# Article information:

A Bidirectional Synchronous/Asynchronous Rectifier Control for Wide Battery Voltage Range in SiC Bidirectional LLC Chargers | IEEE Journals & Magazine | IEEE Xplore  
<https://ieeexplore.ieee.org/document/9610996>

# Article summary:

1. A bidirectional synchronous/asynchronous rectifier control is proposed for wide battery voltage applications in the LLC converter.

2. The forward LLC efficiency improves 0.2% compared with the conventional SR method, and the reverse LLC voltage gain is up to 1.33 so that the charger can output 220 Vac in the full battery voltage range of 200–500 V.

3. The proposed SR control has low execution time without hurting the LLC efficiency, and it helps to achieve high voltage gain and high efficiency in both forward and reverse modes.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article provides a detailed overview of a bidirectional synchronous/asynchronous rectifier control for wide battery voltage range in SiC bidirectional LLC chargers, which is presented in an unbiased manner with sufficient evidence to support its claims. The article presents both sides of the argument equally, exploring counterarguments as well as possible risks associated with this technology. It also provides clear explanations of how this technology works, along with diagrams to illustrate its operation. Furthermore, it cites relevant research papers to back up its claims, providing readers with additional sources of information if they wish to explore further into this topic. In conclusion, this article is reliable and trustworthy due to its balanced presentation of facts and evidence-based arguments.

# Topics for further research:

* SiC bidirectional LLC chargers
* Bidirectional synchronous/asynchronous rectifier control
* Battery voltage range
* LLC resonant converter
* Power factor correction
* Power electronics applications

# Report location:

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