

WHY BATTERIES FAIL

When a lead-acid battery is discharged, a soft lead sulfate material forms on the battery plates. During the battery's recharge, this material is lifted off of the plates and recombined into the battery's electrolyte solution. If, however, the battery is left in a partial state of discharge for as short as 70 hours, the lead sulfate material will begin to harden and crystallize, forming a permanent insulative barrier. As this barrier becomes thicker and thicker, the battery's ability to accept a charge or deliver energy is diminished, resulting in the perception that the battery is no longer usable. The accumulation of such deposits, otherwise known as sulfation, is the most destructive process in the life of any lead-acid battery.

EXTEND BATTERY LIFE

Finally there is a solution for 80% of all lead-acid battery failures. It's the DeSulfator from IES, Inc. This state-of-the-art pulse generator will dramatically extend the life of all lead-acid batteries and increase their efficiency no matter how long a battery may sit unused.

ELIMINATE BATTERY SULFATION

Using its patented, sweeping pulse process, DeSulfator Battery Maintenance Systems electronically prevent this life limiting process, thereby, allowing today's batteries to last up to five times longer. Designed to operate without taking the battery out of service, DeSulfator Battery Maintenance Systems are suitable for any 12, 24, 36, 48 and 60 volt batteries.

2 YEAR LIMITED WARRANTY

Built tough for high reliability DeSulfator Battery Conditioners have no moving parts to wear and are warranted on performance and against defects for two years. This device generates no heat, high voltage danger, audible noise, and can in no way harm the battery itself.

The DS Series are designed for use on any type of battery powered equipment system that is regularly recharged. It dramatically improves the battery's ability to accept and delivery energy.

It connects directly to the battery or charging source output and continually conditions the battery by preventing and eliminating sulfation.



APPLICATIONS

*ELECTRIC VEHICLES
STANDBY GENERATOR SETS
CATV
DELIVERY TRUCKS
RECREATIONAL VEHICLES
HEAVY MARINE
GOLF CARTS
CONSTRUCTION EQUIPMENT
UPS SYSTEMS
TRAFFIC CONTROL EQUIPMENT
ELECTRIC LIFT TRUCKS
SOLAR POWER SYSTEMS*



DS-500/DS-1000 BATTERY CONDITIONERS

The DeSulfator DS Series are a recent addition to the family of DeSulfator products from Innovative Energy Systems. Their patented "sweeping pulse technology" dissolves sulfation in all lead-acid batteries. Every year hundreds of thousands of batteries are prematurely replaced because of the performance robbing effects of sulfation.

Use of a DS will enable weak and dead batteries to regain their optimum performance levels and provide for a longer service life in a variety of applications.

THE PROBLEM:

During normal battery use, lead sulfate slowly builds up on the plates of all lead-acid batteries. The growth and subsequent hardening of this material results in 80% of all battery failures. The longer the battery is in service the more sulfation accumulates on its plates and the harder it becomes for the battery to accept a charge and the less energy it is able to deliver.

THE FIX:

By installing the DeSulfator DS Series, a "Sweeping Pulse" of energy is emitted into the battery set. The frequency at which these pulses are emitted are tuned to excite the structural components of the sulfate deposits. This process enables sulfation to revert back in to the electrolyte solution. NO OTHER PROCESS EXISTS TO EFFICIENTLY ACCOMPLISH THIS TASK.

EASY TO USE:

Simply attach the color coded leads to the battery terminals. Its smart multi-plexing circuitry uses only a fraction of a watt to continually condition the battery. It does not interfere with any type of battery charging equipment and works on all types of lead-acid batteries including wet cell, sealed, gel-cell or absorbed electrolyte.

USE OF THE DeSULFATOR WILL:

- Condition battery without the damaging effects of equalization
- Increase battery life
- Increase battery performance
- Increase reliability of equipment
- Decrease battery replacement costs

SPECIFICATIONS		
	DS-500	DS-1000
POWER CONSUMPTION	.2 watts	.4 watts
DIMENSIONS	2"x3"x1.5"	3"x3"x1.5"
WEIGHT	.4 lbs.	.6 lbs.
PULSE FREQUENCY (Hz)	10,000-100,000	10,000-100,000
LEAD LENGTH	12"	12"
SUGGESTED BATTERY CAPACITY	Up to 350 Amp Hrs.	350-1000 Amp Hrs.
VOLTAGE	12, 24, 36, 48, 60 and 72	
<i>Specify Voltage at Time of Order.</i>		

INNOVATIVE ENERGY SYSTEMS

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