

# OPERATION INSTRUCTIONS

## CHARGING A BATTERY:

Plug the 9950 into an AC outlet, set the battery voltage and type by holding down the GREEN button for 3 seconds and connect the battery to the charger.

**LA-12v ... Lead Acid 12 volt all types\***

**LA-16v ... Lead Acid 16 volt all types**

**LI-12v ... Lithium 12 volt LiFePO4**

**LI-16v ... Lithium 16 volt LiFePO4**

\* factory setting



## CLEAN A BATTERY:

When pressed quickly, the GREEN button turns the CLEAN mode on or off. CLEAN is designed to help remove sulphation from old or weak batteries. It works with all types of Lead Acid batteries and should be left on for 3 or 4 days. This mode uses the PULSE desulphation process. Should be used every 6 months on batteries that are stored for long periods of time or have been left unattended for extended periods.

## MAINTAIN A BATTERY:

The 9950 automatically switches from Charge to (Long Term) Maintenance when the battery is FULL. The microprocessor then goes into a routine that monitors the voltage and condition of the battery. It performs a variety of steps that condition and exercise the battery which extends the battery life by keeping it desulphated.

## ALARM MONITORING:

The RED button turns the ALARM Monitoring on or off. This audible system beeps when something goes wrong. If the voltage is too low, the alarm will sound until it has been reset. Since batteries can go bad while being stored, the 9950 will warn of a low voltage condition right away. Additionally, if the AC Power goes out for a long period of time, allowing the battery voltage to drop too low it will also sound the alarm, giving you the ability to find out why the AC is missing.

## FAULT AND ERROR CODES:

When there is a fault or error the 9950 reports this with the following codes:

**E1 ... Cable Polarity is Reversed**

**E2 ... Cable is Shorted**

**E3 ... Battery Error**

**E4 ... Battery is Aging**

**E5 ... Battery need Replacing**

## TESTING A BATTERY:

Alligator Clip, Test Probes, or Cigarette Lighter Cables can be used for battery or charging system testing. The 9950 does not have to be plugged into an AC outlet to test. It gets its testing power directly from the battery. When the vehicle is running no more than 14.4v - 14.6v should be coming out of an alternator or generator. Higher voltages will hurt the battery. See chart below for battery voltages and percentages of life left.

### 12 volt battery

13.0=100%

12.8 = 90%

12.6 = 80%

12.4 = 70%

12.2 = 60%

12.0 = 50%

11.8 = 40%

11.6 = 30%

11.4 = 20%

### 16 volt battery

17.2=100%

16.9 = 90%

16.6 = 80%

16.3 = 70%

16.0 = 60%

15.7 = 50%

15.4 = 40%

15.1 = 30%

14.9 = 20%

The 9950 has a built-in load that is used to dissipate the surface voltage and report the true voltage of the battery.

When the FULL screen appears, unplug the 9950 from the AC Power and allow the unit to go into Test Mode, this removes this surface voltage. When the voltage reading stops going down (usually 5 to 10 minutes) the reading on the display can be checked against the above chart to measure the condition of the battery.