

DOI: <https://doi.org/10.15407/techned2016.01.060>

DETERMINATION OF REACTIVE POWER COMPENSATION MODE IN FOUR-WIRE THREE-PHASE ELECTRIC POWER SUPPLY SYSTEM USING SEARCH ENGINE OPTIMIZATION

Journal	Tekhnichna elektrodynamika
Publisher	Institute of Electrodynamics National Academy of Science of Ukraine
ISSN	1607-7970 (print), 2218-1903 (online)
Issue	№ 1, 2016 (January/February)
Pages	60 – 66

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Abstract

The task of balancing and reactive power compensation in three-phase four-wire power supply system with asymmetric three-phase load is considered. The task is carried out by numerical methods using optimization and mathematical model of power supply system. The proposed efficiency function calculated by the model and based on analysis of symmetrical components of currents in power lines. Optimization parameters are the parameters of the reactive elements

of symmetry-compensating device.. The latter is formed of six generalized reactive elements, so the problem is reduced to finding a local minimum. After the end of the optimization redundant element is eliminated, and the parameters of the symmetry-compensating device can be refined. References 10, figures 4, table 1.

Key words: three-phase system, the zero wire, reactive power, compensating device, search engine optimization.

Received: 04.09.2015

Accepted: 29.10.2015

Published: 29.01.2016

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