

ABSTRACT

Wood is an insulating material, but can be turned into a dielectric or conductor in conditions of low water content or dry furnace. In this study, the wood tested contained four types of wood and in a given hole condition, the capacitance and resistance values would then be measured. Capacitance and resistance values are obtained from the conversion value of the output voltage obtained from the measurement of capacitive sensors and resistive sensors. To produce the measurement value used a measuring instrument, namely the LCR meter 700. Based on research that has been done to measure the value of capacitance and resistance, it was found that variations in the size of the hole area on wood objects affect the value of capacitance and resistance. The greater the size of the hole in the wood, the smaller the capacitance value and the greater the resistance value. The largest capacitance value is in the type of keruing wood with a value of 5.12 pF and the lowest is in teak wood with a value of 4.78 pF. The highest resistance value is in the type of keruing wood with a value of 20,380 M Ω and the lowest is in teak wood with a value of 13,976 M Ω .

Keywords: Parallel plate capacitor, capacitive sensor, resistive sensor, LCR meter 700.