

### Technical specifications:

Working Voltage: .....10V – 30V  
 Continuous Current: .....100A  
 Dimensions  
 (WxDxH): .....150x80x40mm  
 Weight: .....0.6 kg

### WARRANTY:

12 Month replacement warranty on all parts. Any parts which prove defective within 12 months from date of purchase, will be replaced (Ex factory) FREE OF CHARGE  
 This warranty is subject to the terms and conditions detailed in the operation and installation manual of this product.

Another product from:



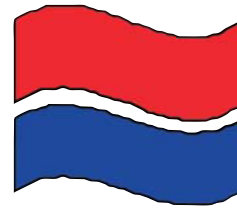
[www.powerelectronics.biz](http://www.powerelectronics.biz)

### FEATURES:

- Equalizes charge to both batteries
- Ensures both batteries are fully charged
- Direct compatibility to any type of alternator, whether it is equipped with internal or external voltage sensing
- Heavy-duty and waterproof
- Anodized aluminum heat-sink construction
- Optimal battery operation
- Very low voltage drop
- Lower power dissipation

The unit incorporates a technically advanced MOSFET-based electronic device that works with both 12V and 24V dual battery systems.

It also has the unique feature of being able to ensure a very low voltage drop between the alternator and the two batteries being charged- 75mV @ 10A or 150mV @ 20A. This compares to the almost one volt voltage drop that is common in virtually every other type of diode-based isolator. The benefits for batteries working with this isolator are that they are charged to full capacity by the alternator, resulting in a improved performance and greater life expectancy.



# POWER-CHARGE

HIGH CHARGE ALTERNATORS AND REGULATORS

## MXS – Alternator Regulator



Higher output current demands at lower alternator RPM are becoming increasingly common. This often requires a special alternator regulator. The MXS 03 – high charge alternator regulator, designed by Power Electronics, offers this and many other facilities, e.g.:

- Increased low RPM charging
- Up to 40% more battery charging
- 3-stage charge facility
- Remote battery sensing
- Data logging of battery cycles
- Continuous monitoring of 2 or more Batteries
- RS232 Communications chip for information download.

### WHY THE REQUIREMENT FOR POWER AT LOW RPM?

In many vehicles, extremely high power is drawn from the 12V (or 24V) system, especially when the vehicle is being driven at a low speed. Typical examples:

- Security vehicles often drive at 30km/h with headlights on, and often with additional spotlights.
- Stationary Police and Emergency vehicles at an accident scene, at night, with all lights and sirens on.

• 4x4 Vehicles driven in low range mode; while running spotlights or undertaking heavy winching, etc.

The current drawn from the battery in such cases can be as high as 150A, while the alternator is only producing about 50A - due to the low rotational speed of the alternator. The battery will support the load until the stored energy runs out.

DEALER STAMP

## WHY 3-STAGE CHARGING?

An increase in available energy often goes hand-in-hand with charging batteries more frequently and more intensively.

### THE DISTINCTION

Practically all 12V or 24V alternators, which are supplied with a propulsion engine by the manufacturer, are intended for charging starter batteries. The maximum charging current is often limited to 50 / 60A, while the voltage has been

adjusted to a 'float' charging voltage. This is a good point of departure for the starter battery, but not effective for charging service batteries.

### OTHER DEMANDS

The comparison on the following page shows the difference between normal application of the alternator and a typical 4 X 4 or leisure application.

ASPECT	CAR	TYPICAL 4X4 USER OR LEISURE VEHICLE
Use of engine	Long	Often short
Battery discharge	Only when starting	Often heavy discharge, continuous load
Battery size	Small	Large or more than one
Energy production	Limited	Has to be high because of short charging time
Dimensions & weight	Small & light	Larger & heavier

Conclusion: A DIFFERENT METHOD OF CHARGING, AND/ OR AN EXTRA ALTERNATOR IS REQUIRED FOR CERTAIN APPLICATIONS.

## CHARGING METHODS

Power Electronics also supplies a range of high amperage alternators which can also operate in conjunction with the MXS regulator. Due to the cycling conditions of the auxiliary battery, the only way to recharge the battery sufficiently in a short period of time is to offer increased charge voltage and to allow the battery to overcome internal resistance. The three stages are defined as:

- A – Bulk/Fast charging - current continuously pushed into battery at an increased voltage until maximum voltage point is received.
- B– Absorption phase – in which time the battery voltage is still high and allows charge to be absorbed.
- C– Maintenance – the battery is now fully charged and maintained.

