

ABSTRACT

Technological developments in the development and military fields are also growing rapidly, one of which is starting the operation of Unmanned Vehicles such as operations on land vehicles or UGV (Unmanned Ground Vehicle). Over the years UGVs have been used in various applications such as hygiene, medical, and military uses [1].

Utilization of the prototype power monitoring system on the UGV can be maximized for UGV operations such as war logistics equipment delivery missions, because it will greatly facilitate and reduce the risks caused by most of the delivery systems currently still carried out by personnel or by drop systems with aerial vehicles. The system can also be monitored remotely via the MIT App Inventor IoT platform which can be downloaded via Android devices to view battery data in real time.

This study uses a voltage sensor, current sensor, Arduino Mega Microcontroller, LoRa Shield Dragino, IoT platform. The results of the battery monitoring carried out show that the error in sensor measurements only shows 2,78% with 97,22% accuracy, with battery capacity remaining 53% on 60 Volt Battery, 51% on a 12 Volt 18Ah Battery, and 78% on 12 Volt 70Ah battery for 89 minutes of operation. The delay in LoRa to Antares communication shows an average of 491 milliseconds for the delivery time. So that this monitoring system is considered quite accurate, and it is hoped that this monitoring system can help the operation of the UGV Rover.

Kata Kunci: *UGV (Unmanned Ground Vehicle), VRLA Battery, IoT*