

Smart monitoring and controlling of frequency deviation by using MATLAB GUI and ARDUINO DAQ card

ABSTRACT

Electricity transmission and distribution in most of the countries are needed to be improved by the construction of new networks. These improvements are not that much cost effective and if cost is tried to be reduced then the quality and efficiency of the system is compromised which is not suitable at all for the current system. In addition obtaining planning permission and carrying out construction is so much difficult in busy cities. The main objective of this research is to monitor and control frequency deviation. A simple MATLAB controlling and monitoring system is being developed and the ARDUINO DAQ card is used to calculate the frequency deviation. The purpose of respective research is basically based on a dummy load which is used to show the usage of particular equipment's used in a home such as fridge, freezer, oven, lighting system, and domestic wet appliances such as washer dryer which are attached these to a DAQ and then to a controlling and monitoring GUI MATLAB based. However, this research is focused on the monitoring and controlling of the frequency deviation.

Keyword: HMI; Human machine interface; DAQ; Data acquisition card; Home area network; MATLAB