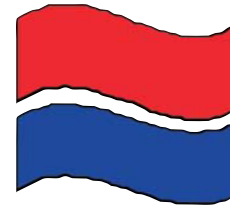
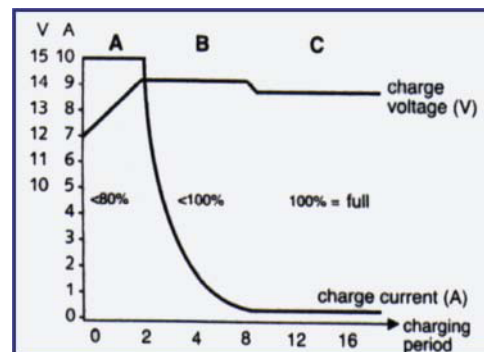
## NOTES

- Two or three separate batteries can easily be charged by the insertion of a Blioo Battery Management System. The drop in voltage will be automatically compensated for.
- The larger capacities are supplied with double pulleys.

The charging voltage can simply be adjusted by the installer, to compensate for any possible voltage drop.

## MXS/ALTERNATOR COMBINATION

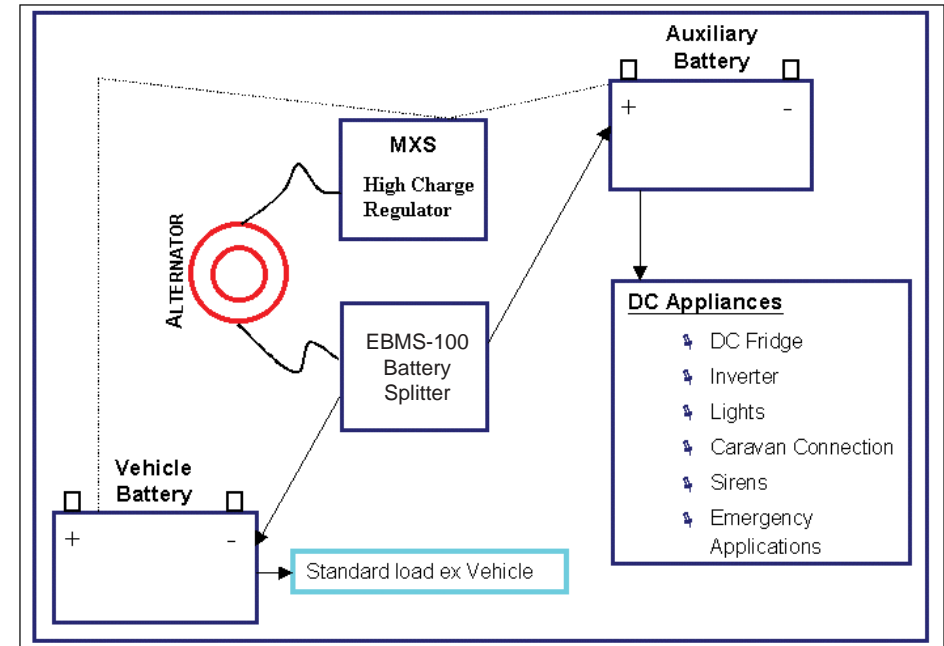
- Fully & quickly charges the (service) battery;
- Considerably decreases the engine running time;
- Prolongs the life-span of the battery;
- Frequently replaces the function of the AC generator (in combination with the inverter).



# POWER-CHARGE

ELECTRONIC BATTERY MANAGEMENT SYSTEM  
EQUALISES CHARGE AND ISOLATES MAIN BATTERY

## TYPICAL APPLICATION



## HIGH CHARGE MANAGEMENT SYSTEM IDEAL FOR USE WITH DUAL BATTERIES

- Splitter isolates batteries from each other.
- MXS Offers HIGH-CHARGE Control And BETTER-CHARGING.
- System ideal for leisure or emergency vehicles.

The application is widespread for any system that requires a back-up battery for the use of auxiliary equipment.

Typical examples are Emergency Vehicles - such as ambulances, police vehicles (in which the siren and emergency lights are connected to the auxiliary battery) as well as Leisure and 4x4 applications in which refrigerators, TV's, GPs, radios, computers, etc. are connected to the auxiliary battery.