

Short circuit power based fault location algorithm in distribution networks

ABSTRACT

This paper presents a novel accurate fault location technique for the radial unbalanced distribution systems, based on measurement of the Short Circuit Power (S/C.P) peak values at the substation. To evaluate the gathered dataset, a Multi-Layer Feed Forward Neural Network (ML-FFNN) with the tuned parameters is designed and the locations of faults are estimated in low, medium and far distances from the source. The estimated distances are compared with the real fault locations to show the accuracy of estimations. The proposed method can work with the small scale datasets and it is capable of being implemented in distribution systems with several laterals.

Keyword: Fault location; Short circuit power (S/C.P); Distribution system; Intelligent algorithm