

ABSTRACT:

Arcing fault issues have increased concern and awareness of many people in different background. The effect it causes leads to the development of arc fault detectors. Arc fault detector is associated with overcurrent relay in older switchgear system to improve speed performance of switchgear protection system. In this paper, a new design of arc fault detector for double busbar metal-enclosed medium voltage switchgear is introduced to develop a better arc fault detection in terms of selectivity. A position sensor is associated concurrently with light and current detector in providing a tripping signal to the corresponding circuit breaker. The circuit is designed using Boolean algebra approached and simulated in MATLAB Simulink. Simulation results are observed to verify the performance of the arc fault detector in terms of solving false tripping problems.