

## ABSTRAKSI

Pada umumnya selaku Pengelola Gedung (*Management Building*) mempunyai target manajemen mutu mengenai Energi (ISO 50001), diantaranya adalah *Cost Effective* dan *Saving Energy* terhadap pemakaian serta perawatan pada unit-unit *Equipment* yang ada, khususnya yang berkaitan erat terhadap komponen mekanikal dan elektrikal. Pemakaian dan Perawatan berkala sangatlah penting pada komponen Mekanikal dan Elektrikal tersebut dimana hal ini sangat berkaitan pada fungsi kerja peralatan (Unit Equipment) pendukung seperti ; Mesin Pendingin Udara (AHU/HVAC/Chiller), Heater (Steam Boiler), Pompa Hydrant dan Air Bersih (WTP). Bahwa pada bagian perlengkapan ini banyak terdapat Motor Induksi (3 phasa) serta membutuhkan konsumsi daya listrik yang sangat sering dan cukup besar pada saat mesin mulai di aktifkan, dikarenakan adanya *Inrush current* (6x lipat) pada saat mesin di nyalakan. Inverter atau Variable Speed Drive (VSD) adalah perangkat elektrikal yang berfungsi sebagai pengendali putaran motor induksi 3 phasa secara *Variable star-stop* (*Soft Start, Smooth, Flowing*) bahwa Inverter dapat di Setting (*adjustable*) menggerakkan putaran Fan atau Motor Induksi 3 phasa dalam mentransfer kebutuhan aliran *Air flow* (CFM) pada unit mesin pendingin untuk tujuan Efisiensi "*Energy Saving and Cost Effective*".

**(Kata kunci:** Inverter, Hemat Energi, Efektif, dan Efisien, *Air Handling Unit*)

*In general, as the Building Manager (Management Building) has a target of quality management on Energy (ISO 50001), such as Cost Effective and Saving Energy on the use and maintenance of the units Equipment available on, especially those closely related to the mechanical and electrical components of control , The use and regular maintenance is essential in the mechanical and electrical components where it is very related to the work function of equipment (Unit Equipment) such support; Air Conditioning Engineering (AHU / HVAC / Chiller), Heater (Steam Boiler), Pumps Hydrant and Water (WTP). That on the part of this equipment is widely available induction motor (3 phase) as well as the need of electric power consumption is very frequent and quite large when the engine start switch, due to the Inrush current (6x fold) when the machine Turned ON. Inverters or Variable Speed Drive (VSD) is an electronic device that functions as a controller rounds induction motor 3 phase in Variable star-stop (Soft Start, Smooth, Stage) that the inverter can be in Settings (adjustable) drive the rotation Fan or AC Induction Motor 3 phase in Air flow requirements to transfer flow (CFM) on the unit for the purpose of cooling machine efficiency "Energy Saving and Cost Effective".*

**(Key word:** Inverter, Saving Energy, Effective and Efficiency, *Air Handling Unit*)