your fully charged battery until you are ready to use it.
- Storage Recondition: While the Auto Maintain LED remains on. This Green LED fades in and out when performing a once a month storage recondition mode to your battery.

4. Battery Trouble Status

Red LED will illuminate indicating a wiring problem or fault with battery connected to the portable charger. See page 21 for further details.

Multi-Stage Charging Overview

Stage 1 - Unit Self Test: During this stage the ODYSSEY® Battery Portable Charger is checking the connections, polarity and that the battery is good and will then proceed to Stage 2 analyzing.

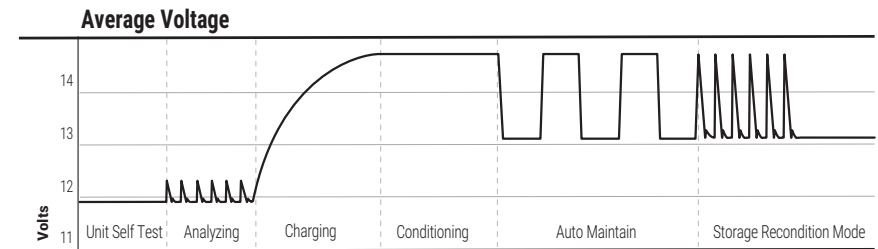
Stage 2 - Analyzing: The charger is checking to make sure the battery is capable of being charged. Upon successful completion of both stage 1 and 2, the “System Check OK” indicator will illuminate green followed by Stage 3 Charging.

Stage 3 - Charging: During this mode the “Charging” indicator will be red. The charger will use all of its available charging amps (as controlled by temperature) until the battery voltage is raised to 14.7VDC.

Stage 4 - Conditioning: During this mode the “Conditioning” status indicator will be amber. Batteries will be held at 14.7 VDC for several hours to condition batteries and fully charge a battery. Upon completion the charger will go into its Auto Maintain (Energy Saver Mode).

Stage 5 - Auto Maintain (Energy Saver Mode): During this mode the blue “Power” and green “Auto Maintain” LEDs will be on indicating Stage 3 Charging and Stage 4 Conditioning are completed. At this time the charger will initiate its Auto Maintain (Energy Saver Mode) which will monitor and Auto Maintain batteries only when needed to maintain a full state of charge.

Stage 6 - Storage Recondition Mode: During this mode the “Storage Recondition Mode” green indicator will illuminate with a slow fade in and out pulse. This indicates that while your batteries are in storage the charger will automatically recondition the battery for up to 3 hours once a month extending battery life and maximizing the battery power performance.



Charging a 12V Flooded or AGM (Absorbed Glass Mat) Lead Acid Battery.

Observe the instructions and safety information of the vehicle to find out how the vehicle battery should be charged. Modern vehicles are equipped with sensitive electronic parts and controls that can be damaged if you do not proceed properly.

- a) First make sure your battery is a 12 volt flooded or AGM (Absorbed Glass Mat) lead acid battery. Do not charge batteries with different operating voltages or chemistries.
- b) Determine the chemistry of your battery. This should be on the battery or contact the battery manufacturer. This charger is for flooded and AGM lead acid batteries.
- c) If the battery is installed in a vehicle, turn off the ignition and any other loads.
- d) When the battery cables are connected per the instructions in this manual, and the charger is plugged in to AC power (115 V 60 Hz AC), the battery monitor and the AC power LEDs will illuminate.
- e) If the Battery Trouble Status LED is illuminated, unplug AC connection of the charger from the electric outlet, check to make sure the connections are secure and the polarity of the cables to the battery is correct. Plug the charger back into the electric outlet. If the Battery Trouble Status LED continues to illuminate there is a problem with the battery.
- f) There will be up to a two minute check process to make sure connections and the battery are correct, then the charger will start the charge. When the charge cycle starts, the Charge Monitor LEDs will illuminate letting you know the battery charge level.
- g) When all five charge monitor LEDs are illuminated the charge is complete and the charger can be disconnected first from the AC power then the DC connection removed by first removing the negative clamp or connection followed by the positive clamp or connection.
- h) See typical set up illustrations for in-vehicle and out-of-vehicle set up and use.

