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Capacitive Electrode Sensor : Design and Testing (Conference Paper)

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Abstract

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This paper proposed an alternative method of measuring water level using a Printed Circuit Board(PCB). The design of the electrode water level sensor went through circuit sketching, printing of sketch on PCB and etching. The signal conditioning circuit board was fabricated using a donut board and other electrical components. Experimentation was carried on the fabricated electrode sensor and the capacitance and current for each electrode finger was measured using digital multimeter and LCR meter. The multiple correlation of the water level, measured current and measured capacitance produced a value of 0.921 withP-values less than 0.05 showing the strength of the data obtained from the test conducted. The electrode water level sensor has proven to be consistent and reliable under normal working condition. © 2018 IEEE.

SciVal Topic Prominence

Topic: Liquids | Level measurement | level sensor

Prominence percentile: 83.453

Author keywords

Capacitive electrode water level sensor | Continuous water level sensor | Energy Security | PCB water level sensor | Signal Conditioning circuit

Indexed keywords

Engineering controlled terms: Capacitance | Capacitive sensors | Electrodes | Energy security | Signal conditioning circuits | Strain measurement | Water levels

Engineering uncontrolled terms: Capacitive electrodes | Digital multimeters | Electrical components | LCR meters | Measured currents | Multiple correlation | Printed circuit boards (PCB) | Water level sensors

Engineering main heading: Printed circuit boards

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