

Pengaruh Arus Harmonisa Pada Unjuk Kerja Sistem Open-Loop Variable Speed Drive Motor Induksi Menggunakan Inverter

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Abstract	One of the applications of the inverter™s is in Variable Speed Drive (VSD) to control the speed of an induction motor by varying the voltage or the output frequency of the inverter. Induction motor reliability driven by using inverter is often affected by harmonics components of the current and voltage generated by the inverter. This phenomenon brings harmonic losses in the industry process applying VSD and induction motors, because not all inverters produce a pure sinusoidal wave. This paper presents the effect of harmonics on the performance of squirrel cage induction motor type i.e. the speed, torque and efficiency by conducting computer simulation and experimental test in laboratory. The increase in the value of harmonics resulting an increase in the value of speed 1.41%, an increase in the value of torque 1.81 Nm, and decreased of efficiency 1to5%, the harmonics also resulted torque ripple 2 to5 times resulting in unstable speed of motor, arising engine vibration and causing motor heating
Publisher Name	Jenderal Soedirman University
Publish Date	2016-02-06
Publish Year	2016
Doi	DOI: 10.20884/1.dr.2016.12.1.139
Citation	
Source	Dinamika Rekayasa
Source Issue	Vol 12, No 1 (2016): Jurnal Ilmiah Dinamika Rekayasa Februari 2016
Source Page	9-14
Url	https://dinarek.unsoed.ac.id/jurnal/index.php/dinarek/article/view/139/pdf
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