

PREFACE

This research is about the principal of operation and the construction of a detector circuit to identify the branch failure conditions in the rotating diode bridge of a brushless excitation system. Brushless excitation is used in high-speed synchronous generators.

The principal of detection is based on the harmonics present in the exciter field current. Different failure conditions give different contents of harmonics. By identifying harmonics it is possible to interpret the type of fault..

The circuit that detects exciter harmonic following a failure in a diode branch gives an alarm or indication. This circuit can be applied to any brushless excitation system.



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