ABSTRACT

A technological development of rocket has growing rapidly, especially to the outer space and aerospace. It is used for payload carrier in meteorological parameter measurement. By the study, design a payload with specialization in meteorological measurement involves temperature, humidity, and air pressure.

Payload uses basic stamp 2p40 microcontroller as a control unit, SHT75 for temperature and humidity, MPXA6115A6U for air pressure, and completed by MMA3201EG to find out a velocity of gravity experienced by payload Hitachi HM55B serve as compass censor of controlling system reference brushless motor and propeller as an actuator. Payload moving autonomously for seeking based on set point.

The measurement result of censors transformed to the computer in wireless. It is shows that all censors working properly with temperature reading level of 98,1% in achievement of 30 sampling data, with average error of 0,5^{o}C. The range of achievement in humidity reading is 91,2% of 30 sampling data with average error of 5,3%RH. The range of achievement in air pressure reading is 97,7% of 30 sampling data with average error of 2,1kPa. The data sampling transformation period in average is 0,38 second/data without impairment. The range of achievement in payload seeking by examination result is 93,1% of 50 sampling data with average error of 2,06^{o}.

Keywords: payload, seeking, basic stamp 2p40.