

E-Bike Speed Controlling Using STM32

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Abstract: This project presents the design and implementation of an E-Bike speed control system using an STM32 microcontroller for efficient and reliable motor control. The system regulates motor speed by processing throttle input and generating appropriate PWM signals to the motor driver. Speed feedback from sensors enables precise control and improved riding safety. Protective features such as braking control and over-speed limitation are incorporated to enhance reliability. The proposed system offers high performance, low power consumption, and flexibility for future upgrades in electric vehicle applications.

Keywords: Automation, Embedded system, IOT, efficiency