Quick Charge
CORPORATION

OPERATING INSTRUCTIONS

SCPWX, SCPWXU Programmable Battery Chargers

INTRODUCTION:
Designed for Electric Vehicles, a programmable charger to charge all battery types. Wet deep cycle, starting, gel, and AGM. Auto selects 117 or 230 volt input.

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 230 volt model*) have a qualified electrician install one.

⚠ **CAUTION:** To reduce the risk of fire protect all circuits with (circuit breaker or fuse), in accordance with the National Electric Code, ANSI/NFPA 70, and all local codes and ordinances. This charger requires a minimum 20 ampere branch circuit for use on 230 volts and 117volts.

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 117 volt, or 230 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 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 sever burns.

New deep cycle 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.

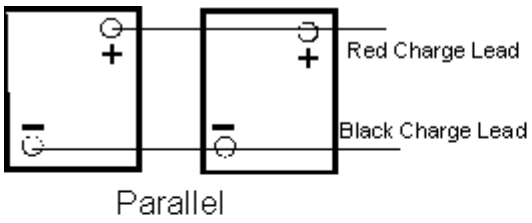
Do not over discharge the batteries. Excessive discharge can cause polarity reversal of individual cells resulting in complete battery failure.

Provide adequate ventilation for the batteries and charger. Do not obstruct the flow of cooling air around the charger. Provide at least 12" 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.

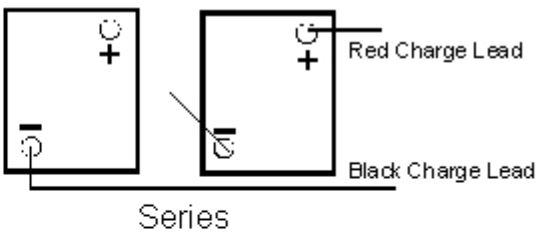
⚠ **CAUTION:** Before connecting the charger to the batteries, make sure the battery pack is of the same voltage rating of the charger. If you are unsure, count the number of cells on the battery pack and multiply by two. This figure should be the same as the DC voltage rating of the charger. (*see ratings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

Below is an illustration of Parallel and Series battery packs.



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.

⚠ **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). Be sure the ON/OFF switch is in the OFF position, then plug the charger into either 117 volts or, using the AC adapter cord, plug into 230 volts.

2). Connect the clamps to the battery, or plug connector into battery pack.

3). Move the ON/OFF switch to the ON position. For 5 seconds the LED will flash red, and the display will indicate the charge profile the charger is set to as shown below.

F1- Float mode, charges batteries to 2.3 volts per cell before dropping into a continuous low float mode of 2.26 volts per cell. **Ideal for starting or gel batteries.**

F2- Gas and shut off mode, charges batteries to 2.3 volts per cell where a timed gas cycle is initiated. The voltage is allowed to climb to a maximum of 2.55 volts per cell before shut off. If left connected to batteries, the charger will recycle if the voltage drops below 2.10 VPC. **Ideal for deep cycle wet batteries**. (*In this mode the type of gassing cycle, and the recycle time are programmable*)

F3- Gas and float mode, charges batteries to 2.3 volts per cell where a timed gas cycle is initiated. The voltage is allowed to climb to a maximum of 2.55 volts per cell before dropping into a low float mode of 2.26 volts per cell. **Ideal for wet deep cycle batteries** where a continuous maintenance charge is desirable. (*In this mode the type of gassing cycle is programmable*)

F4- Gas and float mode, charges batteries to 2.3 volts per cell where a timed gas cycle is initiated. The voltage is allowed to climb to a maximum of 2.40 volts per cell before dropping into a low float mode of 2.26 volts per cell. **Ideal for AGM batteries .** (*In this mode the type of gassing cycle is programmable*)

4). If the preset profile does not match your batteries see the reprogramming section.

