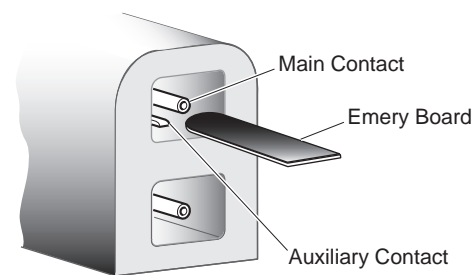




# Introducing the Powerwise™ QE 36 Volt Battery Charger

## MAINTENANCE INSTRUCTIONS

1. For flooded lead-acid batteries, regularly check water levels of each battery cell after charging and add distilled water as required to level specified by battery manufacturer. Follow the safety instructions recommended by the battery manufacturer.
2. Make sure charger connections to battery terminals are tight and clean. Check for deformation/cracks in plastic parts. Check the charger harness for chaffing and rubbing. Inspect all wiring for fraying, loose terminals, chaffing, corrosion or deterioration of insulation.
3. Keep cooling fins free of contamination and do not expose charger to oil, dirt, mud or to direct heavy water spraying when cleaning equipment.
4. Inspect the plug of the battery charger and vehicle receptacle housing for dirt or debris. Monthly, or sooner if needed, clean the DC connector auxiliary contact. To clean the auxiliary contact, slide an emery board between main contact and auxiliary contact located in the hole of the charger plug nearest the rounded corners. (See Cleaning Contact Figure). Press emery board down to apply pressure to the auxiliary contact and slide board in and out of plug approximately 10 to 20 times, keeping pressure applied to the auxiliary contact surface. Repeat cleaning process if charger turns off while the handle is moved back and forth. If, after re-cleaning and retesting, the charger still turns off, check plug for a broken red wire in DC cord.



CLEANING AUXILIARY CONTACT



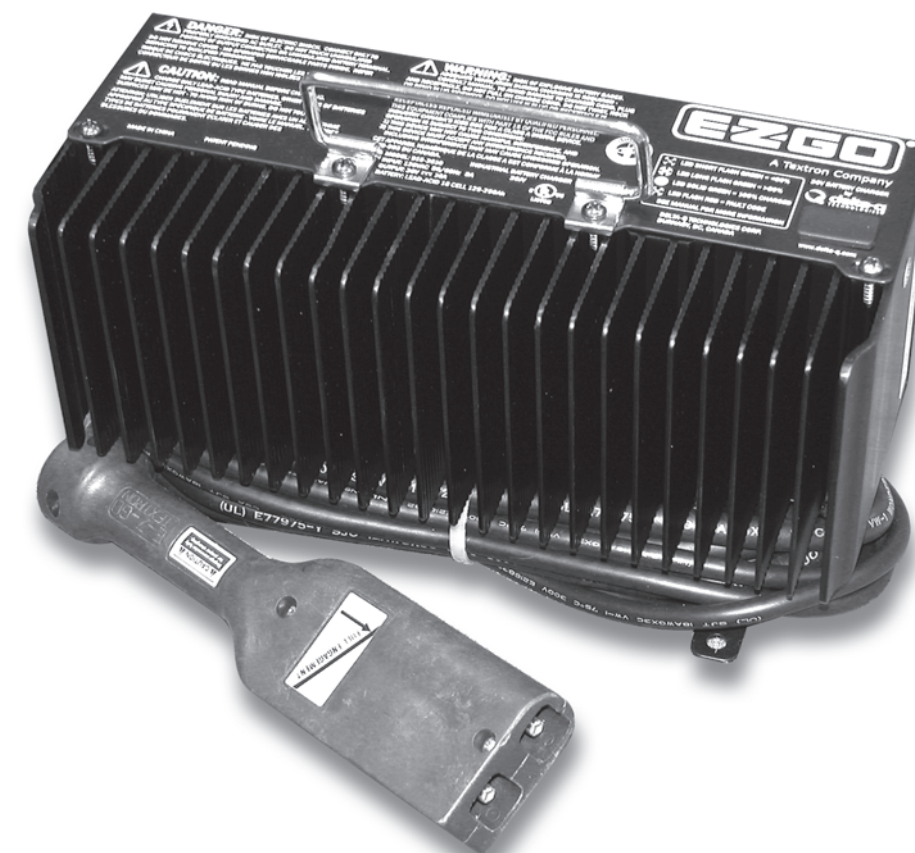
E-Z-GO Division of Textron, Inc., 1451 Marvin Griffin Road, Augusta, Georgia  
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A Textron Company

