

Prototype Modul Lampu Sein Dan Hazard Berbasis Timer Pada Kendaraan Roda Dua (Timer Based Turn Signal And Hazard Prototype On Two Wheel Vehicles). Pembimbing (Andik Irawan, ST, M.Eng)

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ABSTRACT

In the current era, technology is growing rapidly, for example in everyday life we often use advanced technology. The vehicles we use are also facilitated with advanced features ranging from GPS (global positioning system), parking sensors, airbag systems, smart keyless systems, and so on. Based on a survey by the Indonesian Ministry of Transportation, 28% of traffic accidents were caused by human factors, 20% by natural factors, 18% due to the vehicles used, 15% due to road factors. One of the causes of accidents is that the driver forgets to turn off the turn signal after a turn. This incident caused confusion among road users behind it. The purpose of this research is to make a timer-based automatic turn signal system to reduce the risk of accidents caused by neglecting to turn off the turn signal on a motorized vehicle. This research method uses a variable timer to turn off the turn signal. The result of this research is the 80 second timer test with voltage > 12V produces a total error value of 1.26%. The 90 second timer test with voltage > 12V produces a total error value of 1.12%. Testing the 100 second timer with a voltage > 12V produces a total error value of 1.01%. The 80 second timer test with voltage <12V yields a total error value of 1.26%. The 90 second timer test with voltage <12V resulted in a total error value of 1.12%. Testing the 100 second timer with a voltage <12V produces a total error value of 1.01%. With the results of the total error value, it can be concluded that the prototype of the timer-based turn signal module on two-wheeled vehicles is still below the predetermined error tolerance limit of 15%. Thus this research can reduce the risk of motorized accidents caused by neglecting to turn off the turn signal.

Keywords: Turn signal, hazard, timer, Arduino Nano