Typical Setup - Charging In-Vehicle - Negative Chassis Ground

WARNING - Read and Follow all INSTRUCTIONS. FAILURE TO FOLLOW INSTRUCTIONS MAY CAUSE SERIOUS INJURY, DAMAGE OR EXPLOSION, ALWAYS WEAR SAFETY GLASSES.

Read and follow all General and Personal Safety Precautions in this manual and those by the battery manufacturer.

Read and follow all the preparing to charge steps for in a vehicle battery charging.

Below please find the typical steps for in a vehicle charging NEGATIVE (NEG, N, -) chassis ground vehicles.

- a. Connect the red POSITIVE (POS, P, +) cable clamp to the POSITIVE (POS, P, +) post.
- b. Connect the BLACK NEGATIVE (NEG, N, -) cable clamp to the vehicle's chassis. Do not connect the black negative (NEG, N, -) cable clamp to metal fuel lines or anywhere in proximity of the carburetor or the battery itself.
- c. Plug the charger into a properly grounded fault protected outlet.



Typical Set up - Charging Out-of-Vehicle

WARNING - Read and Follow all INSTRUCTIONS. FAILURE TO FOLLOW INSTRUCTIONS MAY CAUSE SERIOUS INJURY, DAMAGE OR EXPLOSION, ALWAYS WEAR SAFETY GLASSES.

Read and follow all General and Personal Safety Precautions in this manual and those by the battery manufacturer.

Read and follow all the preparing-to-charge steps for out-of-vehicle battery charging.

For charging or maintaining a battery that is out of a vehicle, please find below a general illustration for connecting your charger. General illustration is for an out-of-vehicle set up.

- a. Attach a 60 cm 6-gauge (awg) insulated battery cable to the NEGATIVE (NEG, N, -) battery post.
- b. Connect the red POSITIVE (POS, P, +) cable clamp to the POSITIVE (POS, P, +) post.
- c. Connect the black NEGATIVE (NEG, N, -) Lead Cable cable clamp to the 60 cm 6-gauge cable coming from the NEGATIVE (NEG, N, -) battery post on the end which is 60 cm away from the battery.
- d. Plug the charger into a properly grounded fault protected outlet.



Typical Set up - 6 AMP MODEL ONLY Ring Terminal Charge and Maintain Cable

WARNING - Read and Follow all INSTRUCTIONS. FAILURE TO FOLLOW INSTRUCTIONS MAY CAUSE SERIOUS INJURY, DAMAGE OR EXPLOSION, ALWAYS WEAR SAFETY GLASSES.

Read and follow all General and Personal Safety Precautions in this manual and those by the battery manufacturer.

Read and follow all the preparing-to-charge steps for in or out-of-vehicle battery charging.

The ODYSSEY® Battery 6 Amp Portable Charger Model OBC- 6A is equipped with a quick disconnect DC output cable to allow for quick and easy connection to its ring terminal cable assembly ideal for keeping smaller batteries charged and maintained or for maintaining larger charged batteries.

Please find below a general illustration for using the supplied ring terminal cable assembly on the 6 amp Portable Charger model only. General illustration is for an out-of-vehicle set up.

- i. Connect the red POSITIVE (POS, P, +) ring terminal to the POSITIVE (POS, P, +) post on the battery followed by making the quick connection to the red POSITIVE (POS, P, +) bullet connector lead on the 6 Amp Portable Charger.
- ii. Connect the black NEGATIVE (NEG, N, -) ring terminal to the NEGATIVE (NEG, N, -) post on the battery followed by making the quick connection to the black NEGATIVE (NEG, N, -) bullet connector lead on the 6 Amp Portable Charger.
- iii. Plug the charger into a properly grounded fault protected outlet.



