ABSTRACT

Air pressure checks on tires are essential for driving. The standard air pressure of four-wheeled vehicle tires, which range from 28-36 Psi is quite enough to drive on both highways and highways. Alat monitoring the air pressure of the tire, making it easier for the rider to see the pressure inside his vehicle. Motorists can monitor their vehicle tires so that they can overcome the risk of accidents and save the vehicle tire usage period.

This tool uses a pressure sensor, namely the MPX5700AP sensor as an air pressure reader on vehicle tires. This sensor is mounted on the lid of the vehicle hole which makes it easier for the rider to install or remove the sensor. In addition to the sensor, inside the tire cap there is a wireless NRF24L01 as communication and delivery of udara pressure results sent to wireless located on the dashboard of the vehicle. The data received is displayed to the LCD connected to the Arduino Mega 2560. Once the data is displayed on the LCD, data that is not up to standard pressure is processed using the if-else method to create an alert. This warning uses a buzzer to give a sound alert as well as led lights that turn on repeatedly. The existence of a warning feature allows the rider to immediately check and add wind pressure on the tires of his vehicle.

From the tests conducted, the MPX5700AP sensor produced a good average accuracy of 99,49%. *With an error value of 0.51% then the sensor value reading can be accurate and the tool can be carried to a speed of 50 km/h. With this air pressure monitoring, it is expected that motorists can find out the condition of the air pressure on the vehicle tire when driving. As per the design, this tool is useful for driving safety purposes and the tire usage period becomes longer.*

Keywords: *MPX5700AP sensor, Arduino, Wireless NRF24L01, if-else*