Ahsanullah University of Science & Technology

Department of EEE

Course Title: Measurement & Instrumentation

Course No: EEE 2211

Project Report

Project Name : Temperature measurement with LM35 sensor .

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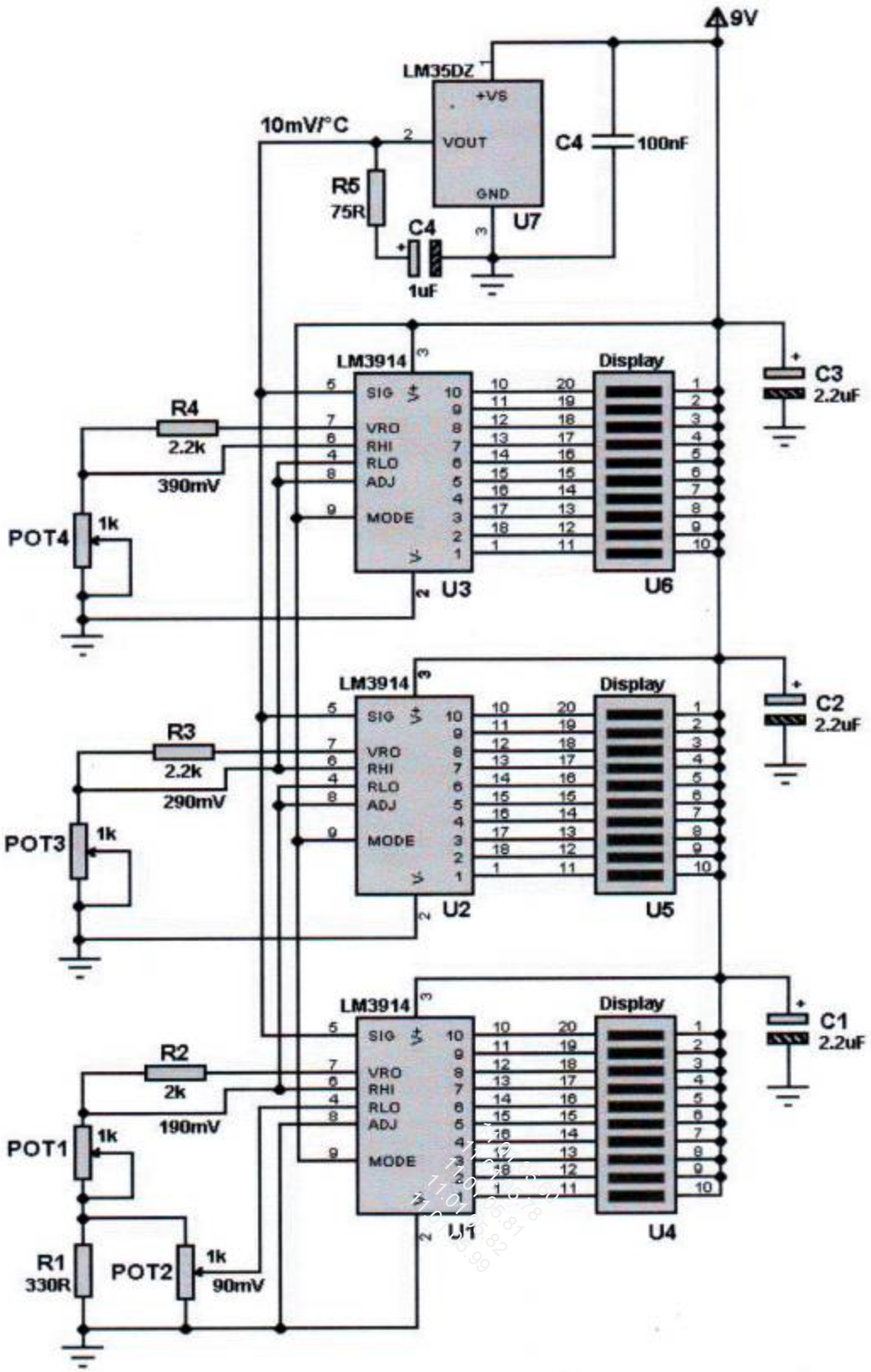
Temperature Measurement with LM 35

