



O P E R A T I N G I N S T R U C T I O N S

OBAE, OBAEXU, ON BOARD Battery Chargers

INTRODUCTION:

The OBAE line of chargers are designed for the permanent installation on battery powered vehicles and equipment. They are an electronically controlled two stage charger. The first stage brings the batteries to the gassing threshold where a three hour timer starts. The batteries are then gassed for three hours. After three hours, the charger drops into a low float mode where the charge is maintained in the batteries indefinitely. Finish current is below 1 amp.

SOME APPLICATIONS:

Golf cars, pallet trucks, personnel carriers, scissor lifts, floor scrubbers, stand-by power applications, robotics.

IMPORTANT: DO NOT USE THIS CHARGER UNTIL YOU HAVE READ ALL THE INSTRUCTIONS.

INITIAL INSTALLATION:

Before making AC connections, refer to the AC requirements labeled on the charger. If your charger is not equipped with an AC plug (*a 220 volt model*) have a qualified electrician install one.

⚠ CAUTION: To reduce the risk of fire, use this charger only on circuits provided with a maximum of 20 ampere branch circuit protection (circuit breaker or fuse), In accordance with the National Electric Code, ANSI/NFPA 70, and all local codes and ordinances.

GROUNDING INSTRUCTIONS:

This battery charger must be grounded to reduce the risk of electric shock. If the charger is equipped with a grounding type plug, it must be plugged into a nominal 115 volt, 60 Hertz circuit. If the charger is supplied with no plug, have a qualified service person install one.

⚠ WARNING: Improper connection of the equipment grounding conductor can result in a risk of an electric shock. **DO NOT USE THIS CHARGER ON A TWO POLE UNGROUNDED OUTLET OR ATTEMPT TO BREAK OFF THE GROUND PRONG FOR USE ON A RECEPTACLE OR EXTENSION CORD NOT HAVING A GROUND.**

The use of an extension cord with this charger should be avoided. The use of an improper extension cord result in a risk of a fire or electric shock. If an extension cord must be used, make sure it is in good condition. Use a three conductor cord no smaller than 14 AWG. And keep it as short as possible. Locate all cords so that they will not be stepped on, tripped over, or otherwise subjected to damage or stress.

Do not operate this charger if it shows any signs of physical damage

PROPER CARE AND USE OF BATTERIES:

⚠ CAUTION: Always wear protective eye shields and clothing when working with batteries. Batteries contain acids which can cause bodily harm. Do not put wrenches or other metal objects across the battery terminal or battery top. Arcing or explosion of the battery can result. Do not wear jewelry when working around batteries. Arcing can cause severe burns.

New batteries will not deliver their full performance until after several cycles.

The tops of the batteries and battery hold downs must be kept clean and dry at all times to prevent excessive self discharge and flow of current between the battery post and frame.

Maintain the proper electrolyte level by adding water when necessary. Never allow the electrolyte level to fall below the top of the battery plates. Electrolyte levels fall during discharge and rise during charging. Therefore, to prevent the overflow of electrolyte when charging, add water **ONLY AFTER** the batteries have been fully charged **DO NOT OVERFILL**. Old batteries require more frequent additions of water than do new batteries.

Do not over discharge the batteries. Excessive discharge can cause polarity reversal of individual cells resulting in complete battery failure.

MOUNTING:

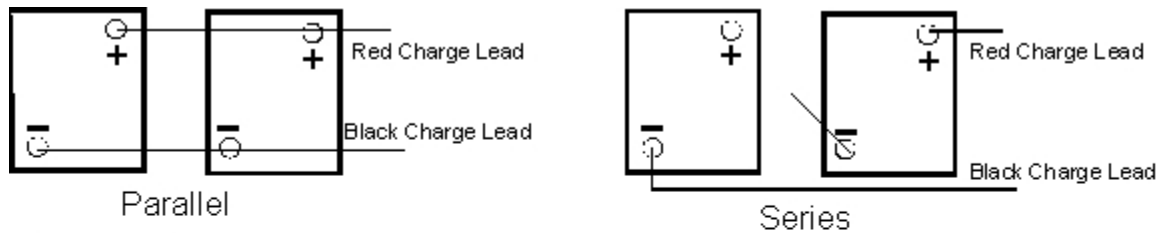
Consider the following information when selecting a place to mount the charger.

It is normal for the charger case to become hot when charging. Provide adequate ventilation for the batteries and charger, and consider inadvertent flesh contact. Do not obstruct the flow of cooling air around the charger. Do not install the charger in enclosed spaces without ventilation. Provide at least 6" of space around charger. Do not allow clothing, blankets or other material to cover the charger. While the charger resists moisture, do not expose it to long periods of rain, washing, or splashing, **it is not water proof**. The charger can be mounted in any position, there is no right side up. Mount it firmly in place.

⚠ WARNING: Chargers can ignite flammable materials and vapors. Do not use near fuels, grain, dust, solvents, or other flammable's.

⚠ CAUTION: Before connecting the charger to the batteries, make sure the battery pack is of the same voltage rating of the charger. If you are unsure, count the number of cells on the battery pack and multiply by two. This figure should be the same as the DC voltage rating of the charger. (*see ratings label on charger*).

Below is an illustration of Parallel and Series battery packs.



When batteries are connected in parallel, the battery amp hour rating is additive, and the voltage remains the same. Example: Two 180 amp hour, 12 volt batteries would equal 12 volts, and 360 amp hours capacity.

When batteries are connected in series, the voltage is additive, and the amp hour rating remains the same. Example: Two 180 amp hour, 12 volt batteries would equal 24 volts, and 180 amp hours of capacity.

