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## STRUCTURES OF SINGLE-PHASE CONVERTORS UNITS FOR COMBINED ELECTRICAL SUPPLY SYSTEMS WITH PHOTOELECTRIC SOLAR PANELS

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### Abstract

*Schematic solutions of single-phase converter units for combined electrical supply systems with a power active filter function are considered with 24-hour operation and taking into account the voltage variation of the photovoltaic solar battery and using the improved principle of inverter current generation with a fixed carrier frequency. The selection of the power circuit parameters, of the settings of the values of the carrier frequency and the deviation of a current are justified. A variable structure of the control system with a slave circuit of inverter output current and various external regulators for day, night and autonomous operation modes is proposed. Results of modeling for the system: "network - unit with serial connection of inverters with solar batteries - load" are given. References 7, figures 5, tables 2.*

**Key words:** combined electrical supply system, power active filter, photovoltaic solar battery, cascade circuit of a grid inverter, energy losses in switches.

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