

## FEATURES

### Automatic shut off

The battery charger is designed to automatically shut off once battery charging is complete to prevent overcharging. When charging is complete, the digital display will show "FUL" and the charger has switched to Maintenance mode.

### Maintenance mode

Once charging is complete, the charger will automatically go into Maintenance mode (also known as float mode monitoring). In this mode, the charger keeps the battery fully charged by delivering a small amount of current, when necessary, to keep the battery at peak charge.

### Reverse polarity protection

If the cables are incorrectly connected to the battery, the red LED indicator will light up and digital display will indicate "F08".

**Note:** the charger will not begin charging if the Reverse Polarity indicator is lit.

### Overheat protection

The charger is designed to shut itself off if overheating is detected. Once the charger cools down, it will resume charging automatically.

### Connection methods

This charger comes with a standard clamps cable.

### 3A Charge rate

This charger is recommended for charging small batteries such as those used in motorcycles, ATVs, snowmobiles, personal watercraft, lawn tractors and golf cars. It is also suitable to maintain larger batteries such as those used in automobile, marine and farm tractors.

### LED Indicator

A green LED indicates that a 6V battery is being charged

A green LED indicates that a 12V battery is being charged

A red LED indicates that a fault occurs

## DIGITAL DISPLAY

### 6V Battery

1. Displays "LO" when battery capacity is less than 60%
2. Displays "60%-70%-80%-90%" when battery voltage goes up gradually
3. Displays "FUL" when charger goes into float charge mode
4. Displays Error codes when abnormal conditions occur

### 12V Battery

1. Displays "LO" when battery capacity less than 60%
2. Displays "60%-70%-80%-90%" when battery voltage goes up gradually
3. Displays "FUL" when charger goes into float charge mode
4. Displays Error codes when abnormal conditions occur

## CHARGING TIME

The built-in intelligent microprocessor will continuously monitor and adjust the charge to provide a fast, safe and efficient charge. Note that battery charge times will vary depending on several factors including:

**Battery State** – If a battery has been only slightly discharged, it can be charged in less than a few hours. This same battery could take up to 10 hours if very discharged.

**Battery Rating** – A higher rated battery will take longer to charge than a lower rated battery under the same conditions. A battery is rated in ampere-hours (Ah), reserve capacity (RC) and cold-cranking amps (CCA).

**Charge Rate** – The charge rate is measured in amps. A battery charged at a lower rate will take longer than a battery charged at a higher rate. However, smaller batteries can be easily damaged by charging at a rate which is too high for the capacity of the battery.

**Temperature** – Cold temperatures will affect a battery's ability to accept a charge. Charging in cold temperatures will increase the amount of time required to charge a battery.

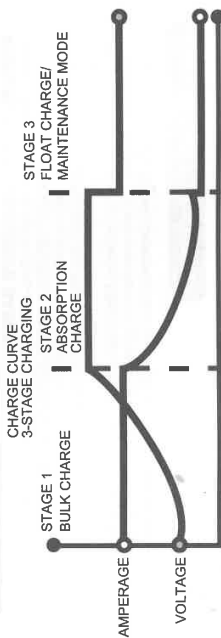
**Fig. 1 Charge Time Calculation Table**

Find your battery's CCA rating in the table below and note the charging time. The time reflects a battery with at least 50% charge. You may need to add time depending on the severity of discharge.

	Battery Rating / Size	Charging Time
Small Batteries (ATV, Lawn Tractor, Motorcycle, etc.)	6 – 12 AH	2 ½ – 4 hours
	12 – 32 AH	5 – 13 ½ hours
Cars/Trucks 200-315 CCA 315-500 CCA 550-1000 CCA	40 – 60 RC	Maintain only
	60 – 85 RC	
	80 – 180 RC	
	80 RC	
Marine Deep Cycle	140 RC	Maintain only
	160 RC	
	180 RC	

AH= Amp Hour  
CCA=Cold Cranking Amps  
RC=Reserve Capacity

## 3-STAGE CHARGING



### First Stage - Bulk Charge:

Bulk Charge delivers maximum charging amperage to "wake up" any serviceable 6 or 12 volt battery. When battery reaches a maximum safe predetermined voltage, the charger will automatically move into Stage 2 of the charging process.

### Second Stage - Absorption Charge:

Absorption Charge maintains the maximum possible charge at a constant, safe, predetermined voltage. During this phase, the charging voltage remains constant, while the actual charging current is reduced to allow for the maximum proper internal chemical energy transfer. At the end of Stage 2, the charger will automatically move into Stage 3 charge mode.

### Third Stage - Float Charge:

Voltage is automatically maintained and reduced to a predetermined level while current is adjusted for a safe, effective battery charge. The Automatic Float Charge feature is ideal for maintaining a battery. It automatically tops off battery as needed, to keep battery fully charged all the time.

## SPECIFICATIONS

Input	120V AC/60Hz, 0.76A
Output	12V DC, 3A 6V DC, 3A

## PRODUCT MAINTENANCE

Always unplug and disconnect the charger before cleaning the unit. After each use, use a dry, lint-free cloth to clean battery corrosion and other dirt from the clips, cords and charger. Ensure that all components are in good working order. Never open the charger as there are no serviceable parts inside the unit. The charger should be stored in an upright position when not in use. Store in a cool, dry location.