Abstract

Generally the electricity generated, transmitted and distributed at different levels. These transformations are obtained by the Power Transformers of different ratings according to the level of transformation. So the power transformer is the main component in any electrical power system. One of the advantages is that we can obtain more efficiency (in between 99% - 100%) due to static parts (not having any rotating part like induction motor.

Here I am mentioning the new technology to communicate between the Electrical load units and substation. This one is power line shorting Technology. In this technology creating the disturbances in the power line with very small duration (in mille seconds only). For obtaining the deliberate distortion in the power lines is done by the switching components like Thyristor units. This disturbance is equal to short circuit. By this short circuit we get some slightly distorted sine wave in the transmission line or feeder. The distributed wave shape is present thought the Distribution line or feeder.

In this report contains analysis of the momentary short circuit at secondary of this power transformer, which useful for coupling the signal. This transformer is named as signal coupling Transformer. The main objective is to calculating the all specification and construction details of this signal coupling transformer according to the filed system parameters like normal power and distribution transformer, line impedance and normal voltage variations. Finally, the theme of this project is to obtaining optimization of the transformer design according to the Characteristics of Distribution voltages and also the economical design of this Power Transformer.