

# Design and Development of Innovated Motor Control Trainer

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**Abstract:** *This study aims to design and development of motor control trainer for educational purposes in Surigao del Norte State University. Specifically, to evaluate the effectiveness of the proposed project, which is a motor control trainer. The study was conducted at Surigao del Norte State University, the project is tested out of 50 respondents that has knowledge regarding motor control, enough to understand the flow of the project its material used, functions, usage and how it works. These are invaluable resources for students, offering hands-on experience and practical knowledge in electrical and control systems. They enhance learning by providing a safe environment to experiment and troubleshoot, fostering essential skills that are crucial for future careers in engineering and technology. By engaging with these trainers, students not only build a strong foundation in motor control concepts but also develop a deeper understanding of sustainable practices in the industry. The findings of this study demonstrate that the developed motor control trainer has excellent educational applications. The proposed training system effectively teaches students the fundamental concepts of motor control through hands-on experience. It features various control mechanisms including speed regulation, direction control, and different starting methods that are essential for understanding motor operations in industrial applications. Additionally, based on the study's results, it is concluded that the training system serves as an effective educational tool in academic especially in engineering students, allowing students to gain practical experience in motor control principles while ensuring safety through built-in protection features. The trainer's modular design enables students to understand individual components and their interactions within the system. The trainer's versatility and robustness make it particularly suitable for intensive educational use where repeated demonstrations and student experiments are required.*

**Keywords:** Motor Control, Trainer, Innovated