Owner's Manual

Warning & Danger

SAVE THESE IMPORTANT SAFETY INSTRUCTIONS

This manual contains important safety and operating instructions read before using charger.

Warning: Use charger only with an algorithm selected that is appropriate to the specific battery type. 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, ie. maximum charge rates and if cell caps should be removed while charging.

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 terminals. Disconnect the AC supply before making or breaking the connections to the battery. Do not open or disassemble charger. Do not operate this 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 the manufacturer, or qualified personnel. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

INFORMATIONS IMPORTANTES DE SÉCURITÉ

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

Attention: Utiliser le chargeur seulement avec un algorithme approprié au type spécifique de batterie. 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 des batteries. Fournissez une ventilation adéquate 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, et les taux de chargement.

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. Déconnectez la source AC avant de faire ou défaire les connections à la batterie en chargement. Ne pas utiliser le chargeur si le cordon d'alimentation AC est endommagé ou si le chargeur est abîmé suite à une chute ou autre indicent. Ne pas ouvrir ni désassembler le chargeur – référer toute réparation aux personnes qualifiées. Cet appareil n'est pas destiné à un usage par des personnes (dont les enfants) avec des facultés motrices, sensorielles ou mentales réduites, ou ayant une expérience et des connaissances insuffisantes, à moins qu'elles sont sous la supervision ou reçoivent les instructions sur l'utilisation de l'appareil d'un répondant garant de leur sécurité. Les enfants devraient être surveillés afin qu'il ne jouent en aucun temps avec l'appareil.

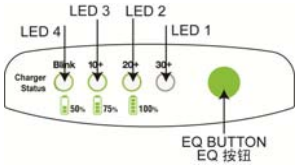
Operation illustration:

1. LED Indicators and Fault Signals

1.1 LED Indicators during start up:

After connecting charger with battery, connect charger with AC outlet using AC cable. The charger will go into charging mode. (In order to find out the preselected charging profile, disconnect the charger with the battery set. Reconnect the charger to AC outlet, the charger display will show the number of the chosen charging profile)

1.2 Battery Capacity Indicators:



Capacity	LED2（100%）	LED3（75%）	LED4（50%）
<50%	○	○	★ (Blinking)
>50%	○	★ (Blinking)	●
>75%	★ (Blinking)	●	●
100%	●	●	●

1.3 LED will be showing Battery Charging Profile as below:

LED1（USB）	LED2(100%)	LED3(75%)	LED4(50%)
30 (something)	20 (something)	10 (something)	# of Blinking = (something)

If the charging profile is #35, what would happen is LED1 will be on to represent the charging profile is 30, and LED 4 will blink 5 times, while LED2 and LED3 will remain off. This means 30 plus 5, showing the charging profile is #35. Another example is if charging profile is #18, what would happen is LED3 will be on to represents charging profile is 10 plus LED4 will blink 8 times to represent 8, which means #18.

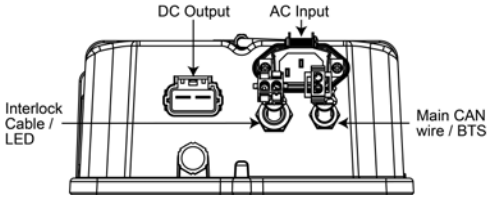
1.4 EQ Button (This function is only used for Flooded/Wet battery. Please refer to the operation instructions of battery before use.)

Press button 5 seconds to enter EQ mode, and indicator will quickly flash. And press button 5 seconds to exit EQ mode, and LED will return to normal.

Maintenance Instructions

1. Do not expose charger to oil, dirt, mud or direct heavy water spray when cleaning vehicle.
2. The enclosure of the charges has been tested successfully to IEC 60529, meeting IP66.
3. If the detachable input power supply cord set is damaged, replace with a cord that is a safety approved detachable cord, 3 conductor, 1.5 mm² minimum, and rated appropriate for use in the country of destination and, on the other end, an output grounding type IEC 60320 C14 plug.

The instruction for cable connection:



Warning: Assure the battery connection cable is well connected with the charger before it is connected to the battery. Otherwise, the battery short circuit may occur and cause personal injury or damage to the battery.

Fault Indicator

When a fault occurs, LED2(100%)/LED3(75%)/LED4(50%)will blink at the same time.

