

The proposed method of relay protection of an electric installation and a device for realization of the method differ in that, for the protection, the following operations are performed: measuring actual phase voltages and currents at the installation, converting analog values of the voltages and currents into digital data, correcting the phase current data with consideration for nonlinearities of current transformer magnetic circuits, measuring a mains frequency, generating timing signals, calculating, in real time, parameters of vector diagrams, characterizing the electric installation operation, by using the sliding window method and immediate values of currents and voltages at a number of consequent instants within the measurement interval, determining the cyclic components of the currents, filtering the data corresponding to the vector diagram parameters, comparing the calculated vector diagrams with specified vector diagrams characterizing the installation operation in normal and abnormal modes, and depending on the comparison results, shutting off the installation with time delay or immediately.