

Over the years the power systems of developing countries specifically Nigeria is becoming more unstable due to several factors among which is the continuous faults developed by power system components and of particular interest is power transformers, providing a solution to this challenge is the motivation behind this research work. This paper presents the development of a microcontroller-based power transformer overload protection system, with a communication capacity to notify the utility staff a case of abnormalities caused by overloading. The protection system consists of a GSM Module, Voltage sensor, Buzzer, Relay and an ATMEGA328 microcontroller programmed in C-Language. The system was designed to intelligently senses a situation where the transformer is overloaded using the voltage sensor. A relay is triggered to disconnect the primary side of the transformer from the load and also send an SMS message to the utility staff, that a certain transformer is overloaded. The results obtained from the test carried out on the system shows that the SMS was sent to the utility company as overload condition occurred likewise the relay disconnected the load to isolate the transformer from service thereby securing it from damage.

KEYWORDS

Transformer overloading, Microcontroller protection, Voltage sensor, GSM module