Blinking Frequency	Fault Cause	Solution
1	The battery is not connected or the battery voltage is too low	1) Check battery connection is correct. 2) Check charger connection is correct. 3) Check each battery is good..
2	Abnormal AC Power Input (Voltage)	1) Check AC input cord is connected between charger and AC outlet. 2) Make sure AC plug is tightly inserted into AC outlet.
3	Charger High Temperature Protection	1) Charger shuts down and enters protection mode due to charger/ environmental temperature is too high. Please place the charger in a well-ventilated environment. 2) Disconnect the charger and wait for 15-20mins before reconnecting for charging.
4	Battery High Temperature Protection	1) Charger will reduce current even stop charging to prevent the battery from overheating when battery temperature exceeds the preset value. 2) When the battery temperature drops, the charger will restart automatically.
5	Output Current is too large	Return to the factory for repairing.
6	Battery Voltage is too high	Check and assure that the correct output battery voltage is connected.

Product Specifications:

DC Output	
Voltage-nom(V)	24V
Voltage-max(V)	34V
Current-max(A)	30A
Applicable to Battery	AGM, WET, GEL, Lithium
Reverse Polarity	Electronic protection-auto-reset
Short Circuit	Electronic protection-auto-reset
AC Input	
Voltage-Range(V)	100-240V
Frequency(Hz)	50-60Hz
Current-max(A)	10.5A
Full Load AC Power Factor	>0.98
Dimensions	27.6*19.1*8.5cm
Weight	3.5KG
Operating Temperature	-40℃~+65℃
Storage Temperature	-40℃~+70℃

Battery category and program code contrast table:

Code	Battery type
b01	**Common type of Flooded**
b02	Trojan T105
b03	Discover AGM (80-150Ah)
b04	Discover AGM (250Ah)
b05	US_Flooded (250Ah)
b06	Trojan 30XHS
b07	Trojan T125
b08	Trojan J305
b09	Generic Flooded(200-255Ah)
b10	Trojan T145
b11	Trojan T1275
b12	Discover AGM (220Ah)
b13	Trojan T605
b14	12TB-115 AGM
b15	Generic Flooded (140-200Ah)
b17	Generic Flooded (400Ah)
b18	Trojan T875
b19	US 2000XC2
b20	US 2200XC2
b21	US 250HCXC2
b22	6TB-170 AGM
b23	Generic GEL (140-200Ah)
b24	Generic GEL (200-255Ah)
b25	Fullriver DC224-6
b26	Generic AGM (140-200Ah)
b27	Trojan L16P-AC
b28	**Common type of AGM**
b29	US 8VGCXC2
b30	US 12VXC2
b31	US 305XC
b32	US 125XC2
b33	US 145XC2
b34	Crown CR-235
b35	Crown CR-245
b38	User-defined

Warning: Do not charge non-rechargeable batteries.

使用说明书

一、警告信息

请在使用本产品前详细阅读使用说明书，理解这些安全指导,并保存好此说明书以方便取阅。

警告：只可以使用充电器系统中可选择的充电程序来选取适当的电池类型。其它的使用可能会造成人身伤害或充电器的损坏。在充电的过程中，铅酸电池可能产生爆炸性的氢气体，请远离火花. 火焰。或易燃易爆的物体。在充电过程中，保持通风良好，在有对流的环境下工作。不可充冰冻电池。阅读所有电池厂商的注意事项，比如：充电速度及可单独充电或不可单独充电的电池单元。

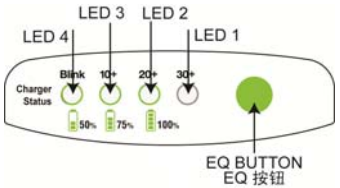
危险：冒电击的危险，连接充电器输入线的插座必需是按当地安规条例安装有地线的插座，接地良好的插座减少电击的危险。不能接转接器或更改过的插头。不要用手接触充电器输出端非绝缘部分和电池端非绝缘部分。当充电器正在充电时，需要断开 AC 线，才可以终止电池连接。不可打开或拆散充电器。假如 AC 线损坏或是充电器被重击、跌落地下，以及其它的任何情况下损坏，都不可使用充电器。有关修理工作，请让有相关资格证的人员进行。有精神缺陷或缺乏使用经验和安全知识者勿用此机器，除非在专人监督和指导下安全使用。不可让小孩使用充电器。

二、操作说明

1. LED 显示和错误指示

1.1 将充电器与电池连接好，接通市电，充电器进入充电模式；（查看电池默认程序，充电器与电池断开，接通市电，充电器显示默认程序）

1.2 电池容量



容量	LED2 (100%)	LED3 (75%)	LED4 (50%)
<50%	○	○	★（闪亮）
>50%	○	★（闪亮）	●
>75%	★ (闪亮)	●	●
100%	●	●	●

