A dual active bridge dc-dc converter comprising current balancing

The present invention relates to a dual active bridge DC-DC converter comprising a first set of n transformers comprising respective input windings and respective output windings magnetically coupled to each other through respective magnetically permeable cores where said input windings are connected in series and a first resonant network connected in series with the series connected input windings or a set of first resonant networks connected in series with respective ones of the output windings. The dual active bridge DC-DC converter further comprises a first set of rectification circuits connected to respective ones of the output windings of the first set of n transformers to supply a first set of rectified transformer voltages to a first set of rectification nodes and a current balancing transformer comprising n transformer windings connected between respective ones of the first set of rectification nodes and a common DC output voltage node to force current balancing between individual windings of the first set of output windings, where n is a positive integer number larger than or equal to 2.

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