

## ABSTRACT

*Therapy for kidney replacement with hemodialysis a treatment that is carried out in patients with Chronic Kidney Failure in order to survive. The purpose of this study was to determine the stability of the dialysate fluid in the hemodialysis machine by measuring the temperature using the DS18B20 sensor and measuring the dialysate pH using the 4502C sensor on pre and post hemodialysis. The research method and the manufacture of this module use a pre-experimental research design with the type of research "one group posttest design" the independent variables are the pH value and Dialysate Temperature, the dependent variable is the pH and Temperature Sensor, the control variable is the Traceable Tool. This research was made a module using an Esp32 microcontroller system with an LCD display and can be monitored with Android via the Internet of Things (IOT) system. 03 and the comparison of the results of the dialysate temperature values at the time of pre and post obtained the maximum measurement error of 0.2%. From the measurement and analysis data, it can be concluded that there is no effect of pH and temperature values during pre and post hemodialysis*

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*Keywords: Chronic Kidney Disease, Hemodialysis, pH dialysate, Dialysate temperature, pH sensor, and Temperature sensor*