DESIGN OF PC – BASED MONITORING SYSTEM FOR pH MEASUREMENT DURING THE SOLUTION MIXING PROCESS

Student Name : Lestyanti Kurniasari
NRP : 2408.030.040
Study Program : Diploma Instrumentation Engineering
Major : Engineering Physics FTI-ITS
Supervisor : Hendra Cordova, ST. MT.

ABSTRACT

A pH monitoring system in the process of solution mixing of water, syrup and lime using PE – 03 sensor has been fabricated. The output of the sensor is an analog form, then connected to the SC circuit (signal conditioning), the conversion of ADC (Analog to Digital Converter) in 8535 ATMega microcontroller and connected to a PC (Personal Computer) via DB9 serial port. Response of pH can be displayed on screen PC monitor, the desired pH value in the solution mixing is 7. Which can be seen from the voltage of SC circuit using a multimeter. Based on the experiment it was obtained that the value of pH sensor is equal to the output voltage. Testing of pH sensor has error value of 0.18, accuracy of 0.973, precision of 99.91 %, standard deviation of 0.014 and uncertainty of 0.005.

Keywords : Measurement, Degree of pH, PC.