# Introducing the PowerWise™ QE

## 36 Volt Charger



1451 Marvin Griffin Rd. Augusta, GA 30906  
(800) 241-5855 (706)798-4311



Introducing the  
**Powerwise™ QE** 36 Volt Battery Charger

**Save These Important Safety Instructions**

This manual contains important safety, operating, and installation instructions. Read before using charger.

**Battery Safety Information**

**⚠ WARNING**

Use charger only on 36 volt battery systems. Other usage may cause personal injury and damage. Lead acid batteries may generate explosive hydrogen gas during normal operation. Keep sparks, flames, and smoking materials away from batteries. Provide adequate ventilation during charging. Never charge a frozen battery. Study all battery manufacturers' specific precautions such as recommended rates of charge and removing or not removing cell caps while charging.

**Electrical Safety Information**

**⚠ DANGER**

Risk of electric shock. Connect charger power cord to an outlet that has been properly installed and grounded in accordance with all local codes and ordinances. A grounded outlet is required to reduce risk of electric shock – do not use ground adapters or modify plug. Do not touch uninsulated portion of output connector or uninsulated battery terminal. Disconnect the AC supply before making or breaking the connections to the battery while charging. Do not open or disassemble charger. Do not operate charger if the AC supply cord is damaged or if the charger has received a sharp blow, been dropped, or otherwise damaged in any way – refer all repair work to qualified personnel. Not for use by children.

**Informations Importantes De Sécurité**

Conserver ces instructions. Ce manuel contient des instructions importantes concernant la sécurité et le fonctionnement.

**Information de Sécurité de la Batterie**

**⚠ ATTENTION**

Utiliser seulement sur les batteries avec un algorithme approprié au type spécifique de batterie – voire le manuel. D'autres types de batteries pourraient éclater et causer des blessures ou dommages. Les batteries peuvent produire des gaz explosifs en service normal. Ne jamais fumer près de la batterie et éviter toute étincelle ou flamme nue à proximité de ces derniers. Fournir la bonne ventilation lors du chargement. Ne jamais charger une batterie gelée. Prendre connaissance des mesures de précaution spécifiées par le fabricant de la batterie, p. ex., vérifier s'il faut enlever les bouchons des cellules lors du chargement de la batterie, et les taux de chargement recommandés.

**Information de Sécurité Électrique**

**⚠ DANGER**

Risque de chocs électriques. Ne pas toucher les parties non isolées du connecteur de sortie ou les bornes non isolées de la batterie. Toujours connecter le chargeur à une prise de courant mise à la terre. Ne pas ouvrir ni désassembler le chargeur – référer toute réparations aux personnes qualifiées. Pas à l'usage des enfants.

**Guarde Estas Instrucciones Importantes De Seguridad**

Este manual contiene instrucciones de seguridad importantes para la operación e instalación del cargador – lea antes de utilizar el cargador.

**Información de seguridad de batería.**

**¡ATENCIÓN!**

Utilice el cargador sólo en sistemas de batería con un algoritmo escogido que es apropiado al específico tipo de batería. Otro uso puede causar la herida y daño personal. Las baterías de plomo-ácidas principales pueden engendrar gas explosivo de hidrógeno durante la operación normal. Mantenga las chispas, las llamas y las materias humeantes lejos de baterías. Proporcione la ventilación adecuada durante la carga de la batería. Nunca cargue una batería congelada. Estudie las precauciones específicas de todos los fabricantes de baterías, las tasas tal como recomendadas de la carga y quitando o no quitando la célula las tapas al cargar... – Use solamente para aplicaciones de 36 voltios.

