

ABSTRAK

SISTEM PROTEKSI *CONTROLLER* MOTOR BLDC PADA MOBIL LISTRIK FUSENA GARDAPATI

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Sistem Proteksi pada mobil listrik sangat diperlukan untuk kualitas mobil listrik, sistem proteksi yang baik mampu melokalisir keadaan dari gangguan seperti kelebihan beban dan hubung singkat. Pengendalian dari sistem proteksi sendiri harus cepat dan sensitif dalam merespon gangguan, sehingga langsung memerintahkan sistem proteksi untuk bekerja. Penelitian ini menggunakan metode studi literatur dan wawancara. Ketika setting arus telah ditentukan oleh keypad dan saat arus melebihi settingan keypad tersebut maka buzzer akan berbunyi, buzzer disini sebagai tanda atau alarm yang ditunjukkan pada pengemudi agar mengurangi gas (*throttle*). Pada keypad tombol B nilai arus dibagi 1 ($3A : 1 = 3A$), Tombol C nilai dibagi 10 ($3A : 10 = 0,3 A$), Tombol D nilai dibagi 100 ($3A:100 = 0,03 A$). Untuk mengetahui nilai arus dan suhu dapat dilihat pada layar LCD dan web Iot (*Internet of Things*) agar saat mobil listrik fusena gardapati melaju di sirkuit tetap bisa memantau arus dan suhu *controller* menggunakan *handphone*. Untuk LCD diletakkan di depan pengemudi agar pengemudi juga bisa melihat bagaimana nilai arus dan suhu pada *controller*. Untuk hasil dari nilai pengukuran alat ukur dan sensor didapatkan rata-rata eror dibawah 1 %.

Kata Kunci : Mobil listrik, Sensor arus WCS1700, Sensor suhu DHT11, *Internet Of Things*

ABSTRACT

BLDC MOTOR CONTROLLER PROTECTION SYSTEM ON FUSENA GARDAPATI ELECTRIC CARS

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The protection system for electric cars is very necessary for the quality of electric cars, a good protection system is able to localize conditions from disturbances such as overload and short circuit. Control of the protection system itself must be fast and sensitive in responding to disturbances, so that it immediately orders the protection system to work. This study uses the method of literature study and interviews. When the current setting has been determined by the keypad and when the current exceeds the keypad setting, the buzzer will sound, the buzzer here is a sign or alarm shown to the driver to reduce gas (throttle). On the keypad button B, the current value is divided by 1 ($3A : 1 = 3A$), Button C is divided by 10 ($3A : 10 = 0.3 A$), Button D is divided by 100 ($3A : 100 = 0.03 A$). To find out current and temperature values can be seen on the LCD screen and the IOT (Internet of Things) web so that when the Fusena Gardati electric car is driving in the circuit it can still monitor the current and temperature of the controller using a mobile phone. The LCD is placed in front of the driver so that the driver can also see the current and temperature values on the controller. For the results of the measurement values of measuring instruments and sensors, the average error is below 1%.

Keywords : *electric car, WCS1700 current sensor, DHT11 temperature sensor, Internet of Things*