

“Virtual” Alternator System

OPTIMAL BATTERY PROTECTION, CHARGING AND CONDITIONING SYSTEM



Charge any battery bank, anywhere on your vehicle, from any source, better and faster!

The Virtual Alternator system is fitted to many trust's RRVs and is an essential part of the "ASM3 advanced" seatbase system fitted to all the LAS front-line ambulances.

Cable volt drop, temperature variation, location, alternator output control (sometimes called "smart alternators") and battery technology all demand a high level of charging control *at the (aux) battery*. This will be a different voltage and current than the OEM alternator is giving which will be optimised for the cranking battery.

Early methods involved modifying the regulators. However the Antares Virtual alternator requires no intervention in the OEM alternator, avoiding potential warranty problems, but can still utilise the full power of the alternator.

So if you are replacing batteries too often make the switch to a Virtual Alternator system today, even for your existing fleet as it will pay for itself within a year.

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ANTARES
engineering with answers

Key Features

- 12 or 24 Volt operation
- Built-in Assured Start and Deep discharge protection
- Includes manual on/off for the loads
- Supports up to two auxiliary battery banks
- High efficiency ~ 95%
- 190A alternator pass through
- Alternator "overloading" protection
- Battery monitoring
- Serial data port for exporting data
- Short circuit protection
- Over-temperature protection
- Remote temp and voltage sense option
- Optimised for Antares batteries, but can be calibrated for any type.

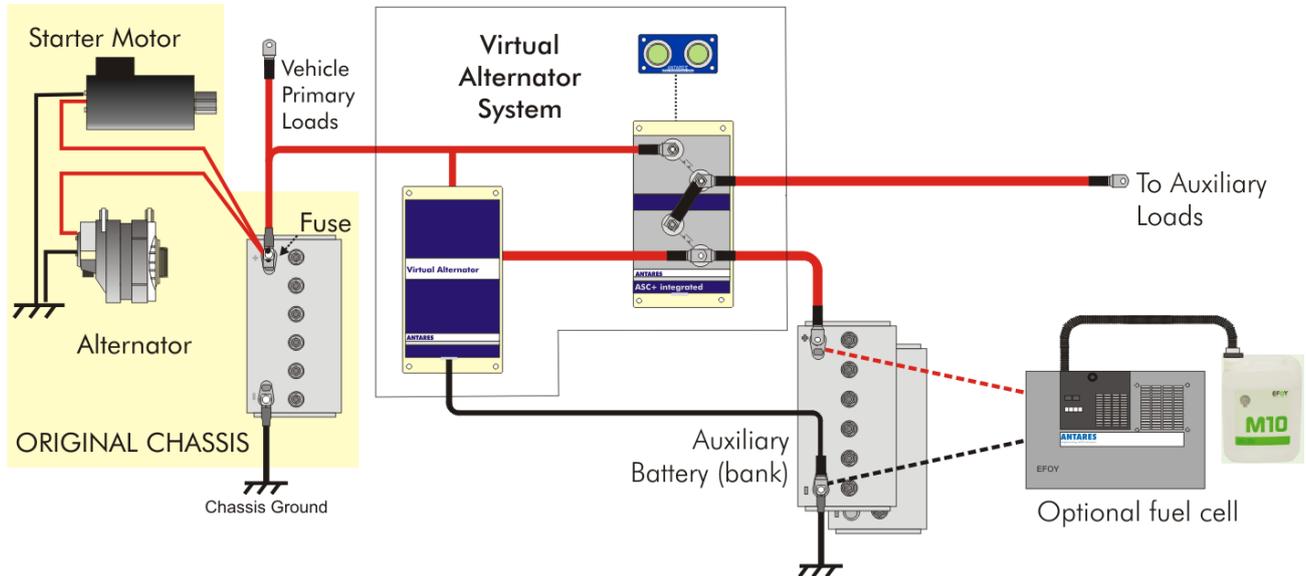
Overview

The "Virtual Alternator" should be used in any or all of the following circumstances:

1. The vehicle is mainly used for short journeys, and sits with auxiliary equipment running so requires maximum charging when the engine *is* running.
2. As part of a "runlock replacement system" that would include an Antares fuel cell
3. Cable volt drop is excessive - even millivolts can substantially impair recharging of auxiliary batteries.
4. Battery temperatures are very high or low because they are mounted outside the saloon.
5. The engine start-battery is a different type than the auxiliary battery (bank), thus requiring a different charging regime. The default settings on the Virtual Alternator are optimised for our Deep Cycle gel batteries, but the system can have any other charging regime programmed in.

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When the auxiliary batteries are very low, all the available power from the chassis alternator bypasses the virtual alternator, allowing up to 190A* to power the loads whilst simultaneously charging the auxiliary battery. More usually, the batteries will be fairly good, but with only a short journey time to replenish the batteries. During these journeys the VA system improves charging efficiency by taking in the alternator voltage and boosting it according to the state of charge of the battery, thus charging it much faster than if it wasn't there.

The system also avoids sulphation damage through deep discharge by manual or automatic isolation of the loads.

It will also provide automatic assured start (sometimes called "Emergency Start") without the need for extra batteries, thus saving cost and payload.

The system has been exclusively designed for vehicle use. It is both environmentally and electrically robust and has extremely low quiescent current draws.

Flexibility: The unit has one output per channel, so the dual channel outputs are typically connected together to maximise the output current. Alternatively the 2nd output can be used to perform a function from the μ Active range, (please contact Antares for more information). Various parameters such as load isolation timer can be customised for your application.

Fuel-cell ready: The system can also accommodate a fuel-cell to provide run-lock free operation saving 1 litre of diesel per hour, a saving that pays for the fuel cell very quickly.

We are happy to discuss the best solution for your application – please contact us on 01628 535440

More detail on the application & installation of these units is available on our website www.antares.co.uk

SPECIFICATIONS	VIRTUAL ALTERNATOR SYSTEM	
Maximum Current (Pass through mode)	Peak	1000A
	Continuous	190A* (@85°C)
Variant	VA Output	Part Number
12V Single Channel	12V 20A	92985
12V Dual Channel	12V 40A	92981
24V Single Channel	24V 17.5A	Please Enquire
24V Dual Channel	24V 35A	92984
Options	Remote Auto-detect Volt/Temp sensor Setting of auto-isolate timer	
Dimensions (L) x (W) x (H) mm	Virtual Alternator 206 x 91 x 65 Battery Protection/Pass through 206 x 91 x 40 (plus stud protrusion: 25mm)	
Weight (Kg)	Virtual Alternator unit 1.1kg Battery protector/pass through unit 1.4kg	
Charging Regime	3 stage charging - boost / time, taper, float	

*alternator dependant