Title (en)

DISTANCE MEASUREMENT PROCESS

Title (de)

VERFAHREN ZUM DURCHFÜHREN EINER DISTANZMESSUNG

Title (fr)

PROCEDE DE MESURE DE DISTANCES

Publication

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Application

EP 96909030 A 19960403

Priority

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Abstract (en)

[origin: WO9632652A1] A distance protection measurement process is disclosed for multiple-phase electric energy transmission lines. Voltage and current in the faulty phase conductor are sensed, digitised and evaluated in linear phase response, non-recursive digital filters (FIR filters) of a filter unit. The weighting factors of the FIR filters are freely predetermined and errors are corrected by means of a correction factor. The distance between the faulty area and impedance measurement values that indicate the measurement site are derived in a computer from the output values of the filter unit. In order to measure distances with accuracy even in the case of monopolar short-circuits to ground, a total current (IOFA) that corresponds to the sum of the currents in the phase conductors of the energy transmission line is sensed, digitised and evaluated in additional FIR filters (8, 9) of the filter unit (1), forming output values (mk, nk). The computer (10) calculates four auxiliary values with which it calculates, together with the output values (yk, mk, nk, wk, vk) of the filter unit (1), a length factor (m) and a resistance (Rf) that is proportional to the resistance of the faulty area. By multiplying the length factor (m) by the kilometric resistance (R'1) of the associated system and by adding the resistance value (Rf) and multiplying the kilometric reactance (L'1) of the associated system by the length factor (m), the measurement impedance (R, X) that characterises the distance from the faulty area is calculated.

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