DESCRIPTION OF COMPONENTS

Description of various blocks

This project Temperature Based Fan Speed Control can be done by using Arduino board with some electronics materials. The Arduino UNO board is very popular among all electronic circuits, thus we employed Arduino UNO board for the operation of the fan speed control. In the proposed system itself said that it is designed to detect the temperature of the room and send that information to the Arduino UNO board. Then the Arduino UNO board carries out the contrast of current temperature and set temperature based on the inbuilt programof the Arduino that feed through us. The output obtained from the operation is given through the o/p port of an Arduino UNO board to the LCD display that connected with the board. The generated pulses from the board which is further fed to the driver circuit to get the preferred output to the fan.

In this project the Arduino board is very progressive among all electronic circuits, thus employed Arduino board for fan speed control.

Description of components

1.ARDUINO :

Arduino

Arduino UNO is a microcontroller board based on the ATmega328P.It has 14 digital input/output pins, 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack,an ICSP header and a reset button. Arduino UNO is a development board which contains microcontroller in the board itself. It is a open source software. In the electronics platform arduino is easy to use hardware and

software. The arduino boards can read inputs so that theycan understand and give as some of the outcomes like light on a sensor, a finger on a button, activating a motor, turning on an LED, publishing something manually in online etc.. That are allgiven as output to us. The most of the applications on everyday life. Arduino is a part of application the reason is that the arduino follows the instruction correctly that fed by us. The software is very easy to access for all kind of users including the beginners and the new learners, also flexible enough for advanced uses. This software is applicable to all systems like Windows, Mac, linux. In the educational area the teachers and the students independently access the software. The pictorial representation of Arduino is represent in Figure

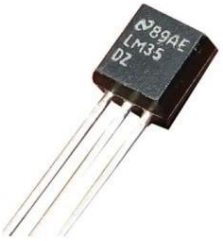
2.LCD DISPLAY:

LCD Display

The Figure represents the LCD Display. The LCD (Liquid Crystal Display) is a type of display that uses the liquid crystals for its operation. They can be commonly found in smartphones, televisions and computer monitors. Liquid crystal display LCD have found enormous success in the past couple of decades. They are used everywhere in our day day to day life. Some of the examples are from cellar phones, e-books, GPS devices, computer monitors, and automatic displays to projectors and TVs to name a few. They play a critical role in the information age and are important elements of our daily life. Liquid crystal do not Emit light. Their function is to modify the state of light produced by a light source in order to do display images. The latest produced by either that backlight, which is placed directly beneath the liquid crystal panel, or eggs light which is placed at the age of the waveguide sheet . Backlight backlight is

more suitable for large size LCDs, because it can provide high light intensities, but itis bulky. Edge light is more suitable for small-size handheld LCDs, because it is compact, but it light output is limited. The tube is filled with Mercury gas. The inner surface of the tube is coated with a fluorescent material. When a voltage is applied across the two electrodes, some electro electrons are emitted by thermal motion in the cathode and accelerated toward the anode. There are also dichroic reflective polarizers which have the advantage of highlight efficiency. They pass incident light polarized in one direction and reflect incident light polarized in the orthogonal direction. The reflected light can be recycled by rotating its polarization into the direction of the transmission access of the polarizes. The rotation of the polarization can be achieved either by a half wavelength or by a scattering medium.

3.TEMPERATURE SENSOR :



Temperature Sensor

The above figure represents the LM35 Temperature sensor. Temperature sensor senses the room temperature. This electronic device converts the data that sensed in the surrounding into the electronic data for recording purpose. There are many different types of temperature sensors .Here in this project we are using LM35 temperature sensor. The LM35 temperature sensor is graded to work from -55°centigrade to 150°centigrade with a undeviating scale factor of +10mv/°c. It is a tiny and low cost IC which can be used to measure temperature anywhere in the surrounding between -55°C to 150°C.It further converts the voltage to Celcius, Celcius to Fahrenheit. It and prints the Fahrenheit temperature on the LCD screen.

4.TRANSISTOR:

Transistor

A transistor is a semiconductor device used to amplify or switch electronic signals andelectrical power, composed of semiconductor material usually with at least three terminals forconnection to an external circuit as shown in above.

5.RESISTOR :

The above Figure represents the different types of resistors we are used in this project. Physical materials resist the flow of electrical current to some extent. Certain materials such as copper offer very low resistance to current flow, and hence they are called conductors. In electric and electronic circuits there is a need for materials with specific values of resistance in the range between that of a conductor and an insulator. These materials are called resistors and their values of resistance are expressed in ohms.

Advantages

- It is very economical and easy to handle by the user.
- Speed varies automatically, so that it controls the speed without using it manually.

- It is very easy to install in offices, houses etc...
- Save energy by slowing down its speed in low temperature.
- To monitor the environments that is not comfortable, or possible, for humans to monitor,especially for extended periods of time.
- Prevents waste of energy when it’s not hot enough for a fan to be needed.
- To assist people who are disabled to adjust the fan speed automatically.
- It can be used in Industry.