Applying AC Power to the ODYSSEY® Battery Portable Charger

During the AC power on startup the blue Self Test mode LED will illuminate. When complete and if there are no faults, the charger's "System Check OK" indicator will illuminate green and the charger's solid red charging LED will be ON indicating the charge process is initiated.

Note: If there is a connection, polarity, or battery that is below 2.5 VDC that can not accept a charge the RED Fault LED will illuminate and the charge process will not start. See page 21 for further troubleshooting details.

If there are no battery faults, the green "System Check" OK LED will illuminate and the following sequences will proceed:

The red charge mode LED will illuminate indicating the charger has started its multi-stage charging process as outlined in the Multi-Stage Charging overview section of this manual.

When the charge process is approximately 80% complete, the red charge mode indicator will turn off and the amber conditioning LED will turn on indicating the conditioning mode.

When the multi-stage charge process is completed you will observe the following: The red charging LED and the amber conditioning LED will be off and the green Auto Maintain (Energy Saver Mode) LED will illuminate indicating your batteries are fully charged. In this mode the charger will only come back on to maintain a full charge when or if the batteries require it because the charger senses a drop in voltage.

The only LEDs on after the multi-stage charge process is completed are the green "System Check OK" LED, blue AC power LED and the green Auto Maintain (Energy Saver Mode) LED and the battery charge monitor showing the battery is full.

Battery Charge Monitor Overview

The Charge Monitor has five green LEDs and one red LED. All five green LEDs will illuminate when the charger is initially connected as part of the self test. This feature is to provide a rough indication of the charging process so at a glance you can see what charge level the battery is at and what remains to complete the charge process 100%.

- First RED LED will light up when battery charge level is at 0-10%
- First GREEN LED will light up when battery charge level is at 10-30%
- Two GREEN LEDs will light up when battery charge level is at 30-50%
- Three GREEN LEDs will light up when battery charge level is at 50-70%
- Four GREEN LEDs will light up when battery charge level is at 70-90%
- Five GREEN LEDs will light up when battery charge level is at 100%

Special Operating Note:

The ODYSSEY® Battery Portable Charger Series includes over temperature protection. If the operating temperature is out of range, the charger will slow down the charge rate automatically to maintain its operating temperature. If the temperature is too high the "System Check OK" LED will flash indicating the charger will stop charging and resume automatically when the temperature drops to its normal operating range.

2 Step Integrated Cord Storage

The ODYSSEY® Battery Portable Charger is designed with a built-in cord storage. There are arrows on the charger ends that direct how the cords are wrapped.

Step 1: The black DC lead should be wrapped first and the alligator clip attached to the post on the charger end.

Step 2: The red DC lead and AC cord should be wrapped next following the direction of the arrow. Attach the alligator clip on the red DC lead to the post on the charger end. The AC cord will end just past the top handle and the hook and loop strap should be used to secure the cord.



Product Care and Maintenance

Item:	DC Output Wiring
Process:	Visually inspect all wiring for cuts and abrasions. Contact EnerSys® Energy Products Inc if your charger needs to be serviced.
When:	Monthly
Item:	AC Power Cord and Mounting Hardware Inspection
Process:	Visually inspect the AC power cord. Confirm ground blade is present and all plug blades are in good condition and not bent out of place.
When:	Monthly

No Blue AC Power LED or Charge Mode Indicator or Battery Charge Monitor

Check for loss of AC power at the 120 VAC outlet. Confirm GFCI (Ground Fault Circuit Interrupter) has not tripped. Check with a meter or 120 VAC test light that AC power is present at the end or the extension cord. Reset AC power if it was not present. Confirm all charger cables are installed with the correct polarity connections at the battery and that all connections are clean and tight. Wait two minutes while unit performs a self test. If AC power is present and all connections are correct and LEDs do not illuminate, contact our customer service department at 1-660-429-2165 from 8:30 am to 5:00 pm Central Time.

Green “System Check OK” Indicator is OFF and a Red Trouble Status LED is ON.

