



**With Alarm**

# DUAL BATTERY MONITOR 2 x 12 Volt dc

SUITABLE FOR 24VOLT SERIES CONFIGURATION

- Alternator charge (V)
- Overcharge alarm >14.6V
- % capacity indication
- Deep discharge alarm
- Display - on/off option
- Alarm - on/off option

MADE IN



SOUTH AFRICA

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## DUAL BATTERY MONITOR INSTALLATION INSTRUCTIONS

The dual battery monitor is designed to measure and indicate the terminal voltage of 2 x 12V lead-acid batteries.

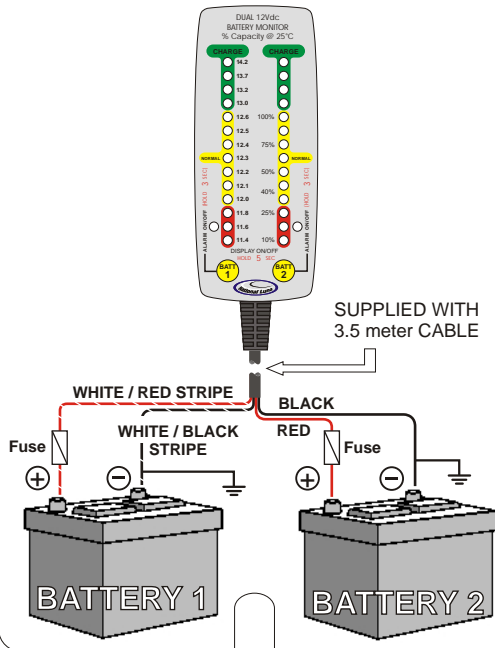
### INSTALLATION

For installation, mount the monitor in a convenient position and route the cable to the vehicle batteries.

Connect the first display (the left side) to the first battery by connecting the **WHITE & BLACK striped** wire to the **NEGATIVE** battery terminal. Connect the **WHITE & RED striped** wire to the **POSITIVE (+)** of the same battery.

Enable the second display (the right display) by connecting the solid **BLACK** wire to the **NEGATIVE (-)** terminal of the second battery and the solid **RED** wire to the **POSITIVE (+)** of the same battery.

It is recommended to install an in-line fuse (1-2Amp) between the **POSITIVE** wires and each of the **POSITIVE (+)** battery terminals.



## OPERATING INSTRUCTIONS

The dual battery monitor has two individual circuits which measure and display the voltage of the batteries which they are connected to by means of two vertical bar-graphs. It is important to note that the two displays are separate and are operated independently of each other.

Each display is separated into 3 areas : Green (Charge), Yellow (Normal) and Red (Battery low/flat).

### Note - Battery voltage deviates with a change in temperature.

The monitor will display the approximate capacities of the batteries and how "full" they are. If the displays show yellow lights between 12.3V and 12.6V, the batteries have available capacity between 70% and 100%.

**If the displays drop to below 11.8V, the batteries are flat and should be recharged as soon as possible.**

When the batteries are being charged, the displays should show all 4 green lights. If only 2 or 3 green lights are on, the batteries may only charge to 70%-90% capacity, in which case, check the vehicle charging system for problems. In a typical dual battery application, the two displays will not necessarily show the same level, but will show the individual battery voltages.

### DISPLAY ON/OFF

The displays of the dual battery monitor can be turned on/off independently of each other by pressing the buttons: "BATT1" or "BATT2" for 5 seconds.

Note that the monitor continues to operate regardless of whether the display is on or off.

### ALARM INDICATION

The dual battery monitor has two independent alarms which give indication of an error on any of the two batteries.

If the voltage on either of the two batteries rises above 14.6V, then the appropriate display will *flash* the top 4 green lights and an audible alarm will be heard. **This is a warning of battery over-charge.**

If the voltage of either of the two batteries drops below 11.4V, then the appropriate display will *flash* the first red light and an audible alarm will be heard.

Each alarm can be turned on/off by pressing the buttons : "BATT1" or "BATT2" for 3 seconds.

If either display is turned off, and an error occurs, the appropriate display will re-initialise automatically.

**DO NOT APPLY VOLTAGES ABOVE 15V TO EITHER OF THE MONITOR WIRE PAIRS.**

## 24volt CONFIGURATIONS

The dual battery monitor can be used in 24volt applications where two 12volt batteries are connected in series. Using the dual battery monitor in this configuration allows early identification of battery imbalance.

In order for the two 12 volt batteries in a 24 volt system to remain balanced, the two batteries must have equal load and equal charge. If one of the two batteries has a heavier load, such as 12V appliances, it will not receive the same amount of charge as the other battery, resulting in accelerated battery failure. Conversely, the battery with the lighter load will be subjected to overcharging. The battery imbalance will become worse over time.

This common problem can be identified on the dual battery monitor when the two displays show different values. If the two displays are equal, the two batteries are sharing a load and will receive a similar charge. It is said that the batteries are "balanced". When "balanced", the batteries' life is maximized.

