Title (en)

METHOD OF LOCATING A SINGLE-PHASE GROUND FAULT IN A POWER DISTRIBUTION NETWORK

Title (de)

ORTSBESTIMMUNG EINES MONOPHASENERDUNGSFEHLERS IN EINEM ENERGIEVERTEILUNGSNETZ

Title (fr)

PROCEDE DE LOCALISATION D'UN DEFAUT A LA TERRE MONOPHASE DANS UN RESEAU DE DISTRIBUTION D'ELECTRICITE

Publication

EP 0846271 A1 19980610 (EN)

Application

EP 96927078 A 19960823

Priority

- FI 9600457 W 19960823
- FI 953970 A 19950823

Abstract (en)

[origin: WO9708562A1] The present invention concerns a method of locating a ground fault in a power distribution network, in which method the start instant of the fault transient is determined from the change of the neutral point voltage, the current and voltage transient signals of the faulty phase are filtered, the duration of the transient is determined, the frequency of the fault transient waveform is estimated, the measured voltage and current transient signals are low-pass filtered, the spectra U(omega) and I(omega), of the voltage and current transients are computed, the impedance spectrum (1) is computed, and the estimate of the fault distance is computed for a discrete angular frequency omega k from the equation (2). According to the invention, the voltage and current signals of the faulty phase are filtered using a comb filter, the measured voltage and current signals are low-pass filtered in two directions, the frequency of the charge/discharge transient is estimated from the autocorrelation function of the transient, and the complex value spectra U(omega) and I(omega) of the voltage and current transients are computed using parametric spectral estimation methods.

IPC 1-7

G01R 31/08; H02H 3/16

IPC 8 full level

G01R 31/08 (2006.01)

CPC (source: EP)

G01R 31/086 (2013.01); Y04S 10/52 (2013.01)

Citation (search report)

See references of WO 9708562A1

Cited by

CN112433256A; CN102323518A; CN102539150A; CN103941147A

Designated contracting state (EPC)

AT DE DK ES FR GB IE IT SE

DOCDB simple family (publication)

WO 9708562 A1 19970306; AU 6702996 A 19970319; CN 1070612 C 20010905; CN 1200177 A 19981125; EP 0846271 A1 19980610; FI 102700 B1 19990129; FI 102700 B 19990129; FI 953970 A0 19950823; FI 953970 A 19970224; NO 980724 D0 19980220; NO 980724 L 19980406; PL 181121 B1 20010531; PL 324885 A1 19980622; RU 2159445 C2 20001120

DOCDB simple family (application)

FI 9600457 W 19960823; AU 6702996 A 19960823; CN 96197635 A 19960823; EP 96927078 A 19960823; FI 953970 A 19950823; NO 980724 A 19980220; PL 32488596 A 19960823; RU 98105626 A 19960823