Remove AC power and check the battery. Listed below are typical faults and what can be done to clear the red battery bank trouble status indicator (reapply AC power after making any corrections):

Poor battery connections - Make sure all connections are tight and clean

Reverse polarity - Make sure all wiring connections are color coded and connected properly where (+) = red (-) = black.

Battery too low to charge - With a digital voltmeter make sure the battery is over 2.5 volts DC (if not have it load tested by your local battery dealer to insure optimum performance.)

High battery voltage input - Check to make sure the battery is a 12V battery.

Battery Appears not to be Charging, Blue AC Power LED, RED Charging and Battery Charge Monitor LEDs are ON Longer than Expected.

Confirm all charger cables are installed with the correct polarity connections at the battery, and that all connections are clean and tight.

Check the Quick Application Guide to make sure the charger is not undersized for the battery you are charging.

With the charger on, using a digital volt meter, read DC voltage across the battery. If the DC voltage reading increases over time this will serve as a confirmation that the charger is connected correctly and the charger is properly working. In the event you may have a deeply discharged battery, it may require two charge cycles.

Note: If it appears the battery voltage is not increasing at all in a reasonable period of time (30 to 60 minutes). Please call our customer service department at 1-660-429-2165 from 8:30 am to 5:00 pm Central Time.

During non use periods wrap the DC and AC cables and store your ODYSSEY® Battery Portable Charger in a safe, clean dry space. Always inspect all cables before use. Should the AC power cord, plug or the DC cables be damaged in any way do not attempt to service and follow the return instructions in the warranty and customer service section of this manual.

General Product Specifications:

- AC Input: 100 to 120 VAC, 60Hz,
- DC Voltage Output: Up to 14.7 VDC Multi-Stage Digitally Controlled Charging with Internal Temperature Control
- DC Charging Amperage: 6, 12 or 20 Amps Model Specific
- Battery Types: 12 Volt Flooded and AGM (Absorbed Glass Mat) Lead Acid Batteries
- Cables: 6' AC and DC Cables

Part No.	Volts	Amps	Cables	Quick Connector		Size (H x W x D)	Weight	AC In
				Ring	Terminal Cable			
OBC-6A	12	6	6'	Yes		9.25" x 8.75" x 3.88"	4 lbs	120VAC +/-10%
OBC-12A	12	12	6'	Not Available		9.25" x 11.25" x 3.88"	5 lbs	120VAC +/-10%
OBC-20A	12	20	6'	Not Available		9.25" x 13.75" x 3.88"	6.5 lbs	120VAC +/-10%

This device complies with Class A 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.

Conforms to UL STD. 1236
 Certified to CSA STD. C22.2 No. 107.2
 FCC Class A Part 15
 CEC Listed





ODYSSEY® Battery Portable Charger Series General Product Limited Warranty

What is Covered By This Warranty?

EnerSys Energy Products Inc. ("Manufacturer") warrants its ODYSSEY® battery charger (hereafter referred to as "Charger") to be free of defects in material and workmanship for a period of two (2) years ("Applicable Warranty Period").

**REGISTER your ODYSSEY charger at: <http://www.odysseybattery.com/registration>
www.odysseybattery.com/registration within 30 days of product purchase**

This warranty may vary from country to country; contact your authorized ODYSSEY® Battery Portable Charger wholesaler or dealer for the applicable warranty.

When Does The Warranty Period Begin?

The Applicable Warranty Period begins from the date of first purchase with original receipt, or, if no receipt is available, from Manufacturer's shipping date as stated on the charger.

What Will EnerSys Do?

Chargers determined to meet the conditions of this warranty will be replaced free of charge if, at the sole discretion of Manufacturer, adjustment is necessary due to defect in material or workmanship. Chargers replaced under the warranty provisions will be shipped with a yellow replacement warranty sticker and carry only the remainder of the original Applicable Warranty Period.

What Is Not Covered By This Warranty?

