

Invention relates to electrical engineering and power engineering and can be used in systems that require smooth regulation of the inductance of an electrical circuit. The method involves generating a control signal based on the magnetic flux current value of an inductive coil, measuring the instantaneous value of the mains voltage, extracting the instantaneous AC current signal, comparing the control signal with the absolute value of the instantaneous AC current, and interrupting the magnetic flux by creating current-free intervals at the beginning and end of each AC half-cycle. The device comprises an inductive coil with a unipolar controlled switch, a sensor for the instantaneous value of the mains voltage, and a control system that includes serially connected blocks for square-wave pulses, sinusoidal pulses, a precision rectifier, and a comparison block, the output of which is connected to the control input of the unipolar switch. The technical result of the invention is to ensure smooth regulation of inductance for uniform load distribution among parallel power sources, symmetrization of polyphase voltages, improvement of the starting characteristics of induction motors, and compensation of capacitive currents in power supply cable lines.