

Ahmad G. Abd-Elkader, Saber M. Saleh, M. B. Magdi Eiteba, “A passive islanding detection strategy for multi-distributed generations”, Electrical Power and Energy Systems, Vol. 99, July 2018, pp. 146–155.

ملخص البحث السابع

ملخص البحث باللغة الإنجليزية :

Islanding operation is an undesirable event because it can harm the personnel and damage the connected loads. Therefore, islanding operation should be detected and the islanded distributed generation units should be isolated from the rest of the distribution network. This paper presents a simple islanding detection method that is suitable for multiple distributed generation units. The proposed method is based on the concept of the main bus and uses an index called the voltage index to detect islanding operation for large power mismatches. However, for small power mismatches, the line current measured at the main bus is used to disconnect the loads connected to the bus in order to transfer small power mismatches to large power mismatches to detect islanding operation. The simulation results clearly reveal that the proposed method is effective in islanding operation detection and has no non-detection zone. Wind farms power generation system is presented in this paper as an example of distributed generation units.