- A. The warranty does not cover a Charger reaching its normal end of life which may occur prior to the warranty periods stated above. Depending on the application a Charger can reach its normal end of life before the end of the Applicable Warranty Period.
- B. This warranty does not cover used, pre-owned and/or Chargers purchased through unauthorized Internet channels (for example: auction sites and unauthorized mass e-commerce sellers/resellers).
- C. This warranty does not cover a Charger that is damaged or destroyed as a result of one or more of the following:
 - Willful abuse, misuse, physical damage or neglect.
 - Natural forces such as wind, lightning, hail; damage due to fire, collision, explosion, vandalism, theft, penetration or opening of the Charger case in any manner.
 - Repair or attempted repair of the Charger by anyone other than an authorized - Manufacturer's representative shall void this warranty.

How To Obtain Warranty Service:

To obtain warranty service:

- A. Retail, Dealer or Wholesaler purchases: return the Charger to the original supplying wholesaler or dealer with original purchase receipt. If not feasible, other ODYSSEY® distributors/dealers can be approached, but a warranty processing fee may be applied.
- B. Online Purchases: For new ODYSSEY® products purchased through an approved online reseller, contact the original online reseller for warranty service. You may be responsible for shipping, and all associated costs, back to that online reseller. Please check the online reseller's policy before your purchase.
- C. Odysseybattery.com Purchases: contact Manufacturer at 800-964-2837. You will need to provide the order number, original date of purchase, serial number and date stamp from top of the charger. At the sole discretion of Manufacturer, you may be required to return the Charger for further evaluation and may be subject additional handling and shipping costs.



If the Charger is determined by Manufacturer, in its sole discretion, to be defective for material or workmanship under terms of this limited warranty, it will be replaced.

Manufacturer's acceptance of any items shipped to Manufacturer shall not be deemed an admission that the items so shipped are defective. Any items shipped back to Manufacturer, shall in Manufacturer's sole discretion, become Manufacturer's property.

Warranty Limitations:

TO THE EXTENT PERMITTED BY LAW, THIS LIMITED WARRANTY IS IN LIEU OF, AND MANUFACTURER DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, STATUTORY, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN SO FAR AS SUCH WARRANTIES CANNOT BE LAWFULLY DISCLAIMED, MANUFACTURER LIMITS THE DURATION AND REMEDIES OF SUCH WARRANTIES TO THE DURATION AND REMEDIES OF THIS WARRANTY. MANUFACTURER'S EXCLUSIVE LIABILITY FOR BREACH OF WARRANTY SHALL BE TO REPLACE THE CHARGER WITHIN THE EFFECTIVE WARRANTY PERIOD. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR ANY LOSS OR DAMAGES OF ANY OTHER KIND, WHETHER DIRECT, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY, SPECIAL OR OTHERWISE. NOR SHALL MANUFACTURER BE LIABLE FOR ANY REMOVAL OR INSTALLATION EXPENSE, OR THE LOSS OF TIME OR PROFITS.

Some countries and/or states do not allow limitation on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, which may vary from country to country and/or state to state. This warranty shall be governed by and interpreted in accordance with the laws of the Commonwealth of Pennsylvania without regard to Pennsylvania conflicts of laws rules. The United Nations Convention on Contracts for the International Sale of Goods signed in Vienna in 1980 shall not apply to this warranty. This warranty is understood to be the exclusive agreement between the parties relating to the subject matter hereof. No employee or representative of Manufacturer is authorized to make any warranty in addition to those made in this agreement.

Manufacturer Contacts For The Following Regions Or Countries Of Purchase:

UNITED STATES:
EnerSys Energy Products Inc.
617 North Ridgeview Drive
Warrensburg, MO 64093-9301 USA
Tel: 1.660.429.2165
Fax: 1.660.429.1758

ALL OTHER COUNTRIES:
EnerSys (Global HQ)
2366 Bernville Road
Reading, PA 19605 USA
Tel: 1.610.208.1991
Toll Free: 1.800.538.3627
Fax: 1.610.372.8613