

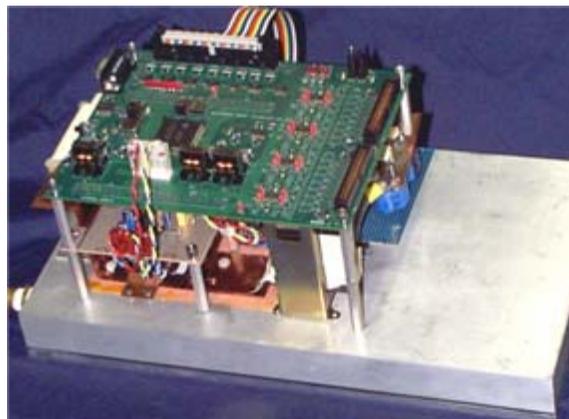
Soft-Switching Bi-Directional DC/DC Converter for Fuel Cell Energy Management

Objective

Create converter technology to assist electric power management for fuel cell powered hybrid electric vehicles.

Goal

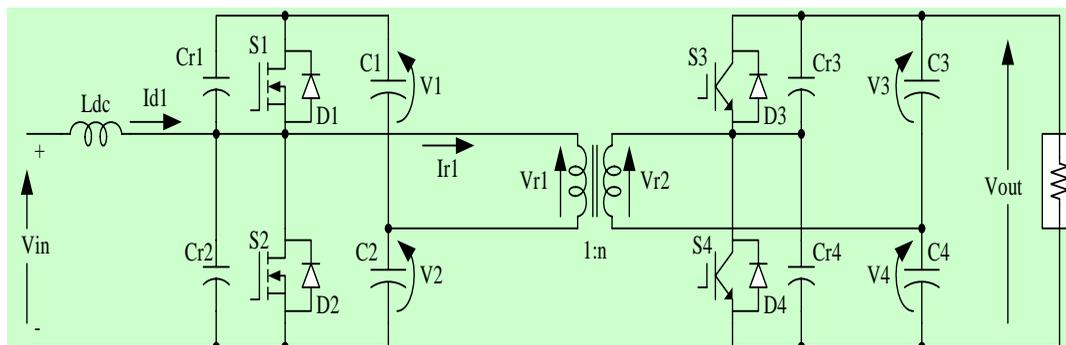
Develop compact, low cost topology of bi-directional, isolated DC/DC converter for fuel cell systems that can power a high voltage compressor motor expanding unit from a low voltage battery until fuel cell voltage is established.



5 kW dc/dc converter for fuel cell automotive applications.

ORNL Converter Advantages

- Converter has half the component count as other similar converters
- Soft-switching is possible without any additional component costs
- Low cost design is lightweight, compact, and reliable
- The design has less control and accessory power needs than similar converters



Points of Contact:

Power Electronics and Electric Machinery Research Center
Oak Ridge National Laboratory
2360 Cherahala Boulevard
Knoxville, TN 37932

Don Adams
Director
Phone: 865-946-1321
FAX: 865-946-1262
E-mail: adamsdj@ornl.gov

Laura Marlino
Technical Project Manager
Phone: 865-946-1245
FAX: 865-946-1262
E-mail: marlinold@ornl.gov

Website: peemrc.ornl.gov