

IN CHARGE OF YOUR BATTERIES

Battery regeneration: analysis and desulphation

Energic Plus has been around for more than 10 years and supplies battery chargers, boosters, analysis equipment and **battery accessories for all battery-related applications**. Energic Plus is a generic brand of battery products by TVH.

Through this letter, we wish to place our **battery regenerator** in the spotlight. This device can give any type of lead-acid battery a second life.



Are your batteries also suffering from loss of capacity due to sulphation?

Sulphation is the most important cause of capacity loss in lead-acid batteries. Slowly but surely, hard sulphate crystals form on the plates of the battery. These crystals increase the internal resistance and lower the total capacity.

Over 75% of these batteries can be repaired by using a high pulsating charge and discharge current.

Only a low percentage of the batteries with capacity loss have incurred mechanical damage and will have to be replaced anyway.

The battery regenerator converts the hard sulphate crystals back into acid

The battery regenerator removes the sulphate by charging and discharging the battery in different steps, by using a fast pulsating current. This restores the capacity of the battery which, if maintained correctly, can be used for years to come. By means of a detailed report, the gained capacity and the additional information about the condition of the battery can be looked into.



Example test report battery regenerator



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How does the battery regenerator work?

The battery regenerator consists of a charge and discharge system, combined into one machine. During the charging and discharging process, a high-frequency current pulse (150 Hz) is used.

Short high-current pulses are sent to the battery. This causes the hard sulphate crystals to be converted back into sulphuric acid. The density of the electrolyte will increase while the internal resistance of the battery will decrease. As a result, the capacity will increase.

The temperature of the battery is monitored meticulously and the current is automatically adjusted where necessary. So the regeneration system operates completely automatically.

To be able to demonstrate the difference in capacity, the battery is completely discharged both before and after the regeneration process. The result can immediately be read off on the battery report. This report can be saved as a PDF, Word or Excel-file.

Go a step further with the BMS-system

Thanks to the BMS-system (Battery Monitoring System) batteries can be analysed down to cell level. The system tracks faulty cells and clearly indicates which cells should be replaced.



Example test report BMS-system

Cell No	00:00	00:03	00:06	00:09	00:12	00:15	00:18	00:21	00:24	00:27	00:30	00:33	00:36	00:39	00:42	00:45	00:48	...Dens
#1	2.91	2.91	2.84	2.83	2.82	2.81	2.81	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
#2	2.91	2.91	2.89	2.89	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88	2.88
#3	2.94	2.94	2.90	2.90	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84
#4	2.94	2.94	2.87	2.87	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86
#5	2.90	2.90	2.83	2.83	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
#6	2.83	2.83	2.84	2.84	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87
#7	2.83	2.83	2.82	2.82	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
#8	2.90	2.90	2.82	2.82	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
#9	2.85	2.85	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87
#10	2.86	2.86	2.86	2.86	2.82	2.82	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
#11	2.90	2.90	1.91	1.92	1.84	1.83	1.82	1.80	1.79	1.77	1.76	1.73	1.71	1.68	1.65	1.61	1.56	1.56
#12	2.84	2.84	2.86	2.86	2.82	2.82	2.81	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Sum	25.58	25.58	24.14	24.01	23.57	23.63	23.58	23.42	23.34	23.28	23.22	23.14	23.08	22.99	22.94	22.83	22.74	
Avg	2.13	2.13	2.01	2.00	1.97	1.97	1.97	1.95	1.95	1.94	1.94	1.93	1.92	1.92	1.91	1.90	1.90	

Please contact us via below contact details for additional info about this system. Also have a look at the extensive Energic Plus range on our website www.energicplus.com.

Kind regards,

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