

ABSTRACT

The distribution transformer is a very important component in the distribution of electricity from distribution substations to consumers. Damage to the distribution transformer will cause the service to consumers troubled kontiniutas causing power outages or blackouts. One cause of damage to distribution transformers are overloaded and unbalanced load. Overload occurs because the load is mounted on the transformer exceeds the maximum capacity of the transformer when the load current exceeds the full load current of the transformer. Transformer can also be experienced even if the load current overload do not exceed the full load current transformer due to the temperature has exceeded the allowable limit. It is therefore necessary to transformer monitoring system in order to know the performance and condition of the transformer. However, because the distance between the distribution transformer monitoring location is far enough to need a repeater retransmits data received from the transmitter so well received by the receiver.

In this final project proposal a prototype repeater monitoring system Electrical Power Distribution Transformers through the link-based PLC Low Voltage CENELEC-C, which will be used to monitor the performance of current conditions and temperature on distribution transformers. In this system the data from the transmitter is received then further processed to be transmitted back to the receiver for display through the canal PLC (Powerline Communication).

Of this final task, this repeater system can be implemented in the monitoring system of power distribution transformers. With a working frequency of 125-140 kHz which is the standard CENELEC-C. Ideally, this system can be placed with a distance of 45 meters from the transmitter.

Key words: Distribution transformers, overload, PLC, repeater, flow sensors, temperature sensors, CENELEC-C