



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

### QSET, QSETX INDUSTRIAL Battery Chargers

#### INTRODUCTION

A timed shut off charger designed for industrial batteries. These chargers bring the batteries to the gassing threshold where an electronic timer is activated, after three hours of gassing, the charger shuts off.

#### SOME APPLICATIONS

Forklifts, Industrial battery applications.

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

#### INITIAL INSTALLATION:

The charger is shipped with no AC plug (*a 230 volt model*) have a qualified electrician install one.

#### GROUNDING INSTRUCTIONS:

This battery charger must be grounded to reduce the risk of electric shock, it must be plugged into a nominal 230 volt, 60 Hertz circuit.

**⚠ 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. DO NOT USE AN EXTENSION CORD.**

**⚠ 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.

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.

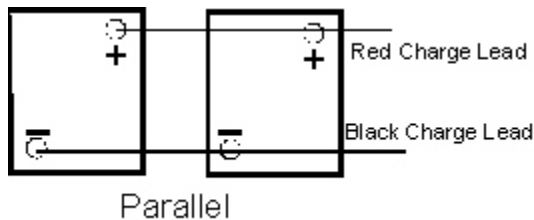
Do not over discharge the batteries. Excessive discharge can cause polarity reversal of individual cells resulting in complete battery failure.

Provide adequate ventilation for the batteries and charger. Do not obstruct the flow of cooling air around the charger. Provide at least 1" of space around charger. Do not allow clothing, blankets or other material to cover the charger.

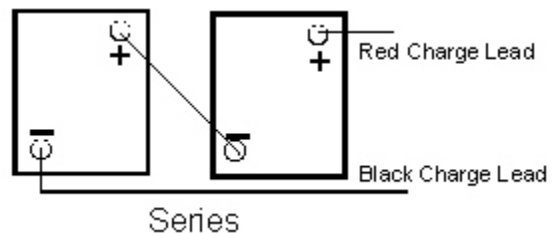
**⚠ WARNING:** Chargers can ignite flammable materials and vapors. Do not use near fuels, grain, dust, solvents, or other flammable's.

**⚠ 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, clamps, or connector are all in good working condition.

**DO NOT USE THIS CHARGER IF:**

The DC output clamps, or connector is loose, worn or does not make good contact; The leads are cut or have exposed wires; The DC output leads or connector/clamps 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). Plug charger into AC power.
- 2). Plug charger into battery pack. The **GREEN BATTERY** LED should light, indicating DC continuity. After a short delay, the charger will start indicated by the **RED AC POWER** LED, and a reading on the ammeter.
- 3). Initially, the ammeter will read the maximum output of the charger. As the batteries become charged, the ammeter will work it's way towards zero and the voltage will rise. When the battery voltage reaches the gassing threshold, (2.3 volts per cell) a three hour timer will activate, and allow voltage to reach a maximum of. (2.5 - 2.6 volts per cell, max) The charger will then shut off, indicated by the **YELLOW END CYCLE LED**, and the ammeter reading zero.
- 5). Unplug charger from batteries

**⚠ WARNING:** If the charge cycle must be interrupted, push the STOP button. Do not unplug charger from AC power, or batteries, the resulting arc could cause damage to contacts, cause burns and increase risk of explosion.

## 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.

## 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). **“BATTERY” LED DOES NOT COME ON WHEN BATTERY CONNECTION IS MADE**

Check lead connections to plug, make sure they are not broken, or corroded. The battery voltage may be too low to light the LED and start the charger. Make sure you have the charger plugged into the battery and not the drive motor. The internal fuse may be blown.

### 2). **“AC POWER” LED WILL NOT COME ON WHEN POWER COMES ON**

Check that you are plugged into a live circuit. Check AC cord, plug and receptacle for damage. These chargers are fused internally.

### 3). **FUSE ON CHARGER OR AC LINE BREAKER BLOWS**

The charger may be shorted internally. Charging a battery with a lower voltage rating than

the charger will cause an overload, and damage to battery and charger.

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

Good. The charger will not turn on until the clamps are connected 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.

**6). THE "AC POWER" & "BATTERY" LED'S COME ON, BUT THE AMMETER DOES NOT MOVE.**

The battery may be sulfated so much, internal resistance is too high for current to flow. Sometimes leaving the charger ON will eventually break loose the sulfate and allow the battery to accept the charge. If not, a battery specialist may be able to recover the battery.

**7). CHARGER WON'T SHUT OFF**

A battery with one, or more shorted cells may not allow the voltage to climb high enough to trip the timer. A battery in this condition should be replaced, since excessive gassing by the shorted cells will cause a hazardous condition, and performance will be greatly reduced.

**QUICK CHARGE QSET Battery Chargers  
"LIMITED WARRANTY"**

Quick Charge corporation warrants the QSET 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 manufacture'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 it's 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 any representative or other person to assume for us any liability in connection with the sale of this product.