

Semi-direct variable speed drive with $N+1$ power availability**ABSTRACT**

A system for controlling a speed of each of N variable speed motors with a drive voltage is disclosed, where N is an integer equal to or greater than 1. The system includes $(N+1)$ generators and a switching arrangement configured to directly couple, in a one-to-one relation, the N variable speed motors to the $(N+1)$ generators so that any one of the N variable speed motors is capable of operating in at least a first mode and a second mode. In the first mode the any one of the N variable speed motors is driven with the drive voltage generated by a first generator of at least two of the $(N+1)$ generators, and in the second mode the any one of the N variable speed motors is driven with the drive voltage generated by a second generator of the at least two of the $(N+1)$ generators.

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Figure 5