Abstract

This paper describes the application of fuzzy logic in diagnosing the power quality problems in a three-phase induction motor. A fuzzy logic fault detector (FLFD) was simulated to identify normal and abnormal operating conditions of the induction motor and to classify the operation based on current measurements at different time intervals. The FLFD is simulated using fuzzy logic toolbox in MATLAB. The performance of fuzzy logic fault detector has been analyzed through simulation studies with different inference techniques such as Mamdani type inference, Sugeno type inference and Adaptive Neuro–Fuzzy inference system. It was found that the Sugeno type of inference yielded results, which approximated the desired values. This analysis paves the way towards an ultimate objective of developing an intelligent power quality diagnosis
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tool capable of predicting the abnormal operation of any power system.

References

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Index Terms

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Keywords

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