



USER GUIDE

DB001

140amp Dual Battery Kit (12-24 Volt)



Volt meter supplied is only for 12V applications.
For 24V applications a 24V meter will need to be sourced.

IMPORTANT: Please read and fully understand these operating and fitting instructions prior to installing your Ironman 4x4 Dual Battery System.

Before You Begin

Installing a second battery in your vehicle will increase the work load on your alternator. It is important to check that your alternator can maintain sufficient charge to both batteries.

It is also important to make sure your main battery is in good operating condition.

User Guide Terminology

(IMS) - Ironman management system.

(LED) - Light Emitting Diode.

(sense) - Main or original battery.

(output) - Second or auxiliary battery.

(Engaged) - Batteries are linked together.

(Disengaged) - Batteries are isolated or disconnected from each other.

Installation

1. Find a suitable location in engine bay of vehicle to mount the IMS unit. It should be mounted firmly in a location clear from extreme heat sources and moving parts.
2. (12V ONLY) Volt meter supplied with kit is for 12V application only. For 24V application, a 24V volt meter will need to be sourced. Find a location, visible from drivers seat to mount the Ironman volt meter. Route the long cables through the fire wall to the IMS.
3. Connect the yellow wire from the volt meter to the accessories output from your ignition switch. This will supply power to the volt meter.
4. Connect the blue wire from the volt meter to dash board illumination or park light circuit. This will allow the LEDs on the volt meter to dim when lights are turned on.
5. Measure and cut a length of red battery cable to run between the main battery and the IMS. Using cable lugs supplied connect cable from positive main battery terminal to `sense` battery pole on IMS. Also connect the red wire from the volt meter to the same pole on VSR.
6. Measure and cut a second length of red cable to run between the auxiliary battery and the IMS. Using cable lugs supplied connect cable from positive auxiliary battery terminal to the `second battery` pole on IMS. Also connect the green wire from the volt meter to the same pole on IMS.
7. Connect the thin black wires from the volt meter and the IMS to the negative terminal on the MAIN battery. Note it is important that all earth wires are connected to the main battery for correct operation of dual battery system.
8. OPTIONAL - LED Indicator output (Orange Wire). An LED can be mounted on dash board of vehicle. This provides a visual indication of the IMS operation. Connect orange wire to negative input leg of LED. Connect other side of LED to fused positive supply (12 or 24V) use 2.2k (¼W) resistor for 24V, no resistor required for 12V.
9. Measure and cut a length of black cable to run between the negative battery terminals on main and auxiliary batteries. Connect using cable lugs supplied.
10. Secure all wiring away from any extreme heat sources or moving parts.



Function

The Ironman 140Amp Dual Battery System is designed to be fully automatic. It allows two individual batteries to be charged as one but is also able to disconnect the two batteries to prevent cranking battery from discharging when accessories (such as refrigerators, lighting, etc), are connected to the auxiliary battery. It also supplies a priority charge to the main battery to ensure it is fully charged and able to start your vehicle.

12V Operation

1. Once vehicle is started the IMS will disengage the aux. battery in order to priority charge the main battery. Once the main battery has reached 13.7V for more than 5 seconds it will link the batteries so that they are both receiving an equal charge from the alternator.
2. If batteries are receiving no charge, and drop below 12.8V for more than 5 seconds the LED will turn off, and after 3 seconds the IMS will disengage.

24V Operation

1. Once vehicle is started the IMS will disengage the aux. battery in order to priority charge the main battery. Once the main battery has reached 26.8V for more than 5 seconds it will link the batteries so that they are both receiving an equal charge from the alternator.
2. If batteries are receiving no charge, and drop below 25.6V for more than 5 seconds the LED will turn off, and after 3 seconds the IMS will disengage.

LED Indications

On - IMS engaged.

Off - IMS disengaged.



Fault Finding

IMS will not automatically engage:

- Check all connections.
- Check condition of main battery.
- Make sure main and auxiliary batteries are connected to the correct poles on the IMS
- If the auxiliary battery is fully charged and has a larger capacity than the main battery, the auxiliary battery will not require a charge. There for the IMS will not engage the auxiliary until a load is connected to it.

Volt meter does not work.

- Check that yellow wire is connected to the accessories output from your ignition switch.
- Check that earth wire is connected to negative side of main battery.
- Check that green wire is connected to output pole on IMS, and red wire is connected to sense pole on IMS

Both batteries go flat.

- Check alternator output.

Main battery goes flat.

- Load test main battery.
- Make sure any accessories that will draw current while vehicle is not running are connected to the auxiliary battery.

Note: winch should always be connected to the main battery.

IMS functions erratically.

- Make sure that all earth connections are connected to the negative side of the main battery.



Wiring Diagram

Basic Wiring Diagram For VSR-Voltmeter Kit

