



Design and Implementation of Arduino Based Temperature Sensing Device

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Abstract-

This paper aims to design an Arduino Based Temperature Sensing device that senses and measures the real time flow of current through it. The proposed device uses an Arduino board, LM35 temperature sensor, LCD board etc. The main features which have encouraged the design and development of Arduino based temperature sensing is economy, reliability, flexibility, compactness and improved performance.

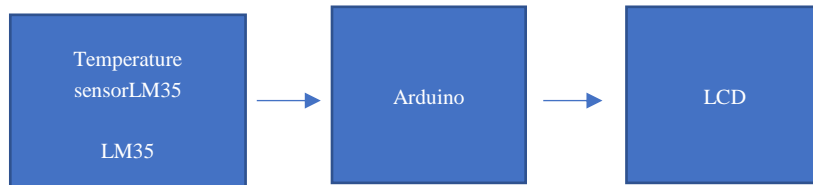
I. Introduction

LM35 is a three terminal linear temperature sensor. It can measure temperature from -55 deg Celsius to +150 deg. Celsius. The output voltage of LM35 increases 10mV per degree Celsius rise in temperature.

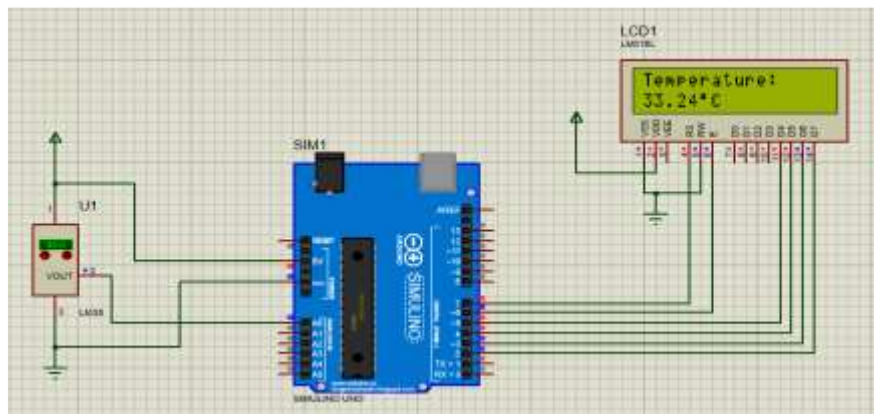
II. Methodology

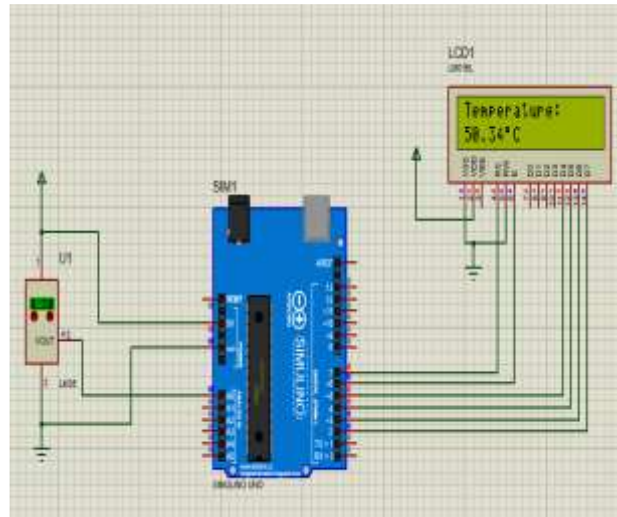
LM35 Temperature sensor is interfaced with Arduino Uno board and output is displayed on the LCD. Input to the current sensor is given through the power supply and load is connected through which current is measured.

Block Diagram:



Simulation Diagram:

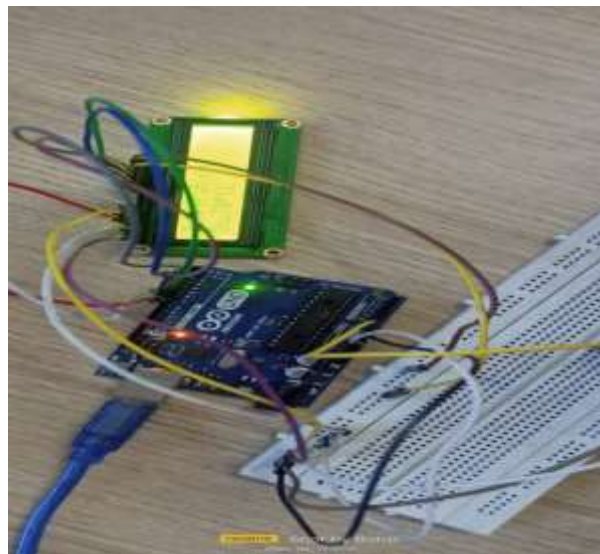




III. Hardware Assembly

- Step 1: Connect Vcc pin of temperature sensor to 5V of the Arduino.
- Step 2: Connect ground of temperature sensor to ground pin of the Arduino.
- Step 3: Connect output pin of temperature sensor to the A0 pin of the Arduino board.
- Step 5: Interface LCD with Arduino board.
- Step 6: Check output on LCD

IV. Circuit Diagram



V. Results

Following readings are obtained after performing the simulation.

S.No.	Temperature
1	5 deg. C
2	10 deg. C
3	15 deg. C
4	20 deg. C
5	25 eg. C

VI. References

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