5). After the charger starts, the fan will run and the LED will stay on steady red indicating the battery is below 80% charge and the display will indicate the percent of charge of the cycle. If plugged into 117 volts the charger will produce about 12 amps current, if plugged into 230 volts the charger will produce about 20 amps. **CAUTION:** Do not quicky change input voltages, allow about 30 seconds when changing from one to the other, damage to charger may occur. (*The battery voltage button may be pushed anytime the charger is on*.) As the percent of charge increases to 80% the LED will turn yellow and the charger will

enter a gassing cycle in all modes except F1. Around this time the fan may shut off also. At the end of the cycle the display will show "CC" charge complete, and the LED will show a flashing or steady green in F1,3, and 4. It will go out in F2. **NOTE:** The percent of charge reading will rise unevenly. In other words, the change may be rapid at first but may stall from minuets to hours at certain points during the cycle.

⚠ **WARNING:** Do not use the charger if the fan does not run on start up. Have a qualified person to investigate the reason why.

6). To discontinue charging, move switch to the OFF position. Remove clamps from battery or unplug connector.

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. NOTE: This need only be done when using **F2**, **F3**, and **F4** settings. Set Gassing cycle to **d0**

⚠ **WARNING:** Do not disconnect the DC output clamps or unplug connector from the batteries when the charger is on. The resulting arcing could cause the batteries to explode.

REPROGRAMMING THE CHARGER:

CHARGE PROFILE: With at least one DC lead disconnected from battery, plug into AC power. Push and hold the battery voltage button until the display starts to flash, let off, then press repeatedly until the desired profile is selected. **F1, F2, F3, F4. (**Descriptions under **"NORMAL OPERATION",** and on the face of the charger)**.** Let off button. Wait till display stops flashing and profile is held in memory. Unplug AC power and connect DC leads to battery. Plug in AC power, display shows the new profile before cycle starts.

GASSING / ABSORPTION CYCLE: Can be set to a **three hour fixed** cycle or **proportional** to the cycle itself. The proportioned cycle is based on the time it takes the batteries to reach 2.3 volts per cell known as the gassing threshold. For example, if it takes four hours to reach the threshold, the gassing cycle will be two hours or 50% of that time.

To reprogram, disconnect leads from battery, plug into AC power. Press the battery voltage button twice, the display shows **(d0)** which is **three hour fixed**, and the charger drops into the "CC" mode if the battery stays below 80% charged for more than 12 hours. **(d1)** is **proportional**, and the charger drops into the "CC" mode if the battery stays below 80% charged for more than 12 hours. **(d2)** is **proportional, and fixed three hour**, and the charger drops into the "CC" mode if the battery stays below 80% for more than 16 hours. To change, press and hold button until display begins to flash, press again to change. Wait till display stops flashing and profile is held in memory. Connect battery leads and begin cycle.

*(Note: In **d0** and **d2** the charger will run for a minimum of three hours even if the batteries are already fully charged. In **d1**, the charger may go to "CC" immediately if the batteries are 80% or more charged requiring you to more deeply discharge the batteries to get a full charge cycle) d0 will achieve a full charge in most cases, if the batteries are being more deeply discharged, d1 will be better, if the batteries are still not receiving full charge, try d2.*

Recycle time. The charger will only turn itself back on if the profile is set to **F2**, timed shut off, and the voltage per cell is below 2.10. To reprogram, disconnect leads from battery. Plug into AC power. Press the battery voltage button three times, the display shows **r0 -** never, **r1 -** every 12 hours**, r2** - every 5 days, or **r3** - every 15 days. To change, press and hold button until display flashes. Press again to change. Wait till display stops flashing and profile is held in memory. Connect battery leads and begin cycle.

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). **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. The branch circuit breaker is too small for the charger.

2). **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.

3). **BATTERIES DON'T RECEIVE FULL CHARGE**
a.) The battery you are charging may be too large for the charger.
b) 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.
c) Try **d1** or **d2** gassing /absorption cycle.

4). **THE LED FLASHES ALTERNATING GREEN RED**
The charger is connected reverse polarity to battery, or there is a break or intermittent connection in the DC cabling/connectors, or the battery voltage is too low to turn the charger on. Use a jumper battery to raise the voltage, or charge one or more of the batteries individually**.**

QUICK CHARGE SCPWX Battery Chargers
"LIMITED WARRANTY"

Quick Charge corporation warrants the SCPWX 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.