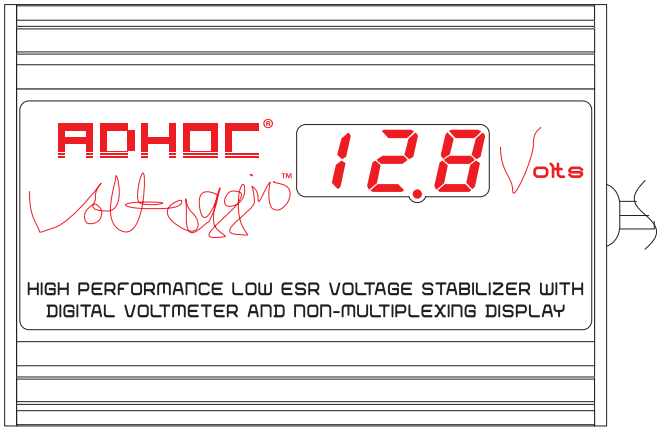
Device Manual

HIGH PERFORMANCE LOW ESR VOLTAGE STABILIZER WITH DIGITAL VOLTMETER AND NON-MULTIPLEXING DISPLAY



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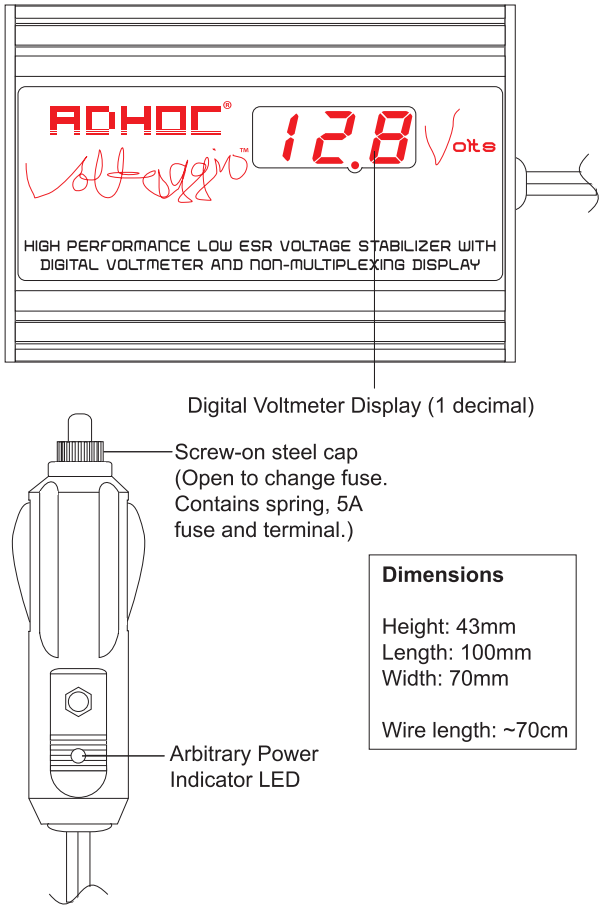
Device introduction



Dimensions

Height: 43mm
Length: 100mm
Width: 70mm

Wire length: ~70cm

Operating Intructions

Insert the plug into the electrical outlet socket/cigarette outlet, in your vehicle's cabin. If there are multiple sockets, choose prefered location. This device can be used on both 12V and 24V vehicles. Replace the fuse in plug only with 5A fuse only when necessary.

How to use the voltmeter to check battery and alternator condition and performance. (Applies only to standard internal combustion vehicles, not electric vehicles (EVs), hydrogen fuel cell vehicles or hybrid vehicles.) Guidelines for 12V vehicles.

- Determining battery state of charge:
Upon turning on the ignition and prior to cranking/starting the engine, voltage reading should be at least 11.0V. A voltage reading below 11.0V would mean that the battery is either undercharged, left uncharged for a extended period of time, old or failing. A typical normal reading would be 12.0V-12.5V.

