

An active filter for compensation of current and voltage high harmonics in a main relates to power supply and may be used in mains with medium voltage, for example 6-10 V. An active filter for compensation of current and voltage high harmonics in a main comprises a unit for analyses and measurement of high harmonics with output being connected to input of a unit for generation of antiphased high harmonics, output of which is connected to input of a power block, output of which is intended for connection to a main. Moreover, it is introduced a voltage unit, a unit for transformations of stator current, a unit for transformations of rotor current, unit for transformations of rotor voltage a sensor for rotor position. As a power block it is used an asynchronous electric machine with phase rotor. The unit for generation of antiphased high harmonics is realized as an low-power exciter based on IGBT-transistors. Outputs of the voltage unit, the unit for transformations of stator current, the unit for transformations of rotor current, the unit for transformations of rotor voltage and the sensor for rotor position are connected with the unit for generation of antiphased high harmonics. The unit for transformations of rotor voltage is performed feedback function. Output of the unit for generation of antiphased high harmonics is connected with windings of asynchronous machine rotor having a phase rotor. Stator windings are connected to the main. The new construction of active filter provides quality improvement of compensation of current and voltage high harmonic in a main and compensation of asymmetry, voltage fluctuation and deviation.