Circuit Diagram



The Whole circuit contains

- Lm35
- LM3914
- 2.2k resistors
- 2.2uF , 1uF,100nF capacitors
- A step down transformer (220v-9v)
- Diode 1N4001
- 1k Pot
- LED

LM35

Precision Centigrade Temperature Sensors

- Calibrated directly in ° Celsius (Centigrade)
- Linear + 10.0 mV/°C scale factor
- 0.5°C accuracy guarantee able (at +25°C)
- Rated for full −55° to +150°C range
- Suitable for remote applications
- Low cost due to wafer-level trimming
- Operates from 4 to 30 volts
- Less than 60 µA current drain
- Low self-heating, 0.08°C in still air
- Nonlinearity only ±1/4°C typical
- Low impedance output, 0.1 W for 1 mA load

LM3914
Dot/Bar Display Driver

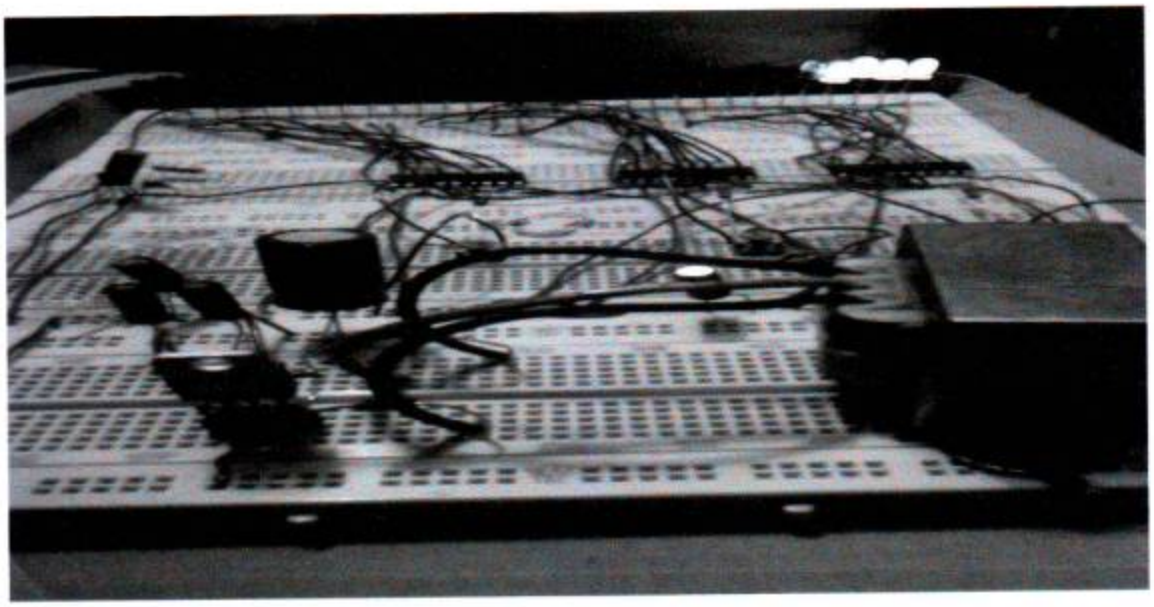
- Drives LEDs, LCDs or vacuum fluorescents
- Bar or dot display mode externally selectable by user
- Expandable to displays of 100 step
- Internal voltage reference from 1.2V to 12V
- Operates with single supply of less than 3V
- Inputs operate down to ground
- Output current programmable from 2 mA to 30 mA
- No multiplex switching or interaction between outputs
- Input withstands ±35V without damage or false outputs
- LED driver outputs are current regulated, open-collectors
- Outputs can interface with TTL or CMOS logic
- The internal 10-step divider is floating and can be referenced to a wide range of voltages

Our Aim

In this project we want to show the measurement of room temperature within the range of -55 to 150 degree centigrade.

Our Drawback

But we cannot measure the temperature below 10 degree centigrade and above 40 degree centigrade.



Last word

Through we can measure the range of temperature 10-40 degree centigrade with this circuit. But we can improve it by -55 to 150 degree centigrade. Because of its lower cost it can be used widely. So our next target is to improve this circuit to use widely.