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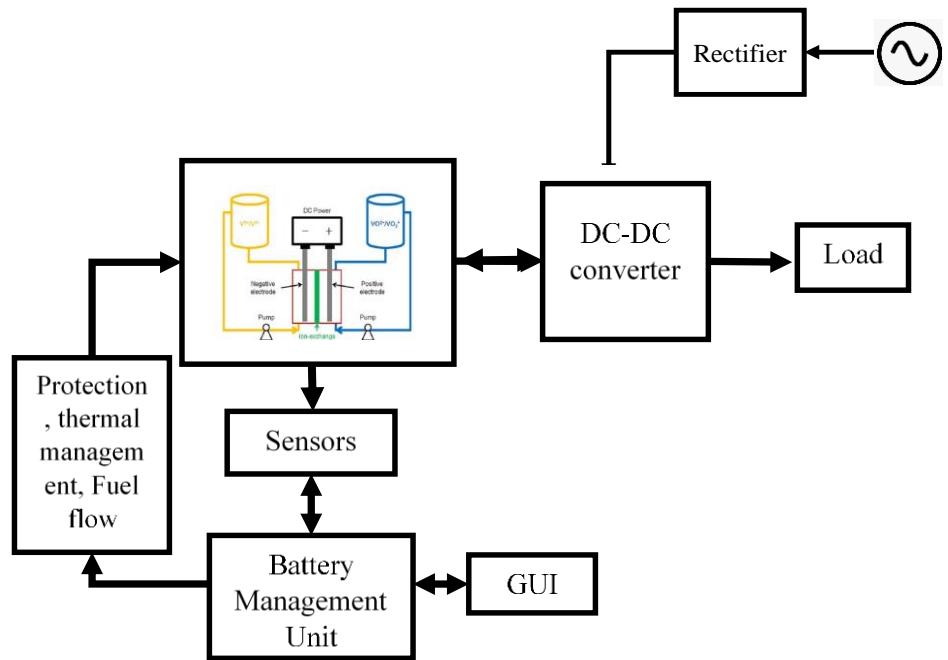


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Topic: Battery System Development and Integration



The vanadium redox flow battery (VRB) is one of the most promising electrochemical energy storage systems deemed suitable for a wide range of renewable energy applications emerging rapidly to reduce the carbon footprint of electricity generation. To interface with the electric load appropriate power electronic interface with Battery Management System (BMS) is required. So, it is necessary to develop an advanced BMS unit and power electronics interface that help to charge the battery from grid/renewable energy supply and discharge to load based on load requirement. In BMS, it contains battery parameter estimation, State of Charge (SoC), State of Health (SoH), Protection circuits, Motor pump control(fuel), GUI that communicates with the user, etc.

Developing an advanced, highly efficient BMS and Power electronic interface to vanadium redox flow battery for standalone application is necessary. That can improve performance and efficiency of VRB.



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