***Mimic Filter Design***

Using Mimic Filter is one of the methods of removal of DC offset from fault current and can be recovered to its originality sinusoidal waveform. If CT secondary circuit is connected with mimic impedance, which has same L/R ratio in the primary circuit, DC offset can be successfully removed.

Let the resistance and reactance of the mimic filter be r and x respectively.

The resistance and inductance of the line (per km) are 0.044965 ohm and 1.01e-3 H respectively.

Now, we want the impedance for the mimic filter to be of the form 1∠Ѳ, where Ѳ is the impedance angle of the line.

Therefore,

The mimic filter resistance and reactance are 0.11727 ohm and henry.

***Formula for implementation of numerical algorithm***

***1) Mann – Morison Algorithm***

* ***Forward algorithm***
* ***Backward algorithm***
* ***Central algorithm***

***Magnitude Calculation***

***2) Rockefeller Udern Algorithm***