（外接灯，电池程序和USB 状态显示以主机上显示为准，仅作充电状态与故障指示）

1.3 LED 显示的电池充电程序如下：

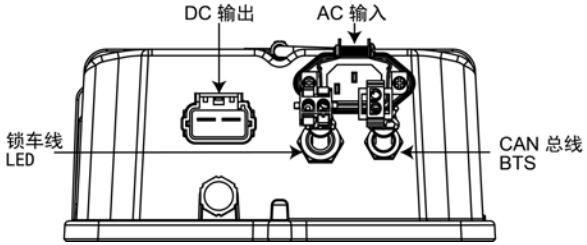
LED1 (USB)	LED2 (100%)	LED3 (75%)	LED4 (50%)
30	20	10	1～9

例如程序代码是 35，LED1 将显示 30，LED4 将闪 5 次。LED2 和 LED3 不亮。这是 30+5 的意思，代表充电程序为：#35. 另一个例子：如充电程序代码是：#18. LED3 将显示 10 加上 LED4 闪 8 次，代表#18.

1.4 EQ 按钮 （注：此功能仅用于加水电池，使用前请先参考相关电池的操作说明。）

长按 5 秒进入 EQ 模式，指示灯快闪；再长按 5 秒退出 EQ 模式，指示灯恢复正常。

三、 接线示意图：（图示仅作参考，接线及外接功能请以实物为准）



警告： 在将电池连接线连接到电池之前，必须确保电池连接线与充电器连接完好；否则，可能会引发电池短路，造成人身伤害及电池损坏的危险。

四、 故障显示

当出现故障时，LED2(100%) LED3(75%) LED4(50%)将同时闪亮。

闪烁次数	故障原因	排除办法：
1	输出没接电池或接反，短路，坏节	1)检查电池组是否连接正确。 2)检查充电器是否连接正确。 3)检查电池组中的单个电池是否损坏。
2	市电不正常（电压）	1)检查 AC 电源线是否连接在充电器和 AC 插座之间。 2)确保 AC 插头紧插在 AC 插座上无松动。
3	充电器高温保护	1)充电器内部或环境温度过高，充电器将关闭并进入高温保护模式。请把充电器放在通风良好的环境工作。 2)断开充电器，等 15-20 分钟后再重新连接充电。
4	电池高温保护	1)当电池温度超过预设值后,充电器会关闭输出,防止电池继续过热。 2)当电池温度下降后,充电器会自动重启。
5	输出电流过大	退回返修。
6	电池电压过高	检查电池组系统是否正确 。

五、 产品规格参数

DC 输出	
电压（正常）	24V
最大电压	34V
最大电流	30A
适用电池	AGM, FLOODED, GEL, Lithium
极性接反	自动保护
短路	自动保护
AC 输入	
电压范围	100-240V
频率	50-60Hz
最大电流	10.5A
满载时功率因数	>0.98
尺寸	27.6*19.1*8.5cm
重量	3.5KG
工作温度	-40℃~+65℃
存放温度	-40℃~+70℃

保养建议

1.洗车时，请勿将充电器暴露在有油、污垢、淤泥的场所或用高压水枪直射充电器。
2.充电器通过 IEC 60529 测试，且符合 IP66 等级。
3.如果可拆卸的输入线损坏，请使用符合安规认证及工业适用等级最小 1.5 平方毫米的 3 芯电源线，线的一端，带地线并符合国家标准的插头，另一端，接地类型 IEC 60320C14 的插头。

六、电池曲线对应表

曲线编号	**电池型号**
b01	**Common type of Flooded**
b02	Trojan T105
b03	Discover AGM (80-150Ah)
b04	Discover AGM (250Ah)
b05	US_Flooded (250Ah)
b06	Trojan 30XHS
b07	Trojan T125
b08	Trojan J305
b09	Generic Flooded(200-255Ah)
b10	Trojan T145
b11	Trojan T1275
b12	Discover AGM (220Ah)
b13	Trojan T605
b14	12TB-115 AGM
b15	Generic Flooded (140-200Ah)
b17	Generic Flooded (400Ah)
b18	Trojan T875
b19	US 2000XC2
b20	US 2200XC2
b21	US 250HCXC2
b22	6TB-170 AGM
b23	Generic GEL (140-200Ah)
b24	Generic GEL (200-255Ah)
b25	Fullriver DC224-6
b26	Generic AGM (140-200Ah)
b27	Trojan L16P-AC
b28	**Common type of AGM**
b29	US 8VGCXC2
b30	US 12VXC2
b31	US 305XC
b32	US 125XC2
b33	US 145XC2
b34	Crown CR-235
b35	Crown CR-245
b38	User-defined

警告： 不可充一次性（不可再充）的电池。