- Determining alternator condition/performance:
Upon cranking/starting the engine, voltage reading should rise to at least 13.0V or typically 13.5V -14.5V. A voltage reading of less than 13.0V when engine is running would mean that either the alternator is not functioning well or, in certain cases where the user performs exccessive electrical modification to the vehicle, that the alternator/charging system is overloaded.

- Determining battery condition/performance:
If normal charging voltage is attainable when the engine is running but a normal battery voltage is not present before cranking, and the vehicle was **not** left unused for an extended period of time (less than 1 week, typically for lead acid batteries), then the battery is either old or failing.

If, at any time during cranking/starting of the engine, the reading falls below 7.0V, the battery is underperforming.

Typical benefits of stabilized voltage and how to look out for them

The following are typical benefits observed when the device is used on most internal combustion vehicles:

- Smoother engine; less noise; better trottle response
- Slight increase in engine power; reduced emissions
- Lowered fuel consumption and increased engine efficiency
- Improved operation and precision of electronically regulated devices; ECU, TCU, sensors, electric power steering, etc.
- Improved operation of other electrically related devices.
- Increased lifespan of battery, alternator and electronics.

Although we may make claims that these benefits are typical as was evident throughout our testing of the device, we do not claim these improvements to be absolute under all circumstances. Actual benefits will vary from car to car. In some cases these benefits will be difficult to judge using only human sense and intuition. Empirical testing such as the dyno test, exhaust mapping and controlled environment mileage test will be needed in such cases.

In order for the average customer who is not involved with or interested in empirical performance test such as the dyno test to notice the difference the device makes, a repetitive comparison between driving with and without the device attached will be helpful. Similarly, a mileage test can be performed by comparing mileage with and without the device attacted repetitively using the same route under the same driving conditions. A long distance trip is prefereable in order to detect mileage improvements due to a more constant vehicle speed in contrast to urban driving.

Similarly, detecting the difference in smoothness, response, noise, vibration, precision and operational performance of aspects of the vehicle without using specifically designed equipment, will require familiarity with the vehicle, good skills, good judgement and good senses.

Technical specifications

Power rating: 1.05W (max)
Input voltage: DC 6V-35V
Current consumption: 85mA @ 12V;
43mA @ 24V

Capacitor type: -1000uF high ripple current, low-ESR, 105 degrees C, 35V, custom aluminium electrolytic capacitors.
-2200uF, low-ESR, 105 degrees C, 35V, custom aluminium electrolytic capacitors.
-0.22 uf ceramic capacitors

Total voltage stabilizer capacitance: 14,400uF

Voltmeter: Three digit, 1 decimal, non-multiplexing, red LED 7-segment display, 4 tiimes per second refresh rate.

Chasis: extruded aluminium with anodized finishing

Internal fuse: 10A

External replacable fuse: 5A

Warranty, Legal Statements and Contact

1 Year Warranty

Our one year warranty covers all aspects of this product, except its paintwork, guaranteeing that it will be free from manufacturer defect. If this product is found by you to be defective due to manufacturer defects within the stated time, please return it to the address provided in order to be entitled to a replacement, repair or refund, at our option, after due inspection. Please present your receipt as a proof of date of purchase.

Warranty, Limited Remedy, and; Limited Liability (Legal Statement)

We, Adhoc Technologies and Sciences LLC and our Appointed Regional Distribution Companies (for certain locations), warrant that this product will be free from manufacturer and material defects within the period of 12 months from the time of purchase. This warranty includes all funtional aspects of the product. We do not, however, warrant that the paintwork of this product will be completely free from scratches and imperfection caused by handling limitations inherent in the aluminium extrusion and anodizing process. If this product is defective as per the conditions stated above,and within the warranty period stated above, your exclusive remedy will be, at our option, to replace or repair the product or refund your money at the purchase price of the product. WE MAKE NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Except where prohibited by law, Adhoc Technologies and Sciences LLC and any of its Appointed Regional Distributors will not be liable for any loss or damages arising from this product, whether indirect, special, incidental or consequencial regardless of the legal theory asserted.

Warranty, Legal Statements and Contact (Continued)

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Thank you for purchasing our product.

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