

Abstract :

In conventional transmission line protection, a three-zone stepped directional distance scheme is used to provide the primary as well as remote backup protection. The voltage and current measurements are needed by the distance relay for determining the impedance. In this paper, a new design model of mho distance relay has been implemented first in PC using LabVIEW, then tested using Power System Simulink Model under several operating and fault conditions. Finally, the relay prototype has been realized using acquisition card NI USB-6009, which acquires real-time signals of the currents and the voltages, processes them digitally and outputs tripping signal to the circuit breaker. The obtained results show that the relay operates correctly under different fault types for different locations.