

ABSTRAK

Keberadaan lampu darurat sangat penting di dalam rumah, terutama bagi keluarga yang mempunyai bayi atau anak kecil. Bayi atau anak kecil sangat mudah rewel bila berada dalam gelap yang dapat terjadi saat listrik padam. Lampu darurat dilengkapi dengan 1 buah aki kering sebagai suplai lampu darurat. Kondisi aki kering ini harus diperhatikan, karena memiliki peranan penting dalam sebuah lampu darurat. Pada saat tidak dipakai dalam kurun waktu yang panjang, biasanya pemilik menganggap kondisi aki selalu prima. Sebuah aki memiliki karakteristik *self discharge*, dimana tegangan aki akan terus menurun dan mendekati kondisi "kosong" selama 90 hari. Pada Alat Perawatan Aki untuk Lampu Darurat terdapat fitur *maintenance charge* yang dapat menjaga kondisi aki selalu prima. Selain memperhatikan faktor *self discharge*, faktor sirkulasi elektrolit aki juga harus diperhatikan. Bila lama tidak digunakan, maka tidak terjadi sirkulasi elektrolit aki. Oleh karena itu, pada alat perawatan aki ini dilengkapi fitur *discharge* dan *3 mode charge*. Jadi aki 12 V 5 AH akan tetap prima, apabila dilakukan proses *discharge* dengan menggunakan arus sebesar 2.5 A dan proses *charge* hingga mencapai batas tegangan tegangan mendekati penuh dengan menggunakan arus pengisian 1 A dan 0.5 A yang dilanjutkan dengan pengisian *maintenance charge* yang besarnya 5 mA.

Kata Kunci: aki kering, proses *charge*, proses *discharge*, *self discharge*, dan lampu darurat.

ABSTRACT

The existence of an emergency lamp is very important in a house. This is especially for families who have babies or little children. Babies or little children can be very fussy if they were in the dark. An emergency lamp is completed with a seal lead acid battery as an emergency supply. The condition of a seal lead acid has to come to consideration because it has a very important effect to an emergency lamp. When it is not utilized for a very long time, generally people tend to think that the condition of the seal lead acid is still in a good condition. A seal lead acid has a self discharge characteristic. It is when the voltage of a seal lead acid goes down and reaches to an empty condition within 90 days. Seal Lead Acid Maintenance Device for an Emergency Lamp has a maintenance charge feature which can preserve a seal lead acid always in a good condition. In addition, we have to consider a self discharge factor and an electrolyte circulation of seal lead acid. If a seal lead acid is not utilized for a long time then there is no electrolyte circulation. Therefore, the Seal Lead Acid Maintenance Device is equipped with a discharge feature and three charge modes. So 12 V 5 AH battery pack will remain excellent, if carried out using the discharge process using a current of 2.5 A and the charge until it reaches the limit voltage stress management approach by using the charging current 1 A and 0.5 A, followed by charging maintenance charges of the magnitude 5 mA .

Keyword: *seal lead acid, charge process, discharge process, self discharge, and emergency lamp.*