

# 비동기모터 기동시 Matlab을 이용한 스위칭시간 계산의 모델링 및 시뮬레이션

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## Modeling And Simulation of the Switching Time Calculation When Starts Asynchronous Motors using Matlab Software

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**Abstract:** In fact, asynchronous motors are used widely. Asynchronous motors which have large power (compared to the source supplies) is needed to start them in various methods. The theory of application reduced voltage to motor's stator or variable resistor fed rotor for the purpose of altering the motor's torque and power consumption characteristics is an idea that has existed for many years. These concepts have flourished mainly due to the need to limit torque and limited generator/power distribution capabilities. However, how can know exactly the time of switching steps with different types of motors as well as load characteristics is very difficult. This paper focuses on the design and development mathematical models of motor[1][2], load, ACB, asynchronous machine and then is implemented in SIMULINK in order to calculate this time, special on ships where power generation station is limited. The simulation results are both compared and discussed in detail so that it can apply to conclude the most suitable and applicable starting time for new system with various motors and load

**Keywords:** Asynchronous motors wound rotor, Switching time, Electrical machines, star-delta starting

### I. INTRODUCTION

### II. MODELING OF ASYNCHRONOUS MOTOR

### III. MODELING OF ,...

### IV. THE SIMULATION RESULTS

### V. CONCLUSION

This paper introduced Technicians to build Models of Asynchronous motor, various load, ACB and using Simulink as a tool for simulation systems from which calculated exactly the time of transfer steps on motor starting circuits with different type of motors as well as characteristics of load. Results are given to illustrate the transfer time is depended on so much characteristics of load, kinds of motor and also power distribution capabilities. This is very important before designing an actual system. Simulink[3][4] uses the groups of block diagrams to represent systems and also provides a powerful tool for investigating power systems including synchronous machines for research and educational purposes.

## 참고문헌

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