

**QUICK CHARGE
BATTERY MESSENGER
"LIMITED WARRANTY"**

Quick Charge corporation warrants the Battery Fuel Gauge (BFG) for Five (5) years from the date of purchase.

After the warranty period, units returned to the factory for repair will be charged a minimum rate of \$25.00 each. BFG 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 manufacture's operating instructions. For repairs to be made at the Quick Charge factory, a FM 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 it's option, repair or replace the BFG or component in question. The repaired item will then be returned, freight prepaid by Quick Charge. This warranty is void if the BFG or component have been altered, changed, or repaired by anyone not authorized by Quick Charge, or if the BFG or component, have been subjected to misuse, negligence, or harsh environmental conditions. 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 any representative or other person to assume for us any liability in connection with the sale of this product.

**LED BATTERY
FUEL GAUGE**



OPERATING INSTRUCTIONS

INTRODUCTION:

The Fuel Gauge is designed to monitor and display the state of charge on motive power (deep cycle) batteries.

SOME APPLICATIONS:

Golf cars, pallet trucks, forklifts, personnel carriers, scissor lifts, floor scrubbers, EV's, bass boats.

INSTALLATION:



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 sever burns.

Locate a place to mount the gauge. Mark the two mounting tab holes on the surface to be mounted. Use a 1/8" drill. Use a 3/8" drill bit to pass all the wires through so that the gauge mounts flush.. Be sure hole is bur free. Use sheet metal or appropriate screws to mount.

Attach red wire of meter to +battery . Black wire to - battery. Ideally, the wires need to go directly to the battery. If this is not possible, use leads from studs, terminals or any other contact points as close to the battery as possible. The meter must see battery voltage all the time, connect before switches, contactors or anything else.

The fuel gauge may be connected with the key switch so that it will illuminate only when switch is turned on. Connect the blue wire to a positive wire at the key switch so that when it is turned on, power is applied to the blue wire. **NOTE: If you do not want to use the key switch feature, you must connect the blue wire to the red wire.**

OPERATION:

When connected for the first time, the gauge will read static battery voltage. The bars will light in increments as the battery is charged or discharged giving you an accurate reading of your battery's capacity all the time. When the battery is being discharged you will notice a secondary ghost light bar operating in the background that will give you an indication of how much energy you are using. The last bar of the primary light bar will flash at 1.75 volts per cell. The battery should not be discharged beyond this point, and should be recharged as soon as is possible. Never charge a hot battery, let it cool down first. The last LED bar will also flash at a static voltage of 2 volts per cell.

It should be noted, that the gauge will not be accurate during long discharge cycles, and will require a 20-30 second rest before it can update itself. This is due to the inherit voltage sag and recovery associated with lead acid batteries.

It is important for the gauge to be connected to the battery at all times, connecting and disconnecting will interfere with the gauges ability to register accurately.

There is a certain amount of training for the operator to become intuitive with the gauges movements. Once understood, the gauge will be a valuable tool in maximizing your batteries life.

PROPER CARE AND USE OF BATTERIES:

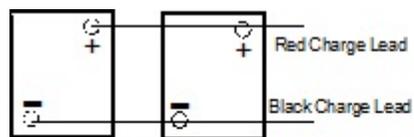
New batteries will not deliver their full performance until after several cycles. In general, batteries should be discharged between 50-80% before recharging.

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.

For wet batteries, 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.

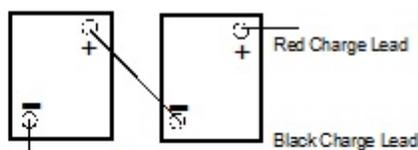
Do not over discharge your batteries. Excessive discharge can cause polarity reversal of individual cells resulting in complete battery failure.

See the battery manufactures instructions for more information.



Parallel

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.



Series

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.