▲ WARNING: Make sure the DC output leads, terminals or connector are all in good working condition.

DO NOT USE THIS CHARGER IF:

The DC output connector, (*if equipped*) is loose or does not make good contact; Is cracked or broken; The leads are cut or have exposed wires; The DC output leads or connector feel hot when used.

Using this charger with any of the above symptoms could result in a fire, property damage, or personal injury. Have a qualified service person make the necessary repairs. Repairs should not be made by people who are not qualified.

NORMAL OPERATION:

- 1.) When connecting charge leads directly to the battery, apply grease to the terminals to inhibit corrosion.
- 2.) Plug the charger into AC power having the same ratings as that of the charger.
- 3.) The LED on the charger will light, indicating charge current is flowing.
- 4.) The OBAE chargers are equipped with a electronic timer. At the battery gassing threshold, (2.3 volts per cell) the timer will activate and run for three hours. During this period, the batteries are in a gassing mode. (2.5 - 2.6 volts per cell max.) After three hours the charger will drop the batteries into a low float mode, indicated by a blinking LED. (2.26 volts per cell) Current in the float mode is less than 1 amp.

The charger may be left on indefinitely, but water level should be checked periodically on wet batteries.

- 5.) To discontinue charging, unplug the AC power cord. Plugging the AC power back in will cause the charger to repeat the cycle.

EQUALIZATION:

When using multiple batteries in series, cells become uneven during charge and discharge cycles. At least once a month perform two charge cycles back to back, this will bring up cells that are lagging behind full charged cells and is important to overall battery performance.

⚠ WARNING: Do not disconnect the DC output leads or unplug the connector from the batteries when the charger is on. The resulting arcing could cause the batteries to explode. If the charger must be stopped unplug the AC power.

⚠ WARNING: Failure to unplug AC power before moving or driving equipment will result in damage to cords, plugs and receptacles.

TROUBLE SHOOTING:

⚠ CAUTION: DO NOT DISASSEMBLE THE CHARGER. Incorrect assembly may result in a risk of electric shock or fire. Contact factory.

⚠ DANGER: To reduce the risk of electric shock, always disconnect both the AC power supply cord and the output leads or connector before attempting any maintenance cleaning.

1). LED DOES NOT COME ON WHEN POWER IS APPLIED

Be sure you are plugged into a live circuit. Check the AC cord for breaks in the cord or plug. Check the DC leads for breaks. Check the DC connections to the battery, clean if heavily corroded.

Place a volt meter across the battery terminals where the charger is connected. Apply AC power. If the voltage rises on the battery, the charger is working and the LED is defective. *NOTE:* LED's do not burn out, but it has probably received a sharp blow causing physical damage. No harm will come from operating the charger without a working LED.

2). LED NEVER BLINKS

This could be one of two problems. The batteries never reached timer trip voltage and the charger was unable to gas and fall into the float mode. This indicates several shorted cells. overheating and excessive water usage are symptoms of this condition. Performance will also be greatly diminished. Replace defective battery.

The charger did reach the float mode, but the battery has one or more shorted cells inhibiting the charger current to fall low enough to start the LED blinking. Replace defective battery.

3). AC LINE FUSE OR CIRCUIT BREAKER BLOWS

Either the circuit breaker or fuse is weak, or the charger is shorted internally.

4). NO POWER IS PRESENT ACROSS THE DC LEADS WHEN A VOLT METER IS CONNECTED

Good. The charger will not turn on until leads are connected, correct polarity to the battery.

5). **BATTERIES DON'T RECEIVE FULL CHARGE**

The battery you are charging may be too large for the charger, or if you have the charger plugged into a long extension cord that is too small, a voltage drop will cause a decrease in charger output, extending charge times.

QUICK CHARGE OBAE Battery Chargers "LIMITED WARRANTY"

Quick Charge corporation warrants the OBAE line of chargers for three (3) years from the date of purchase.

After the warranty period, chargers returned to the factory for repair will be charged a minimum rate of \$25.00. Charger will be returned, freight and repair charges, C.O.D. unless other arrangements have been made

This warranty covers all defects in manufacture and performance, provided the unit is operated in compliance with manufacturer's operating instructions.

For repairs to be made at the Quick Charge factory, a charger and/or component(s) should be sent, freight prepaid to Quick Charge at:

Quick Charge Corp.
1032 S.W. 22nd St.
Oklahoma City, OK. 73109

Quick Charge, will at its option, repair or replace the charger or component in question. The repaired item will then be returned, freight prepaid by Quick Charge. This warranty is void if the charger or component have been altered, changed, or repaired by anyone not authorized by Quick Charge, or if the charger or component, have been subjected to misuse, negligence, or harsh environmental conditions. (Except those chargers designed for such conditions)

If returning the charger to the factory is not practical, replacement parts may be shipped to the customer for field repair at no charge. On parts such as circuit boards, the customer will be required to return the board suspected to be defective to Quick Charge, freight prepaid. If such defective parts are not returned, the customer will be invoiced for the repair parts.

Field repairs are made at the user's own risk. "Authorization" by Quick Charge to repair refers to maintaining the warranty only. Quick Charge assumes no responsibility or liability for field servicing, and shall not be responsible for incurred travel or labor charges.

Quick Charge corporation shall not in any event be liable for the cost of any special, indirect or consequential damages to anyone, product or thing.

This warranty is in lieu of all other warranties expressed or implied. Quick Charge neither assumes nor authorizes an

representative or other person to assume for us any liability in connection with the sale of this product.