



MAXIMUM OFF-ROAD RECOVERY.™

# DUAL BATTERY SYSTEM



INSTALLATION / INSTRUCTION MANUAL  
AND LIMITED PRODUCT WARRANTY

## Users manual

### General functions

This battery monitor has been designed for dual battery system. The monitor displays the stored energy of both batteries and the charge voltage while charging them with an alternator, a solar panel or any other source. The batteries are automatically linked for charging and isolated when discharging. In emergency situations a manual override function to link the batteries can be actuated.

### Application

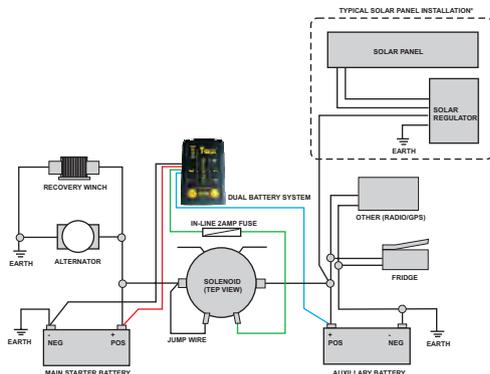
- commercial trucks and 4wds
- 4wds / expedition vehicles
- Yachting , mobil homes

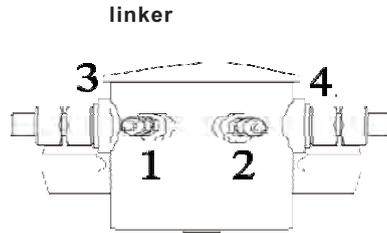
### Specifications

Supply voltage:	8-16V
System voltage:	12V
Measuring range:	8-16V
Display range (battery voltage) :	11-14.5 V
Display range (battery charging voltage) :	13-14.5V
Accuracy:	+/-2%
Consumption(stand by):	5mA
Consumption max. Display active (45s) :	150mA
Isolator switch-on threshold:	13.3V
Consumption on-state:	0.8A
Relay continuous load current:	250A
Operating temperature:	-20to +60°C
Dimension:	103 x 21 x 66mm
Sealing standard version:	Ip40

### Dual battery system wires

- Red : +battery (main)
- Black: -battery (gnd)
- Blue: +battery (aux)
- Green: control solenoid





## INSTRUCTION MANUAL

### 1.DISPLAY OF BATTERY VOLTAGE

The battery voltage of each battery is visible for 45 sec after pushing the display button.

Led indicators:

Green: batteries are in the safe working range

Yellow: check batteries.

Red: battery should be charged

12.6v=100%

12.4v=75%

12.2v=50%

12.0v=25%

### 2.DISPLAY OF CHARGE VOLTAGE WHILE CHARGING

Led display:

Red light: >14.5v: batteries will be overcharged, damage to batteries may occur

Yellow light: >14v: standard battery charging mode

Green light: < 14v: save charge mode, no damage to batteries.

Warning: When the LED glimmer, it indicate the Main battery voltage is not enough or Dual Battery System is out to order. Please check the Main battery or check if the connection s correct to avoid battery is damaged.

### 3.AUTOMATIC/MAUNAL BATTERY LINK:

#### Automatic battery link:

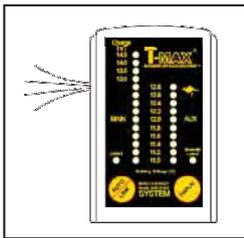
While the engine is running the main and aux batteries are linked together for parallel charging from the alternator (green led linked is on). If the engine is stopped, the two batteries will be disconnected automatically with some delay. Appliances as fridges, lights, compressors, inverters are now safely fed from the aux battery

The dual battery system links the two batteries automatically for charging and isolates the two batteries for discharging. The illumination of the green led indicates that the batteries are linked. The dual battery system recognizes charge on both batteries (alternator on main battery or solar power/charger on auxillary battery) and links the batteries.

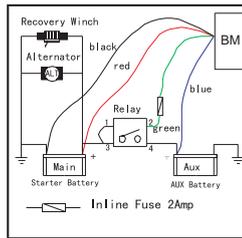
**MANUAL BATTERY LINK(OVERRIDE FUNCTION):**

In an emergency situation (defective or empty Main Battery) or in case of higher power consumption the two batteries (Main/Aux) may be connected together by activating the link button AUTO/LINK (red LED manually linked is on) After a laps of time of 30 minutes (or immediately after activating the AUTO/LINK button) the system returns to the Automatic mode. The load sharing function with the manual battery link reduces the stress on alternator, wiring and the batteries in conjunction with the use of electric winches. If high power consumption is needed from both batteries for long time, actuate the AUTO/LINK button again, the system return to automatic mode (red LED manually linked is off) than press AUTO/LINK button within 6minutes to preventing from batteries separation. The system will AUTO RESET after approx 30 minutes.

**BATTER MONITOR:**



**WIRING**



**EMERGENCY INSTRUCTIONS**

In case the dual battery system damaged by fire, welding spikes, salt water, vehicle crash etc, the following instructions show how to link the two batteries.

1. cut the green wire leading to the soleniod (terminal 2) so that the remaining length is long enough to make contact with the negative terminal of one of the batteries (a vehicle panel earth can also be used)
2. Connect this green wire from the solenoid to the negative of one of the batteries or earth. You will hear the solenoid "clack" when the batteries link.
3. there will now be no automatic disconnection. While the green wire is connected the solenoid is linked and draws energy.