**Información eléctrica de seguridad**

**¡PELIGRO!**

El riesgo de calambre. Conecte la cuerda del cargador a una salida de corriente o enchufe que ha sido instalada apropiadamente y basada en la conformidad a códigos y ordenanzas locales. Una salida de corriente firme es requerida para reducir el riesgo de calambre. No utilice adaptadores de suelo ni modifique tapón. No toque la porción aislada del conector de salida ni terminal aislada de batería. Desconecte el suministro de A.C. antes de hacer o romper las conexiones a la batería al cargar. No abra ni desmonte el cargador. No opere el cargador si la cuerda del suministro de A.C. ha sido dañado o si el cargador ha recibido un golpe agudo, fue dejado caer, o de otro modo dañado en ninguna manera. Refiera todo trabajo de la reparación al personal calificado. Este cargador no es para uso por niños.



Introducing the  
**Powerwise™ QE** 36 Volt Battery Charger

**OPERATING INSTRUCTIONS**

1. With the enclosed case design, the charger may be placed virtually anywhere, but the choice of placement and orientation is extremely important. For optimum performance and shortest charge times, place the charger in an area with adequate ventilation. The charger should also be placed in an area that will be relatively free of dirt, mud, or dust since accumulations within the fins of the charger will reduce their heat-dissipating qualities. Optimal cooling also occurs when the charger is placed on a horizontal surface with the fins vertical. More airflow from below the charger will help cool the fins, so placement above open areas or areas with cut-outs for airflow is desirable. As the charger may get hot in operation, the charger must be placed such that risk of contact by people is reduced. Wall mount or shelf mount using #10-M5 screws. The charger's status display must be visible to the user.
2. Always use a grounded outlet. When using an extension cord, avoid excessive voltage drops by using a grounded 3-wire 14 AWG cord.
3. When plugged into the vehicle's charger receptacle, the charger will automatically turn on and the charger's LED will start flashing GREEN to indicate the battery is charging.
4. Once a minimum battery voltage of 2 volts per cell (Vpc) is reached, the charger's output current will change from a trickle current to the full rated charging current. The length of charge time will vary by how depleted the battery pack is, the input AC voltage, and/or charger ambient temperatures. The charger's LED will flash a SHORT flash (off more than on) if charge is <80% and a LONG flash if >80%.
5. When the charger's LED is continuously GREEN, the batteries are completely charged. The charger may now be unplugged from the vehicle. If left plugged in and the battery pack voltage drops below a minimum voltage or 30 days has elapsed, the charger will automatically restart a complete charge cycle.
6. If a fault occurred anytime during charging, a fault indication is given by quickly flashing the RED LED on the charger. The specific fault is indicated on the charger by flashing RED a number of times, paus-

ing, and then repeating. There are several possible conditions that generate errors. Some errors require human intervention to first resolve the problem and then to reset the charger by unplugging the DC cord from the vehicle. Others may be simply transient and will automatically recover when the fault condition is eliminated. If the AC voltage is interrupted and restored, the charger will turn back on automatically.

**Visual LED Display Information**

**LED Operation Codes:**

- SHORT LED flash green = less than 80% charged
- LONG LED flash green = more than 80% charged
- SOLID LED green = 100% charged
- RED LED flash = fault code

**LED Fault Code Display Information**

**LED Fault Code:**

- 0-FLASH RED Light turns on briefly but nothing after that - Check for valid AC voltage.
- 1-FLASH RED Charge Enable Fault: Poor contact in DC connector.
- 2-FLASH RED Battery Voltage Fault: Battery Pack is < 27.0V or > 50.4V. Battery is too discharged or overcharged to be charged.
- 3-FLASH RED Battery Charge Timeout: Charge time 24hrs. exceeded. This may indicate a problem with the battery pack (old battery pack) or that the charger output current was severely reduced due to high ambient temperatures.
- 4-FLASH RED Battery Fault: Charge time exceeded. This indicates a problem with the battery pack voltage not attaining the required nominal level within tmax.
- 6-FLASH RED Charger Fault: an internal fault has been detected. If Fault 6 is again displayed after unplugging and then plugging the DC power cord, the charger must be brought to a qualified service center.



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