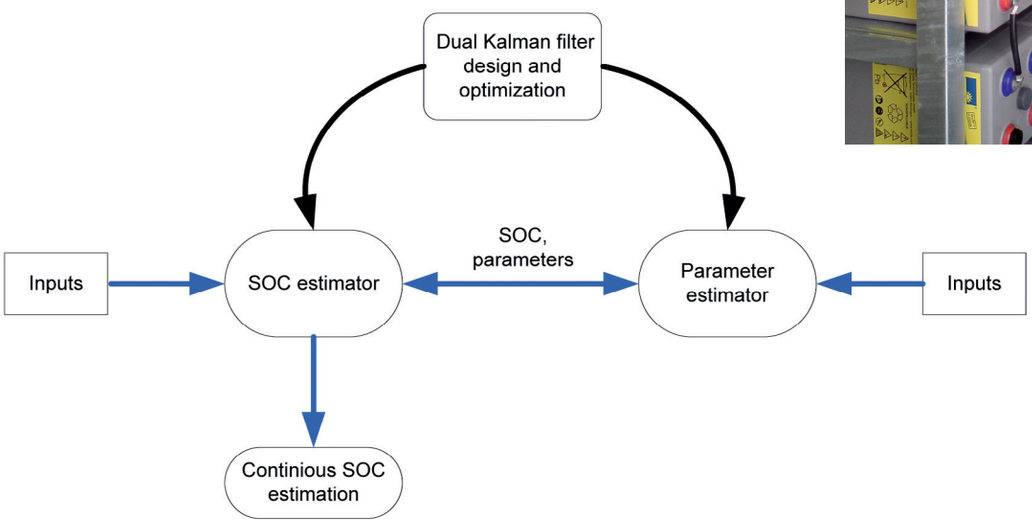
Electrochemical batteries

Batteries play an important role in reducing electrical energy supply uncertainties in isolated power systems. Statistics show that the main cause of more than 85% failures in various UPS systems is poor battery management system. Supply uncertainty is a direct consequence of the remaining energy stored in batteries.

It is well known that the capacity of electrochemical batteries depends of many parameters, constructional and operational; temperature, age, charge/discharge current. Current SOC (state of charge) is a nonlinear function of all aforementioned parameters, as well as of the previous battery state. As SOC is an indicator of stored energy, values of other internal parameters such as internal resistances and hysteresis indicate current SOH (state of health).

It is therefore crucial to have a system that continually monitors these states. For that purpose, an algorithm based on a dual extended Kalman filter has been developed, tested and implemented. Robustness and dual nature of this estimator allows high degree of flexibility in application and a simple plug'n'play feature.



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SYSTEM CERTIFIED
ISO 14001:2004 NR.00261/0
ISO 9001:2008 NR.01095/0
OHSAS 18001:2007 NR.00242/0

KONČAR Battery Monitoring System

Continuous Monitoring

Batteries are often built from multiple strings of single cells. Breakdown of only one of them ruins the operation of the whole bank. Two essential indicators of batteries' current state are its SOC and internal resistance. Conventional monitoring systems perform resistance tests typically once a week, which is far from acceptable, knowing the short time in which the battery can fail. Končar dual extended estimator performs the resistance analysis end corrects its estimate every sample period (typically one second).

Modularity and expandability

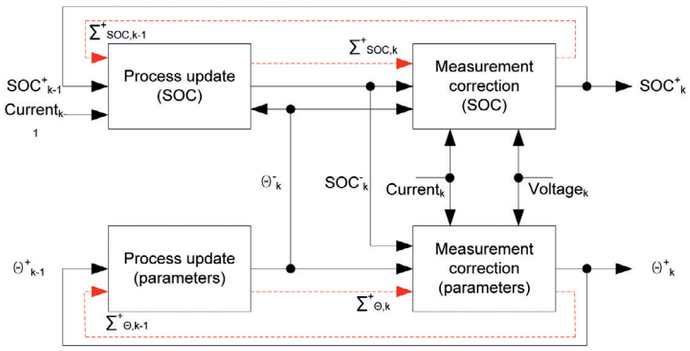
The specificity of this product is its applicability to various battery installations, regardless of battery type, capacity and total string voltage. Accommodation to particular application is done in design phase.second).

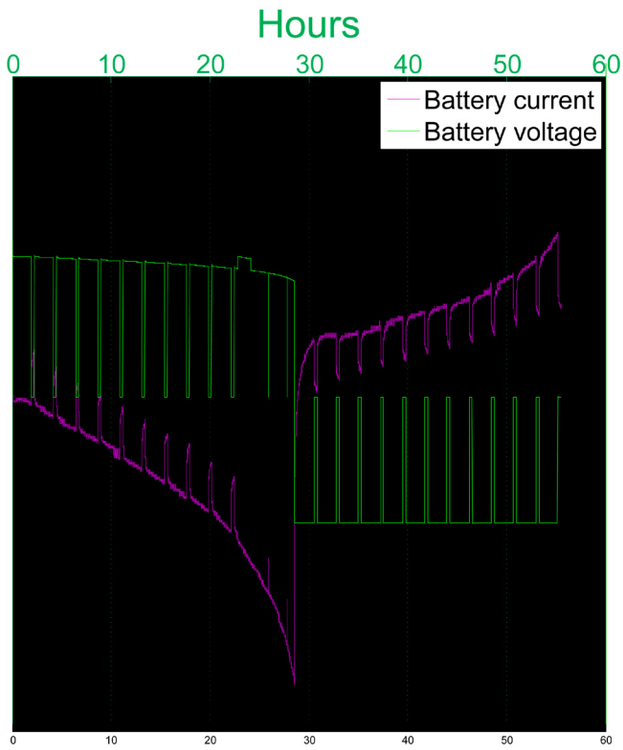
Attractive LED display

LED display shows crucial system parameter estimates like internal resistance, SOC, SOH and remaining working time.

Additional features

User friendly, backup of history data for future analysis, remote data access.





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