

6

**APPARATUS AND METHOD FOR DETECTION AND CONTROL
OF CIRCULATING CURRENTS IN A VARIABLE SPEED MOTOR**

ABSTRACT

A current regulation circuit for a variable speed
5 motor. The motor includes a stationary assembly having
windings adapted for energization in at least one preselected
sequence and a rotatable assembly in magnetic coupling relation
to the stationary assembly. A power supply link connects the
windings to a power supply and includes power switching devices
10 for selectively energizing the windings in the preselected
sequence by selectively connecting the power supply link to the
windings to produce an electromagnetic field for rotating the
rotatable assembly. The power switching devices each have a
conducting state and a nonconducting state. The current
15 regulation circuit includes a timing circuit, a current sensing
circuit and a control circuit. The timing circuit defines
preset periods during which each of the power switching devices
may be nonconducting. The current sensing circuit senses
current in the power supply link. The control circuit controls
20 the power switching devices so that each of the power switching
devices is nonconducting when the sensed current exceeds a peak
current reference level during the preset periods. In this
manner, the current regulation circuit controls current which
circulates during periods when only one power switching device
25 is conducting.

FIG. 1

This Sheet Has Been Replaced



9601177-0